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INSPECTION TOOL FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING NESHAP

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Inspection Tool for the Miscellaneous Organic Chemical Manufacturing NESHAP

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Please be aware that EPA has made its best effort to present an accurate summary of the regulatory requirements in the miscellaneous organic chemical manufacturing NESHAP as promulgated on November 10, 2003, and amended on July 1, 2005, March 1, 2006, and July 14, 2006. Note that it is not intended to summarize every option and detail of the rule. Finally, in the event that there are typing errors or deviations from the final rule, the final rule stands.

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List of Acronyms

ADI	Applicability Determination Index
AMR	actual mass removal
BR	bottoms receiver
CAR	Consolidated Federal Air Rule
CEMS	continuous emissions monitoring system.
CFR	code of federal regulations
CMS	continuous monitoring system
CPMS	continuous parameter monitoring system.
CVS	closed vent system
DOT	U.S. Department of Transportation
EFRs	external floating roofs
EPA	U.S. Environmental Protection Agency
F_{bio}	fraction biodegraded
HAP	hazardous air pollutant.
HON	hazardous organic NESHAP
IFRs	internal floating roofs
LDAR	leak detection and repair
MACT	maximum achievable control technology
MCPU	miscellaneous organic chemical manufacturing process unit
MON	miscellaneous organic NESHAP
MTVP	maximum true vapor pressure
NAICS	North American Industry Classification System
NESHAP	national emission standards for hazardous air pollutants
NPDES	National Pollution Discharge Elimination System
OLD	organic liquid distribution
P2	pollution prevention
PAI	pesticide active ingredient
POD	point of determination
PMPU	pharmaceutical manufacturing process unit
PRD	pressure relief devices
PSHAP	partially soluble HAP
PUG	process unit group
PTE	potential to emit
QIP	quality improvement program
RCRA	Resource Conservation and Recovery Act
R&D	research and development
RMR	required mass removal
SCV	surge control vessel
SHAP	soluble HAP
SSM	startup, shutdown, and malfunction.
SSMP	startup, shutdown, and malfunction plan
TOC	total organic compounds
TRE	total resource effectiveness
VOC	volatile organic compound
VOHAP	volatile organic HAP
WMUs	waste management units

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1.0 Background and Purpose of this Document

This inspection tool is consistent with the promulgated national emission standards for hazardous air pollutants (NESHAP) for miscellaneous organic chemical manufacturing (i.e., miscellaneous organic NESHAP, or MON). The final rule was published in the Federal Register on November 10, 2003 (68 FR 63852), and it is located in 40 CFR part 63, subpart FFFF. Final amendments were published on July 1, 2005 (70 FR 38554), March 1, 2006 (71 FR 10439), and July 14, 2006 (71 FR 40316).

The purpose of this document is to assist federal, state, and local regulatory personnel with enforcement of the process vent, storage tank, wastewater, equipment leak, transfer operation, and heat exchange system provisions in subpart FFFF. The alternative standard for process vents and storage tanks is also included, but the emissions averaging and pollution prevention options are not. A chapter also covers the requirements for the notification of compliance status report and compliance reports. Most chapters include flowcharts that are designed to assist the user in identifying applicability for a particular emission stream. Flowcharts also identify available control options for emission streams that meet particular applicability criteria. Each chapter also includes inspection checklists to determine compliance with the applicable requirements.

The next two sections in this chapter give a brief overview of how to use the checklists and steps to take in preparation for an inspection.

1.1 How to Use the Checklists

The checklists in this inspection tool are flexible, and suitable for several different approaches to examining a facility. These checklists may be used singularly or in combination at a facility where the user is seeking compliance information on a specific emission point or points, or the user may proceed through the entire group of checklists, section by section, if the approach to examining a facility begins with the initial question of whether there is a miscellaneous organic chemical manufacturing process unit (MCPU) at the facility that must comply with subpart FFFF.

If a user chooses to proceed through this document sequentially, the most logical starting point is to determine which facilities and MCPUs are subject to subpart FFFF. This can be done with the flowcharts in Section 2. Once the process unit applicability is established (either through the flowcharts

in Section 2 or by prior knowledge), the user can move on to the flowcharts and checklists in Section 3 to determine which emission streams from process equipment are continuous or batch process vents, the thresholds for control of organic HAP and/or hydrogen halide and halogen HAP (i.e., the group status of process vents), and the emission limits and compliance requirements for the different types of process vents. Sections 4 through 8 provide similar information for storage tanks, wastewater systems, equipment leaks, transfer operations, and heat exchange systems. The checklists in some of these sections also refer to checklists in Section 9 for closed-vent systems, Section 10 for control devices, and Section 11 for the alternative standard.

Alternatively, individual checklists may be used to examine only certain types of emission points at a facility or specific types of control devices. For example, a user may need to know only about the compliance status of process vents at a facility. In this case, the user would be able to visit the facility and conduct an inspection by taking only the checklists in Section 3 for process vents, Section 9 for closed-vent systems, and Section 10 for control devices (and possibly Section 11 for the alternative standard). If the inspector knows the specific control and/or recovery devices being used, the inspector could take just the checklists for those specific devices (and the checklists for closed-vent systems). Section 12 includes checklists for the notification of compliance status report and compliance reports. An inspector may want to inspect the most recent compliance report to make sure all required information is included. Another instance in which the user benefits from the flexibility of these checklists occurs when a specific control device or recovery device must be examined for compliance. For example, if the user has to examine only one device, such as a thermal incinerator for Group 1 batch process vents, then it is only necessary to take the checklist from Table 10-2.

These examples illustrate the flexibility of the checklists for use at a variety of inspection sites and to meet the needs of various approaches to inspecting for compliance at the site. Hence, an inspector may have little or no information about a facility and benefit from using all of the checklists together in order to determine compliance. Alternatively, if only specific emission points and control devices need inspection, the user can selectively apply the applicable checklists as necessary.

A “yes” response to a question in any checklist means compliance with that specific requirement, and a “no” response means noncompliance with the requirement. For most questions an “N/A” box is also provided in case a question is not applicable at a particular facility. For example, subpart FFFF provides several monitoring options for catalytic incinerators. When asking if an applicable monitoring device is present and operating, the checklist in Table 10-3 has a separate question for each type of device. This way the inspector can check the N/A box for the types of devices that are not in use. An advantage of separate questions over a single question is that it is clear which device a particular facility is using. Similarly, numerous questions ask if specific information is recorded for inspections when a

leak or some other failure is detected. However, if a failure has never been detected, the only appropriate response to the question is to indicate that it is not applicable.

1.2 Preparing the Inspection

Compliance with subpart FFFF can be determined by review of records and reports, review of performance tests, and visual inspections using the methods and procedures specified in the rule. As required by the rule, testing, monitoring, and inspections are to be carried out by the owner or operator, with records kept for 5 years. Therefore, the local, state, or federal inspector can determine compliance by a review of plant records, along with spot inspections to verify the operation, performance, and condition of the control equipment.

Prior to conducting the inspection, the inspector should become familiar with the regulation, search the EPA, state, or local agency files for information on the facility, and review all relevant information. Subpart FFFF requires each facility that is subject to the regulation to prepare "operating scenarios" for each MCPU that specify the emission points, the type of control that is applied to each emission point, and the monitoring procedures. The operating scenarios must be submitted in the notification of compliance status report (or compliance reports for processes that start operation after the compliance date). These operating scenarios would be a good place to start the inspection. This material can be reviewed along with the applicability requirements of subpart FFFF (see flowcharts for MCPUs in Section 2 and group status flowcharts in chapters 3 through 8) in order to identify any applicability concerns or questions the inspector may have. In reviewing the determination of group status, focusing on the determination of Group 2 status may be the best use of time because the Group 1 emission points will be controlled (unless the facility is emissions averaging, which is not covered in this document). Appendices A through C to this document also contain information that an inspector may wish to review. Appendix A contain questions from industry on applicability and other compliance issues along with EPA answers. Appendix B contains definitions of terms from §63.2550(i) of subpart FFFF. Appendix C contains flow charts that summarize initial compliance requirements for process vents and monitoring requirements for vent streams that are routed to control devices or recovery devices. Another source of information that may help clarify applicability and other issues is the Applicability Determination Index (ADI) at http://www.epa.gov/compliance/assistance/applicability/index.html. Although the responses to inquiries in the ADI are directed to the specific source that submitted an inquiry, the same situation may exist at other sources.

The inspector can also use the operating scenarios (or a title V permit application) to develop a list of control devices to inspect. The most recent compliance report should provide information on the

facility's compliance status. A review of files will help the inspector become familiar with the operaton of the facility and the most recent compliance history. The compliance history and prior inspections will help the inspector prioritize areas of concern for the upcoming inspection. For example, if a leaking tank roof was identified in the last inspection, the inspector would want to check the facility records to verify that the tank roof was repaired in the allotted amount of time. The inspector may also want to visually inspect the tank to verify that it has been repaired.

The inspector may also need to gather safety and emissions detection equipment prior to the inspection. Some facilities will require inspectors to wear hard hats, safety glasses, and steel-toed shoes during their visual inspection. If the inspector will need to do any climbing to inspect equipment such as a tank roof, additional safety equipment may be necessary. If an inspector feels that it is necessary to enter a storage vessel, please be aware of the requirements under EPA Order 1440.2, and the safety information in *Guidance on Confined Space Entry in NESHAP Inspections of Benzene Storage Vessels* (EPA 455/R-92-003, September 1997). The inspector will also need a portable VOC analyzer to conduct Method 21 tests, and uniform probes for measuring gaps in storage tank roofs.

Because the review of records is the primary means of determining compliance, the local, state, or federal inspector should notify the facility management prior to the inspection. This gives the facility personnel enough time to gather relevant records and have them organized and available for review. The facility should also provide a map and/or process flow diagrams to the inspector.

The inspection consists of a review of records and reports kept by the plant, and a visual inspection of plant equipment. The checklists in this document will allow an inspector to systematically review the plant records and reports. Each checklist provides a series of questions with expected responses of yes or no. A "yes" response to a question means compliance with that requirement, and a "no" response means noncompliance with the requirement. The inspector should copy the applicable checklists prior to each inspection.

Inspectors should conduct visual inspections to verify that the records and reports provided by the facility are accurate. Visual inspections will also enable the inspector to assess the condition of the control equipment. When making visual inspections, the checklists, along with plant drawings and specifications, should be used. Notations should be made on the checklists if there are discrepancies between the plant records and reports and the visual inspections. Control equipment should be checked for obvious leaks and lack of maintenance.

2.0 General Applicability

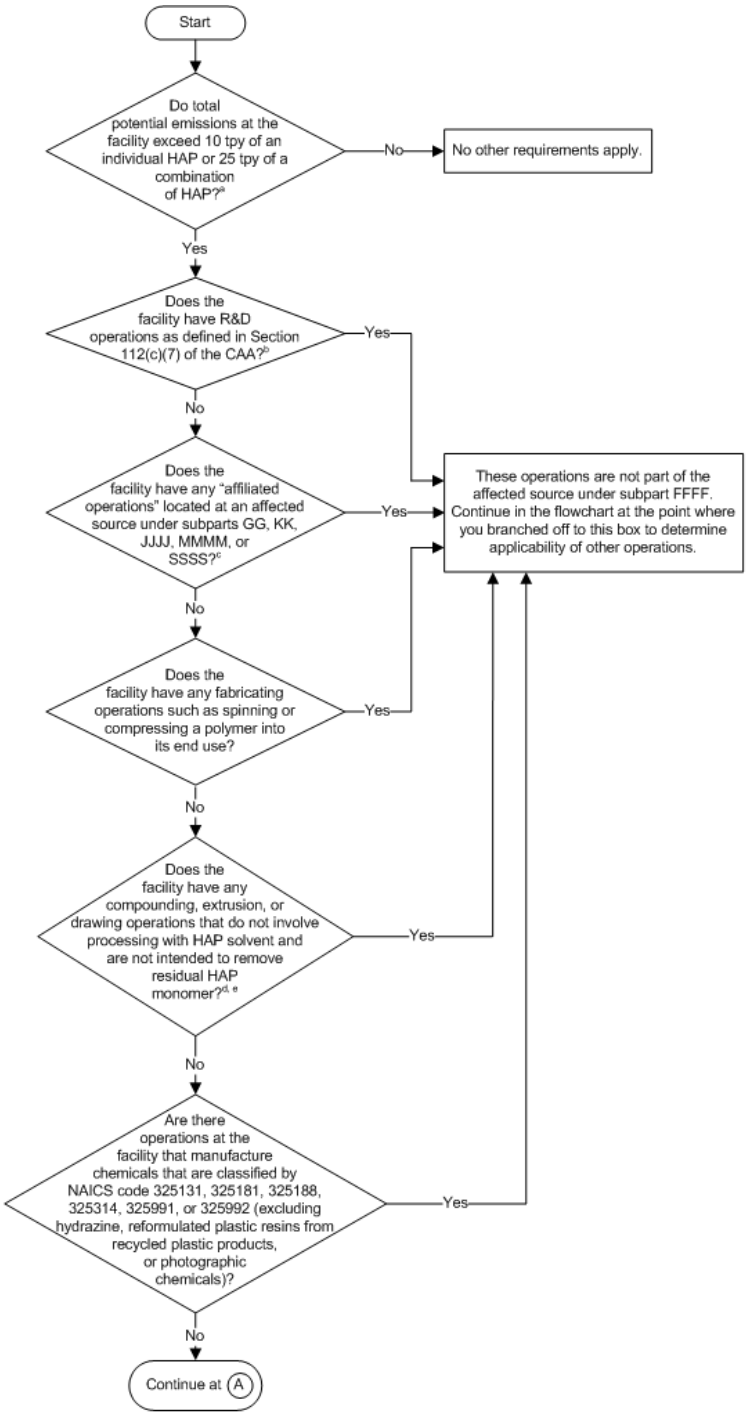
Subpart FFFF of part 63, national emission standards for hazardous air pollutants (NESHAP) for miscellaneous organic chemical manufacturing (commonly referred to as the miscellaneous organic NESHAP [MON]) was promulgated on November 10, 2003. Amendments were published on July 1, 2005, March 1, 2006, and July 14, 2006. The compliance date for existing sources is May 10, 2008. The affected source is the collection of equipment that manufactures a range of miscellaneous organic materials or families of materials that are described by a number of NAICS codes as products or isolated intermediates. Equipment is part of the affected source when a MON product is being produced, and the equipment is not part of the affected source when non-MON products are being produced or if the equipment is already part of another part 63 affected source. In identifying the affected source (Figure 2-1) each product or family of materials produced at a facility must be evaluated (Figure 2-2) to see if the process meets the criteria for being a MON process. If so, the equipment used to produce that product or isolated intermediate comprises a Miscellaneous Organic Chemical Manufacturing Process Unit (MCPU), and the collection of all MCPUs, associated heat exchange systems, wastewater and waste management units comprise the subpart FFFF affected source.

The MON will generally regulate emission sources in organic chemical manufacturing that are not regulated under other MACT standards. Because the MON's compliance date is later than most other chemical industry standards, it is the "catch all" MACT standard for miscellaneous organic chemical processes that have not been regulated under earlier standards. Therefore, an organic chemical manufacturing process that is not part of another affected source but is located at a major source that uses, generates, or processes HAP will most likely be subject to the MON. The MON will also cover solvent recovery processes and formulation processes that have previously been excluded from other MACT standards, such as the hazardous organic NESHAP (HON) (which excluded batch vents and sources with only HAP solvent emissions from its affected source) and the PAI MACT (which specifically excludes formulation operations).

Because some of the processes that are subject to the MON are run in non-dedicated equipment that may also be used to produce products that are subject to other part 63 standards (e.g., the Pharmaceuticals Production NESHAP in subpart GGG and the Pesticide Active Ingredient Production NESHAP in subpart MMM), the MON includes provisions in §63.2535(l) that allow an owner or operator

to determine one rule that can be applied to all of the processes in the multipurpose equipment. If an owner or operator elects to comply with these provisions, it is possible that a process making materials meeting the characteristics specified in §63.2435(b)(1) may comply with subpart MMM or subpart GGG, or vice versa. If implementing these provisions, the owner or operator must also include information documenting the determination of which rule will apply to all processes run in the equipment in the notification of compliance status report. Examples illustrating how these provisions may be applied are presented in the EPA document *Compliance Assistance Tool for Pharmaceutical Production, Pesticide Active Ingredient Production, and Miscellaneous Organic Chemical Manufacturing NESHAP: Comparison of Regulatory Requirements and Case Study Compliance Illustrations for Nondedicated Equipment* (EPA 305-B-04-001, February 2004).

In addition to the provisions designed to minimize overlapping requirements for non-dedicated processing equipment, subpart FFFF also includes provisions designed to minimize overlap with other rules that apply to the same equipment or emission point. For example, a storage tank or reactor may be subject to new source performance standards as well as subpart FFFF. Other provisions are designed to minimize the burden of complying with slightly different requirements for process units in different source categories at a facility. For example, equipment leak and wastewater requirements in subparts GGG and MMM for Pharmaceuticals Production and Pesticide Active Ingredient Production, respectively, are similar to the requirements in subpart FFFF. An inspector needs to be aware that some of the checklists in other sections of this document may need to be modified when a facility complies with provisions in a different rule as allowed by some of these overlapping provisions. Table 2-1 summarizes the provision in subpart FFFF that minimize the burden of complying with overlapping and related requirements.



[a] The emissions may be either total potential emissions or total emissions as limited through a federally enforceable state operating permit obtained prior to the compliance date (i.e., a synthetic minor permit).

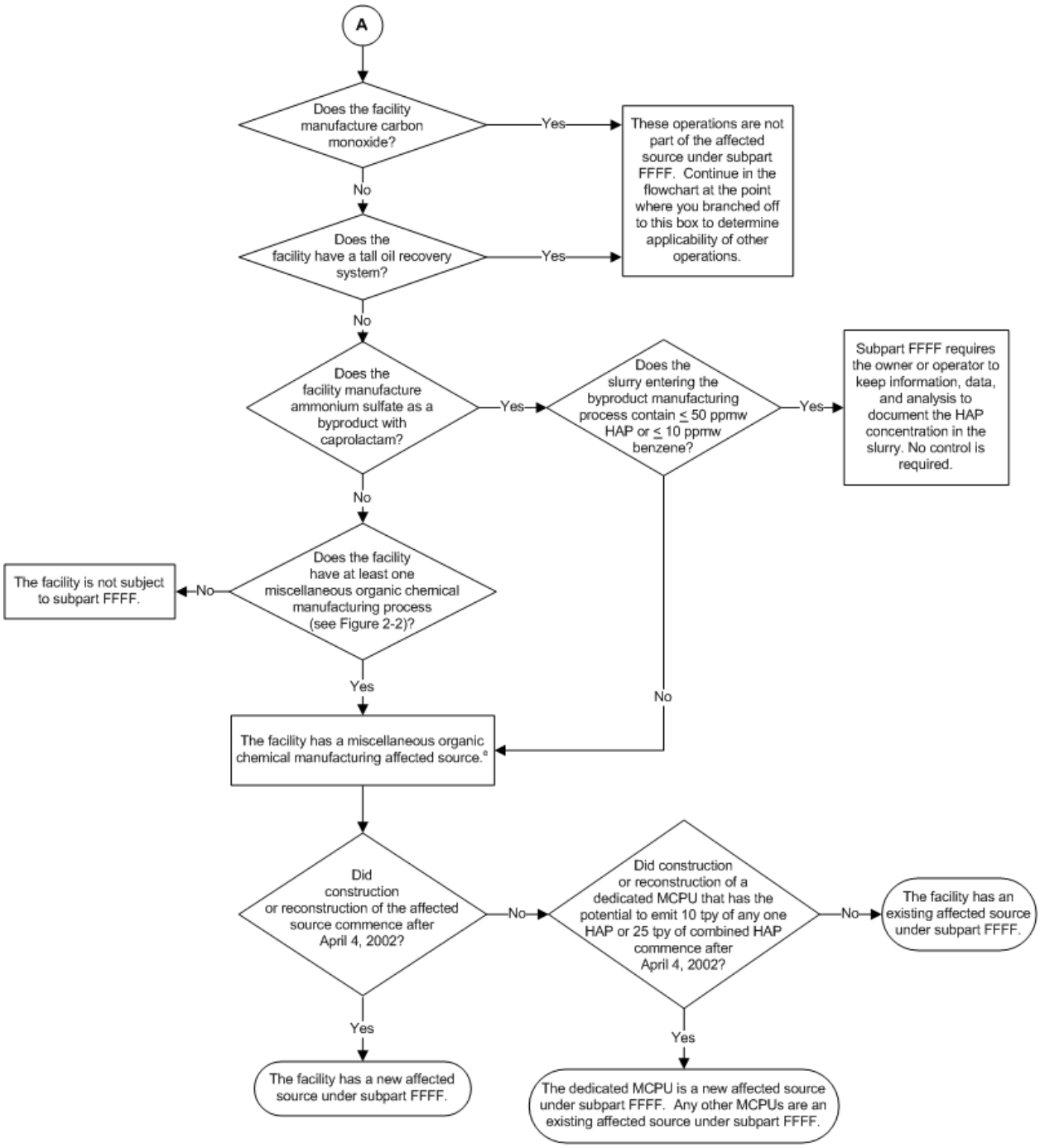
[b] A "research and development facility" is defined as any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

[c] "Affiliated operations" include, but are not limited to, mixing or dissolving of coating ingredients; coating mixing for viscosity adjustment, color tint or additive blending, or pH adjustment; cleaning of coating lines and coating line parts; handling and storage of coatings and solvent; and conveyance and treatment of wastewater.

[d] "Compounding operations" involve blending, melting, and resolidification of a solid polymer for the purpose of incorporating additives, colorants, or stabilizers.

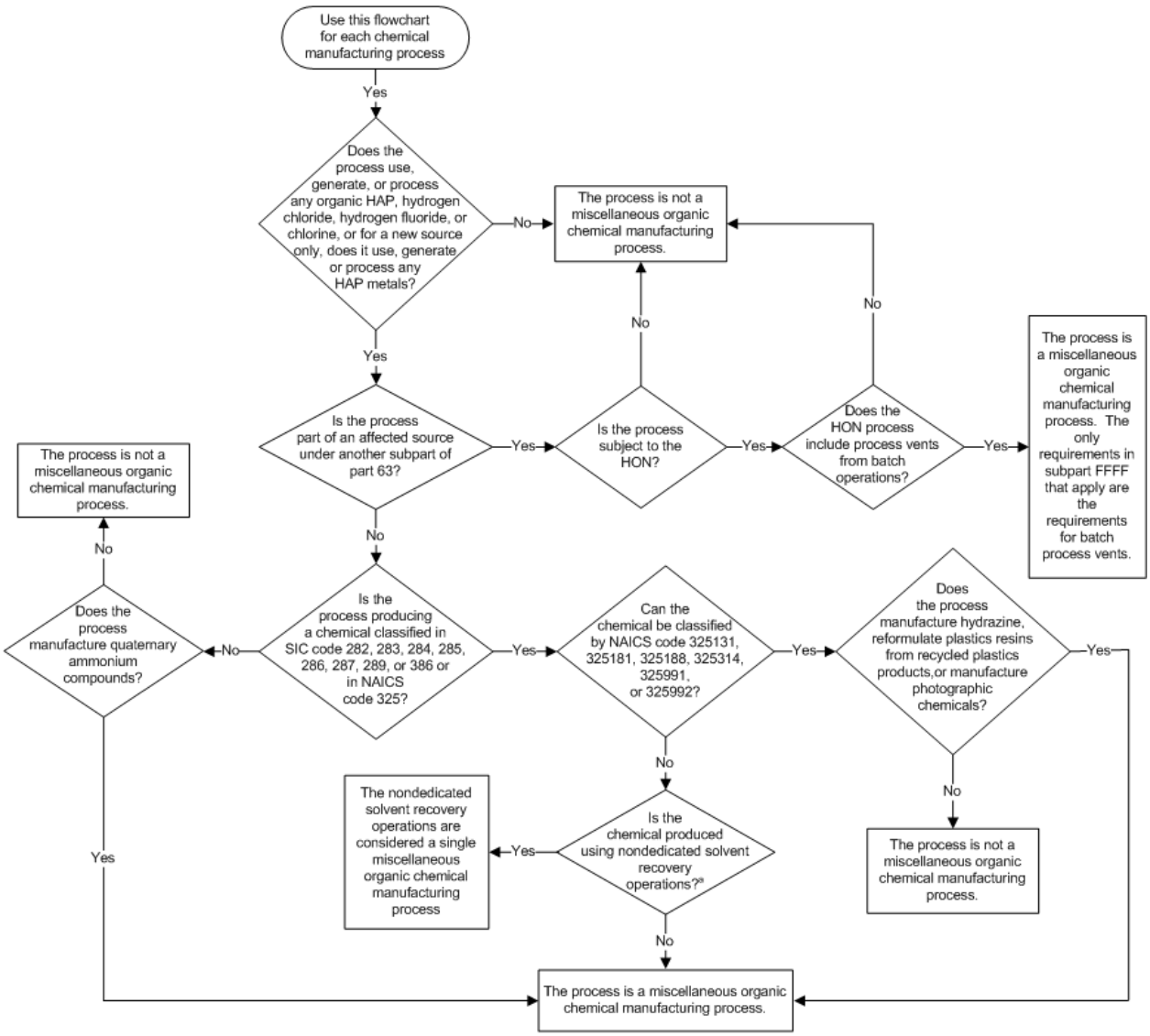
[e] "Extrusion and drawing operations" involve the conversion of an already produced solid polymer into a different shape by melting or mixing the polymer and then forcing or pulling it through an orifice to create an extruded product.

Figure 2-1. Subpart FFFF applicability on a facility basis.



[a] An affected source is the facility-wide collection of MCPU and heat exchange systems, wastewater, and waste management units that are associated with manufacturing materials described in §63.2435(b)(1) (see Figure 2-2). The MCPU is the equipment necessary to operate a miscellaneous organic chemical manufacturing process, assigned storage tanks and transfer racks, equipment in open systems used to convey or store water with characteristics of wastewater, and equipment components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems.

Figure 2-1. (continued)



[a] A "nondedicated solvent recovery operation" means a distillation unit or other purification equipment that receives used solvent from more than one MCPU.

Figure 2-2. Subpart FFFF applicability for miscellaneous organic chemical manufacturing processes.

Table 2-1. Options to Minimize Overlapping Requirements Between Subpart FFFF and Other Rules

If the MON affected source...	Then, the facility...	According to this section of subpart FFFF...
has a storage tank that is also subject to either 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y	may elect to: • control emissions using a floating roof in accordance with subpart Kb or Y to demonstrate compliance with subpart FFFF; or • control emissions using a fixed roof, closed-vent system, and control device in accordance with subpart Kb or Y, and comply with monitoring, recordkeeping, and reporting requirement in subpart FFFF; or • comply with the requirements for Group 1 storage tanks in subpart FFFF to demonstrate compliance with all rules.	§63.2535(c)
is at a facility that has a process unit with equipment subject to 40 CFR part 63, subpart I, GGG, or MMM	may elect to comply with the equipment leak requirements in subpart H, GGG, or MMM (whichever applies to a non-MON process unit at the facility) for all equipment in MCPUs at the facility.	§63.2535(d)
has equipment that is also subject to 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V	may elect to comply only with the equipment leak requirements in subpart FFFF for all of the equipment.	§63.2535(k)
has equipment to which the equipment leak requirements in subpart FFFF do not apply, but which are subject to 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V	may elect to comply only with the equipment leak requirements in subpart FFFF for all of the equipment, except that all total organic compounds, minus methane and ethane, must be considered as if they are organic HAP.	§63.2535(k)
is at a facility that also generates wastewater streams that meet the applicability threshold in §63.1256 of 40 CFR part 63, subpart GGG (Pharmaceuticals Production)	may elect to comply only with subpart FFFF for all of the wastewater streams.	§63.2535(e)

If the MON affected source...	Then, the facility...	According to this section of subpart FFFF...
is at a facility that also generates wastewater streams that meet the applicability threshold in §63.1362(d) of 40 CFR part 63, subpart MMM (Pesticide Active Ingredient Production)	may elect to comply only with subpart FFFF for all of the wastewater streams, except that the 99 percent reduction requirement for streams subject to §63.1362(d)(10) still applies.	§63.2535(f)
has a Group 1 or Group 2 wastewater stream that is also subject to 40 CFR 61.342(c) through (h) in the benzene waste operations NESHAP (subpart FF), and is not exempt under 40 CFR 61.342(c)(2) or (3)	may elect to comply only with the requirements for Group 1 wastewater streams in subpart FFFF.	§63.2535(j)
has a Group 2 wastewater stream that is exempted from 40 CFR 61.342(c)(1) by 40 CFR 61.342(c)(2) or (3)	may elect to comply only with the reporting and recordkeeping requirements for Group 2 wastewater streams in subpart FFFF (exempt from 40 CFR part 61, subpart FF).	§63.2535(j)
has a Group 1 wastewater stream that is also subject to 40 CFR parts 260 through 272	• may elect to determine whether subpart FFFF or 40 CFR parts 260 through 272 contain the more stringent control, testing, monitoring, recordkeeping, and reporting requirements; and • comply with the provisions in 40 CFR parts 260 through 272 that are determined to be more stringent than the requirements of subpart FFFF to demonstrate compliance with subpart FFFF.	§63.2535(g)
contains processing equipment that is also subject to 40 CFR part 60, subpart DDD, III, NNN, or RRR	may elect to comply only with subpart FFFF for all of the equipment.	§63.2535(h)
contains processing equipment that is not subject to subpart FFFF, but is subject to 40 CFR part 60, subpart DDD, III, NNN, or RRR	may elect to comply only with the requirements from Group 1 process vents in subpart FFFF for the equipment, except that all total organic compounds, minus methane and ethane, must be considered as if they are organic HAP.	§63.2535(h)

If the MON affected source...	Then, the facility...	According to this section of subpart FFFF...
has an MCPU that includes a batch process vent that is also part of a CMPU under the HON	• must comply with the emission limits, operating limits, work practice standards, and the compliance, monitoring, recordkeeping, and reporting requirements for batch process vents in subpart FFFF; and • must continue to comply with the requirements in subparts F, G, and H of the HON that are applicable to the CMPU and associated equipment.	§63.2535(a)(1)
has a Group 1 transfer rack that is also subject to 40 CFR part 61, subpart BB	may elect to comply only with the provisions of subpart FFFF.	§63.2535(i)(1)
has a Group 2 transfer rack that is also subject to control requirements specified in §61.302 of 40 CFR part 61	may elect to comply with either the requirements in 40 CFR part 61, subpart BB, or the requirements for Group 1 transfer racks under subpart FFFF.	§63.2535(i)(2)(i)
has a Group 2 transfer rack that is also subject to the recordkeeping and reporting requirements in 40 CFR part 61, subpart BB	may elect to comply only with the recordkeeping and reporting requirements in subpart FFFF for Group 2 transfer racks (exempt from reporting and recordkeeping under subpart BB).	§63.2535(i)(2)(ii)
has a control device that is used to comply with subpart FFFF and is also subject to either: • monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart AA, BB, or CC; or • monitoring and recordkeeping requirements in 40 CFR part 265, subpart AA, BB, or CC and the periodic reporting requirements under 40 CFR part 264, subpart AA, BB, or CC that would apply if the facility had final permitted status	may elect to comply with either: • the monitoring, recordkeeping, and reporting requirements of subpart FFFF; or • the monitoring and recordkeeping requirements in 40 CFR part 264 or 265 and the reporting requirements in 40 CFR part 264. These reports must include the information described in §63.2520(e).	§63.2535(b)

If the MON affected source...	Then, the facility...	According to this section of subpart FFFF...
includes one or more MCPU that operate in nondedicated equipment that is used to make MON materials and material in other source categories	• may elect to develop a process unit group (PUG) consisting of MCPUs and other process units that share processing equipment; and • for all process units in the PUG, comply with the NESHAP that applies to the material that is determined to be the primary product for the PUG, provided the primary product is material subject to subpart GGG, MMM, or FFFF. (If the primary product is material that is subject to another NESHAP, the PUG concept does not minimize overlapping requirements.)	§63.2535(l)

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3.0 Process Vents

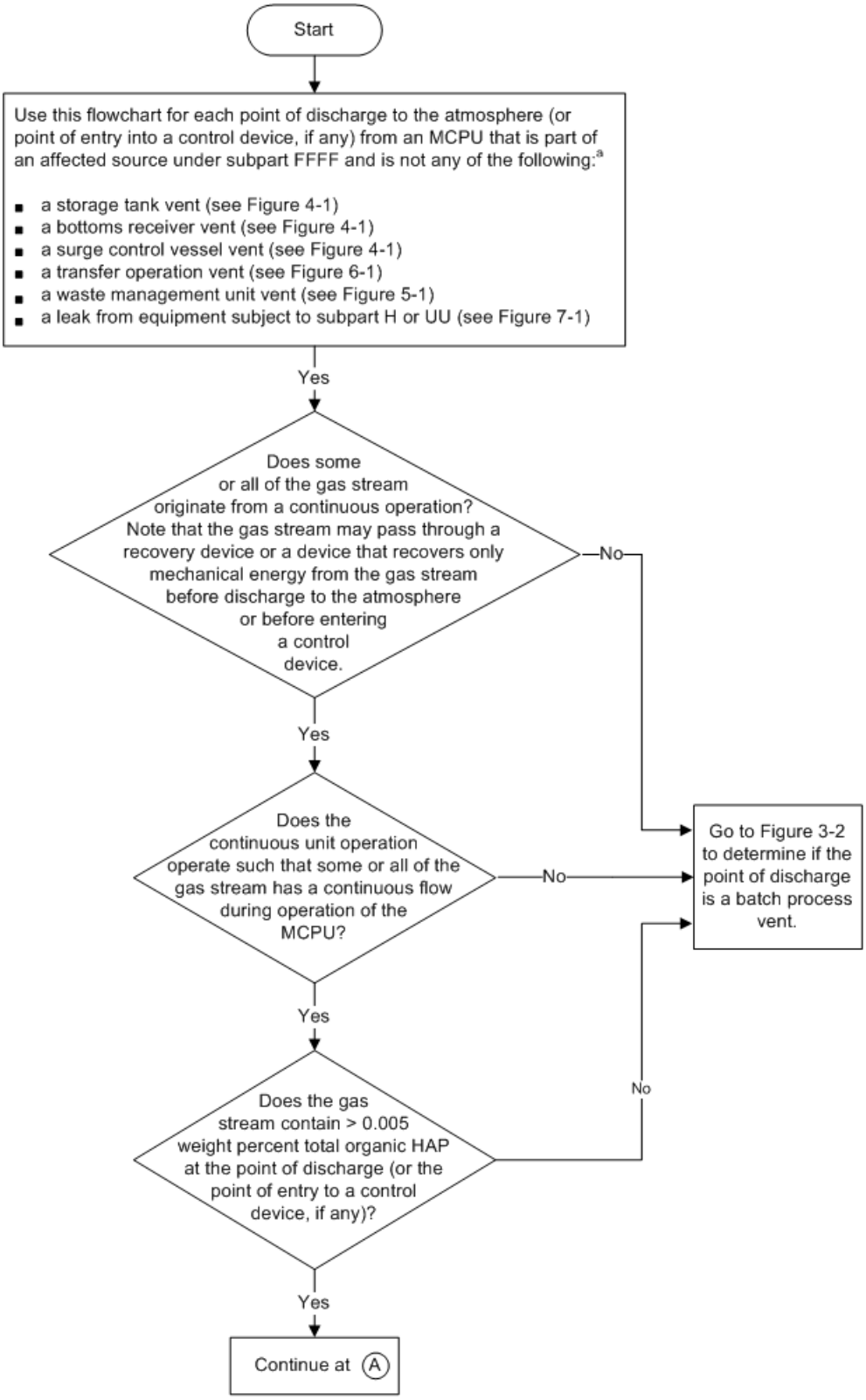
This section contains applicability and control flowcharts and inspection checklists for controlling HAP emissions from process vents. Use Figures 3-1 and 3-2 to determine if a vent from a process unit operation is a continuous process vent or a batch process vent, respectively. These flowcharts also can be used to determine the group status of process vents. Figure 3-3 identifies the available compliance options for organic HAP emissions from Group 1 continuous process vents and Group 1 batch process vents. Use Figure 3-4 to determine if hydrogen halide and halogen HAP must be controlled and the available compliance options for these emissions. Use Figure 3-5 to determine if HAP metals must be controlled and the compliance requirements for these emissions.

Use the checklist in Table 3-1 to document the identity, group status, and applicable control option of a continuous process vent. This checklist also points you to checklists in other sections for determining compliance with the applicable requirements for the Group 1 vent. If the vent is a Group 2 continuous process vent, the checklist in Table 3-1 allows you to document the TRE level and indicate whether the TRE was determined after a recovery device. If the TRE is maintained within a specified range by a recovery device, the checklist points you to other checklists for determining compliance with applicable monitoring requirements. Finally, the checklist in Table 3-1 includes a question to determine compliance with notification requirements for vents that change from Group 2 to Group 1.

Use the checklist in Table 3-2 to document the group status and control technique(s) for the collection of batch process vents within a process. This checklist also points you to checklists in other sections for closed-vent systems, applicable add-on control devices, and the alternative standard. It also points you to the checklist in Table 3-3, which may be used to determine compliance for Group 2 batch process vents. Finally, the checklist in Table 3-2 includes a question to determine compliance with general recordkeeping requirements for Group 1 batch process vents.

Use the checklist in Table 3-4 to document the control technique(s) for all of the process vents within a process that emit hydrogen halide and halogen HAP and to determine compliance with general recordkeeping requirements for such process vents. This checklist also points you to checklists in other sections for closed-vent systems, applicable add-on control devices, and the alternative standard. Use the checklist in Table 3-5 to determine compliance for process vents that fall below the threshold for control of hydrogen halide and halogen HAP emissions.

Use the checklist in Table 3-6 to document the control technique for all of the process vents within a process at a new source that emits HAP metals. This checklist also points you to a checklist in Section 10 for the control devices used to comply with the emission limit.



[a] If the gas stream at the point of discharge (or entry to a control device) includes contributions from more than one MCPU, apply the flowchart separately to the fractions of the total gas stream from each MCPU.

Figure 3-1. Applicability for continuous process vents.

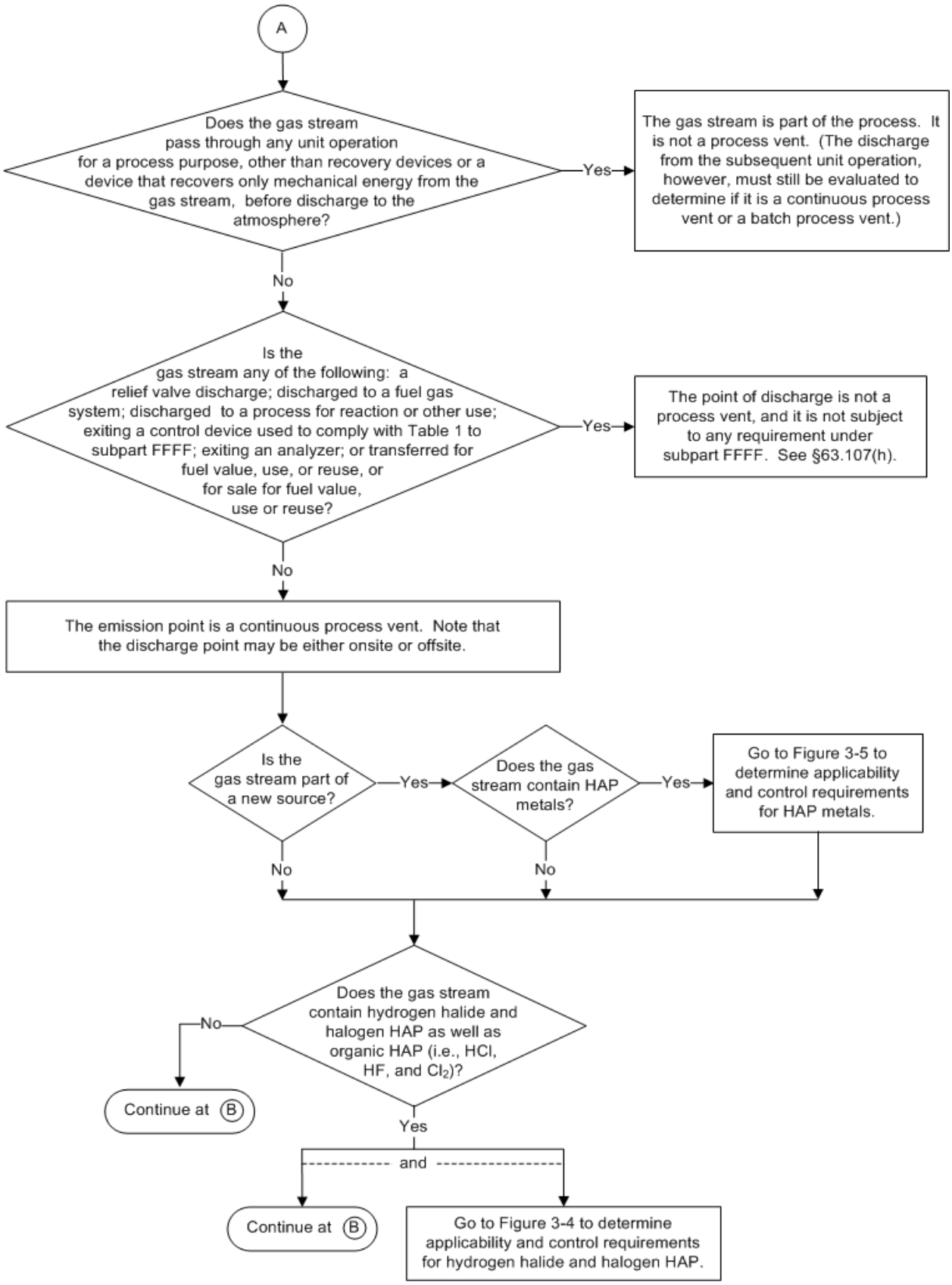


Figure 3-1. (continued)

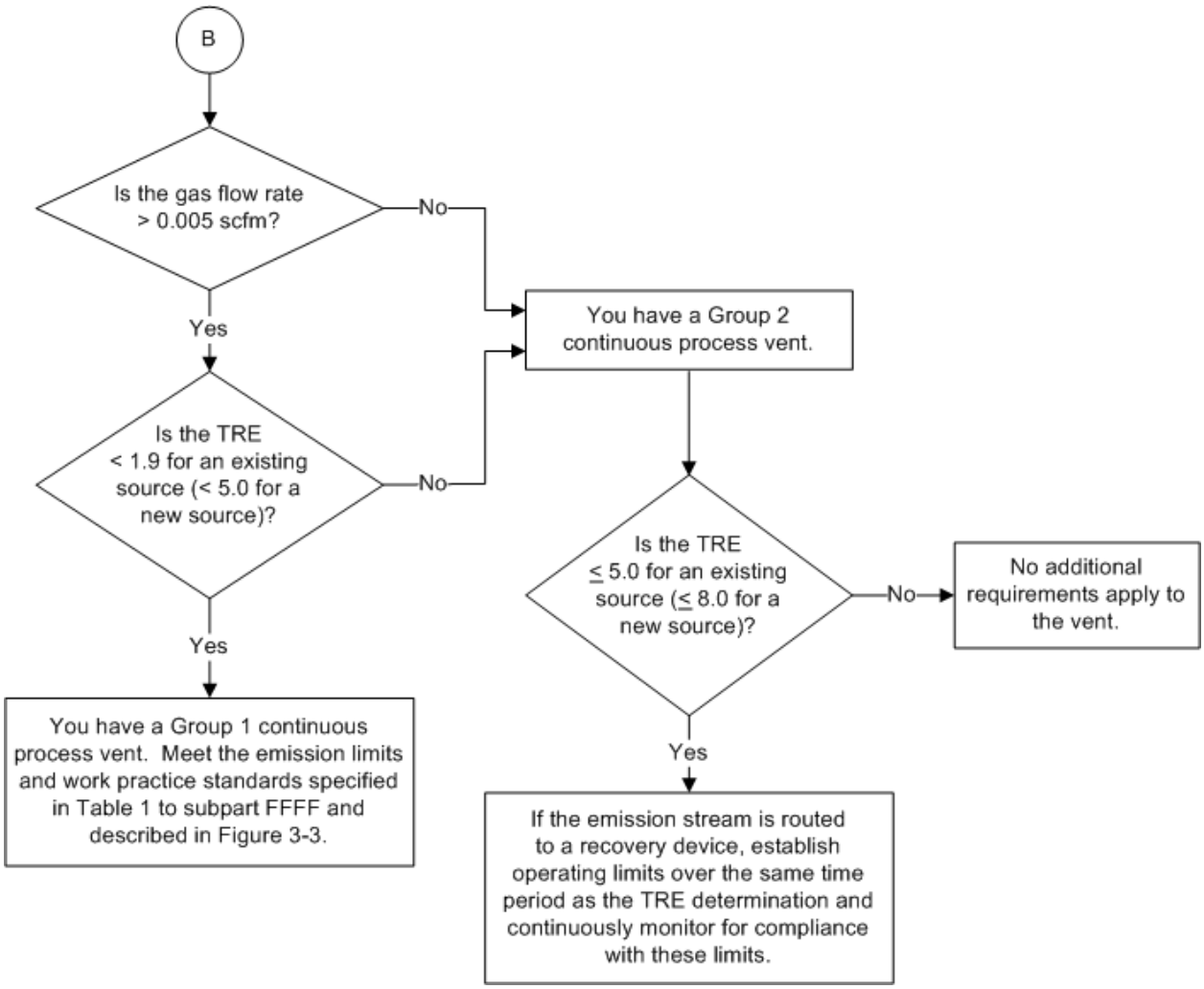


Figure 3-1. (continued)

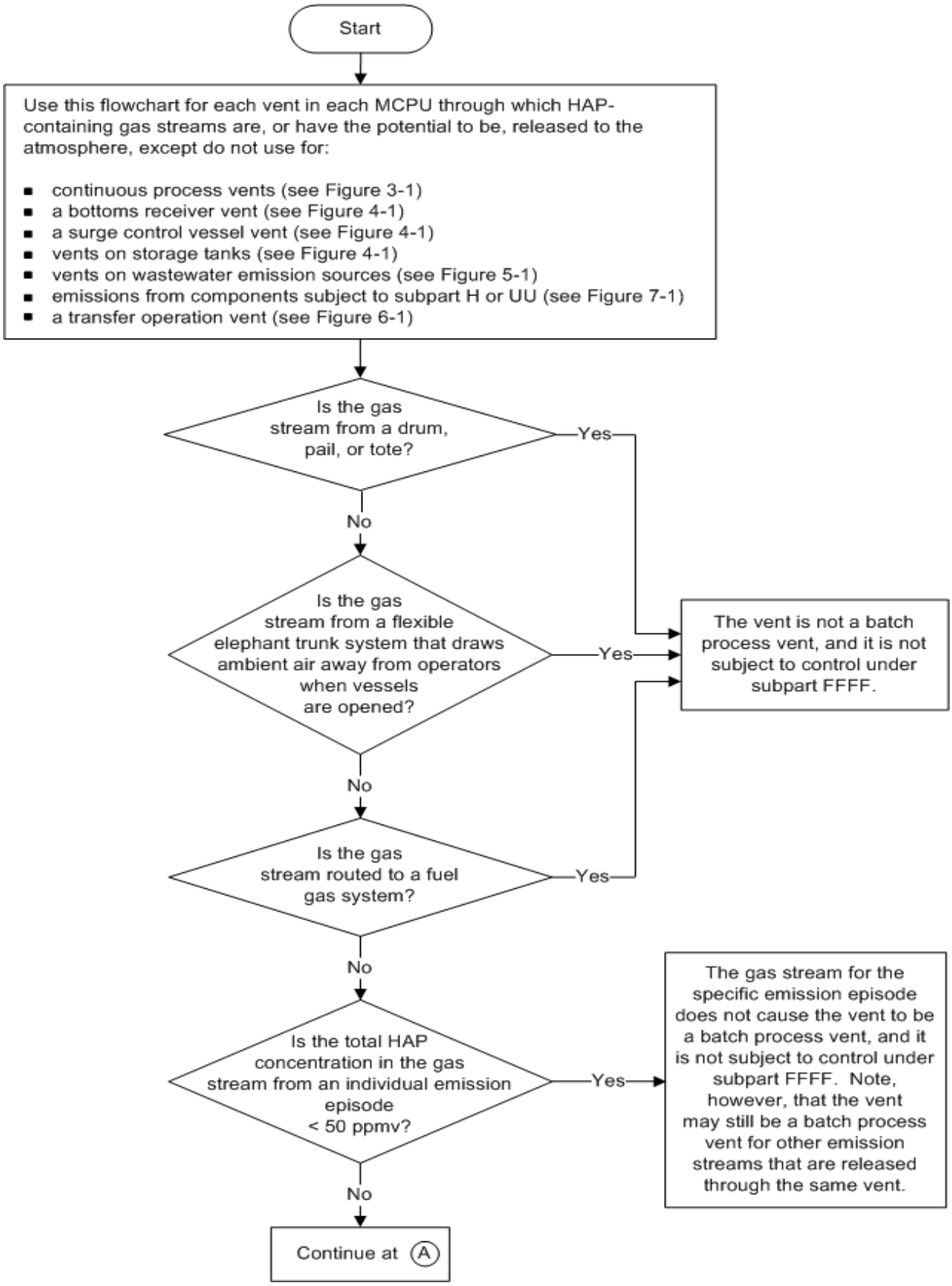


Figure 3-2. Applicability for batch process vents.

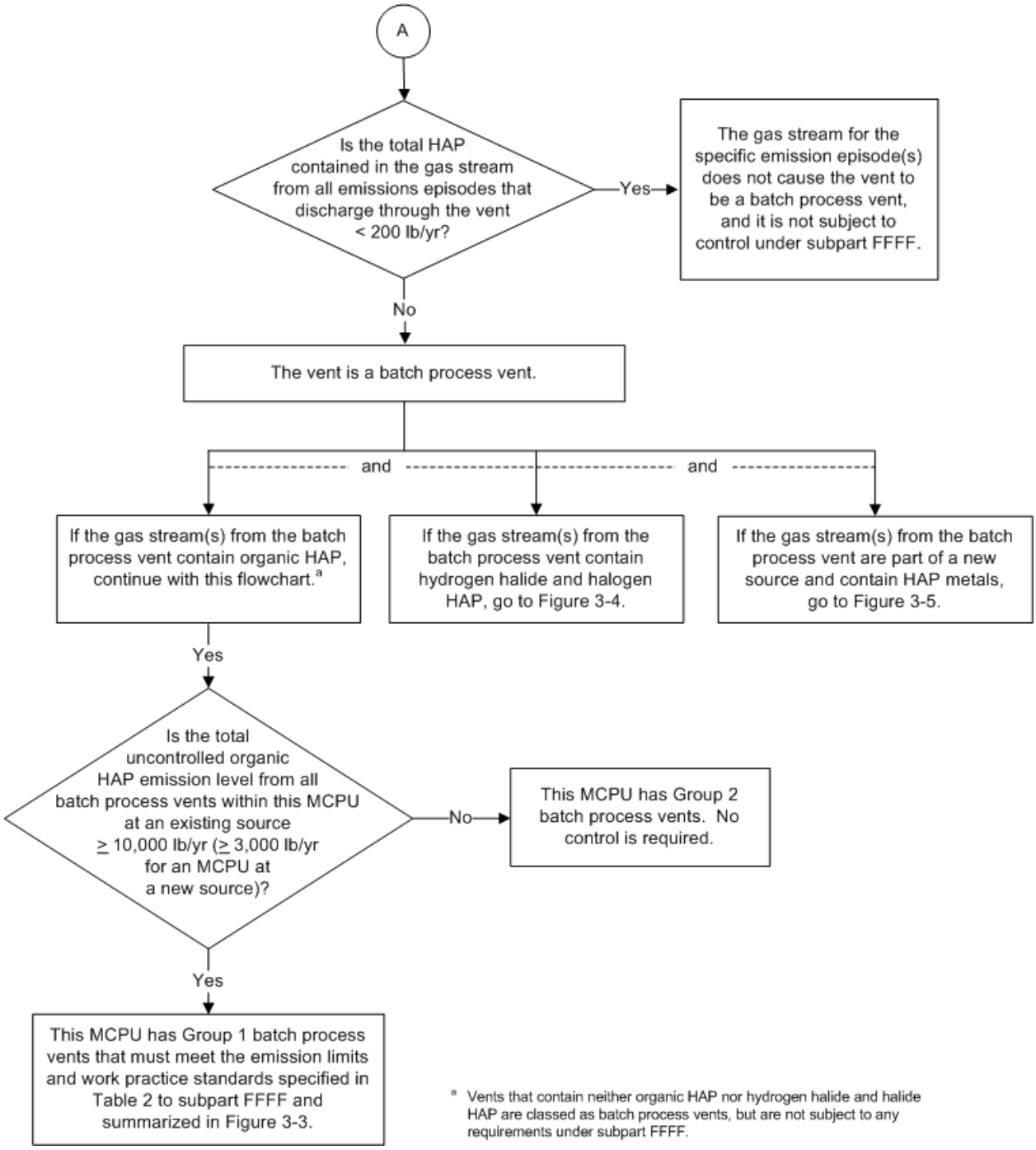
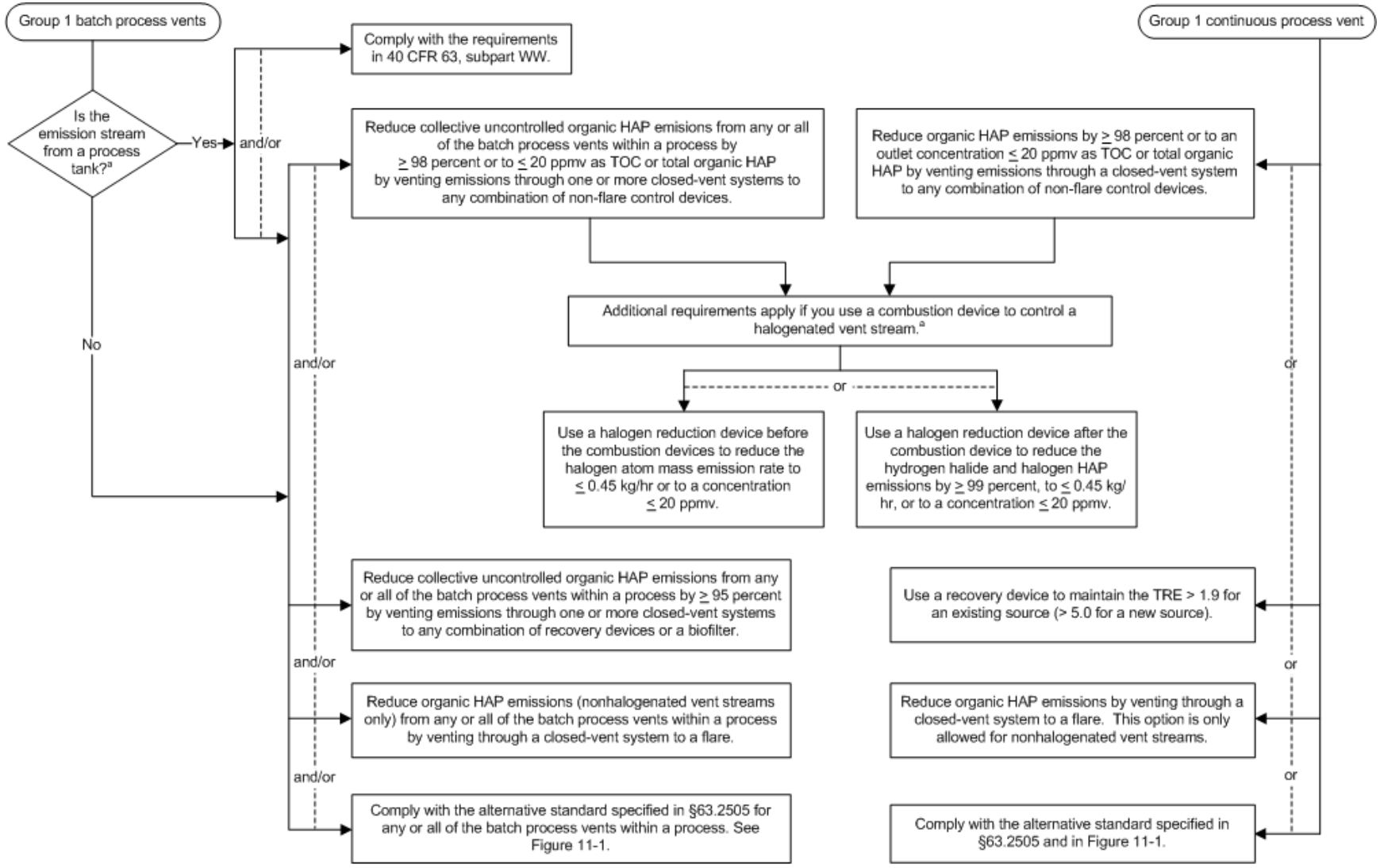
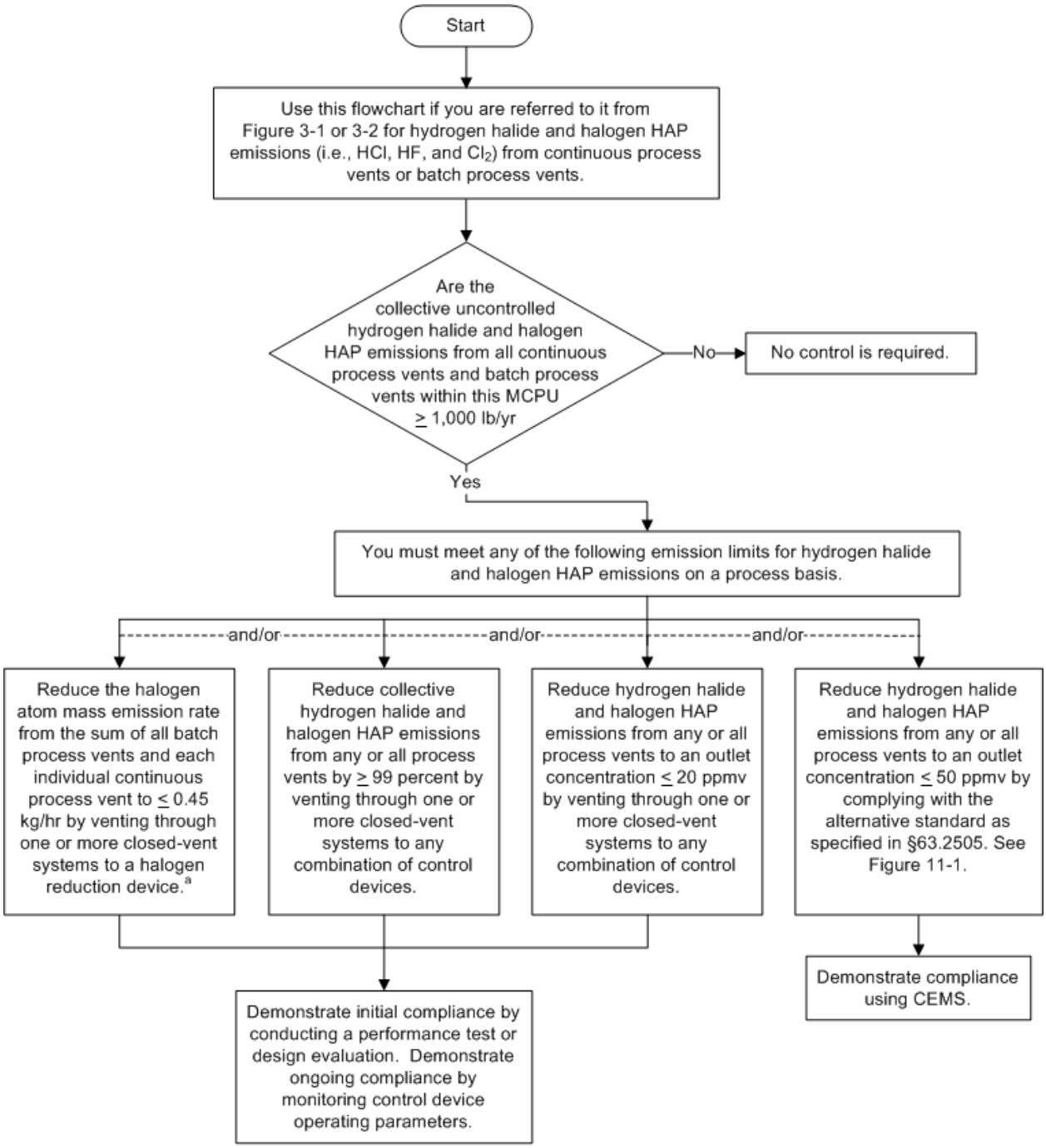


Figure 3-2. (continued)



[a] See Appendix B for definitions of "process tank" and "halogenated vent stream."

Figure 3-3. Emission limits and work practice standards for organic HAP emissions from batch or continuous process vents.



[a] Note that the 0.45 kg/hr limit applies to all batch process vents within a process, which means a combination of options is not possible for batch process vents when complying with the 0.45 kg/hr limit.

Figure 3-4. Applicability and control requirements for hydrogen halide and halogen HAP emissions from process vents.

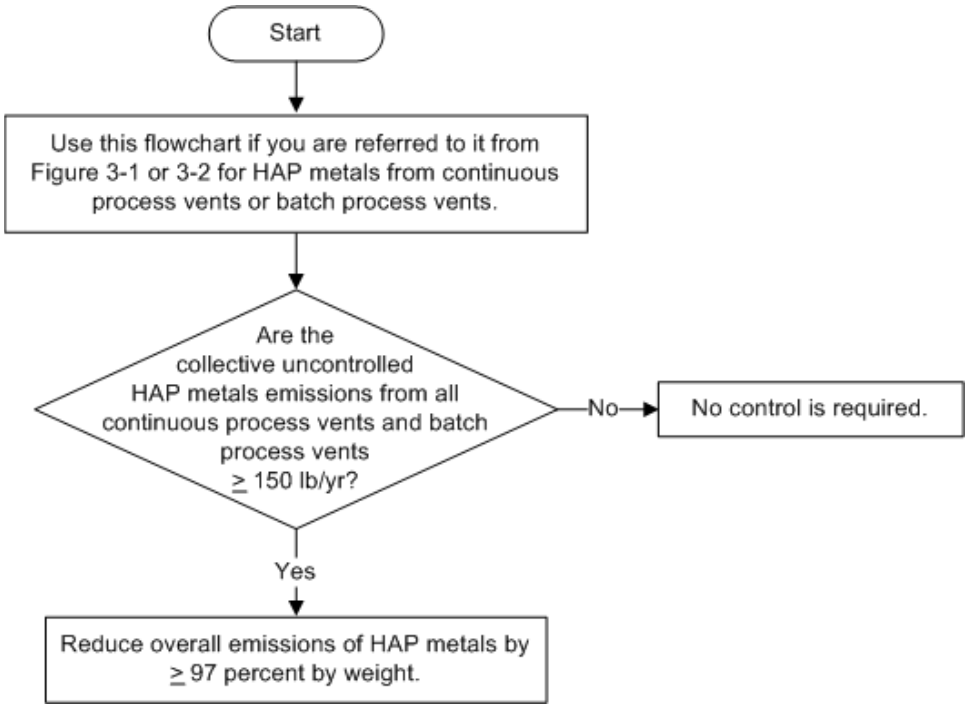


Figure 3-5. Applicability and control requirements for HAP metals emissions from process vents at new sources.

Table 3-1. Inspection Checklist for Controlling Organic HAP Emissions from Continuous Process Vents that Are Subject to Subpart FFFF

Note: Use this checklist for each continuous process vent that is subject to subpart FFFF. A "yes" response to questions in the review of records section of this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

I. General Information

1. Process and Continuous Process Vent Identification: _____

2. What is the Group Status of the continuous process vent (determined according to Figure 3-1):

   ☐ Group 1, or

   Continue with item "3," in this section of the checklist and items "1" and "3" in the review of records section of this checklist.

   ☐ Group 2

   Continue with items "2" and "3" in the review of records section of this checklist.

3. Which type of emission limit applies to the organic HAP emissions from the Group 1 continuous process vents? (check all that apply)

   ☐ Use a flare? *(go to checklists in Tables 9-1, 9-2, and 10-1)*

   Note: Halogenated vent streams may not be controlled using a flare, unless a halogen reduction device before the flare reduces the mass emission rate of halogen atoms in organic compounds to less that 0.45 kg/hr. See item "1" in the review of records section of this checklist.

   ☐ Reduce organic HAP emissions by ≥98 percent in a control device or to less than 20 ppmv as organic HAP or TOC using one or more of the following add-on devices:

   Note: Also see item "4" in this checklist if the continuous process vent emits a halogenated vent stream that is controlled with a combustion device.

   ☐ A thermal incinerator? (go to checklists in Tables 9-1, 9-2, and 10-2)

   ☐ A catalytic incinerator? (go to checklists in Tables 9-1, 9-2, and 10-3)

   ☐ A boiler or process heater with a capacity less than 44 MW that does not have the emission stream introduced with the primary fuel? (go to checklists in Tables 9-1, 9-2, and 10-4).

   ☐ A boiler or process heater with a capacity greater than 44 MW or that has the vent stream introduced with the primary fuel? (go to checklists in Tables 9-1, 9-2, and 10-5)

Table 3-1. (continued)

I. General Information

- ☐ A carbon adsorber? (go to checklists in Tables 9-1, 9-2, and 10-6).
- ☐ An absorber? (go to checklists in Tables 9-1, 9-2, and either 10-7 or 10-10)
- ☐ A condenser? (go to checklists in Tables 9-1, 9-2, and 10-8)
- ☐ Another type of control device? (go to checklists in Tables 9-1, 9-2, and 10-9)

☐ Install a recovery device to maintain the TRE above 1.9 and <5.0 for an existing source (above 5.0 and <8.0 for a new source)? (go to items "2" and "3" in the review of records section of this checklist for Group 2 continuous process vents)

☐ Comply with the alternative standard in §63.2505? (go to checklists in Tables 9-1, 9-2, 11-1, and, if applicable, 11-2)

II. Review of Records

1. If a halogenated vent stream from a Group 1 continuous process vent is controlled using a combustion device, is a halogen reduction device also used either before or after the combustion device? If yes, which of the following requirements are met: ☐ Y ☐ N/A ☐ N

   ☐ Is a halogen reduction device used before the combustion device to reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to a concentration ≤20 ppmv? (go to the appropriate checklist in Section 10; for example, go to Table 10-10 if the halogen reduction device is a scrubber)

   ☐ Is a halogen reduction device used after the combustion device to reduce hydrogen halide and halogen HAP emissions by ≥99 percent, to ≤0.45 kg/hr, or to a concentration ≤20 ppmv? (go to the appropriate checklist in Section 10; for example, go to Table 10-10 if the halogen reduction device is a scrubber)

   Note: When the organic HAP is controlled with a flare, the halogen content must be reduced before venting to the flare.

2. Which of the following conditions describes the Group 2 continuous process vent:

   ☐ The TRE is >1.9 at an existing source (>5.0 at a new source) without a recovery device?

   ☐ The TRE is >5.0 after the last recovery device at an existing source (>8.0 at a new source)?

Table 3-1. (continued)

II. Review of Records

☐ The TRE is >1.9 and ≤5.0 after the last recovery device at an existing source (>5.0 and ≤8.0 at a new source). If this condition applies, which of the following recovery devices are used (check all that apply):

☐ A carbon adsorber? (go to the checklist in Table 10-6)

☐ An absorber? (go to the checklist in either Table 10-7 or Table 10-10)

☐ A condenser? (go to the checklist in Table 10-8)

☐ Another type of recovery device? (go to the checklist in Table 10-9)

3. If the continuous process vent changed from Group 2 to Group 1, did the facility notify the permitting agency 60 days before the change took effect? *§63.2520(e)(10)(ii)(C)* ☐ Y ☐ N/A ☐ N

III. Note All Deficiencies

Table 3-2. Inspection Checklist for Controlling Organic HAP Emissions from Batch Process Vents in a Process Subject to Subpart FFFF

Note: Use this checklist for the collection of batch process vents within a process that is subject to subpart FFFF. A "yes" response to a question in the review of records section of this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

I. General Information

1. Process Identification or Identification of Batch Process Vents in the Process:

   _____

2. What is the Group Status of the batch process vents (determined according to Figure 3-2):

   ☐ Group 1, or

   Continue with this checklist.

   ☐ Group 2

   No control is required, but go to checklist in Table 3-3 to determine compliance with other requirements.

3. Which type of emission limit applies to the organic HAP emissions from Group 1 batch process vents? (check all that apply)

   ☐ Use a flare? *(go to checklists in Tables 9-1, 9-2, and 10-1)*

   Note: Halogenated vent streams may not be controlled using a flare, unless a halogen reduction device before the flare reduces the mass emission rate of halogen atoms in organic compounds to less that 0.45 kg/hr. See item "1" in the review of records section of this checklist.

   ☐ Reduce organic HAP emissions by ≥98 percent in a control device, ≥95 percent in a recovery device or biofilter, or to less than 20 ppmv as organic HAP or TOC using one or more of the following add-on devices:

   Note: Also see item "1" in the review of records section of this checklist if any of the batch process vents emit halogenated vent streams that are controlled with a combustion device.

   ☐ A thermal incinerator? (go to checklists in Tables 9-1, 9-2, and 10-2)

   ☐ A catalytic incinerator? (go to checklists in Tables 9-1, 9-2, and 10-3)

   ☐ A boiler or process heater with a capacity less than 44 MW that does not have the emission stream introduced with the primary fuel? (go to checklists in Tables 9-1, 9-2, and 10-4).

   ☐ A boiler or process heater with a capacity greater than 44 MW or that has the vent stream introduced with the primary fuel? (go to checklists in Tables 9-1, 9-2, and 10-5)

Table 3-2. (continued)

I. General Information

- ☐ A carbon adsorber? (go to checklists in Tables 9-1, 9-2, and 10-6).
- ☐ An absorber? (go to checklists in Tables 9-1, 9-2, and either 10-7 or 10-10)
- ☐ A condenser? (go to checklists in Tables 9-1, 9-2, and 10-8)
- ☐ Another type of control device? (go to checklists in Tables 9-1, 9-2, and 10-9)
- ☐ A biofilter? (go to checklists in Tables 9-1, 9-2, and 10-11)

☐ Comply with the alternative standard in §63.2505? (go to checklists in Tables 9-1, 9-2, 11-1, and, if applicable, 11-2)

II. Review of Records

1. If halogenated vent streams from Group 1 batch process vents are controlled using a combustion device, is a halogen reduction device also used either before or after the combustion device? If yes, which of the following requirements are met: (note that both types of devices may exist if the Group 1 batch process vents for a given process are controlled by more than one combustion device) ☐ Y ☐ N/A ☐ N

   ☐ Is a halogen reduction device used before the combustion device to reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to a concentration ≤20 ppmv? (go to the appropriate checklist in Section 10; for example, go to Table 10-10 if the halogen reduction device is a scrubber)

   ☐ Is a halogen reduction device used after the combustion device to reduce hydrogen halide and halogen HAP emissions by ≥99 percent, to ≤0.45 kg/hr, or to a concentration ≤20 ppmv? (go to the appropriate checklist in Section 10; for example, go to Table 10-10 if the halogen reduction device is a scrubber)

   Note: When the organic HAP to the flare is controlled with a flare, the halogen content must be reduced before venting to the flare.

2. If Group 1 batch process vents are in compliance with a percent reduction emission limit and some of the vents are controlled to less than the required average for all vents, are all of the following records kept for each batch:

   (a) Whether the batch was a standard batch or a nonstandard batch? ☐ Y ☐ N/A ☐ N

   (b) The estimated uncontrolled emissions for each batch that was a nonstandard batch? ☐ Y ☐ N/A ☐ N

   Note: An inspector should check that the overall required percent reduction is achieved for nonstandard batches.

Table 3-2. (continued)

II. Review of Records		
3. Does the facility have a schedule or log of operating scenarios for processes with batch process vents from batch operations? *§63.2525(c)*	☐ Y	☐ N
4. Are all records kept for at least 5 years? *§63.10(b)(1)*	☐ Y	☐ N

III. Note All Deficiencies

Table 3-3. Compliance Checklist for Group 2 Batch Process Vents

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

Note: This checklist does not apply if the facility has elected to designate a batch process vent as a Group 1 batch process vent.

I. Review of Records			
1. Does the facility have calculation records of the uncontrolled organic HAP emissions from each batch process vent and the collective uncontrolled emissions for a standard batch (i.e., as part of an operating scenario)? *§§63.2460(b) and 63.2525(b)*		☐ Y	☐ N
2. If the facility does not maintain records related to each batch for the process, does the notification of compliance status report indicate it is because of one of the following reasons? If yes, check the applicable reason. *§63.2525(e)(1)*	☐ Y	☐ N/A	☐ N
☐ The MCPU does not process, use, or generate HAP?			
☐ The Group 2 batch process vents are controlled using a flare that meets the requirements of §63.987?			
☐ The Group 2 batch process vents are controlled using a control device that also controls Group 1 batch process vents, and worst-case conditions for the initial compliance demonstration included the contribution from the Group 2 batch process vents?			
3. If the facility documented in its notification of compliance status report that non-reactive organic HAP is the only HAP used in the process and usage is < 10,000 lb/yr, does it maintain all of the following records: *§63.2525(e)(2)*			
(a) Amount of non-reactive organic HAP material used per day or per batch?	☐ Y	☐ N/A	☐ N
(b) Daily rolling annual summations of the amount used in the preceding 365 days? *Note: The summation calculations do not have to be performed every day, but calculations must be performed at least once per month for each of the days since the previous calculations.*	☐ Y	☐ N/A	☐ N
4. If the facility documented in its notification of compliance status report that uncontrolled organic HAP emissions are < 1,000 lb/yr from the batch process vents in the process, does it maintain records of the following: *§63.2525(e)(3)*			
(a) Number of batches operated?	☐ Y	☐ N/A	☐ N

Table 3-3. (continued)

I. Review of Records			
(b) Daily rolling annual sum of the batches operated in the preceding 365 days? *Note: The summation calculations do not have to be performed every day, but the calculations must be performed at least once per month for each of the days since the previous calculations.*	☐ Y	☐ N/A	☐ N
5. If none of the conditions in items 2–4 above apply, are all of the following records maintained for each batch? *§63.2525(e)*			
(a) The day the batch was completed?	☐ Y	☐ N/A	☐ N
(b) Whether the batch was a standard batch or a nonstandard batch?	☐ Y	☐ N/A	☐ N
(c) The estimated uncontrolled emissions, if the batch was a nonstandard batch?	☐ Y	☐ N/A	☐ N
(d) A summation of the total uncontrolled emissions over the preceding 365 days (and are the sums less than 10,000 lb for a process at an existing source and less than 3,000 lb for a process at a new source)? *Note: The summation calculations do not have to be performed every day, but they must be performed at least once per month for each of the days since the previous calculation.*	☐ Y	☐ N/A	☐ N
6. If the status of the batch process vents changed from Group 2 to Group 1, did the facility notify the permitting agency 60 days before the change took effect? *§63.2520(e)(10)(ii)(C)* *Note: The advance notification is not required if the process operated with Group 2 batch process vents for at least 1 year before the change.*	☐ Y	☐ N/A	☐ N
7. Are all records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

II. Note All Deficiencies

Table 3-4. Inspection Checklist for Controlling Hydrogen Halide and Halogen HAP Emissions from Process Vents within Processes that Are Subject to Subpart FFFF

Note: Use this checklist for all process vents within a process that is subject to subpart FFFF and emits hydrogen halide and halogen HAP.

I. General Information

1. Process Identification and Identification of the Process Vent(s): _____
   _____

2. Are the collective uncontrolled hydrogen halide and halogen HAP emissions from all process vents within the process:

   ☐ ≥1,000 lb/yr, or

   Continue with this checklist.

   ☐ <1,000 lb/yr

   No control is required, but go to checklist in Table 3-5 to determine compliance with other requirements.

3. Which type of emission limit applies to the hydrogen halide and halogen HAP emissions from the process vents? (check all that apply)

   ☐ Reduce hydrogen halide and halogen HAP emissions by ≥99 percent in a control device or to less than 20 ppmv using one or more of the following add-on halogen reduction devices:

   ☐ A scrubber? (go to checklists in Tables 9-1, 9-2, and 10-10)

   ☐ Another type of halogen reduction device? (go to checklists in Tables 9-1, 9-2, and 10-9)

   ☐ Comply with the alternative standard in §63.2505? (go to checklists in Tables 9-1, 9-2, and 11-1)

   ☐ Reduce the halogen atom mass emission rate from the sum of all batch process vents and each individual continuous process vent to ≤ 0.45 kg/hr using one or more of the following halogen reduction devices:

   ☐ A scrubber? (go to checklists in Tables 9-1, 9-2, and 10-10)

   ☐ Another type of halogen reduction device? (go to checklists in Tables 9-1, 9-2, and 10-9)

II. Note All Deficiencies

Table 3-5. Compliance Checklist for Processes with Hydrogen Halide and Halogen HAP Emissions from All Process Vents Less than 1,000 lb/yr

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

I. Review of Records

1. Does the facility have calculation records of the uncontrolled hydrogen halide and halogen HAP emissions from each process vent and the collective uncontrolled emissions for a standard batch (i.e., as part of an operating scenario) ? *§§63.2465(b) and 63.2525(b)* ☐ Y ☐ N

2. Are all of the following records maintained for each process: *§63.2525(e)*

   (a) The day the batch was completed, if applicable? ☐ Y ☐ N/A ☐ N

   (b) Whether the batch was a standard batch or a nonstandard batch, if applicable? ☐ Y ☐ N/A ☐ N

   (c) The estimated uncontrolled hydrogen halide and halogen HAP emissions from batch process vents and continuous process vents for each nonstandard batch? ☐ Y ☐ N/A ☐ N

   (d) A summation of the total uncontrolled hydrogen halide and halogen HAP emissions during the preceding 365 days (and are the sums less than 1,000 lb)? ☐ Y ☐ N/A ☐ N

   Note: The summation calculations do not need to be performed every day, but calculations for each day since the previous calculation must be performed at least once per month.

3. Are all records kept for at least 5 years? *§63.10(b)(1)* ☐ Y ☐ N

II. Note All Deficiencies

Table 3-6. Inspection Checklist for Controlling HAP Metals Emissions from Process Vents within Processes at New Sources that Are Subject to Subpart FFFF

Note: Use this checklist for all process vents within a process at a new source that is subject to subpart FFFF and emits HAP metals.

I. General Information

1. Process Identification and Identification of the Process Vent(s): _____
   _____

2. Are the collective uncontrolled HAP metals emissions from all process vents within the process:

   ☐ ≥150 lb/yr, or

   Continue with this checklist.

   ☐ <150 lb/yr

   Stop. No control is required. Do not continue with this checklist.

3. How does the facility comply with the 97 percent reduction requirement?

   ☐ Using a fabric filter? (go to checklist in Table 10-12)

   ☐ Using another type of control device? (go to checklist in Table 10-12)

II. Note All Deficiencies

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4.0 Storage Tanks, Surge Control Vessels, and Bottoms Receivers

This section contains applicability and control flowcharts and inspection checklists for storage tanks, surge control vessels, and bottoms receivers. Use Figures 4-1 and 4-2 to determine if a storage tank, surge control vessel, or bottoms receiver is subject to subpart FFFF, its group status, and its compliance options. Note that surge control vessels and bottoms receivers that meet the same capacity and maximum true vapor pressure thresholds as Group 1 storage tanks must be controlled as Group 1 storage tanks (see Appendix B for definitions of surge control vessel and bottoms receiver).

To determine compliance, use the applicable inspection checklist for the control technique that is used to minimize emissions from the storage tank, surge control vessel, or bottoms receiver. The checklist in Table 4-1 is used to document the group status and control technique for a specific tank. It also points you to other checklists for the applicable control technique, and it includes a checklist for general recordkeeping requirements. Table 4-2 provides a checklist for external floating roofs (EFRs), and Table 4-3 applies to internal floating roofs (IFRs). Checklists for closed-vent systems and air pollution control devices are in Sections 9 and 10, respectively, and Table 4-4 supplements these checklists with details about periods of planned routine maintenance for the control device. Table 4-5 is a checklist for complying with the vapor balancing option. Table 4-6 covers the requirements for complying with the alternative standard.

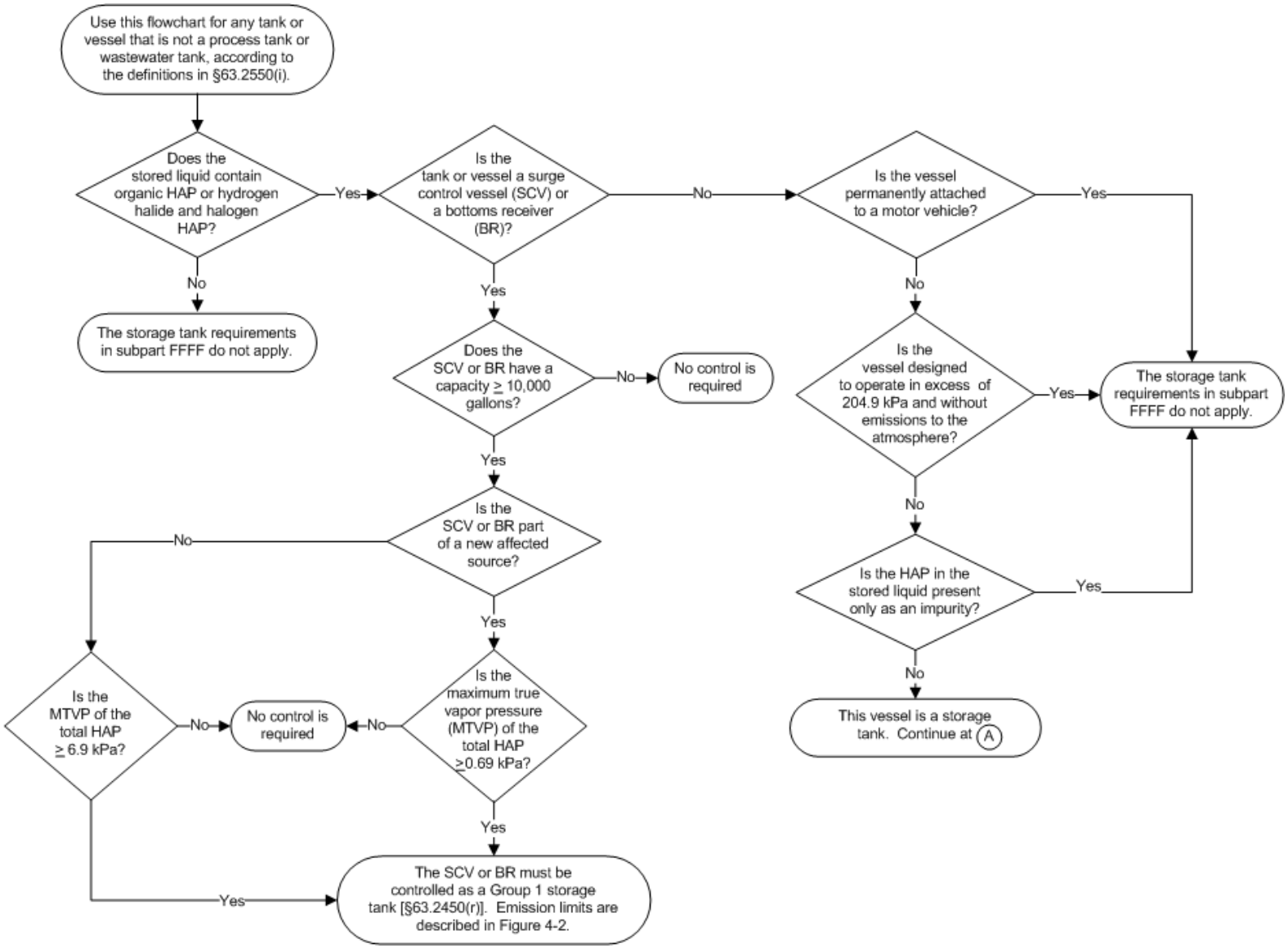


Figure 4-1. Applicability for storage tanks, surge control vessels, and bottoms receivers.

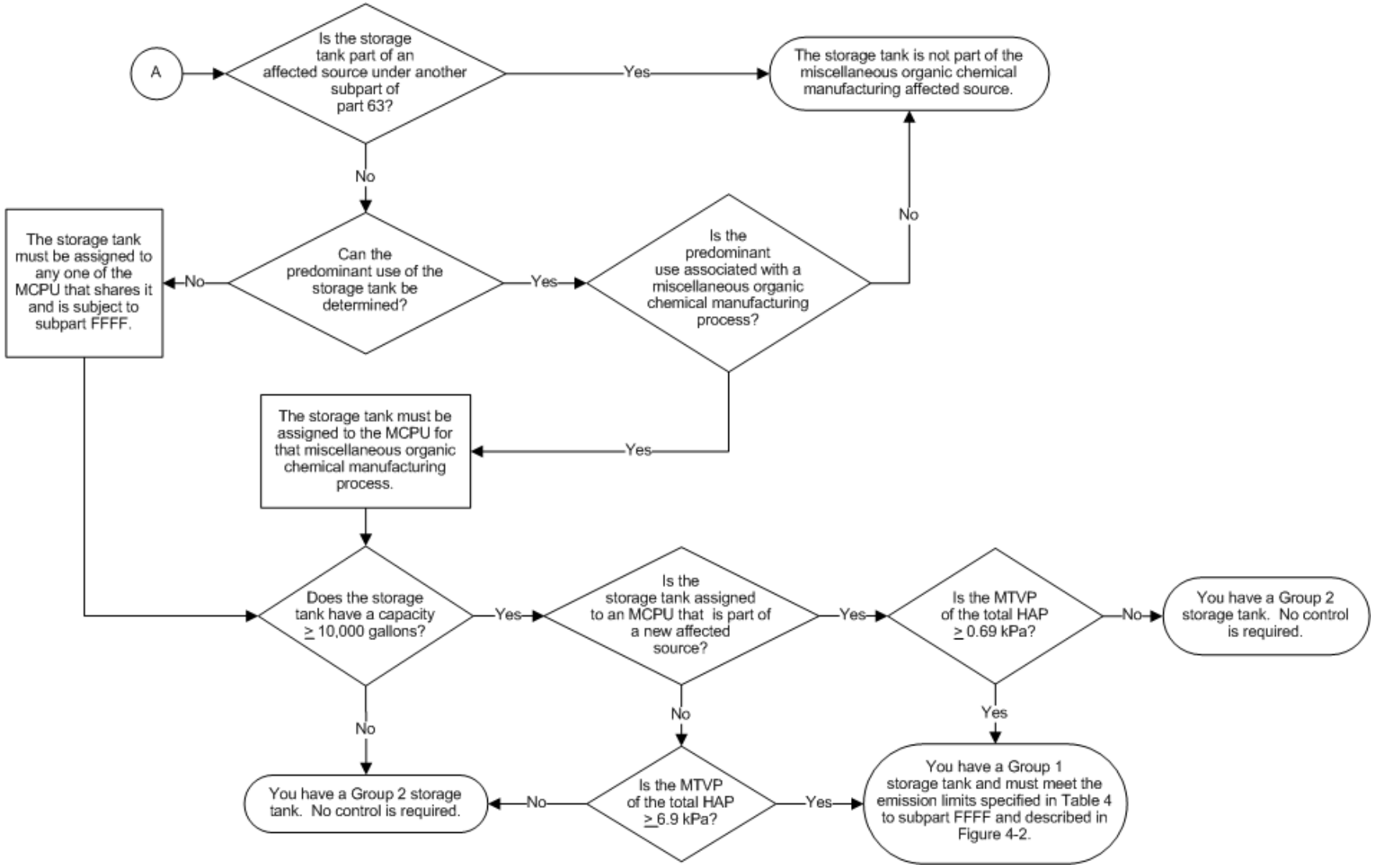
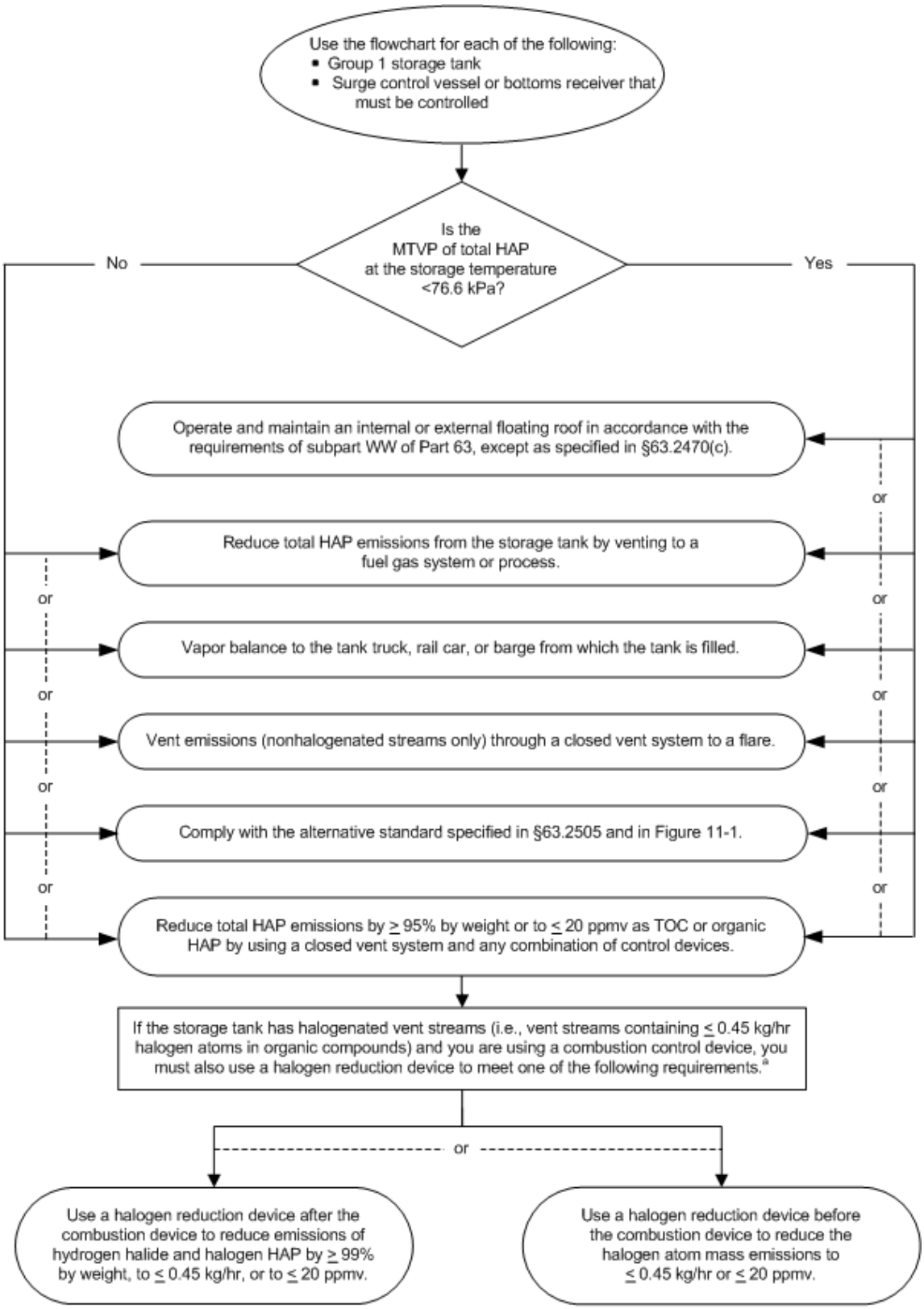


Figure 4-1. (continued)



[a] Section 63.2470(d) specifies that control device limits do not apply for up to 240 hr/yr of planned routine maintenance (extendable to 360 hr/yr with approval).

Figure 4-2. Emission limits for Group 1 storage tanks, surge control vessels, and bottoms receivers.

Table 4-1. Inspection Checklist for Storage Tanks, Surge Control Vessels, and Bottoms Receivers Subject to Subpart FFFF

Note: Use this checklist for each storage tank, surge control vessel, and bottoms receiver that is subject to subpart FFFF. A "yes" response to a question in item 4 in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement.

Note: Throughout this table and Tables 4-2 through 4-6, any reference to Group 1 storage tanks also applies to surge control vessels and bottoms receivers that meet the same capacity and maximum true vapor pressure thresholds, as noted in figure 4-1.

I. General Information

1. Storage Tank Identification: _____
2. What is the Group Status of the storage tank, or is it a surge control vessel or bottoms receiver that is subject to control under subpart FFFF (determined according to Figure 4-1):

   ☐ Group 1

   ☐ Group 2

   ☐ Surge control vessel or bottoms receiver
3. How are the emissions from the storage tank, surge control vessel, or bottoms receiver controlled?

   Group 2 storage tank

   ☐ Control is not required

   Group 1 storage tank, surge control vessel, or bottoms receiver

   ☐ An external floating roof (go to Table 4-2).

   ☐ An internal floating roof (go to Table 4-3).

   ☐ An external floating roof converted to an internal floating roof (go to Table 4-2).

   ☐ A flare (go to Table 9-1 for the closed-vent system and both Tables 4-4 and 10-1 for flares).

   ☐ A closed-vent system and a non-flare control device (go to Table 9-1 for closed-vent system and both Table 4-4 and the appropriate table in Section 10 for the non-flare control device).

   ☐ Emissions are routed to a fuel gas system (the owner or operator must include a statement of connection in the notification of compliance status report; go to Table 12-1).

   ☐ Emissions are routed to a process (the owner or operator must prepare a design evaluation or engineering assessment that documents the extent to which the emissions are recycled, consumed, transformed by chemical reaction into materials that are not HAP, incorporated into a product, and/or removed, and include the results of this determination in the notification of compliance status report; go to Table 12-1).

   ☐ Vapor balancing (go to Table 4-5).

   ☐ The alternative standard (go to Table 9-1 for the closed-vent system and Table 4-6 for the control device).

Table 4-1. (continued)

I. General Information

4. Are all of the following records kept for the storage tank: *§§63.1065(a) and 63.2520(d)(2)(i)*

   - Dimensions of the storage tank? ☐ Y ☐ N
   - Capacity of the storage tank? ☐ Y ☐ N
   - Identification of the liquid stored in the storage tank? ☐ Y ☐ N

   Note: Section 63.1065(a) explicitly requires all of these records for Group 1 storage tanks that are equipped with floating roofs. Although subpart FFFF does not explicitly require these records for Group 2 storage tanks and other Group 1 storage tanks, §63.2520(d)(2)(i) requires the results of applicability determinations to be included in the notification of compliance report. The information described by these records is needed to make those applicability determinations. Thus, these records are required for all storage tanks that are part of an affected source under subpart FFFF. These are the only requirements for Group 2 storage tanks.

II. Note All Deficiencies

Table 4-2. Compliance Checklist for a Group 1 Storage Tank with an External Floating Roof

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" response (e.g., item 10, which describes procedures to follow when performing the measurements is determined to be unsafe, is not applicable if performing the measurements is not determined to be unsafe).

Storage Tank Identification: _____

I. Review of Records			
1. Are all records kept for at least 5 years? *§63.1065*		☐ Y	☐ N
2. Do records indicate that seal gap measurements have been made every 5 years for the primary seal? *§63.1063(c)(2)(ii)*	☐ Y	☐ N/A	☐ N
3. Do records indicate that seal gap measurements have been made annually for the secondary seal?[a] *§63.1063(c)(2)(ii)*	☐ Y	☐ N/A	☐ N
4. Do records indicate the floating roof deck, deck fittings, and rim seals are visually inspected each time the tank is completely emptied and degassed or every 10 years? *§63.1063(c)(2)(iii)*	☐ Y	☐ N/A	☐ N
5. Were **both** of the following recorded for all visual inspections and seal gap measurements: *§63.1065(b)(1)(i) and (ii)*			
• Identification of the storage vessel?		☐ Y	☐ N
• Date of the inspection?		☐ Y	☐ N
6. For all seal gap measurements, was **all** of the following information recorded: *§63.1065(b)(2)*			
• All of the raw data that were obtained?		☐ Y	☐ N
• All calculations that were performed (e.g., total gap area)?		☐ Y	☐ N
7. When a failure was detected during a visual inspection or seal gap measurement, was **all** of the following information recorded: *§63.1065(b)(1)(iii) through (v)*			
• A description of all inspection failures?	☐ Y	☐ N/A	☐ N
• A description of all repairs and the dates they were made?	☐ Y	☐ N/A	☐ N
• The date the storage tank was removed from service (if the inspection was performed while the tank was in operation and repairs can not be completed while operating)?	☐ Y	☐ N/A	☐ N

Table 4-2. (continued)

I. Review of Records			
8. Whenever a floating roof was set on its legs or other supports, was **all** of the following information recorded: *§63.1065(c)*			
• The date when the floating roof was set on it legs or other supports?	☐ Y	☐ N/A	☐ N
• The date when the floating roof was refloated?	☐ Y	☐ N/A	☐ N
• An indication of whether the process of refloating was continuous?	☐ Y	☐ N/A	☐ N
9. If a tank was taken out of service to complete repairs, but it could not be emptied within 45 days of detecting a failure, was **all** of the following information kept to document the decision to request up to two 30-day extensions: *§§63.1063(e)(2), 63.1065(d), and 63.1066(b)(4)*			
• A description of the failure?	☐ Y	☐ N/A	☐ N
• Documentation that alternate storage capacity was not available?	☐ Y	☐ N/A	☐ N
• Schedule of actions taken to make repairs or empty the tank as soon as possible?	☐ Y	☐ N/A	☐ N
10. If performing a required seal gap measurement was determined to be unsafe, and the vessel could not be emptied within 45 days, was **all** of the following information kept to document the decision to request up to two 30-day extensions: *§§63.1063(c)(2)(iv)(B), 63.1065(d), and 63.1066(b)(4)*			
• Explanation of why it was unsafe to perform the seal gap measurement?	☐ Y	☐ N/A	☐ N
• Documentation that alternate storage capacity was unavailable?	☐ Y	☐ N/A	☐ N
• Schedule of actions taken to make repairs or empty the tank as soon as possible?	☐ Y	☐ N/A	☐ N
11. Was the Administrator or delegated state or local agency notified at least 30 days before each internal inspection or seal gap measurement (7 days if the inspection was unplanned and could not be foreseen 30 days in advance)? *§63.1066(b)(1)* *Note: a delegated state or local agency may waive this requirement.*	☐ Y	☐ N/A	☐ N
12. When a failure was detected during a visual inspection or seal gap measurement, was a copy of the inspection records submitted in the next compliance report? *§63.1066(b)(2)*	☐ Y	☐ N/A	☐ N

Table 4-2. (continued)

II. Visual Inspection

Note: The inspector should not perform the inspection without proper respiratory protection if the roof is below 4 feet of the top of the tank. Based on the inspector's assessment of the availability of records documenting the design of the control equipment, an adequate inspection without respiratory protection may be performed with a combination of a record inspection and a visual inspection conducted from the platform with the aid of vision-enhancing devices (binoculars). If the inspector feels that it is necessary to be on the EFR when the roof is below 4 feet of the top of the tank, please be aware of the requirements under EPA Order 1440.2 (required only for Agency personnel) and the safety information in *Guidance on Confined Space Entry in NESHAP Inspections of Benzene Storage Vessels* (EPA 455/R-92-003, September 1992).

1. Does the EFR float on the surface of the stored liquid? *§63.1063(b)(1) and (2)* *Note: The EFR is not required to be floating on the liquid when it is supported by its leg supports either because the liquid depth is insufficient to float the EFR or the tank is empty.*	☐ Y	☐ N/A	☐ N
2. Is the floating roof deck free of pools of standing liquid? *§63.1063(d)(1)(i)*		☐ Y	☐ N
3. Inspect the secondary seal.			
• Is the secondary seal free of holes and tears?[b] *§63.1063(d)(1)(ii)*	☐ Y	☐ N/A	☐ N
• Is the secondary seal continuously attached around the circumference of the EFR?	☐ Y	☐ N/A	☐ N
4. Perform seal gap measurement of the secondary seal.[b]			
• Is the accumulated area of gaps between the tank wall and the secondary seal no greater than 21.2 cm^2 per meter of tank diameter?	☐ Y	☐ N/A	☐ N
• Is the maximum gap width between the tank wall and the seal no greater than 1.27 cm?	☐ Y	☐ N/A	☐ N
Note: Procedures for performing the seal gap measurements and determining the total gap area and maximum gap width are specified in §63.1063(d)(3).			
5. Inspect the primary seal.			
• Is the primary seal either a mechanical/metallic shoe seal or a liquid-mounted seal?[b] *§63.1063(a)(1)(ii) and see definitions of "mechanical shoe seal" and "liquid-mounted seal" in §63.1061*		☐ Y	☐ N
• Is the primary seal free of holes and tears? *§63.1063(d)(1)(ii)*		☐ Y	☐ N
• Is the primary seal continuously attached around the circumference of the EFR?		☐ Y	☐ N

Table 4-2. (continued)

II. Visual Inspection			
• If the primary seal is a mechanical/metallic shoe seal:			
– Does the lower end of the mechanical/metallic shoe seal extend into the stored liquid (no specific distance)?	☐ Y	☐ N/A	☐ N
– Does the upper end of the mechanical/metallic shoe seal extend a minimum vertical distance of 61 cm above the stored liquid surface?	☐ Y	☐ N/A	☐ N
– Does a flexible coated fabric span the space between the metal shoe and the tank wall?	☐ Y	☐ N/A	☐ N
• If the primary seal is a liquid-mounted seal, is the seal in contact with the liquid between the wall of the storage tank and the EFR?	☐ Y	☐ N/A	☐ N
6. Perform seal gap measurements of the primary seal.			
• Is the accumulated area of gaps between the tank wall and the primary seal no greater than 212 cm^2 per meter of tank diameter?		☐ Y	☐ N
• Is the maximum gap width between the tank wall and the seal no more than 3.81 cm?		☐ Y	☐ N
Note: Procedures for performing the seal gap measurements and determining the total gap area and maximum gap width are specified in §63.1063(d)(3).			
7. Inspect deck openings.			
• Is the lower edge of each opening in the floating roof, except automatic bleeder vents and rim space vents, below the surface of the stored liquid?[c] *§63.1063(a)(2)(i)*	☐ Y	☐ N/A	☐ N
• Except for automatic bleeder vents, rim space vents, deck drains, and leg sleeves, does each opening in the roof have a gasketed cover?[c] *§63.1063(a)(2)(ii)*	☐ Y	☐ N/A	☐ N
• Is each gasketed cover, seal, or lid on any opening in the EFR closed, except when it must be open for access?[c] *§63.1063(b)(3)*	☐ Y	☐ N/A	☐ N
• Is the cover on each access hatch and gauge float well designed to be bolted or fastened when closed?[c] *§63.1063(a)(2)(vi)*	☐ Y	☐ N/A	☐ N
• Does each deck fitting gasket, seal, and wiper fit between the surfaces it is intended to seal without any gaps larger than 0.32 cm (1/8 in)? *§63.1063(d)(1)(v)*	☐ Y	☐ N/A	☐ N

Table 4-2. (continued)

II. Visual Inspection			
8. Inspect automatic bleeder vents (vacuum breaker vents).			
• Is each automatic bleeder vent closed, except when required to be open to relieve excess pressure or vacuum? *§63.1063(b)(4)*		☐ Y	☐ N
• Does each automatic bleeder vent have a gasketed lid, pallet, flapper, or other closure device?[c] *§63.1063(a)(2)(iii)*	☐ Y	☐ N/A	☐ N
9. Inspect rim space vents.			
• Is each rim space vent closed, except when required to be open to relieve excess pressure or vacuum? *§63.1063(b)(4)*		☐ Y	☐ N
• Does each rim space vent have a gasketed lid, pallet, flapper, or other closure device?[c] *§63.1063(a)(2)(iii)*	☐ Y	☐ N/A	☐ N
10. Does each deck drain that empties into the stored liquid have either a gasketed cover or a slit fabric seal or similar device that covers at least 90 percent of the area of the opening?[c] *§63.1063(a)(2)(v)*	☐ Y	☐ N/A	☐ N
11. Does each unslotted guide pole well have a pole wiper?[c] *§63.1063(a)(2)(vii)*	☐ Y	☐ N/A	☐ N
12. Does each unslotted guide pole have a gasketed cap on the end of the pole?[c] *§63.1063(a)(2)(vii)*	☐ Y	☐ N/A	☐ N
13. Is the cap on each unslotted guidepole closed, except when gauging the liquid level or taking liquid samples? *§63.1063(b)(5)*	☐ Y	☐ N/A	☐ N
14. Does each slotted guide pole have either of the following: (1) a pole wiper and pole float, or (2) a pole wiper and pole sleeve?[c] *§63.1063(a)(2)(viii)*	☐ Y	☐ N/A	☐ N
15. Does each sample well have either a gasketed cover or a slit fabric seal or similar device that covers at least 90 percent of the area of the opening?[c] *§63.1063(a)(2)(v)*	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

EFR = external floating roof.

Table 4-2. (continued)

[a] If an EFR has a liquid-mounted or metallic shoe primary seal as of April 4, 2002, a secondary seal is not required until the next time the tank is emptied and degassed or until November 10, 2013, whichever is earlier. *§63.1063(a)(1)(ii)(C)*

[b] If the EFR is equipped, as of April 4, 2002, with either: (1) a liquid-mounted primary seal and no secondary seal, (2) a metallic shoe primary seal and no secondary seal, or (3) a vapor-mounted primary seal and a secondary seal, then the seal requirement of a liquid-mounted or metallic shoe primary seal and secondary seal does not apply until the earlier of the following dates: (1) the next time the storage tank is emptied and degassed, or (2) November 10, 2013. *§63.1063(a)(1)(ii)(C)*

[c] If these requirements were not met for a floating roof in place as of April 4, 2002, then this requirement does not apply until the earlier of the following dates: (1) the next time the storage tank is emptied and degassed, or (2) no later than November 10, 2013. *§63.1063(a)(2)(ix)*

Table 4-3. Compliance Checklist for a Group 1 Storage Tank with an Internal Floating Roof

Note: An external floating roof located in a storage tank to which a fixed roof has been added is defined as an internal floating roof. *§63.1061*

A "yes" response to a question in this checklist means compliance with that provision, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box (e.g., item 5 would not be applicable if the floating roof has not been set on its legs or other supports).

Storage Tank Identification: _____

I. Review of Records

1. Are all records kept for at least 5 years? *§63.1065*		☐ Y	☐ N
2. Do records show that visual inspections are conducted on either of the following schedules: *§63.1063(c)(1)(i) and (ii)*			
(a) Internal and tank-top inspections are conducted as follows:			
• Tank-top visual inspections are conducted at least once per year?	☐ Y	☐ N/A	☐ N
• Internal visual inspections are conducted each time the storage tank is emptied and degassed, or every 10 years, whichever occurs first?	☐ Y	☐ N/A	☐ N
(b) Internal inspections are conducted each time the storage tank is emptied and degassed or every 5 years, whichever occurs first?	☐ Y	☐ N/A	☐ N
Note: The second option is allowed only for storage tanks with both primary and secondary seals.			
3. Were **both** of the following recorded for all visual inspections: *§63.1065(b)(1)(i) and (ii)*			
(a) Identification of the storage vessel?		☐ Y	☐ N
(b) Date of the inspection?		☐ Y	☐ N
4. When a failure was detected during a visual inspection, was **all** of the following information recorded: *§63.1065(b)(1)(iii) through (v)*			
(a) A description of all inspection failures?	☐ Y	☐ N/A	☐ N
(b) A description of all repairs and the dates they were made?	☐ Y	☐ N/A	☐ N
(c) The date the storage tank was removed from service (if the inspection was performed while the tank was in operation and repairs can not be completed while operating)?	☐ Y	☐ N/A	☐ N
5. Whenever a floating roof was set on its legs or other supports, was **all** of the following information recorded: *§63.1065(c)*			
(a) The date when the floating roof was set on it legs or other supports?	☐ Y	☐ N/A	☐ N

Table 4-3. (continued)

I. Review of Records			
(b) The date when the floating roof was refloated?	☐ Y	☐ N/A	☐ N
(c) An indication of whether the process of refloating was continuous?	☐ Y	☐ N/A	☐ N
6. If a tank was taken out of service to complete repairs, but it could not be emptied within 45 days of detecting a failure, was **all** of the following information kept to document the decision to request up to two 30-day extensions: *§§63.1063(e)(2), 63.1065(d), and 63.1066(b)(4)*			
(a) A description of the failure?	☐ Y	☐ N/A	☐ N
(b) Documentation that alternate storage capacity was not available?	☐ Y	☐ N/A	☐ N
(c) Schedule of actions taken to make repairs or empty the tank as soon as possible?	☐ Y	☐ N/A	☐ N
7. Was the Administrator or delegated State or local agency notified at least 30 days before each visual inspection (7 days if the inspection was unplanned and could not be foreseen 30 days in advance)? *§63.1066(b)(1)* *Note: a delegated State or local agency may waive this requirement.*	☐ Y	☐ N/A	☐ N
8. When a failure was detected during a visual inspection, was a copy of the inspection records submitted in the next compliance report? *§63.1066(b)(2)*	☐ Y	☐ N/A	☐ N
II. Visual Inspection			
Note: The inspector should be advised of the hazards of inspecting an internal floating roof tank that contains a liquid hazardous air pollutant (HAP). An inspector may perform an external (tank-top) visual inspection of a storage tank at any time (i.e., the tank does not need to be taken out of service). However, the inspector will need to have proper respiratory protection before opening the roof hatch to visually inspect, from the fixed roof, the floating deck and seal. An inspector may perform the more thorough internal inspection only when the tank has been taken out of service (i.e., emptied, degassed and cleaned). Unless a tank is taken out of service more frequently than is required by subpart FFFF, this internal inspection can only take place once every 10 years. The inspector should never enter a storage tank to inspect the IFR without first consulting documents that address the safety issues to consider while entering a confined space and while inspecting an IRF that contains HAP – EPA Order 1440.2 and the EPA document *Guidance on Confined Space Entry in NESHAP Inspections of Benzene Storage Vessels* (EPA 455/R-92-003, September 1992).			
1. Does the IFR float on the surface of the stored liquid? *§63.1063(b)(1) and (2)* *Note: The IFR is not required to be floating on the liquid when it is supported by its leg supports either because the liquid depth is insufficient to float the IFR or the tank is empty.*	☐ Y	☐ N/A	☐ N
2. Is the floating roof deck free of pools of standing liquid? §63.1063(d)(1)(i)		☐ Y	☐ N

Table 4-3. (continued)

II. Visual Inspection			
3. Inspect the rim seal(s).			
(a) Does the IFR have any one of the following closure devices:[a] *§63.1063(a)(1)*	☐ Y	☐ N/A	☐ N
– A liquid-mounted primary seal? *See definition of "liquid-mounted seal" in §63.1061*			
– A mechanical/metallic shoe primary seal? *See definition of "mechanical shoe seal" in §63.1061*			
– Both a primary seal and a secondary seal?			
(b) Is the primary seal continuously attached around the circumference of the IFR?		☐ Y	☐ N
(c) If the IFR has a secondary seal, is it continuously attached around the circumference of the IFR?	☐ Y	☐ N/A	☐ N
(d) Are there no visible gaps between the seal(s) and the wall of the storage tank?		☐ Y	☐ N
(e) Is the primary seal free of holes and tears? *§63.1063(d)(1)(ii)*		☐ Y	☐ N
(f) If the IFR has a secondary seal, is it free of holes and tears? *§63.1063(d)(1)(ii)*	☐ Y	☐ N/A	☐ N
(g) If the primary seal is a mechanical/metallic shoe seal:			
– Does the lower end of the metallic shoe seal extend into the stored liquid (no specific distance)?	☐ Y	☐ N/A	☐ N
– Does a flexible coated fabric span the space between the metal shoe and the tank wall?	☐ Y	☐ N/A	☐ N
(h) If the primary seal is a liquid-mounted seal, is the seal is in contact with the liquid between the wall of the storage tank and the IFR?	☐ Y	☐ N/A	☐ N
4. Inspect deck openings.			
(a) If the IFR is non-contact, is the lower edge of each opening in the floating roof, except automatic bleeder vents and rim space vents, below the surface of the stored liquid?[b] *§63.1063(a)(2)(i)*	☐ Y	☐ N/A	☐ N
(b) Except for automatic bleeder vents, rim space vents, deck drains, leg sleeves, and openings for fixed roof support columns, does each opening in the roof have a gasketed cover?[b] §63.1063(a)(2)(ii)	☐ Y	☐ N/A	☐ N
(c) Is each gasketed cover, seal, or lid on any opening in the IFR closed, except when it must be open for access?[b] *§63.1063(b)(3)*	☐ Y	☐ N/A	☐ N
(d) Does each opening for a fixed roof support column have either a flexible fabric sleeve seal or a gasketed cover?[b] *§63.1063(a)(2)(iv)*	☐ Y	☐ N/A	☐ N

Table 4-3. (continued)

II. Visual Inspection			
(e) Is the cover on each access hatch and gauge float well designed to be bolted or fastened when closed?[b] *§63.1063(a)(2)(vi)*	☐ Y	☐ N/A	☐ N
(f) Does each deck fitting gasket, seal, and wiper fit between the surfaces it is intended to seal without any gaps larger than 0.32 cm (1/8 in)? *§63.1063(d)(1)(v)*		☐ Y	☐ N
5. Inspect automatic bleeder vents (vacuum breaker vents).			
(a) Is each automatic bleeder vent closed, except when required to be open to relieve excess pressure or vacuum? *§63.1063(b)(4)*		☐ Y	☐ N
(b) Does each automatic bleeder vent have a gasketed lid, pallet, flapper, or other closure device?[b] *§63.1063(a)(2)(iii)*	☐ Y	☐ N/A	☐ N
6. Inspect each rim space vent.			
(a) Is each rim space vent closed, except when required to be open to relieve excess pressure or vacuum? *§63.1063(b)(4)*		☐ Y	☐ N
(b) Does each rim space vent have a gasketed lid, pallet, flapper, or other closure device?[b] *§63.1063(a)(2)(iii)*	☐ Y	☐ N/A	☐ N
7. Is each deck drain that empties into the stored liquid have either a gasketed cover or a slit fabric seal or similar device that covers at least 90 percent of the area of the opening?[b] *§63.1063(a)(2)(v)*	☐ Y	☐ N/A	☐ N
8. Does each unslotted guide pole well have a pole wiper?[b] *§63.1063(a)(2)(vii)*	☐ Y	☐ N/A	☐ N
9. Does each unslotted guide pole have a gasketed cap on the end of the pole?[b] *§63.1063(a)(2)(vii)*	☐ Y	☐ N/A	☐ N
10. Is the cap on each unslotted guidepole closed, except when guaging the liquid level or taking liquid samples? *§63.1063(b)(5)*	☐ Y	☐ N/A	☐ N
11. Does each slotted guide pole have either of the following: (1) a pole wiper and pole float, or (2) a pole wiper and pole sleeve?[b] *§63.1063(a)(2)(viii)*	☐ Y	☐ N/A	☐ N
12. Does each sample well have either a gasketed cover or a slit fabric seal or similar device that covers at least 90 percent of the area of the opening?[b] *§63.1063(a)(2)(v)*	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

Table 4-3. (continued)

III. Note All Deficiencies

IFR = internal floating roof.

[a] If the IFR has a vapor-mounted seal as of April 4, 2002, the requirement for a liquid-mounted seal, mechanical/metallic shoe seal, or a secondary seal is not required until the next time the storage tank is emptied and degassed or November 10, 2013, whichever is earlier. *§63.1063(a)(1)(ii)(D)*

[b] If these requirements were not met for a floating roof in place as of April 4, 2002, then this requirement does not apply until the earlier of the following dates: (1) the next time the storage tank is emptied and degassed, or (2) no later than November 10, 2013. *§63.1063(a)(2)(ix)*

Table 4-4. Compliance Checklist for Group 1 Storage Tanks Equipped with a Control Device

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement.

Note: Use this checklist in addition to the checklists in section 9 for the closed vent system and the applicable checklist from section 10 for the type of control device that is used to reduce emissions from the storage tank. Use the checklist in Table 4-6 instead of this checklist if the facility complies with the alternative standard in §63.2505.

Storage Tank Identification: _____

I. Review of Records

1. Does the facility keep all of the following records of periods of planned routine maintenance for the control device: *§63.998(d)(2)(ii)*
   - (a) Time of day and date when each period of planned routine maintenance starts? ☐ Y ☐ N
   - (b) Time of day and date when each period of planned routine maintenance ends? ☐ Y ☐ N
   - (c) Description of the type of maintenance performed? ☐ Y ☐ N
2. Do both of the following occur each time the facility has periods of planned routine maintenance that exceed 240 hr/yr: *§63.2470(d)*
   - (a) The facility submitted an application to the Administrator requesting approval of an extension to no more than 360 hr/yr that contained both of the following:
     - An explanation of why the extension is needed? ☐ Y ☐ N
     - A statement affirming that no material will be added to the storage tank between the time the 240 hr limit is exceeded and the date the control device is returned to service? ☐ Y ☐ N
   - (b) The application was submitted at least 60 days before the 240 hr/yr limit is exceeded? ☐ Y ☐ N
3. Are all records kept for at least 5 years? *§63.10(b)(1)* ☐ Y ☐ N

II. Note All Deficiencies

Table 4-5. Compliance Checklist for Storage Tanks Using Vapor Balancing

Note: Use this checklist when emissions from a storage tank are vapor balanced to the tank truck, railcar, or barge that delivered material to the storage tank. This checklist is designed only for assessing operations at the miscellaneous organic chemical manufacturing source; it does not address requirements for offsite facilities that clean or reload tank trucks, railcars, or barges. A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement.

Storage Tank Identification: _____

I. Review of Records			
1. Does the facility have records that the tank trucks, railcars, and/or barges from which the storage tank is filled meet U.S. DOT pressure requirements in 49 CFR part 180, 49 CFR 173.31, or 40 CFR 61.304(f), respectively? *§63.1259(b)(12) as referenced from §§63.2470(e) and 63.1253(f)(2)*		☐ Y	☐ N
2. Does the facility have a record of the pressure relief vent setting? *§63.1259(b)(12) as referenced from §§63.2470(e) and 63.1253(f)(5)*		☐ Y	☐ N
3. If the setting in item "2" above is less than 2.5 psig, did the facility provide rationale in the notification of compliance status report explaining why the lower value is sufficient to prevent breathing losses at all times? *§63.2470(e)(3)*	☐ Y	☐ N/A	☐ N
4. Does the facility have written certification from facilities that reload and/or clean the tank trucks, railcars, and barges that they will either reduce the HAP content of the displaced vapor by ≥95 percent (and meet the compliance requirements in subpart FFFF) or vapor balance to the tank from which the tank truck or railcar is loaded? *§63.1253(f)(7)(i) as referenced from §63.2470(e)*		☐ Y	☐ N
5. For each leak detected during quarterly monitoring, does the facility have all of the following records: *§§63.1253(f)(5)(iii), 63.1255(g)(4), and 63.1259(b)(12)*			
(a) The instrument?	☐ Y	☐ N/A	☐ N
(b) The equipment identification number?	☐ Y	☐ N/A	☐ N
(c) The operator name, initials, or identification number?	☐ Y	☐ N/A	☐ N
(d) Date the leak was detected?	☐ Y	☐ N/A	☐ N
(e) Date of first repair attempt?	☐ Y	☐ N/A	☐ N
(f) Date of successful repair?	☐ Y	☐ N/A	☐ N
(g) Maximum instrument reading measured by Method 21 after the leak is successfully repaired or determined to be nonrepairable?	☐ Y	☐ N/A	☐ N
6. Are all records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

Table 4-5. (continued)

II. Visual Inspections	
1. Is there a pressure relief device on the storage tank, and does the pressure relief setting match the value specified in the notification of compliance status report?	☐ Y ☐ N

III. Note All Deficiencies

U.S. DOT = U.S. Department of Transportation.

Table 4-6. Alternative Standard Checklist

Note: Use this checklist when emissions from a Group 1 storage tank are vented to a control device and the facility complies with the alternative standard specified in §63.2505. If the control device is also used to control process vent emissions, then the applicable checklists in Section 11 may be used to evaluate compliance with both the process vent and storage tank emission limits; supplement that checklist with questions regarding planned routine maintenance of the control device in this checklist. A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

Storage Tank Identification:_____

I. Review of Records

1. Does the facility have all of the following initial compliance records:

(a) Documentation that the Administrator was notified at least 60 days before conducting a performance evaluation of the CEMS? *§63.8(e)(2)*		☐ Y	☐ N
(b) Results of CEMS performance evaluations (and measurements needed to determine conditions of performance evaluation)? *§63.10(b)(2)(viii) and (ix)*		☐ Y	☐ N
(c) Identification of target analytes or predominant HAP that are used in calibrating the CEMS in the notification of compliance status report? *§§63.2505(b)(3) and 63.2450(j)(2)*		☐ Y	☐ N
(d) Inclusion of the storage tank in all applicable MCPU operating scenarios? *§63.2525(b)*		☐ Y	☐ N
(e) Written copies of all of the procedures (e.g., calibrations) that are part of the quality control program? *§§63.8(d)(2) and 63.10(c)(14)*		☐ Y	☐ N

2. Does the facility have all of the following ongoing quality control records:

(a) CEMS calibration checks? *§63.10(b)(2)(x)*		☐ Y	☐ N
(b) Adjustments and maintenance performed on the CEMS? *§63.10(b)(2)(xi)*	☐ Y	☐ N/A	☐ N

3. Does the facility have all of the following operating records:

(a) All CEMS measurements when the storage tank is in service (including periods of SSM, unavoidable CEMS breakdowns, and out-of-control periods)? *§63.10(b)(2)(vii) and (c)(1)*		☐ Y	☐ N
(b) Date and time when CEMS was malfunctioning or inoperative (except for zero [low-level] and high-level checks)? *§§63.10(b)(2)(vi) and (c)(5)*	☐ Y	☐ N/A	☐ N
(c) Nature and cause of malfunctions (if known) and corrective actions taken? *§63.10(c)(10) and (11)*	☐ Y	☐ N/A	☐ N
(d) Date and time when CEMS was out of control (e.g., calibration drift exceed specifications or CEMS fails cylinder gas audit)? *§63.10(b)(2)(vi) and (c)(6)*	☐ Y	☐ N/A	☐ N

Table 4-6. (continued)

I. Review of Records			
(e) Date and time of each deviation from the outlet concentration emission limit, and whether or not the deviation occurred during a period of startup, shutdown, and malfunction? *§63.2525(h)*	☐ Y	☐ N/A	☐ N
4. Are the CEMS data (excluding data collected when the CEMS was out of control) reduced to operating day averages for comparison with the outlet concentration emission limits? *§§63.2505(b)(7) and 63.8(c)(7)(ii)*		☐ Y	☐ N
5. If the storage tank emissions are combined with supplemental gases before the control device, do records show the facility does either of the following:	☐ Y	☐ N/A	☐ N
(a) Corrects the concentrations to account for dilution caused by supplemental gases using the procedures specified in §§63.2450(i) and 63.2460(c)(6)? *§63.2450(j)(5)*			
(b) Monitors operating parameters as specified in §63.1258(b)(5)(ii)? *§63.2505(b)*			
6. If the facility uses the exemption for periods of planned routine maintenance for a shared control device, are storage tank emissions the only emissions that are not controlled during such periods? *§63.2505(b)(9)*	☐ Y	☐ N/A	☐ N
7. Does the facility keep all of the following records of periods of planned routine maintenance for the control device: *§§63.998(d)(2)(ii) and 63.2505(b)(9)*			
(a) Time of day and date when each period of planned routine maintenance starts?	☐ Y	☐ N/A	☐ N
(b) Time of day and date when each period of planned routine maintenance ends?	☐ Y	☐ N/A	☐ N
(c) Description of the type of maintenance performed?	☐ Y	☐ N/A	☐ N
8. Do both of the following occur each time the facility has periods of planned routine maintenance that exceed 240 hr/yr: *§§63.2470(d) and 63.2505(b)(9)*			
(a) The facility submitted an application to the Administrator requesting approval of an extension to no more than 360 hr/yr that contained both of the following:			
• An explanation of why the extension is needed?	☐ Y	☐ N/A	☐ N
• A statement affirming that no material will be added to the storage tank between the time the 240 hr limit is exceeded and the date the control device is returned to service?	☐ Y	☐ N/A	☐ N
(b) The application was submitted at least 60 days before the 240 hr/yr limit is exceeded?	☐ Y	☐ N/A	☐ N

Table 4-6. (continued)

I. Review of Records			
9. If the facility complies with the 95 percent reduction emission limit for scrubbers used to control hydrogen halide and halogen HAP generated by a combustion device, does the facility have the following records:			
(a) Continuous monitoring records for all of the following scrubber operating parameters: *§§63.994(c), 63.2505(b)(5)(ii), and 63.2450(k) (Note that the continuous records are not required under alternative recordkeeping provisions in §63.998(b)(1)(iii) or (b)(5).)*			
• pH or caustic strength?	☐ Y	☐ N/A	☐ N
• Liquid flow?	☐ Y	☐ N/A	☐ N
• Gas flow (if complying with §63.994(c)(1)(ii)(B))?	☐ Y	☐ N/A	☐ N
(b) Performance test and operating limits that were determined during the test for pH (or caustic strength) and liquid-to-gas ratio? *§§63.2505(b)(5)(i), 63.998(a)(2)(ii)(D), and 63.999(a)(2) and (b)(3)*	☐ Y	☐ N/A	☐ N
(c) Daily averages of pH or caustic strength and liquid-to-gas ratio (or a record that all values for an operating day met the operating limit)? *§§63.2505(b)(7) and 998(b)(3)*	☐ Y	☐ N/A	☐ N
(d) The following CPMS records: *§63.998(c)(1) and (d)(5)*			
• Procedure used for calibrating the CPMS?	☐ Y	☐ N/A	☐ N
• Date and time of completion of calibration and preventive maintenance?	☐ Y	☐ N/A	☐ N
• "As found" and "as left" CPMS readings, whenever an adjustment is made that affects the CPMS reading, and a "no adjustment" statement otherwise?	☐ Y	☐ N/A	☐ N
• Start time and duration (or start and stop times) of any periods when the CPMS is inoperative?	☐ Y	☐ N/A	☐ N
• Occurrence and duration of each start-up, shutdown, and malfunction during which excess emissions occur?	☐ Y	☐ N/A	☐ N
• If excess emissions occur during a period of SSM, documentation that procedures in the SSM plan were followed or a description of actions taken?	☐ Y	☐ N/A	☐ N
• Documentation of each SSM event?	☐ Y	☐ N/A	☐ N
• If no excess emissions occur during an SSM event, documentation affirming this result?	☐ Y	☐ N/A	☐ N
• Occurrence and cause of periods when the monitored parameters do not meet the operating limits?	☐ Y	☐ N/A	☐ N
10. Are all records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

Table 4-6. (continued)

II. Visual Inspections			
1. Are CEMS for TOC and/or total hydrogen halide and halogen HAP, as applicable, located in the exhaust line from the control device?		☐ Y	☐ N
2. If the facility is monitoring control device parameters instead of correcting measured concentrations to account for dilution caused by mixing the emission stream with supplemental gases, are the appropriate monitoring devices present and operating?	☐ Y	☐ N/A	☐ N
3. If the facility is complying with the 95 percent reduction emission limit, are the following devices present and operating:			
(a) pH or caustic strength monitoring device?	☐ Y	☐ N/A	☐ N
(b) Liquid flow monitoring device?	☐ Y	☐ N/A	☐ N
(c) Gas flow monitoring device (if complying with §63.994(c)(1)(ii)(B))?	☐ Y	☐ N/A	☐ N
(d) If flow can be intermittent, a flow indicator at the inlet or outlet to the scrubber?	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

CEMS = continuous emissions monitoring system.
CPMS = continuous parameter monitoring system.
HAP = hazardous air pollutant.
MCPU = miscellaneous organic chemical manufacturing process unit.
SSM = startup, shutdown, and malfunction.
TOC = total organic compounds.

5.0 Wastewater Systems

This section contains applicability and control flowcharts and inspection checklists for wastewater systems. Use Figure 5-1 to determine if a water-containing stream is wastewater. Use Figure 5-2 to determine if a wastewater stream is process wastewater or maintenance wastewater. For a process wastewater stream, use Figure 5-3 to determine if it is a Group 1 process wastewater stream that is subject to management and treatment requirements under subpart FFFF. Figures 5-4 through 5-6 identify the emission suppression requirements for waste management units (WMUs) that are used to convey, store, or treat Group 1 process wastewater streams. Figure 5-7 identifies treatment options for Group 1 process wastewater streams. Use Figure 5-8 to identify items of equipment that manage liquid streams in open systems within an MCPU that are subject to control requirements.

For each Group 1 process wastewater stream, use the applicable inspection checklists to determine compliance with the emission suppression and treatment requirements. The checklist in Table 5-1 is used to identify wastewater streams and residuals that are managed and treated in a similar manner. It is also used to identify the WMUs in the wastewater system for those streams and points you to the applicable checklists for those WMUs. Table 5-2 identifies the appropriate checklists for each type of waste management unit depending on the emission suppression technique that is used. Tables 5-3 through 5-7 present checklists for inspections of wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators, respectively. Table 5-8 is a checklist for visual inspections of leaks from covers, fixed roofs, and enclosures that are used to suppress emissions from any type of WMU. Table 5-9 is a checklist for wastewater treatment systems that comply with the alternative requirements for wastewater that is Group 1 only for SHAP. Table 5-10 is a checklist for steam stripper treatment units, and Table 5-11 is a checklist for other types of treatment units.

This section also includes a checklist for equipment within a process that conveys or receives water streams that meet the flow rate and HAP concentration thresholds that are used to define Group 1 process wastewater streams. Table 5-12 is a checklist for emission suppression techniques that are specific to these items of equipment.

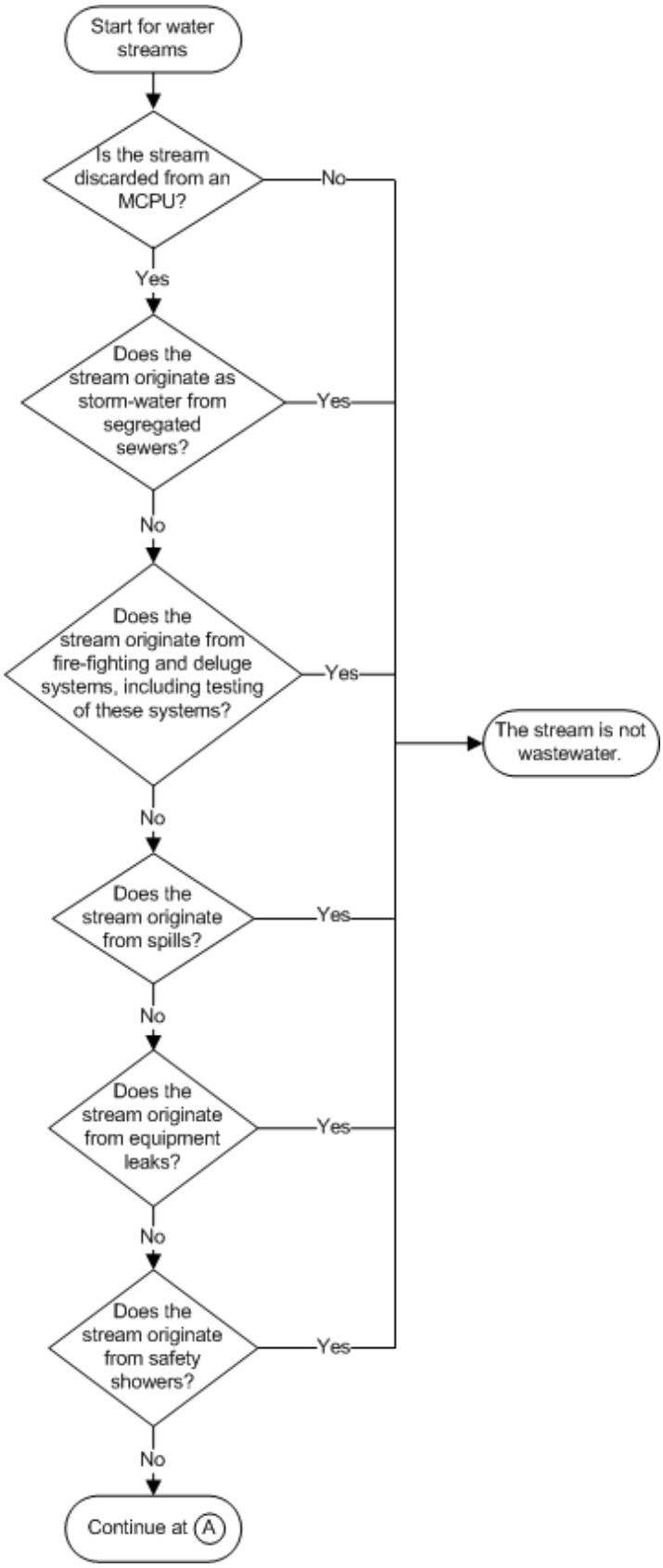


Figure 5-1. Applicability for wastewater.

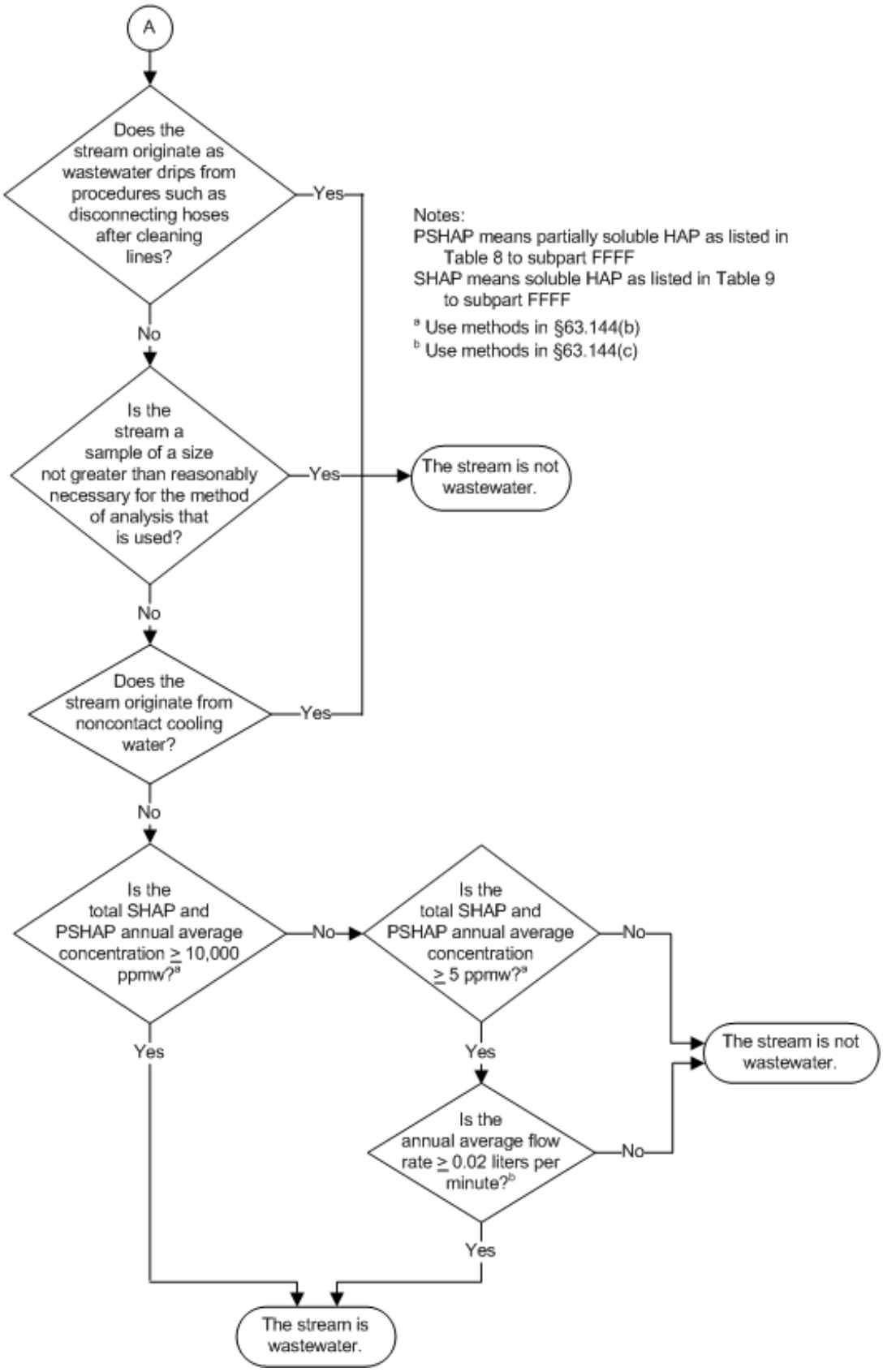


Figure 5-1. (continued)

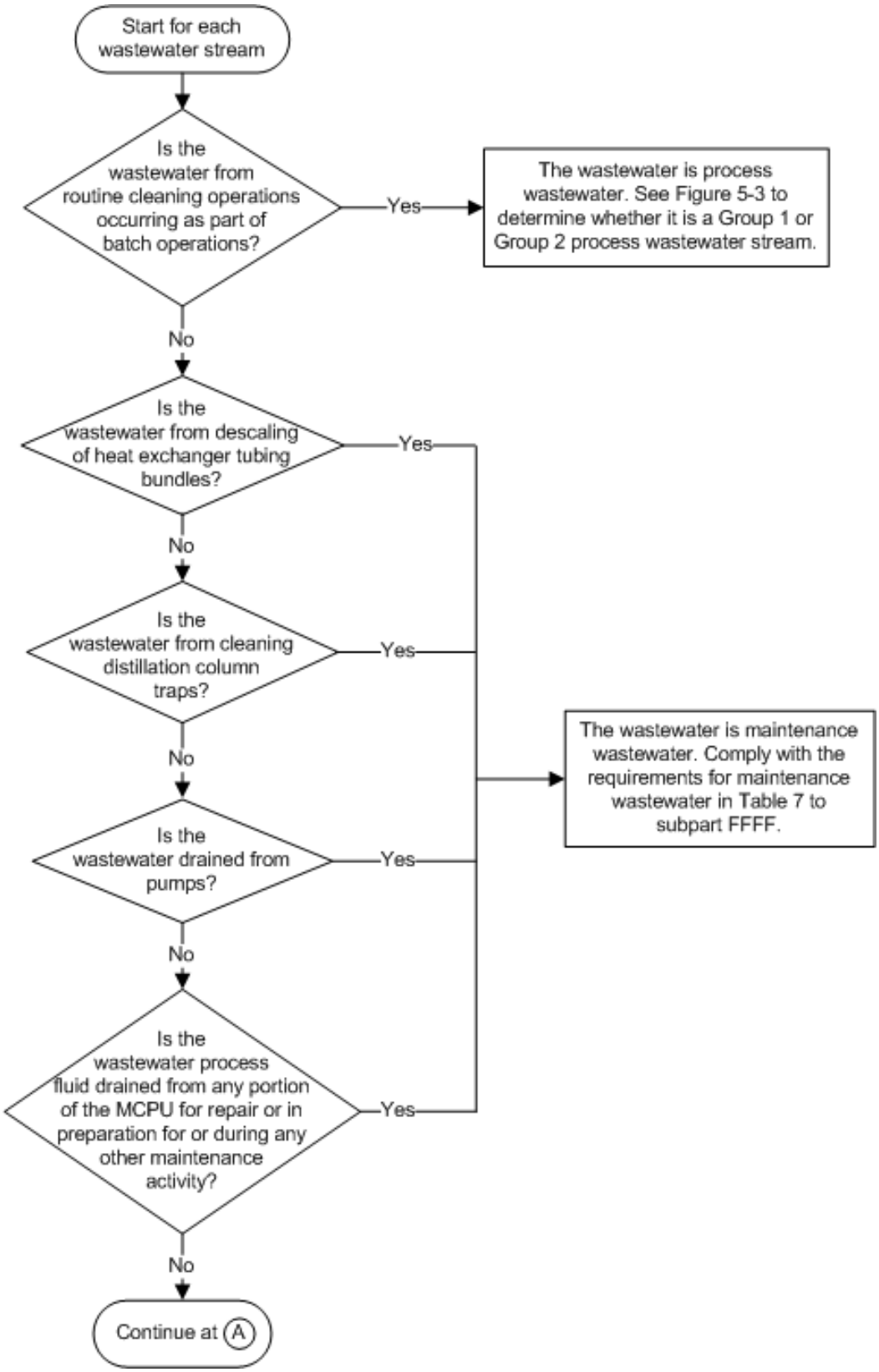


Figure 5-2. Applicability of process or maintenance wastewater.

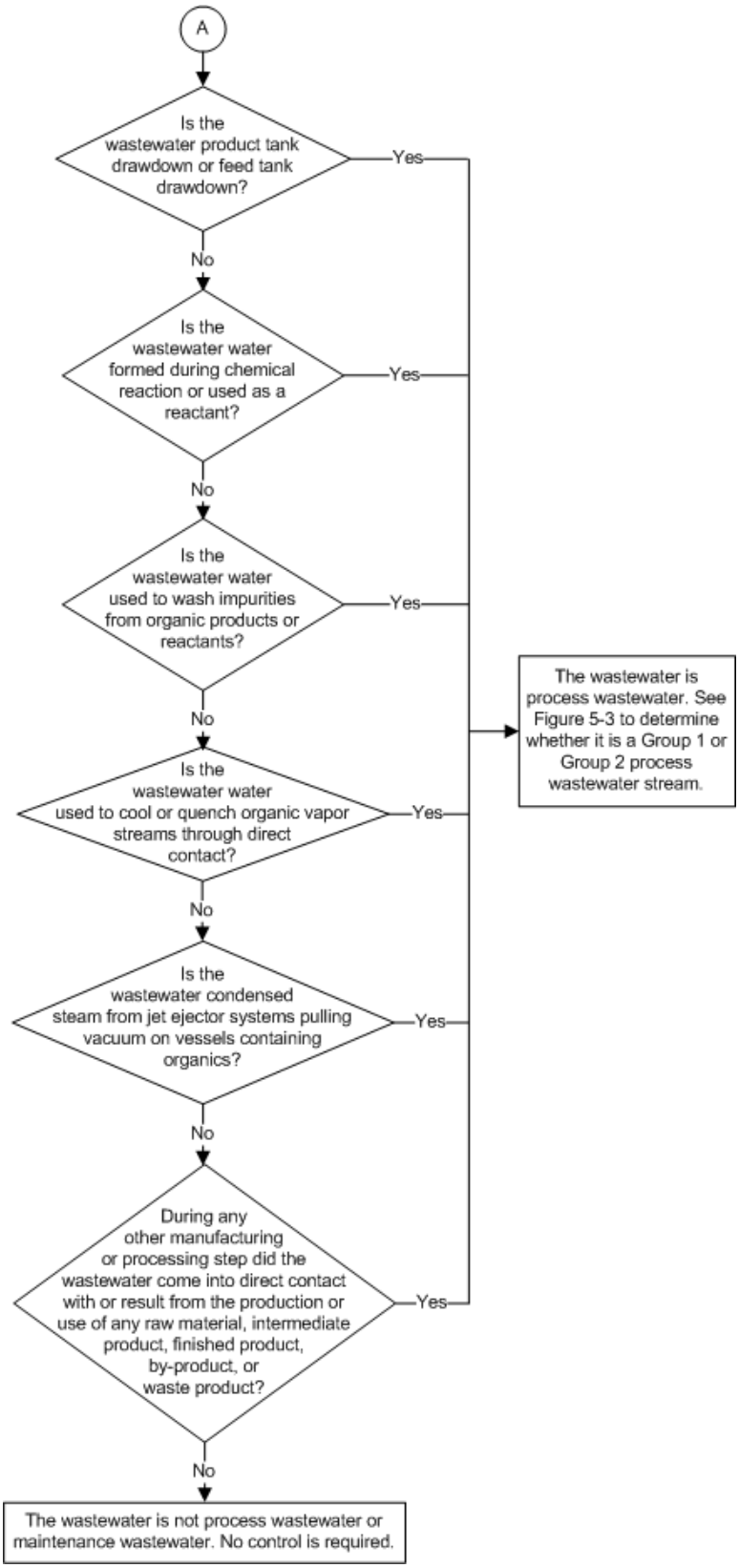


Figure 5-2. (continued)

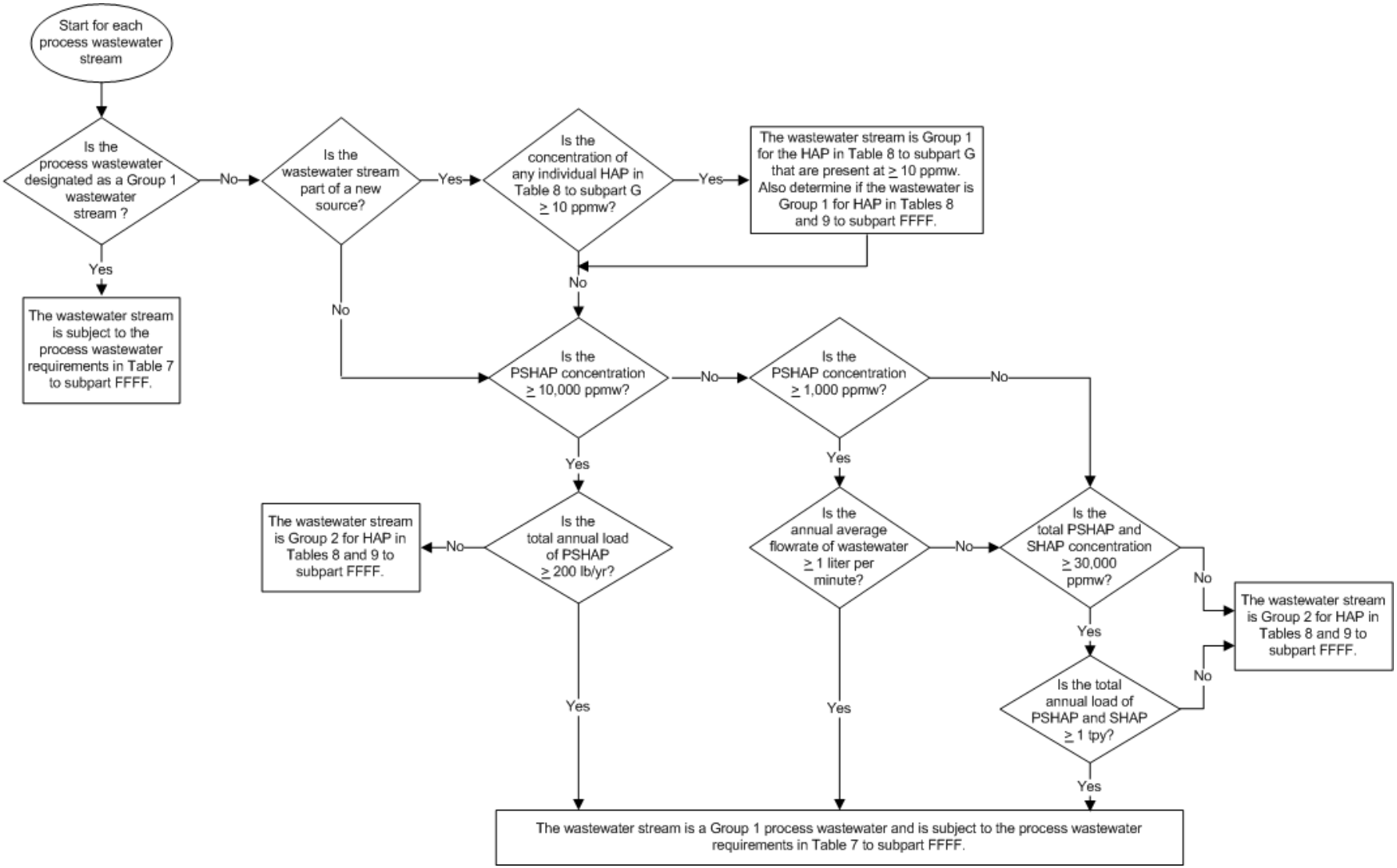
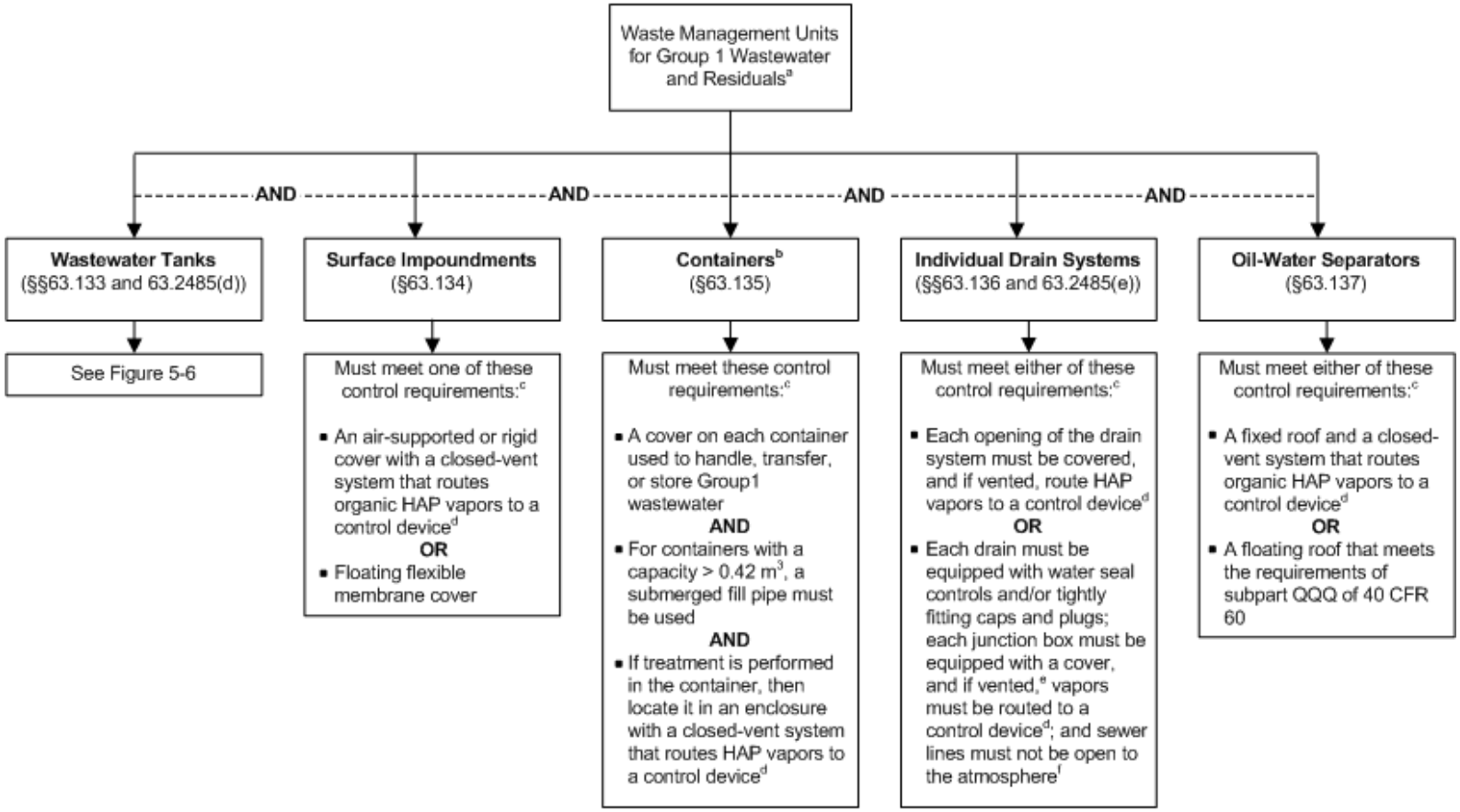


Figure 5-3. Determination of group status for process wastewater streams.



[a] An exemption for specific waste management units is illustrated in Figure 5-5.
[b] Requirements apply only to containers with capacity ≥ 0.1 m³. See Appendix B for definition of "container."
[c] Part of the requirements for each WMU includes periodic inspections for improper work practices and control equipment failures and any necessary repairs. See the checklist in Table 5-8.
[d] The control device must reduce total organic HAP by ≥ 95% or to an outlet TOC or organic HAP concentration ≤ 20 ppmv. Note that the 20 ppmv option is not allowed for noncombustion devices used to control emissions from surface impoundments and containers. Alternatively, the control device may be a combustion device with a residence time ≥ 0.5 seconds and a temperature ≥ 760°C, or a flare that meets the conditions in §63.11(b), or a RCRA-permitted unit. Closed-vent systems may meet the requirements in §63.172 or §63.1034 (see §63.2485(f)).
[e] Venting to the atmosphere is allowed under certain conditions as specified in §63.136(e)(2)(ii) and §63.2485(n)(3).
[f] Venting to the atmosphere is allowed under certain conditions as specified in §63.2485(e).

Figure 5-4. Emission suppression requirements for waste management units.

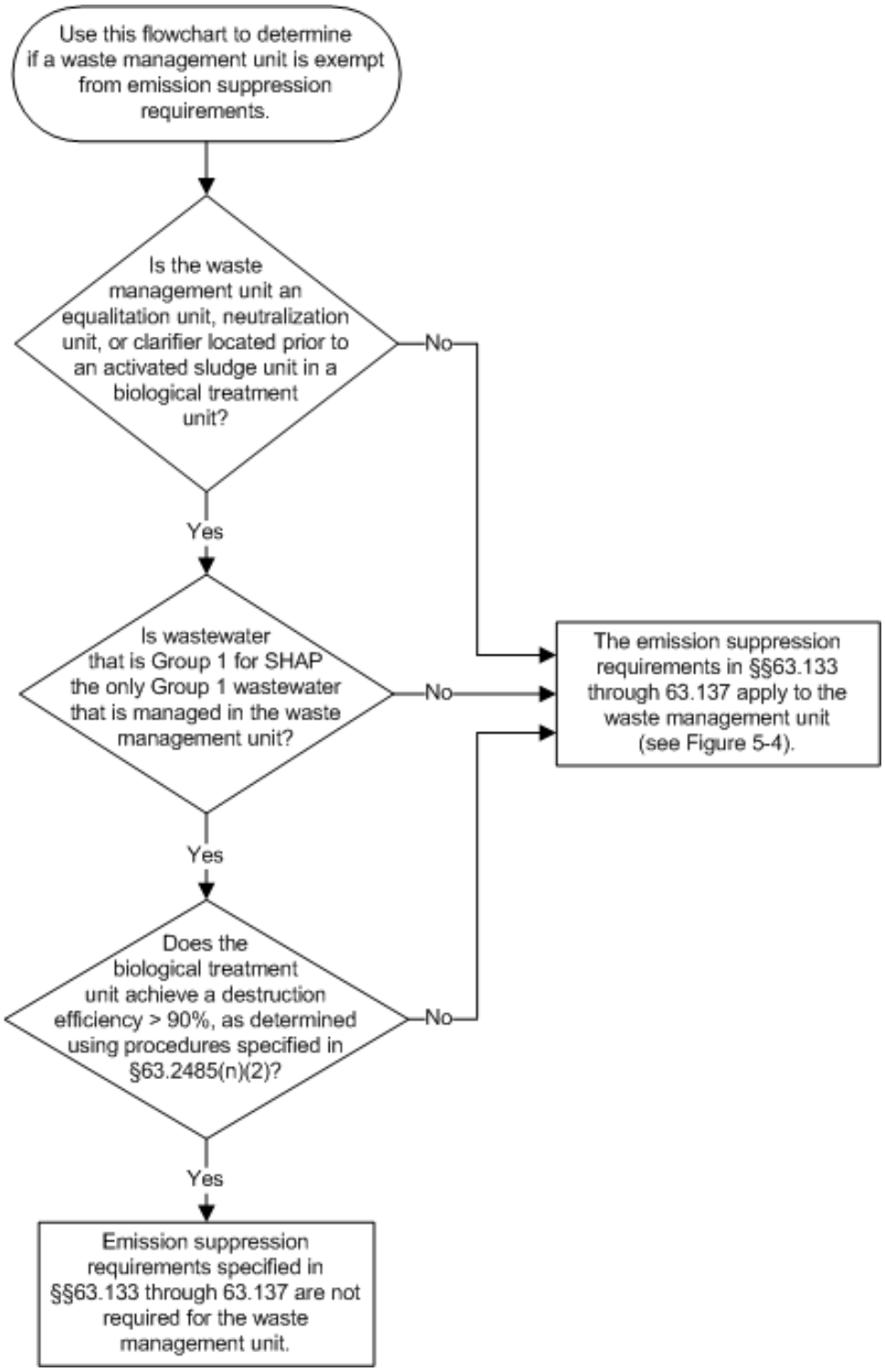
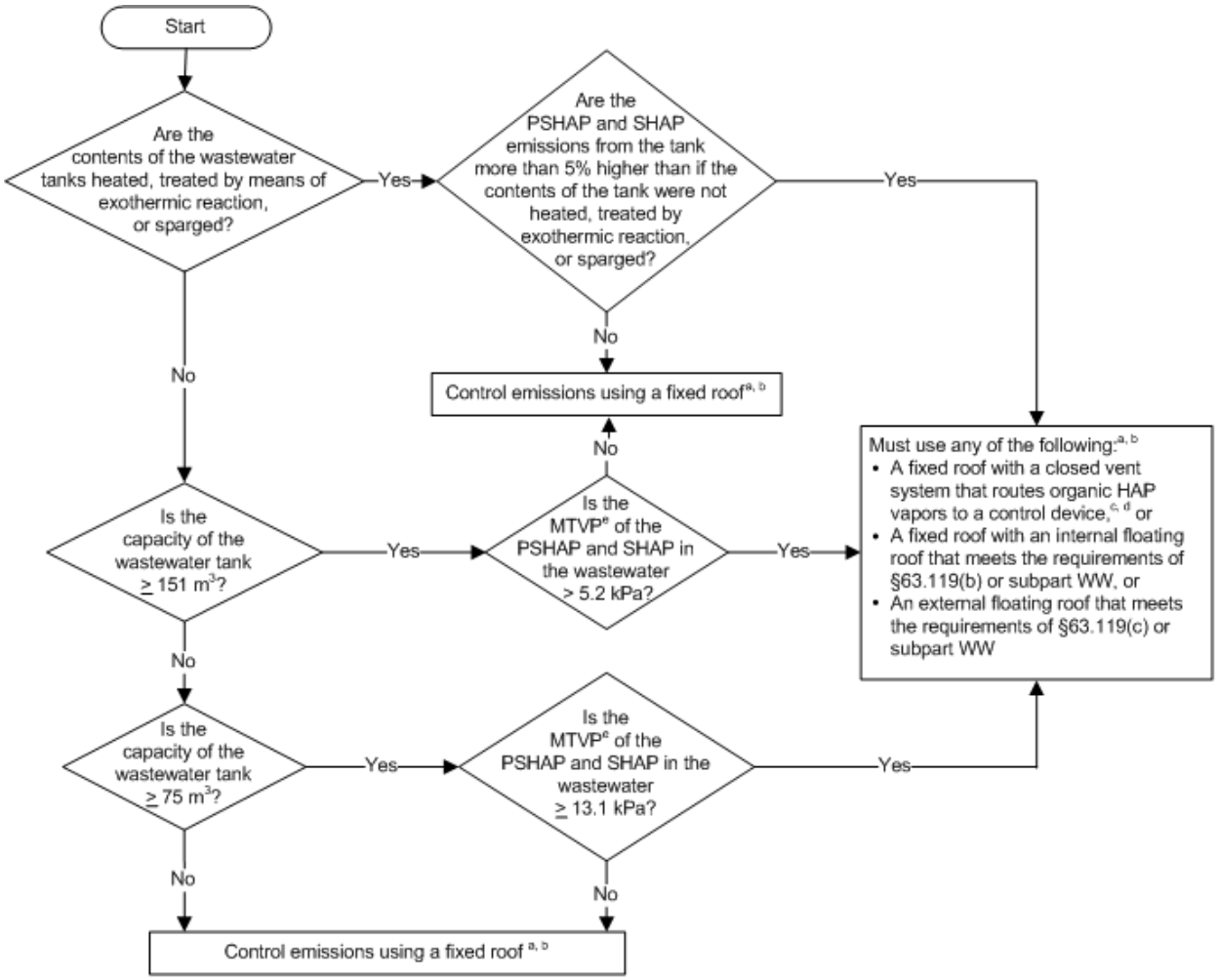
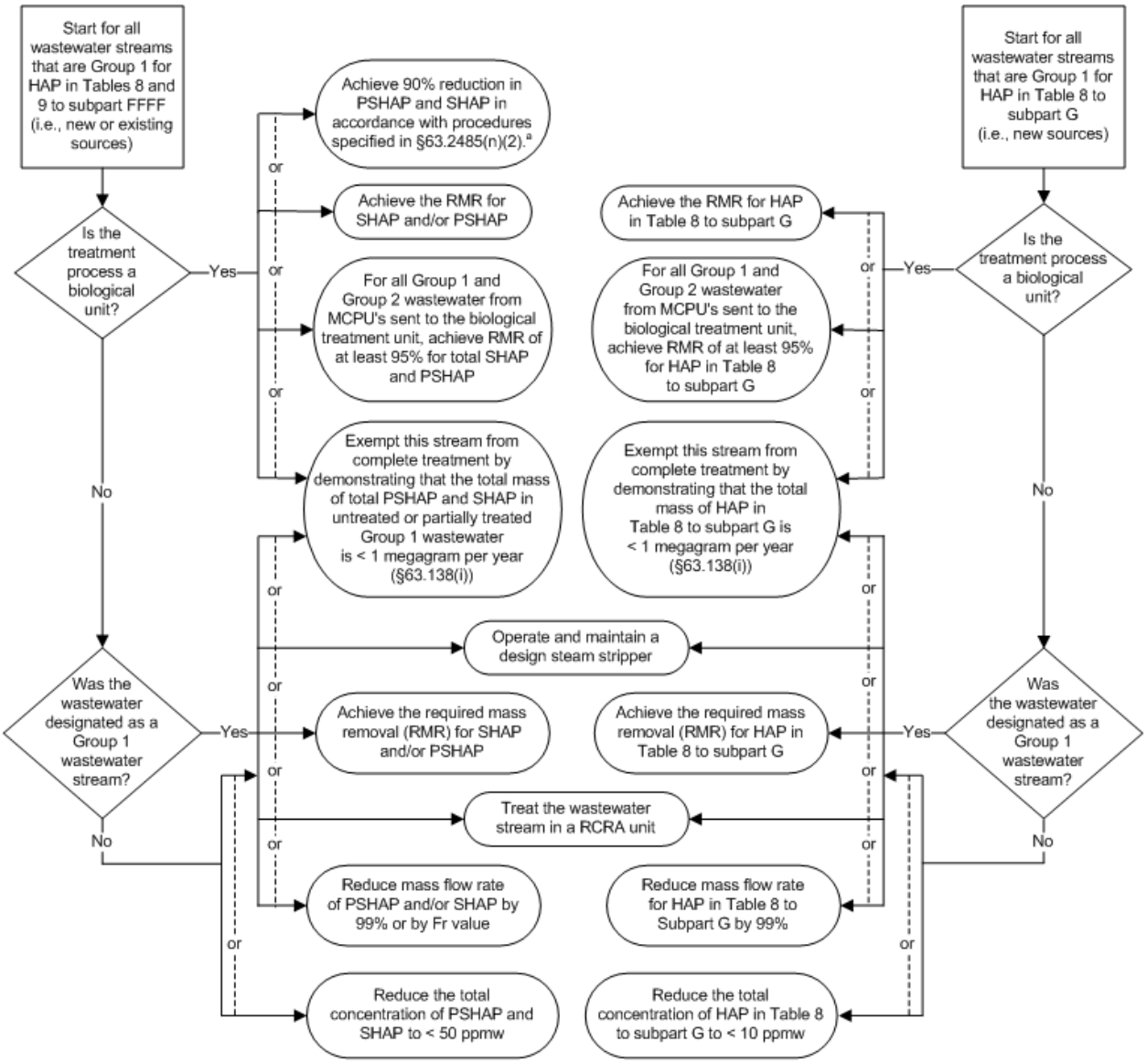


Figure 5-5. Exception to emission suppression requirements.



[a] Note that an exception to these emission suppression requirements is allowed for wastewater tanks that meet conditions described in Figure 5-5.
[b] Periodic inspections and repairs for improper work practices and control equipment failures are required.
[c] The control device must reduce total organic HAP by ≥ 95% or to an outlet TOC or organic HAP concentration ≤ 20 ppmv. Alternatively, the control device may be a combustion device with a residence time ≥ 0.5 seconds and a temperature ≥ 760°C, or a flare that meets the conditions in §63.11(b), or a RCRA-permitted unit. Section 63.2485(d)(4) specifies that control device limits do not apply for up to 240 hr/yr of planned routine maintenance (extendable to 360 hr/yr with approval).
[d] Closed-vent systems may meet the requirements in §63.172 or §63.1034 (see §63.2485(f)).
[e] MTVP means maximum true vapor pressure.

Figure 5-6. Requirements for wastewater tanks.



Notes:

- PSHAP means partially soluble HAP listed in Table 8 to subpart FFFF.
- SHAP means soluble HAP listed in Table 9 to subpart FFFF.
- RMR (required mass removal) is a function of the density and flowrate of the wastewater stream and the concentration and Fr value of each HAP in the stream. For more information, see §63.145.

[a] Note that this option is allowed only if wastewater is Group 1 only for SHAP. Moreover, this option specifies collection system design criteria in §63.2485(n)(1), and PSHAP in Group 2 streams that are combined with the streams that are Group 1 for SHAP also must be included in the 90% destruction efficiency. Wastewater that is Group 1 for PSHAP may be treated by other means to meet the treatment requirements for PSHAP prior to complying with this option for SHAP, as specified in §63.2485(n)(4).

Figure 5-7. Treatment requirements for process wastewater streams.

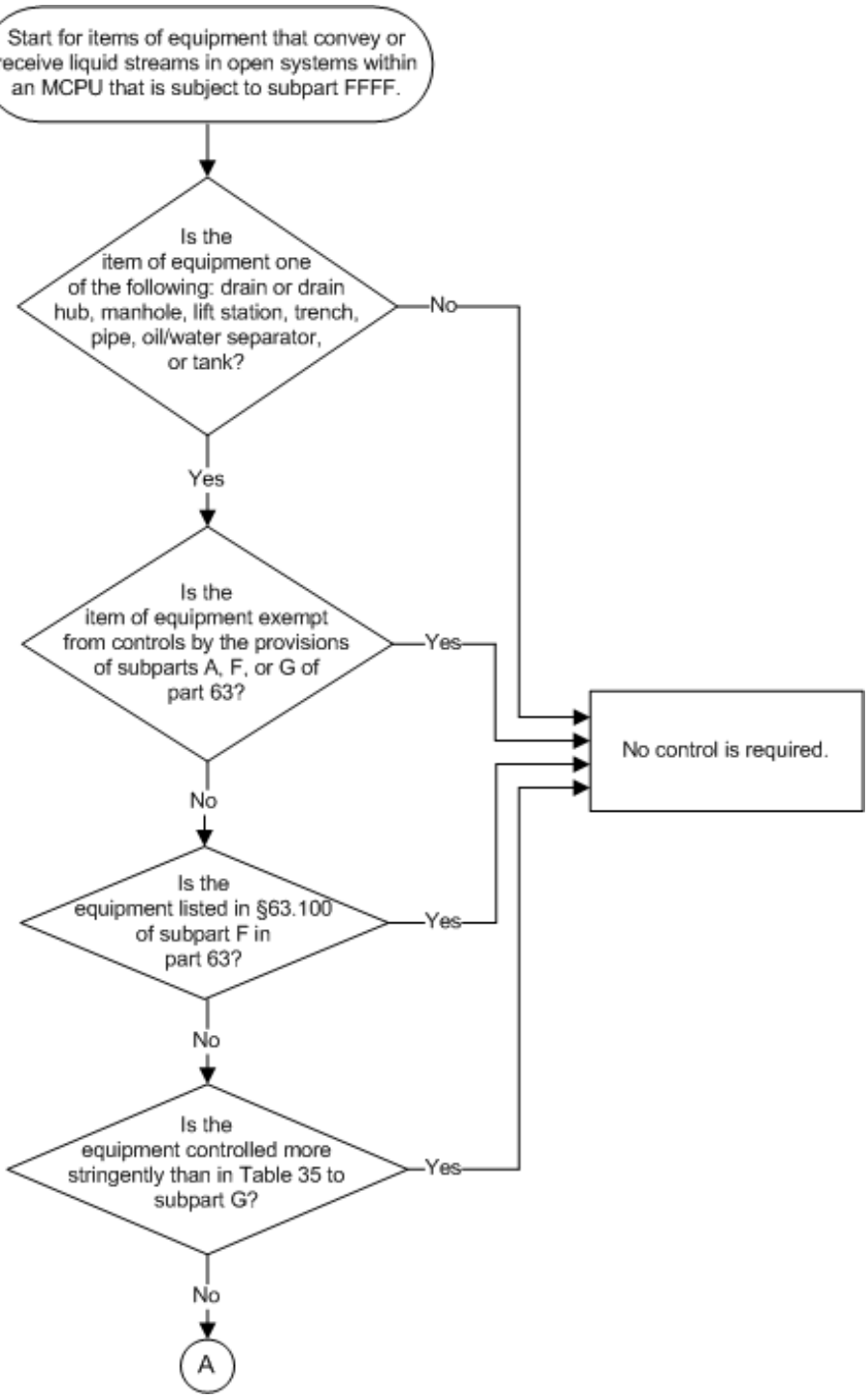


Figure 5-8. Applicability for process equipment that manages liquid streams in open systems within an MCPU.

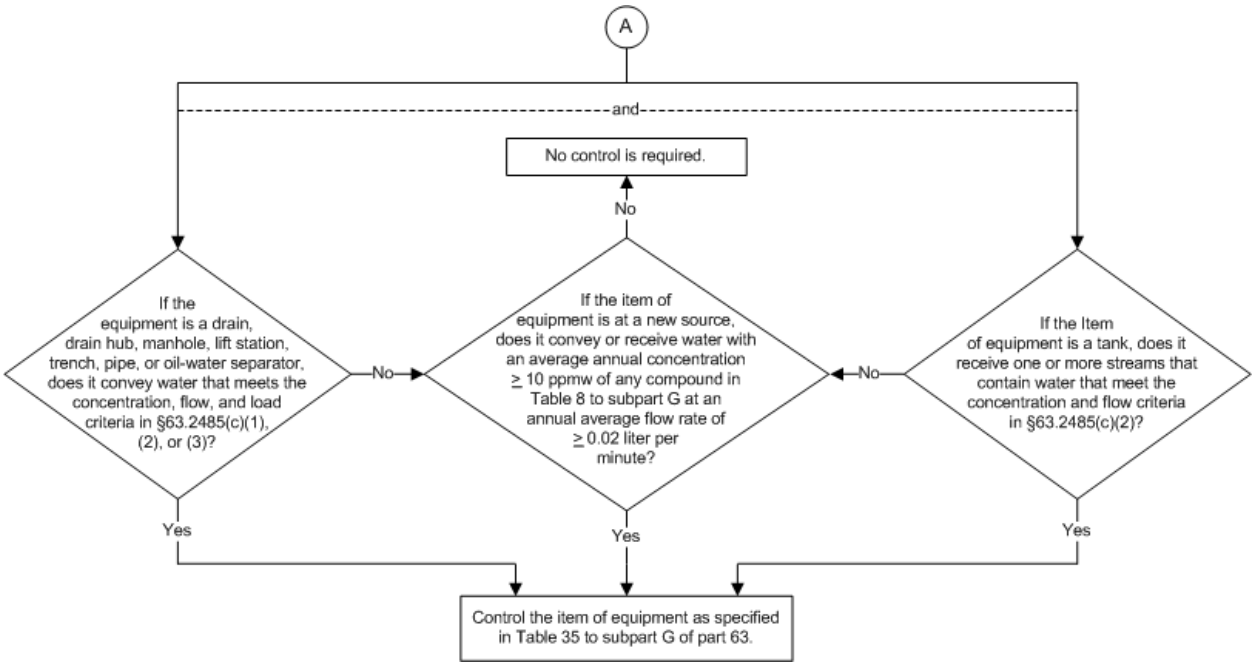


Figure 5-8. (continued)

Table 5-1. Inspection Checklist for Wastewater Streams and Residuals Subject to Subpart FFFF

Note: Use this checklist for each of the following types of streams that are subject to subpart FFFF:

- Group 1 wastewater streams
- Residuals from Group 1 wastewater streams
- Group 2 wastewater streams that are combined with a Group 1 wastewater stream for which compliance is based on the 95 percent RMR option in §63.138(g) for biological treatment, or the 90 percent reduction option in §63.2485(n).

Note: Records of other Group 2 determinations must be included in the notification of compliance status report (see the checklist in Table 12-1).

1. Wastewater Stream and Residual Identification: _____

   _____

   _____

   _____

   Note: Identify all streams (wastewater and residuals) that are discharged to the same drain system and conveyed to the same treatment unit.

2. Which of the following WMUs, including treatment processes, are used to convey, store, or treat the identified wastewater stream(s) and/or residual(s)? *Check all that apply. For example, note that a tank that is used to operate a closed biological treatment process, and for which initial compliance was not demonstrated in accordance with §63.145(f) or (g), is subject to the emission suppression requirements for a wastewater tank as well as the requirements for biological treatment processes. §63.138(a)(3)*

   ☐ Wastewater tank (see Table 5-2 for appropriate checklists)

   ☐ Surface impoundment (see Table 5-2 for appropriate checklists)

   ☐ Container (see Table 5-2 for appropriate checklists)

   ☐ Individual drain system (see Table 5-2 for appropriate checklists)

   ☐ Oil-water separator (see Table 5-2 for appropriate checklists)

   ☐ Steam stripper treatment unit (use the checklist in Table 5-10)

   ☐ Other treatment units (use the checklist in Table 5-11)

3. Which WMUs in the wastewater system for the identified wastewater stream(s) and/or residual(s) are exempt from emission suppression requirements? Check all that apply; if any apply, use the checklists in Tables 5-9 and 5-11 in addition to other applicable checklists as noted in Table 5-2. *§63.2485(n)*

   ☐ Wastewater tank

   ☐ Surface impoundment

   ☐ Clarifier

   ☐ None

RMR = required mass removal.
WMU = waste management unit.

Table 5-2. Applicable Checklists for Emission Suppression Options for Waste Management Units

Note: Use the guidance below to identify the appropriate inspection checklists to determine compliance with the emission suppression requirements for WMUs that manage, store, and/or treat Group 1 process wastewater streams and residuals.

Note: Appendix D to this document includes a tabular summary of inspection requirements (i.e., inspections for improper work practices, control equipment failures, and leaks) for all WMUs. The summary identifies the type of inspection (i.e., inspections for improper work practices, control equipment failures, and leaks), the section of the rule that requires the inspection, the required frequency of inspections, and the methods to use.

If the wastewater system includes a(n) ...	And emissions must be suppressed using ...	Then use the checklists in ...
wastewater tank[a]	a fixed roof with a closed-vent system routed to a control device, or	Tables 5-3, 5-8, 9-1, 9-2, and the applicable table in Section 10 for the specific control device that is used
	an EFR, or	Tables 5-3 and 4-2[c]
	a fixed roof with an IFR, or an EFR converted to an IFR, or	Tables 5-3 and 4-3[c]
	a fixed roof[b]	Table 5-3
surface impoundment[a]	a cover with a closed-vent system routed to a control device, or	Tables 5-4, 5-8, 9-1, 9-2, and the applicable table in Section 10 for the specific control device that is used
	a floating flexible membrane cover	Tables 5-4 and 5-8
container[a]	a cover, or	Tables 5-5 and 5-8
	a cover and enclosure with a closed-vent system to route emissions to a control device	Tables 5-5, 5-8, 9-1, 9-2, and the applicable table in Section 10 for the specific control device that is used
individual drain system	a cover and, if vented, emissions are routed to a process or through a closed-vent system to a control device, or	Tables 5-6, 5-8, and if a cover is vented to a control device, Tables 9-1, 9-2, and the table in Section 10 for the specific control device that is used
	water seal controls or a tightly fitting cap or plug for drains, tightly fitting solid covers or vented covers for junction boxes, and closed sewer lines	Tables 5-6, 5-8, and if a cover is vented to a control device, Tables 9-1, 9-2, and the table in Section 10 for the specific control device that is used
oil-water separator	a fixed roof and closed-vent system routed to a control device, or	Tables 5-7, 5-8, 9-1, 9-2, and the applicable checklist in Section 10 for the specific control device that is used
	a floating roof	Table 5-7

(continued)

Table 5-2. (continued)

EFR = external floating roof
IFR = internal floating roof
WMU = waste management unit.

[a] The emission suppression requirements are not applicable if the WMU is also a biological treatment unit for which initial compliance with the treatment requirements is demonstrated by determining the fraction biodegraded in the treatment unit in accordance with §63.145(f) or (g). *§63.138(a)(3)*

[b] See Figure 5-5 for conditions under which a fixed roof alone is sufficient.

[c] Note that the rule citations in Tables 4-2 and 4-3 are for sections in subpart WW rather than subpart G; the requirements, however, are essentially the same in both subparts.

Table 5-3. Compliance Checklist for Inspections of Wastewater Tanks for Improper Work Practices and Control Equipment Failures

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the requirement is not applicable, check the "N/A" box.

I. Review of Records			
1. Is the occurrence of each semiannual visual inspection of wastewater tanks for improper work practices recorded? *§§63.133(f), 63.147(b)(1), and Table 11 to subpart G*		☐ Y	☐ N
2. Is the occurrence of each semiannual visual inspection of wastewater tanks for control equipment failures recorded? *§§63.133(g), 63.147(b)(1), and Table 11 to subpart G* *Note: See Appendix E for the types of control equipment failures listed in §63.133.*		☐ Y	☐ N
3. If the wastewater tank is equipped with a fixed roof, and emissions are vented through a closed-vent system to a control device, is the occurrence of each semiannual sensory inspection for leaks recorded? *§63.133(b)(1)(i), §63.147(b)(1), §63.148(b)(3), and Table 11 to subpart G*	☐ Y	☐ N/A	☐ N
4. If the wastewater tank is equipped with an IFR, is the occurrence of each periodic inspection of the seals recorded (see Table 4-3 for the schedule options)? *§63.120(a)(2) and (3), §63.133(c), §63.147(b)(1), and Table 11 to subpart G*	☐ Y	☐ N/A	☐ N
5. If the wastewater tank is equipped with an EFR, is the occurrence of each inspection of the seals recorded (annually for the secondary seal and every 5 years for primary seals)? *§63.133(d), §63.143(a), §63.147(b)(1), and Table 11 to subpart G*	☐ Y	☐ N/A	☐ N
6. For each inspection during which a control equipment failure (as defined in §63.133(g)(1)) was identified, were all of the following recorded and reported in the next compliance report: *§63.146(c)*			
(a) Date of the inspection?	☐ Y	☐ N/A	☐ N
(b) Identification of the wastewater tank having the failure?	☐ Y	☐ N/A	☐ N
(c) Description of the failure?	☐ Y	☐ N/A	☐ N
(d) Description of the nature of the repair?	☐ Y	☐ N/A	☐ N
(e) Date the repair was made?	☐ Y	☐ N/A	☐ N
7. Are all records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

Table 5-3. (continued)

II. Visual Inspections	
1. Are all openings (e.g., hatches, sampling ports, and gauge wells) closed (e.g., covered by a lid) except when in use (e.g., it is in use during wastewater sampling or removal or for equipment maintenance, inspection, or repair)? *§63.133(f)*	☐ Y ☐ N

III. Note All Deficiencies

EFR = external floating roof.
IFR = internal floating roof.

Table 5-4. Compliance Checklist for Inspections of Surface Impoundments for Improper Work Practices and Control Equipment Failures

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the requirement is not applicable, check the "N/A" box.

I. Review of Records			
1. Is the occurrence of each semiannual visual inspection of surface impoundments for improper work practices recorded? *§§63.134(c), 63.147(b)(1), and Table 11 to subpart G*		☐ Y	☐ N
2. Is the occurrence of each semiannual visual inspection of surface impoundments for control equipment failures recorded? *§§63.134(c), 63.147(b)(1), and Table 11 to subpart G* *Note: See Appendix E for the types of control equipment failures listed in §63.134.*		☐ Y	☐ N
3. For each inspection during which a control equipment failure (as defined in §63.134(c)(2)) was identified, were all of the following recorded and reported in the next compliance report: *§63.146(c)*			
(a) Date of the inspection?	☐ Y	☐ N/A	☐ N
(b) Identification of the surface impoundment having the failure?	☐ Y	☐ N/A	☐ N
(c) Description of the failure?	☐ Y	☐ N/A	☐ N
(d) Description of the nature of the repair?	☐ Y	☐ N/A	☐ N
(e) Date the repair was made?	☐ Y	☐ N/A	☐ N
4. Are all records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N
II. Visual Inspections			
1. If the surface impoundment contains Group 1 process wastewater, is the cover in use? *§63.134(b)(1)(iii) and (b)(2)(vii)*	☐ Y	☐ N/A	☐ N
2. Are all openings in a rigid air-supported cover (e.g., access hatches, sampling ports, and gauge wells) closed (e.g., covered by a lid) except when in use (e.g., it is in use during wastewater sampling or removal or for equipment maintenance, inspection, or repair)? *§63.134(b)(1)(ii) and (c)(1)*	☐ Y	☐ N/A	☐ N
3. If a flexible floating membrane is used, is it free of cracks, holes, gaps, or other open spaces between the cover section seams or between the interface of the cover edge and its foundation mountings? *§63.134(b)(2)(iii), (vi), and (c)(2)*	☐ Y	☐ N/A	☐ N
4. Are all openings in a floating membrane cover equipped with a closure device and secured in the closed position with no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device? *§63.134(b)(2)(iv) and (c)*	☐ Y	☐ N/A	☐ N

Table 5-4. (continued)

II. Visual Inspections			
5. If a floating membrane cover is used on the surface impoundment, are all of the following requirements met:			
(a) Is the cover floating on the liquid surface over the entire area of the liquid surface? *§63.134(b)(2)(i)*	☐ Y	☐ N/A	☐ N
(b) Is the floating membrane cover made out of either of the following: *§63.134(b)(2)(ii)* • high density polyethylene with a thickness of at least 2.5 millimeters, or • a material that has an equivalent organic permeability and integrity for the intended life of the floating roof cover?	☐ Y	☐ N/A	☐ N
6. If a floating membrane cover has emergency drains for storm water removal, are the drains equipped with either of the following: *§63.134(b)(2)(v)* (a) A slotted membrane fabric cover that covers at least 90 percent of the drain area opening, or (b) A flexible fabric seal?	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

Table 5-5. Compliance Checklist for Inspections of Containers for Improper Work Practices and Control Equipment Failures

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the requirement is not applicable, check the "N/A" box.

I. Review of Records			
1. Is the occurrence of each semiannual visual inspection of containers for improper work practices recorded? *§63.135(e), §63.147(b)(1), and Table 11 to subpart G*		☐ Y	☐ N
2. Is the occurrence of each semiannual visual inspection of containers for control equipment failures recorded? *§63.135(e), §63.147(b)(1), and Table 11 to subpart G* *Note: See Appendix E for the types of control equipment failures listed in §63.135.*		☐ Y	☐ N
3. For each inspection during which a control equipment failure (as defined in §63.135(e)(2)) was identified, were all of the following recorded and reported in the next compliance report: *§63.146(c)*			
(a) Date of the inspection?	☐ Y	☐ N/A	☐ N
(b) Identification of the container having the failure?	☐ Y	☐ N/A	☐ N
(c) Description of the failure?	☐ Y	☐ N/A	☐ N
(d) Description of the nature of the repair?	☐ Y	☐ N/A	☐ N
(e) Date the repair was made?	☐ Y	☐ N/A	☐ N
4. Are all records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N
II. Visual Inspections			
1. Do the containers have covers? *§63.135(b)*		☐ Y	☐ N
2. Is all control equipment functioning properly (e..g., covers, and doors are not cracked, gapped, or broken)? *§63.135(e)*		☐ Y	☐ N
3. Are the covers and all openings closed (e.g., covered by a lid) except when in use (e.g., an opening is in use during filling, removal, inspection, sampling, or pressure relief events related to safety)? *§63.135(b)(3) and (c)(2)*		☐ Y	☐ N

Table 5-5. (continued)

II. Visual Inspections			
4. For containers with a capacity greater than or equal to 0.1 m^3 but less than or equal to 0.42 m^3, are either of the following requirements met: *§63.135(b)(2)*	☐ Y	☐ N/A	☐ N
(a) The container meets existing DOT specifications and testing requirements, or			
(b) The cover is inspected for leaks as specified in §63.148 (see checklist in Table 5-8)?			
5. Are containers with a capacity greater than 0.42 m^3 equipped with a submerged fill pipe that does not extend more than 6 in or within two fill pipe diameters of the bottom of the container while the container is being filled? *§63.135(c)(1)*	☐ Y	☐ N/A	☐ N
6. Whenever a container with a capacity greater than or equal to 0.1 m^3 is used to treat a Group 1 wastewater stream or residual, and it is necessary for the container to be open, is the container located within an enclosure that has a closed-vent system to transport emissions to a control device? *§63.135(d)*	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

Table 5-6. Compliance Checklist for Inspections of Individual Drain Systems for Improper Work Practices and Control Equipment Failures

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the requirement is not applicable, check the "N/A" box.

I. Review of Records			
1. Are all of the following records kept when compliance is met by covering all openings in the drain system in accordance with §63.136(b) through (d)?			
(a) A record of the occurrence of each semiannual visual inspection of the individual drain system for improper work practices? *§63.136(c), §63.147(b)(1), and Table 11 to subpart G*	☐ Y	☐ N/A	☐ N
(b) A record of the occurrence of each semiannual visual inspection of the individual drain system for control equipment failures? *§63.136(c), §63.147(b)(1), and Table 11 to subpart G* *Note: See Appendix E for the types of control equipment failures listed in §63.136.*	☐ Y	☐ N/A	☐ N
(c) All of the following records for each inspection during which a control equipment failure (as defined in §63.136(c)(2)) was identified: *§63.146(c)*			
• Date of the inspection?	☐ Y	☐ N/A	☐ N
• Identification of the individual drain system having the failure?	☐ Y	☐ N/A	☐ N
• Description of the failure?	☐ Y	☐ N/A	☐ N
• Description of the nature of the repair?	☐ Y	☐ N/A	☐ N
• Date the repair was made?	☐ Y	☐ N/A	☐ N
2. Are all of the following records kept when compliance is met by implementing separate requirements for drains, junction boxes, and sewers as specified in §63.136(e) through (g)?			
(a) For drains with caps or plugs, documentation of the occurrence of each semiannual visual inspection to ensure that the caps or plugs are in place and properly installed? *§§63.136(f)(1) and 63.147(b)(1)*	☐ Y	☐ N/A	☐ N
(b) For drains with water seals, documentation of the occurrence of each semiannual verification that sufficient water is present to properly maintain the integrity of the water seal? *§§63.136(e)(1)(i), 63.143(a), 63.147(b)(1), and Table 11 to subpart G*	☐ Y	☐ N/A	☐ N
(c) Documentation of the occurrence of each semiannual visual inspection of junction boxes to ensure that there are no gaps, cracks, or other holes in the cover? *§§63.136(f)(2) and 63.147(b)(1)*	☐ Y	☐ N/A	☐ N

Table 5-6. (continued)

I. Review of Records			
(d) Documentation of the occurrence of each semiannual visual inspection of the unburied portion of each sewer line to ensure that there are no cracks or gaps that could result in air emissions? *§§63.136(f)(3) and 63.147(b)(1)*	☐ Y	☐ N/A	☐ N
3. Are all records kept for at least 5 years? *§63.10(b)(1)*	☐ Y		☐ N
II. Visual Inspections			
1. Inspect all of the following items if all openings in the individual drain system are covered in accordance with §63.136(b) through (d):			
(a) Is the individual drain system designed and operated to segregate the vapors within the system from other drain systems and the atmosphere? *§63.136(b)(5)*	☐ Y	☐ N/A	☐ N
(b) Are the cover and all openings (e.g., access hatches and sampling ports) kept closed except when in use (e.g., an opening is in use during sampling, removal, or equipment maintenance, inspection, or repair)? *§63.136(b)(1)(ii)*	☐ Y	☐ N/A	☐ N.
(c) Are the cover and all openings maintained in good condition? *§63.136(c)*	☐ Y	☐ N/A	☐ N
2. Inspect all of the following items for drains that are to be in compliance with §63.136(e) through (g):			
(a) Is each drain equipped with either a water seal (e.g., p-trap or s-trap) or a tightly fitting cap or plug? *§63.136(e)(1)*	☐ Y	☐ N/A	☐ N
(b) For each drain equipped with a water seal, is water present in the water seal? *§63.136(e)(1)(i)*	☐ Y	☐ N/A	☐ N
(c) Is one of the following requirements met for each drain that is equipped with a water seal: *§63.136(e)(1)(ii)*	☐ Y	☐ N/A	☐ N
• Does the drain pipe discharging the wastewater extend below the liquid surface in the water seal, or			
• Is a flexible shield (or other enclosure that restricts wind motion) installed that encloses the space between the discharge pipe and the drain receiving the wastewater?			
3. Inspect all of the following items for junction boxes that are to be in compliance with §63.136(e) through (g):			
(a) Are the junction boxes equipped with tightly-fitting solid covers (vented or unvented) that are free of gaps, cracks, or holes? *§63.136(e)(2)*	☐ Y	☐ N/A	☐ N
(b) If the covers are vented, are either of the following requirements met:	☐ Y	☐ N/A	☐ N

Table 5-6. (continued)

II. Visual Inspections

- Is the vent pipe connected to a closed-vent system that transports emissions to a process or control device (see checklists in Tables 8-1, 8-2, and Section 9), or *§63.136(e)(2)*
- If vented to the atmosphere, is the vent pipe at least 90 centimeters in length, is the diameter of the vent pipe less than 10.2 centimeters, and is a water seal installed at the entrance or exit of the junction box? *§63.136(e)(2)(ii)*

  Note: Venting to the atmosphere is allowed only if the junction box is filled and emptied by gravity flow or it is operated with only slight fluctuations in the liquid level. Also, the specified vent pipe dimensions do not apply for a lift station that is larger than 10,000 gal and used in a system complying with §63.2485(n). See the checklist in Table 5-9.

4. If the individual drain system is to be in compliance with §63.136(e) through (g), are the sewer lines enclosed or covered in a manner so that there are no visible gaps or cracks in joints, seals, or other emission interfaces? *§63.136(e)(3)* ☐ Y ☐ N/A ☐ N

   Note: A sewer line that is connected to drains that are water sealed or equipped with a tightly fitting cap or plug in accordance with §63.136(e)(1) may be vented to the atmosphere if the sewer line entrance to the first downstream junction box is water sealed and the vent pipe is at least 90 cm in length and no greater than 10.2 cm in nominal inside diameter. §63.2485(e)(1)

III. Note All Deficiencies

Table 5-7. Compliance Checklist for Inspections of Oil-Water Separators for Improper Work Practices and Control Equipment Failures

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the requirement is not applicable, check the "N/A" box.

I. Review of Records			
1. Is the occurrence of each semiannual visual inspection of the individual drain system for improper work practices recorded? *§§63.137(d) and 63.147(b)(1)*		☐ Y	☐ N
2. Is the occurrence of each semiannual visual inspection of the oil-water separator for control equipment failures recorded? *§§63.137(e) and 63.147(b)(1)* *Note: See Appendix E for the types of control equipment failures listed in §63.137.*		☐ Y	☐ N
3. For each inspection during which a control equipment failure (as defined in §63.137(e)) was identified, was all of the following information recorded and reported in the next compliance report: *§63.146(c)*			
(a) Date of the inspection?	☐ Y	☐ N/A	☐ N
(b) Identification of the individual drain system having the failure?	☐ Y	☐ N/A	☐ N
(c) Description of the failure?	☐ Y	☐ N/A	☐ N
(d) Description of the nature of the repair?	☐ Y	☐ N/A	☐ N
(e) Date the repair was made?	☐ Y	☐ N/A	☐ N
4. If the oil-water separator is equipped with a floating roof, do records indicate all of the following:			
(a) That seal gap measurements were performed annually for the secondary seal? *§§63.137(c)(2) and 63.147(b)(1)*	☐ Y	☐ N/A	☐ N
(b) That seal gap measurements were performed every 5 years for the primary seal? *§§63.137(c)(1) and 63.147(b)(1)*	☐ Y	☐ N/A	☐ N
(c) The results of each seal gap measurement (i.e., the date of measurement, raw data obtained, and calculations performed)? *§63.147(b)(3)*	☐ Y	☐ N/A	☐ N
5. Are all records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

Table 5-7. (continued)

II. Visual Inspections

Note: If the oil-water separator is equipped with a floating roof, the inspector should not perform the inspection without proper respiratory protection if the roof is below 4 feet of the top of the separator. Based on the inspector's assessment of the availability of records documenting the design of the control equipment, an adequate inspection without respiratory protection may be performed with a combination of a record inspection and a visual inspection conducted from the platform with the aid of vision-enhancing devices (binoculars). If the inspector feels that it is necessary to be on the EFR when the roof is below 4 feet of the top of the tank, please be aware of the requirements under EPA Order 1440.2 (required only for Agency personnel) and the safety information in *Guidance on Confined Space Entry in NESHAP Inspections of Benzene Storage Vessels* (EPA 455/R-92-003, September 1992).

Note: Answer all questions in this section if the oil-water separator is equipped with a floating roof. If it is equipped with a fixed roof that is vented to a control device, answer only questions 1 through 3.

Note: The requirements in §60.693-2(a) are referenced from §63.137(a)(2).

1. Are all openings in the fixed or floating roof equipped with a gasketed cover, seal, or lid? *§§63.137(b)(1)(ii) and 60.693-2(a)(2)*		☐ Y	☐ N
2. Are all openings kept closed except when in use (e.g., an opening is in use during sampling, removal of material, inspection, maintenance, or repair)? *§63.137(b)(1)(ii) and (d) for fixed roofs, and §60.693-2(a)(2) for floating roofs* *Note: Section 60.693-2(a)(2) only allows openings for inspection and maintenance.*		☐ Y	☐ N
3. Are gaskets, joints, lids, covers, and doors in good condition (i.e., not cracked, gapped, or broken)? *§63.137(e)(1)(vii)*		☐ Y	☐ N
4. Is the floating roof resting on the liquid surface of the stored material, except during abnormal conditions (i.e., low flow rates)? *§§63.137(e)(1)(i) and 60.693-2(a)(3)*	☐ Y	☐ N/A	☐ N
5. Is the floating roof in good condition (i.e., free of defects such as corrosion and pools of standing liquid)? *§63.137(e)(1)(ii)*	☐ Y	☐ N/A	☐ N
6. Is a secondary seal installed above the primary seal for the floating roof? *§§63.137(a)(2) and 60.693-2(a)(1)(i) and (ii)*	☐ Y	☐ N/A	☐ N
7. Does the secondary seal meet all of the following requirements:			
(a) Is the seal and seal fabric free of holes, tears, and other openings? *§63.137(e)(1)(iv)*	☐ Y	☐ N/A	☐ N
(b) Is the seal continuously attached along the edge of the floating deck? *§63.137(e)(1)(iii)*	☐ Y	☐ N/A	☐ N

Table 5-7. (continued)

II. Visual Inspections

(c) Does the seal completely cover the space between the edge of the floating roof and the oil-water separator wall, except as allowed by both of the following: *§§63.137(e)(1)(vi) and 60.693-2(a)(1)(ii)*

- Is the total gap area between the separator wall and the secondary seal less than or equal to 6.7 square centimeters per meter of the separator wall perimeter? ☐ Y ☐ N/A ☐ N
- Is the maximum gap width between the separator wall and the seal less than or equal to 1.3 centimeters at all points along the separator wall perimeter? ☐ Y ☐ N/A ☐ N

8. Does the primary seal meet all of the following requirements:

(a) Is the primary seal either a liquid-mounted seal or a mechanical shoe seal? *§60.693-2(a)(1)(i)* ☐ Y ☐ N/A ☐ N

(b) Is the seal fabric, seal envelope, or shoe (if a metallic shoe is used) free of holes, tears, and other openings? *§63.137(e)(1)(iv)* ☐ Y ☐ N/A ☐ N

(c) If the primary seal is a liquid-mounted seal (e.g., foam or liquid-filled seal), is the seal in contact with the liquid between the wall of the oil-water separator and the floating roof? *§60.693-2(a)(1)(i)(A)* ☐ Y ☐ N/A ☐ N

(d) Does the primary seal form a continuous closure that completely covers the annular space between the wall of the oil-water separator and the edge of the floating roof, except as allowed by both of the following: *§§63.137(e)(1)(v) and 60.693-2(a)(1)(i)(B) and (C)*

- Is the total gap area between the wall of the oil-water separator and the primary seal less than or equal to 67 square centimeters per meter of the separator wall perimeter? ☐ Y ☐ N/A ☐ N
- Is the maximum gap width between the wall of the oil-water separator and the seal less than or equal to 3.8 centimeters at all points along the separator wall perimeter? ☐ Y ☐ N/A ☐ N

9. If the floating roof is equipped with one or more emergency roof drains for removal of stormwater, is each emergency roof drain equipped with either of the following: *§60.693-2(a)(4)* ☐ Y ☐ N/A ☐ N

(a) A slotted membrane fabric cover that covers at least 90 percent of the drain opening area, or

(b) A flexible fabric sleeve seal?

III. Note All Deficiencies

Table 5-7. (continued)

III. Note All Deficiencies

Table 5-8. Compliance Checklist for Inspection of Covers, Enclosures, and Fixed Roofs for Leaks

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the requirement is not applicable, check the "N/A" box.

Note: This checklist does not apply to covers, fixed roofs, and enclosures that are maintained under negative pressure. *§§63.133(b)(4), 63.134(b)(5), 63.135(d)(4), 63.136(b)(4), and 63.137(b)(4)*

I. Review of Records			
1. Do records identify all parts of the covers, fixed roofs, and enclosures that are designated as unsafe to inspect or difficult to inspect, and do the records explain why these designations were assigned? *§63.148(i)(1) and (2)*	☐ Y	☐ N/A	☐ N
2. Does the facility have a written plan for inspecting the unsafe-to-inspect parts of the covers, fixed roofs, and enclosures as frequently as practicable? *§63.148(g)(2) and (i)(1)*	☐ Y	☐ N/A	☐ N
3. Does the facility have a written plan for inspecting the difficult-to-inspect parts of the covers, fixed roofs, and enclosures at least once every 5 years? *§63.148(h)(2) and (i)(2)*	☐ Y	☐ N/A	☐ N
4. For each inspection during which no leaks were detected, do records document the occurrence and date of the inspections along with a statement that no leaks were detected? *§63.148(b)(3) and (i)(6)*	☐ Y	☐ N/A	☐ N
5. For each inspection during which a leak was detected, do records document all of the following information: *§63.148(i)(4)*			
(a) Operator name or initials, and identification of the leaking equipment?	☐ Y	☐ N/A	☐ N
(b) Date the leak was detected?	☐ Y	☐ N/A	☐ N
(c) Date of the first attempt at repair?	☐ Y	☐ N/A	☐ N
Note: The first attempt at repair must be no later than 5 calendar days after the leak was detected. §63.148(d)(1)			
(d) Maximum instrument reading measured by Method 21 after the leak was repaired or determined to be nonrepairable?	☐ Y	☐ N/A	☐ N
(e) All of the following if the leak was not repaired within 15 calendar days after the leak was discovered:			
• Reason for the delay?	☐ Y	☐ N/A	☐ N
• Name, initials, or other form of identification of the person who decided repairs could not be made without a shutdown?	☐ Y	☐ N/A	☐ N

Table 5-8. (continued)

I. Review of Records			
• Expected date of successful repair?	☐ Y	☐ N/A	☐ N
Note: Delay of repair until the next shutdown is allowed if the repair is technically infeasible without a shutdown, or if the emissions from immediate repair would be greater than the fugitive emissions likely from delay. §63.148(e)			
(f) Dates of shutdowns that occur while the equipment is unrepaired?	☐ Y	☐ N/A	☐ N
(g) Date of successful repair of the leak?	☐ Y	☐ N/A	☐ N
6. Are all records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

II. Note All Deficiencies

Table 5-9. Checklist for Compliance with Alternative Requirements for Wastewater that Is Group 1 Only for Soluble HAP

Note: Use this checklist for wastewater systems with an equalization unit, neutralization unit, and/or clarifier that are exempt from the emission suppression requirements in accordance with §63.2485(n). Also use the checklist in Table 5-11 for the biological treatment unit, and use checklists in Tables 5-3 through 5-7 for WMUs that are not exempt.

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement.

Treatment Unit Identification: _____

I. Review of Records

1. Do records show the overall destruction efficiency of total PSHAP and SHAP is calculated using Equation 1 in §63.2485(n)(2) and the destruction efficiency is >90 percent? *§63.2485(n)* ☐ Y ☐ N

   Note: Streams that are Group 1 for PSHAP may be treated in accordance with the requirements specified in Table 7 to subpart FFFF and then combined with streams that are Group 1 only for SHAP. The combined stream may comply with these alternative treatment requirement, and the PSHAP remaining after treatment in accordance with the Table 7 requirements does not need to be included in the destruction efficiency calculation under this alternative. §63.2485(n)(4)

2. Are all required records kept for at least 5 years? *§63.10(b)(1)* ☐ Y ☐ N

II. Visual Inspection

1. Are connections between the equalization unit, neutralization unit, and/or clarifier and the activated sludge unit made with hard piping? *§63.2485(n)(1)* ☐ Y ☐ N

   Note: The requirement for hard piping does not apply when transfer between any of these types of units when the units are part of the same structure and one unit overflows into the next.

III. Note All Deficiencies

Table 5-10. Compliance Checklist for Steam Strippers

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the requirement is not applicable, check the "N/A" box.

Steam Stripper Identification: _____

I. Review of Records

1. Do records document that the facility continuously monitors all of the following parameters, unless approval to monitor alternative parameters has been granted: *§63.143(b) and Table 12 to subpart G*
   - (a) Steam flow rate? ☐ Y ☐ N/A ☐ N
   - (b) Wastewater mass flow rate? ☐ Y ☐ N/A ☐ N
   - (c) Either wastewater feed temperature or column temperature? ☐ Y ☐ N/A ☐ N
2. For the continuously monitored parameters identified in item 1 above, does the facility maintain records of continuously monitored parameters in one of the following formats: *§§63.147(d) and 63.152(f)(2) and (3)* ☐ Y ☐ N/A ☐ N
   - (a) All measured values, or
   - (b) All block average values for 15-minute or shorter periods calculated from all measured data values during each period (or from at least one measured data value per minute if measured mor frequently than once per minute), or
   - (c) All continuous records for only the current operating day, and block hourly average values for earlier data?

     Note: To use the third option, the daily average must be within the established range.
3. Does the facility keep records of either the daily averages of each of the parameters in item 1 above or a statement that all values were within the established operating range? *§§63.147(d) and 63.152(f)(6)* ☐ Y ☐ N/A ☐ N
4. As an alternative to items 3 and 4 above, does the facility meet both of the following requirements: *§63.152(g)(1)(i) through (vi)*
   - (a) Document in their notification of compliance status report or compliance report that they were implementing this alternative? ☐ Y ☐ N/A ☐ N
   - (b) Retain only the daily average? ☐ Y ☐ N/A ☐ N

     Note: No record of the daily average is required if 6 months have passed without an excursion. §63.152(g)(2)
5. If the facility applied for and received approval to monitor parameters other than those listed in item "2" of this checklist, is the facility performing the approved recordkeeping and reporting? *§63.147(e)* ☐ Y ☐ N/A ☐ N
6. Are all records kept for at least 5 years? *§63.10(b)(1)* ☐ Y ☐ N

Table 5-10. (continued)

II. Visual Inspections			
1. Are overheads from the steam stripper vented through a closed-vent system to a control device that meets the requirements of §63.139 (see checklists in Tables 9-1 and 9-2 for the closed-vent system and the appropriate checklist in Section 10 for the specific control device)? *§63.138(a)(5)*	☐ Y	☐ N/A	☐ N
2. If the steam stripper is a design steam stripper, does it meet all of the following requirements: *§63.138(d)*			
(a) Is the minimum active column height at least 5 meters?	☐ Y	☐ N/A	☐ N
(b) Does the countercurrent flow configuration have at least 10 actual trays?	☐ Y	☐ N/A	☐ N
(c) Is the steam flow rate at least 0.04 kilograms of steam per liter of wastewater feed?	☐ Y	☐ N/A	☐ N
(d) Is the temperature of the wastewater feed to the steam stripper (or the column temperature) at least 95°C?	☐ Y	☐ N/A	☐ N
(e) Is the wastewater liquid loading no greater than 67,100 liters per hour per square meter?	☐ Y	☐ N/A	☐ N
(f) Does the steam stripper operate at nominal atmospheric pressure?	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

Table 5-11. Compliance Checklist for Treatment Processes Other than Steam Strippers

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the requirement is not applicable, check the "N/A" box.

Treatment Process Identification: _____

I. Review of Records

1. Does the facility keep records as approved by the Administrator? *§63.147(b)(4)* ☐ Y ☐ N
2. For each parameter approved by the permitting authority that is required to be monitored continuously, are records of the daily average value kept? *§63.147(d)* ☐ Y ☐ N/A ☐ N
3. If the facility has a biological treatment process and calculates the AMR based on the fraction biodegraded, are records kept of the F_{bio} determination? ☐ Y ☐ N/A ☐ N

   Note: F_{bio} does not have to be determined for enhanced biological treatment processes that meet the requirements in §63.145(h)(1)(ii).
4. Are all records kept for at least 5 years? *§63.10(b)(1)* ☐ Y ☐ N

II. Visual Inspection

1. Are all gas streams from the treatment process vented through a closed-vent system to a control device that meets the requirements of §63.139 (see checklists in Tables 9-1 and 9-2 for the closed-vent system and the appropriate checklist in Section 10 for the specific control device)? *§63.138(a)(5)* ☐ Y ☐ N ☐ N/A

   Note: An open or closed biological treatment unit for which compliance is demonstrated in accordance with §63.145(f) or (g) does not have to be vented to a control device that meets the requirements of §63.139. §63.138(a)(3)

   Note: Another exception to the requirements in §63.139 is that a vent from an anaerobic biological treatment unit may be routed through hard-piping to a fuel gas system. §63.138(a)(5)
2. Are monitoring devices present to conduct monitoring that was approved by the Administrator or permitting authority? *§63.143(c) and (d)* ☐ Y ☐ N ☐ N/A

III. Note All Deficiencies

_____

_____

_____

AMR = actual mass removal.

Table 5-12. Compliance Checklist for Equipment Handling In-Process Liquid Streams

Note: This checklist applies only to equipment of the type listed in Table 35 to subpart G that handle streams within the MCPU that have the flow and concentration characteristics of a Group 1 process wastewater stream.

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the requirement is not applicable, check the "N/A" box.

I. Visual Inspections[a]			
1. Is each tank with a capacity ≥38 m^3 equipped with a fixed roof?	☐ Y	☐ N/A	☐ N
2. Are all drains and drain hubs equipped with either tightly fitting solid covers or water seals?	☐ Y	☐ N/A	☐ N
3. Do drains and drain hubs that are equipped with water seals also have either a submerged discharge or a barrier to protect the discharge from the wind?	☐ Y	☐ N/A	☐ N
4. Are all tightly fitting solid covers for drains, drain hubs, manholes, lift stations, and trenches free of visible gaps or openings, except during periods of sampling, inspection, or maintenance?	☐ Y	☐ N/A	☐ N
5. For all tightly fitting solid covers with water seals and an atmospheric vent, are the vent pipes at least 90 cm in length with a nominal inside diameter less than or equal to 10.2 cm?	☐ Y	☐ N/A	☐ N
6. For lift stations with tightly fitting solid covers and water seals, is the lift station level controlled to minimize changes in liquid level?	☐ Y	☐ N/A	☐ N

II. Note All Deficiencies

[a] All requirements are from Table 35 to subpart G.

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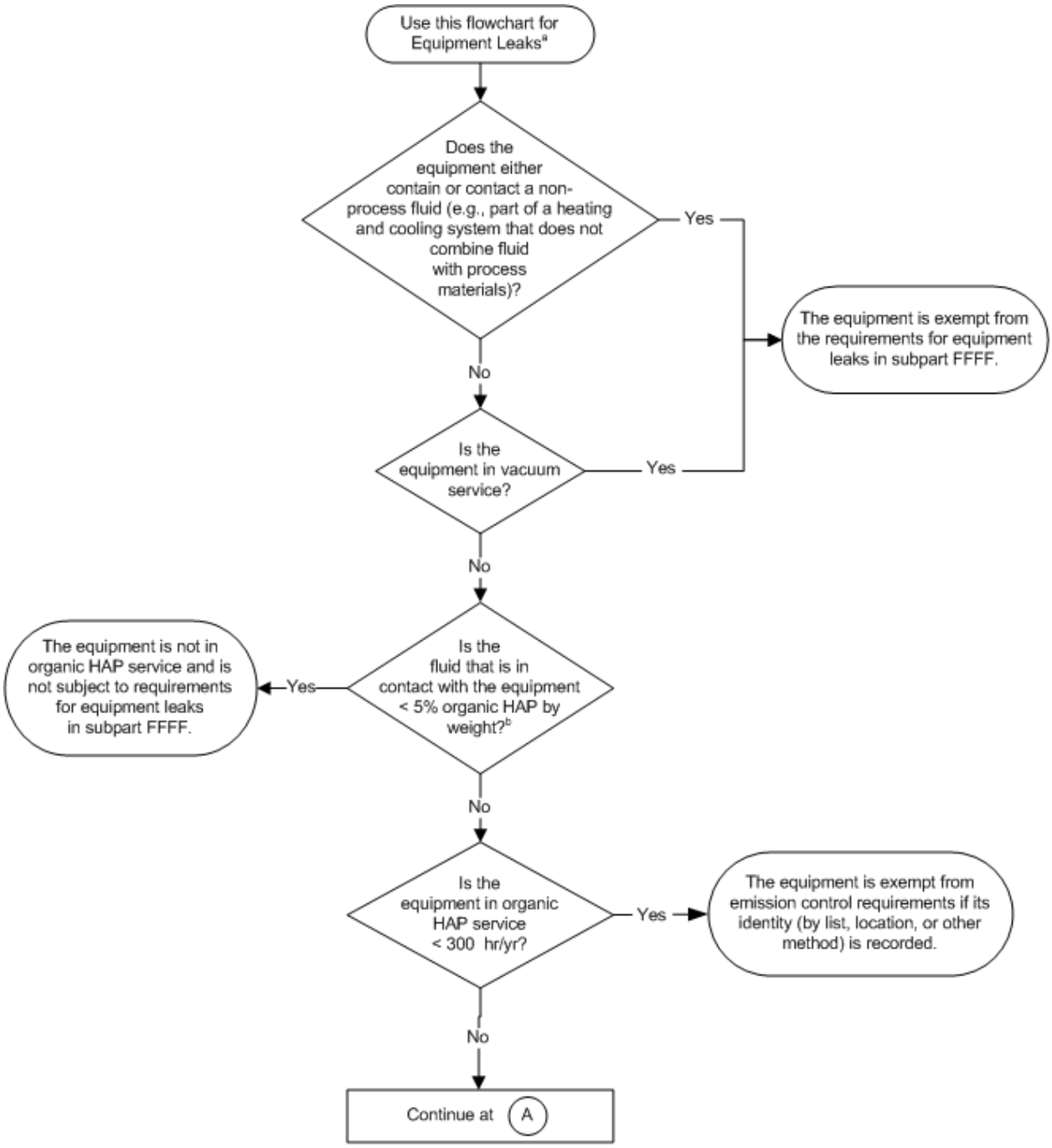
6.0 Equipment Leaks

This section contains applicability and control flowcharts and inspection checklists for equipment leaks. Use the flowchart in Figure 6-1 to identify equipment that is subject to the equipment leak requirements in subpart FFFF and the control options for such equipment. Use the checklists in Tables 6-1 through 6-3 to determine compliance with the various control options. Table 6-1 is for the basic LDAR program that specifies different requirements for each type of equipment. Table 6-2 is for the pressure test option. Table 6-3 is for processes or portions of processes that are enclosed and emissions are vented to a process, fuel gas system, or control device.

As illustrated in Figure 6-1, the final rule requires compliance with one of three existing rules for equipment leaks. These rules are 40 CFR part 63, subpart H; 40 CFR part 63, subpart UU; or 40 CFR part 65, subpart F (also known as the Consolidated Federal Air Rule [CAR]). New sources must comply with one of the cross-referenced rules in its entirety, but existing sources may elect to comply with alternative LDAR requirements for certain connectors and pumps. The optional provisions for existing sources are listed in Figure 6-1.

The checklists in this chapter are specifically designed for determining compliance with 40 CFR part 63, subpart UU. Most of the requirements in subpart H and the CAR are essentially the same, but the checklists do not include the specific citations for these rules. One requirement that differs among the rules is the skip monitoring intervals for connectors. Figure 6-2 illustrates how to determine the applicable interval under subpart UU and the CAR. The more complicated procedures in subpart H are not illustrated.



[a] "Equipment" consists of pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves and lines, valves, connectors, and instrumentation systems.

[b] Equipment is presumed to be in organic HAP service unless you demonstrate that it is not by following the procedures in §63.180(d).

Figure 6-1. Applicability and requirements for equipment leaks.

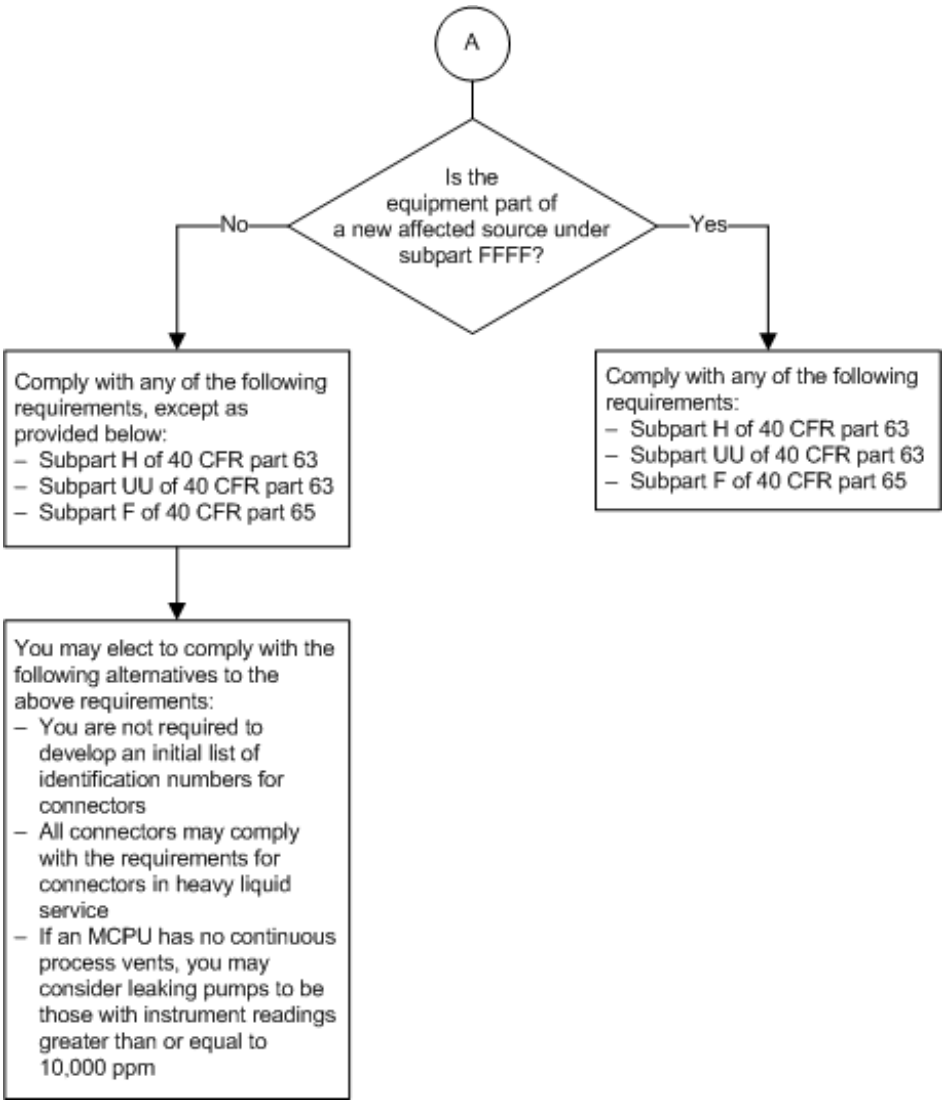


Figure 6-1. (continued)

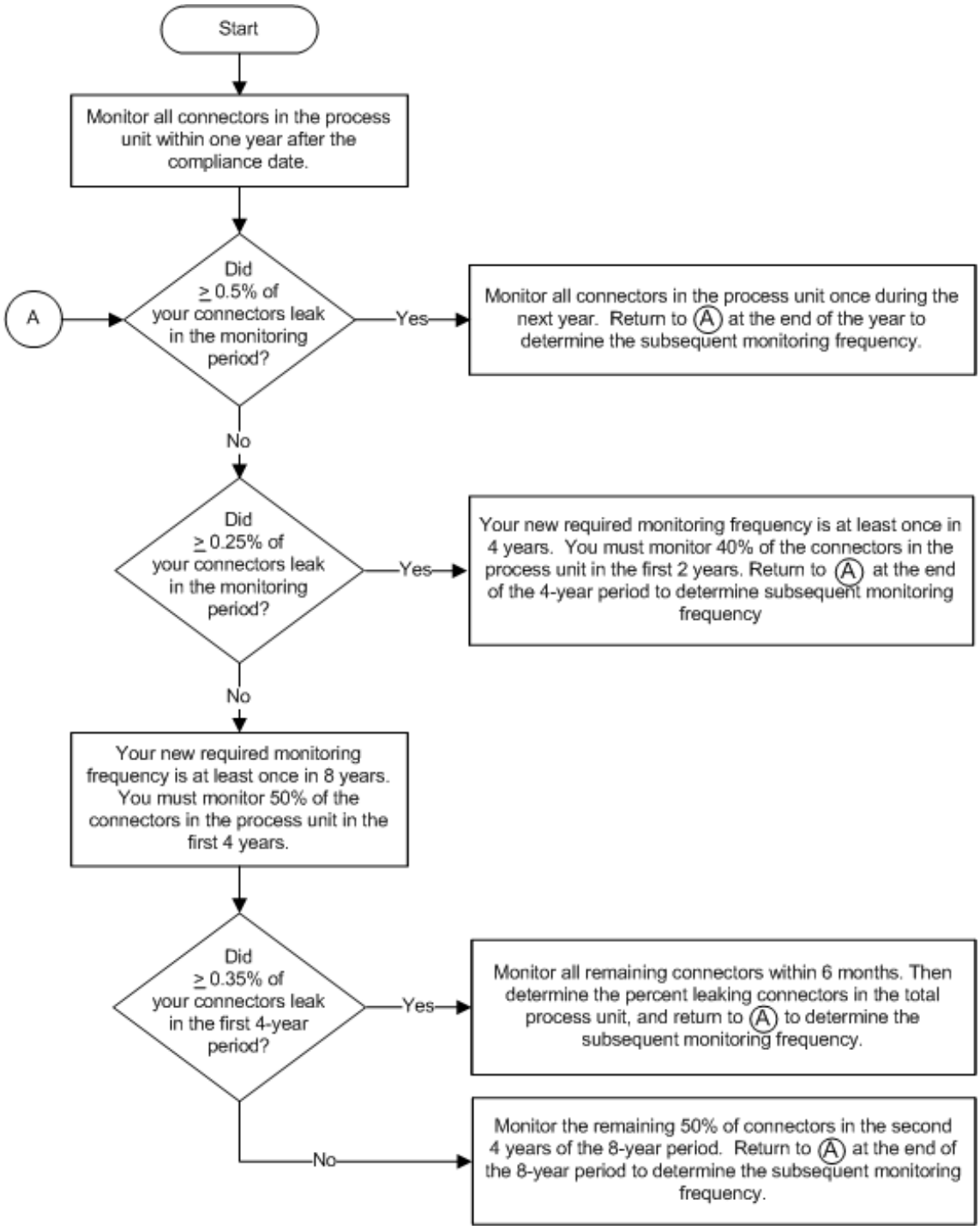


Figure 6-2. Flowchart of monitoring frequencies for connectors in gas/vapor service or light liquid service under subpart UU and the CAR.

Table 6-1. Checklist to Demonstrate Compliance with the Basic LDAR Program

Note: Use this checklist to demonstrate compliance with the basic LDAR program requirements for each type of equipment as specified in 40 CFR part 63, subpart UU. A "yes" response to a question in this checklist means compliance with that requirement, and a "no"response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

Process or Process Area Identification:_____

I. Review of Records

1. Does the facility have the following equipment identification records as an alternative to physically tagging each piece of equipment:

(a)	General identification of equipment that is subject to subpart FFFF (e.g., on a plant site plan, in log entries, designation of process unit or affected source boundaries, etc.)? *§§63.1022(a) and 63.1038(b)(1)*	☐ Y	☐ N/A	☐ N
(b)	Specific identification of connectors (either individually or the total number of connectors as a group in a designated area)? *§§63.1022(b)(1) and 63.1038(b)(1)* *Note: This provision is optional for existing sources. §63.2480(b)(3)* *Note: Inaccessible, ceramic, or ceramic-lined connectors are exempt from this recordkeeping requirement.*	☐ Y	☐ N/A	☐ N
(c)	Specific identification of pumps in light liquid service, agitators, pressure relief devices in gas and vapor service, or compressors from which leaks are routed to a process, a fuel gas system, or through a closed-vent system to a control device? *§§63.1022(b)(2) and 63.1038(b)(1)* *Note: Go to item II.7 in this checklist (i.e., Table 6-1) if emissions from equipment leaks are routed to a process or fuel gas system. Go to items I.15 and II.7 in this checklist if emissions are routed through a closed-vent system to a control device. No other items in this checklist apply to equipment leak emissions routed to a process, fuel gas system, or through a closed-vent system to a control device.*	☐ Y	☐ N/A	☐ N
(d)	Specific identification of pressure relief devices that are equipped with rupture disks? *§§63.1022(b)(3) and 63.1038(b)(1)*	☐ Y	☐ N/A	☐ N
(e)	Specific identification of instrumentation systems? *§§63.1022(b)(4) and 63.1038(b)(1)*	☐ Y	☐ N/A	☐ N
(f)	Specific identification (either by list, location, or other method) of equipment in organic HAP service less than 300 hours per calendar year within the affected source? *§§63.1022(b)(5) and 63.1038(b)(1)*	☐ Y	☐ N/A	☐ N
(g)	Identification of equipment designated as unsafe-to-monitor or difficult-to-monitor? *§63.1022(c)(3)*	☐ Y	☐ N/A	☐ N

Table 6-1. (continued)

I. Review of Records			
2. If the facility has designated any valves, pumps, connectors, and/or agitators as unsafe to monitor, do they have a written plan describing the actual monitoring frequency that will be used (but not more frequently than would otherwise be required) and stating that any such equipment that is found to be leaking will be repaired following the same procedures as for any other leaking equipment? *§§63.1022(c)(4)(i) and 63.1038(b)(2)* *Note: No other records described in this checklist (i.e., Table 6-1) apply to equipment that is designated as unsafe to monitor.*	☐ Y	☐ N/A	☐ N
3. If the facility has designated any valves and/or agitators as difficult to monitor, do they have a written plan describing the actual monitoring frequency that will be used (at least once per year) and stating that any such equipment that is found to be leaking will be repaired following the same procedures as for any other leaking equipment? *§§63.1022(c)(4)(ii) and 63.1038(b)(2)* *Note: No other records described in this checklist (i.e., Table 6-1) apply to equipment that is designated as difficult to monitor.*	☐ Y	☐ N/A	☐ N
4. If the facility has designated any compressors as unsafe to repair, do records identify such compressors and explain why the connectors are unsafe to repair? *§§63.1022(d)(2) and 63.1038(b)(3)*	☐ Y	☐ N/A	☐ N
5. If the facility has designated any compressors as operating with an instrument reading of less than 500 ppm above background, do records identify such compressors? *§§63.1022(e) and 63.1038(b)(4)*	☐ Y	☐ N/A	☐ N
6. If the facility has determined that any equipment is in heavy liquid service, do they have records of the information, data, and analyses used to make such determinations? *§§63.1022(f)(1) and 63.1038(b)(5)*	☐ Y	☐ N/A	☐ N
7. When leaks are detected by instrument monitoring (for valves, pumps, connectors, agitators, pressure relief devices, and compressors) or by sensory monitoring (for pumps and agitators), does the facility maintain all of the following records: *§§63.1023(e)(2), 63.1024(f), and 63.1038(b)(6) and (7)* *Note: Although the rule does not explicitly require identification of leaking equipment, the records must be sufficiently specific to allow an inspector to determine compliance with the equipment leak repair requirements.*			
(a) The date of the first attempt to repair the leak?	☐ Y	☐ N/A	☐ N
(b) The date of successful repair of the leak?	☐ Y	☐ N/A	☐ N
(c) The maximum instrument reading measured by Method 21 at the time the leak was repaired or determined to be nonrepairable	☐ Y	☐ N/A	☐ N

Table 6-1. (continued)

I. Review of Records			
(d) The reason for the delay if the leak was not repaired within 15 calendar days after the leak was detected? *Note: Section 63.1024(d) specifies conditions under which delay of repair is allowed.* *Note: For a valve, if delay of repair beyond a process unit shutdown was caused by depletion of stocked parts, the records must also document that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.*	☐ Y	☐ N/A	☐ N
(e) The dates of process unit (or affected source) shutdowns that occurred while the equipment was unrepaired?	☐ Y	☐ N/A	☐ N
8. For valves in gas and vapor service or in light liquid service, does the facility keep records of both of the following, as applicable:			
(a) The monitoring schedule? *§§63.1025(b)(3)(vi) and 63.1038(c)(1)(i)*	☐ Y	☐ N/A	☐ N
(b) All of the following information for valve subgroups: *§§63.1025(b)(4)(iv) and 63.1038(c)(1)(ii)* *Note: Subgroups for a process unit or affected source are allowed only if less than 2 percent of the total number of valves in all subgroups are determined to be leaking.*			
• Which valves are assigned to each subgroup?	☐ Y	☐ N/A	☐ N
• Monitoring results and calculations made for each subgroup in each monitoring period (i.e., the total number of valves monitored, the number found leaking, the number of nonrepairable valves, the percent leaking in the subgroup, and the percent leaking for determining the subsequent monitoring frequency for the subgroup as specified in §63.1025(c)(1)(ii) and (2))?	☐ Y	☐ N/A	☐ N
• Which, if any, valves have been reassigned from one subgroup to another, the last monitoring result prior to a reassignment, and the date when the reassignment was made?	☐ Y	☐ N/A	☐ N
• The results of the semiannual overall performance calculations?	☐ Y	☐ N/A	☐ N
9. For pumps in light liquid service, does the facility keep all of the following records:			
(a) The occurrence and dates of weekly visual inspections for leaks? *§§63.1026(b)(4) and (e)(1)(v) and 63.1038(c)(2)(i) and (ii)* *Note: These inspections are not required for pumps with no external shaft.*	☐ Y	☐ N/A	☐ N

Table 6-1. (continued)

I. Review of Records			
(b) All of the following records for pumps equipped with a dual mechanical seal system that includes a barrier fluid system: *§§63.1026(e)(1)(i) and 63.1038(c)(2)(iii)*			
• The design criteria related to the presence and frequency of drips that indicates failure of the seal system, the barrier fluid system, or both?	☐ Y	☐ N/A	☐ N
• An explanation of the design criteria?	☐ Y	☐ N/A	☐ N
• Any changes to these design criteria?	☐ Y	☐ N/A	☐ N
• The reasons for any changes?	☐ Y	☐ N/A	☐ N
10. For connectors in gas and vapor service or in light liquid service, does the facility maintain a record of the start date and end date of each monitoring period? *§§63.1027(b)(3)(v) and 63.1038(c)(3)* *Note: This record is not required for existing sources that elect to comply with §63.1029 instead of §63.1027. §63.2480(b)(4)* *Note: The monitoring and recordkeeping requirements do not apply to inaccessible, ceramic, or ceramic-lined connectors.*	☐ Y	☐ N/A	☐ N
11. For agitators in gas and vapor service or in light liquid service, does the facility maintain all of the following records:			
(a) The occurrence and dates of weekly visual inspections for leaks? *§§63.1028(c)(3) and 63.1038(c)(4)(i)* *Note: According to §63.1028(e)(2), these inspections are not required for agitators with no external shaft.* *Note: Although §63.1028(e)(1)(iv) does not explicitly require records documenting the inspection for agitators with dual mechanical seals, a record would be required in order to demonstrate compliance (similar to the requirement in §63.1026(e)(1)(v)).*	☐ Y	☐ N/A	☐ N
(b) For each agitator equipped with a dual mechanical seal system that includes a barrier fluid system, the design criteria related to the presence and frequency of drips that indicates failure of the seal system, the barrier fluid system, or both; an explanation of the design criteria; any changes to the design criteria; and the reasons for any changes? *§§63.1028(e)(1)(vi)(B) and 63.1038(c)(4)(ii)*	☐ Y	☐ N/A	☐ N

Table 6-1. (continued)

I. Review of Records			
12. For pressure relief devices in gas and vapor service or in light liquid service, does the facility maintain records of the following information for monitoring within 5 days after a pressure release? *§§63.1030 (c)(3) and 63.1038(c)(5)* *Note: These requirements do not apply to pressure relief devices that are equipped with a rupture disk upstream of the pressure relief device.*			
(a) Date the monitoring was conducted?	☐ Y	☐ N/A	☐ N
(b) Background level measured?	☐ Y	☐ N/A	☐ N
(c) Maximum instrument reading measured?	☐ Y	☐ N/A	☐ N
13. For each compressor that is equipped with a seal system that includes a barrier fluid system, does the facility maintain records of either of the following:			
(a) the design criteria for the barrier fluid sensor that indicates failure of the seal system, the barrier fluid system, or both; an explanation of the design criteria; any changes to the design criteria; and the reasons for any changes, or *§§63.1031(d)(2) and 63.1038(c)(6)(i)*	☐ Y	☐ N/A	☐ N
(b) If the facility complies with the alternative compressor standard (i.e., the compressor is designated as operating with an instrument reading of less than 500 parts per million above background), all of the following information for each compliance test: *§§63.1031(f)(2) and 63.1038(c)(6)(ii)*			
• Date of each compliance test?	☐ Y	☐ N/A	☐ N
• Background level measured?	☐ Y	☐ N/A	☐ N
• Maximum instrument reading?	☐ Y	☐ N/A	☐ N
14. If the facility has implemented a quality improvement program for pumps, are all of the following records maintained:			
(a) All of the following data for each pump: *§§63.1035(d)(2) and 63.1038(c)(7)(i)*			
• Pump type?	☐ Y	☐ N/A	☐ N
• Pump manufacturer?	☐ Y	☐ N/A	☐ N
• Seal type?	☐ Y	☐ N/A	☐ N
• Seal manufacturer?	☐ Y	☐ N/A	☐ N
• Pump design?	☐ Y	☐ N/A	☐ N
• Materials of construction?	☐ Y	☐ N/A	☐ N
• Barrier fluid or packing material, if applicable?	☐ Y	☐ N/A	☐ N

Table 6-1. (continued)

I. Review of Records			
• Year installed?	☐ Y	☐ N/A	☐ N
• Service characteristics of the pumped stream?	☐ Y	☐ N/A	☐ N
• Maximum instrument readings observed in each monitoring observation before repair, response factor for the stream (if appropriate), instrument model number, and date of observation?	☐ Y	☐ N/A	☐ N
• If a leak was detected, the repair methods used and the instrument readings after repair?	☐ Y	☐ N/A	☐ N
• If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units or affected sources, a description of any maintenance or quality assurance programs used in the process unit or affected source that are intended to improve emission performance?	☐ Y	☐ N/A	☐ N
(b) A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices? *§§63.1035(e)(3)(i) and 63.1038(c)(7)(v)*	☐ Y	☐ N/A	☐ N
(c) All of the following information for each trial evaluation program: *§§63.1035(d)(6)(i), (d)(6)(iii), (d)(6)(vi), (e)(3)(ii), and (e)(3)(iii); and 63.1038(c)(7)(ii) and (iii)* *Note: Section 63.1035(d)(6) describes the situations under which a trial evaluation program must be conducted.*			
• A list of the candidate superior performing pump seal designs or technologies to be evaluated?	☐ Y	☐ N/A	☐ N
• The reasons for rejecting any specific candidate superior emission performing pump technologies from performance trials?	☐ Y	☐ N/A	☐ N
• The stages for evaluating the candidate pump designs or pump seal technologies?	☐ Y	☐ N/A	☐ N
• The anticipated time period necessary to test the applicability of candidate designs or technologies?	☐ Y	☐ N/A	☐ N
• The frequency of monitoring or inspection of the equipment?	☐ Y	☐ N/A	☐ N
• The range of operating conditions over which the component will be evaluated?	☐ Y	☐ N/A	☐ N
• The beginning date and actual duration of performance trials for each candidate superior emission performing technology?	☐ Y	☐ N/A	☐ N
• Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps?	☐ Y	☐ N/A	☐ N

Table 6-1. (continued)

I. Review of Records			
• If all alternatives are judged to be technically infeasible or incapable of reducing emissions, an engineering evaluation of each alternative documenting the physical, chemical, or engineering basis for the judgement?	☐ Y	☐ N/A	☐ N
(d) All of the following records of ongoing activities during the QIP:			
• The rolling average percent leaking pumps? *§§63.1035(e)(1)(i) and 63.1038(c)(7)(v)*	☐ Y	☐ N/A	☐ N
• Documentation of all inspections of pumps or pump seals that exhibited frequent seal failures and were removed from the process unit or affected source due to leaks? *§§63.1035(d)(4) and (e)(1)(ii) and 63.1038(c)(7)(v)*	☐ Y	☐ N/A	☐ N
• The beginning and end dates for the QIP? *§§63.1035(e)(1)(iii) and 63.1038(c)(7)(v)*	☐ Y	☐ N/A	☐ N
• If a leak is not repaired within 15 calendar days after its discovery, the reason for the delay and the expected date of successful repair? *§§63.1035(e)(2) and 63.1038(c)(7)(v)*	☐ Y	☐ N/A	☐ N
(e) Quality assurance program documentation, including records indicating that all pumps replaced or modified during the period of the QIP are in compliance with the quality assurance program? *§§63.1035(d)(7) and (e)(4) and 63.1038(c)(7)(iv) and (v)*	☐ Y	☐ N/A	☐ N
(f) The following records related to the pump or pump seal replacement requirements: *Note: The number of years after starting the QIP when replacements must begin is specified in §63.1035(d)(8).*			
• Records documenting compliance with the 20 percent or greater annual replacement rate? *§§63.1035(e)(5) and 63.1038(c)(7)(v)*	☐ Y	☐ N/A	☐ N
• If complying with the schedule for corporations with fewer than 100 employees, information documenting the number of employees, including employees providing professional and technical contracted services? *§§63.1035(e)(6) and 63.1038(c)(7)(v)*	☐ Y	☐ N/A	☐ N

Table 6-1. (continued)

I. Review of Records			
15. If emissions from any equipment are routed through a closed-vent system to a non-flare control device, are records maintained of all of the following information: *§63.998(d)(4) as referenced from §§63.1034(b), 63.982(c)(3), and 63.986(c)* *Note: Use the checklists in Tables 9-1, 9-2, and 10-1 if the control device is a flare. §§63.1034(b)(2)(iii) and 63.998(a)(1)*			
(a) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams?	☐ Y	☐ N/A	☐ N
(b) The dates and descriptions of any changes in the design specifications?	☐ Y	☐ N/A	☐ N
(c) A description of the parameter or parameters monitored to ensure that the control device is operated and maintained as designed, and a description of why each parameter was selected for monitoring?	☐ Y	☐ N/A	☐ N
(d) Dates and durations when the monitored parameter values indicate the closed-vent system and control device(s) were not being operated as designed?	☐ Y	☐ N/A	☐ N
(e) Dates and durations when the monitoring device was inoperative?	☐ Y	☐ N/A	☐ N
(f) Dates and durations of startup and shutdown of the control device?	☐ Y	☐ N/A	☐ N
16. If the facility complies with the alternative equipment monitoring schedule for batch processes as specified in §63.1036(c), are records maintained of all of the following information: *§§63.1036(d) and 63.1038(c)(8)(ii)* *Note: All other items in this checklist also apply when the facility complies with this alternative.*			
(a) A list of equipment added to the batch product process since the last monitoring?	☐ Y	☐ N/A	☐ N
(b) For any components for which the facility adjusts the monitoring frequency in accordance with this alternative, documentation demonstrating the proportion of time during the calendar year that the equipment is in use?	☐ Y	☐ N/A	☐ N
(c) The following information related to monitoring equipment that is added after reconfiguration to produce a new product:			
• Date of the monitoring? *Note: The monitoring must be conducted within 30 days of startup of the process. §63.1036(c)(3)(i)*	☐ Y	☐ N/A	☐ N
• Either the actual monitoring results if leaks were found or a statement that the monitoring was conducted if no leaks were found?	☐ Y	☐ N/A	☐ N

Table 6-1. (continued)

I. Review of Records				
17.	Are all records kept for at least 5 years? *§63.10(b)(1)* *Note: Some records must be kept longer. For example, if connectors are monitored once every 8 years, connector monitoring records must be kept 5 years beyond the date of their last use. Another example is the non-flare control device records identified in items 15a, b, and c of this checklist must be kept for the life of the control device. §§63.1023(e)(2) and 63.998(d)(4)*		☐ Y	☐ N
II. Visual Inspections				
1.	Are visible, weatherproof identifications attached to all equipment that has been determined to be leaking and has not yet been repaired, including equipment determined to be nonrepairable? *§63.1023(e)(1)*	☐ Y	☐ N/A	☐ N
2.	Are the visible, weatherproof leak identifications still attached to repaired valves and connectors in gas or light liquid service that have not yet been monitored as required by §§63.1025(d)(2) and 63.1027(b)(3)(iv)? *§63.1024(c)(1)* *Note: This requirement does not apply to connectors in gas/vapor or light liquid service at existing services that elect to comply with §63.2480(b)(4).* *Note: The monitoring must be performed within 3 months after repair.*	☐ Y	☐ N/A	☐ N
3.	Is a rupture disk in place upstream of each pressure relief device for which the facility claims exemption from the otherwise required monitoring? *§63.1030(e)*	☐ Y	☐ N/A	☐ N
4.	Are sampling connection systems equipped with a closed-purge, closed-loop, or closed-vent system? *§63.1032(b)* *Note: In-situ sampling systems are exempt from this requirement. §63.1032(d)*	☐ Y	☐ N/A	☐ N
5.	Are open-ended valves and lines equipped with caps, blind flanges, plugs, or a second valve? *Note: 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 this requirement. Open-ended lines and valves containing materials that would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard are also exempt.*	☐ Y	☐ N/A	☐ N
6.	If the facility indicates equipment is vented to a control device, is a closed-vent system in place?	☐ Y	☐ N/A	☐ N

Table 6-1. (continued)

II. Visual Inspections			
7. If emissions are routed to a process or a fuel gas system, is the process or fuel gas system operating when emissions are routed to it? *§63.984(a)(1) as referenced from §§63.1034(b)(1) and 63.982(d)*	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

Table 6-2. Checklist for Determining Compliance with the Pressure Testing Alternative Standard

Note: Use this checklist for each process that is pressure tested as specified in §63.1036(b). A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

Process Identification:_____

I. Review of Records *§§63.1036(b)(7) and 63.1038(c)(8)(i)*			
1. Do records identify each product produced during the calendar year (or codes for those products)?	☐ Y	☐ N/A	☐ N
2. Is the process equipment either physically tagged, or is it identified on a plant site plan, in log entries, or by some other method?	☐ Y	☐ N/A	☐ N
3. Is all of the following information recorded for each pressure test:			
(a) Date of the test?	☐ Y	☐ N/A	☐ N
(b) The test pressure?	☐ Y	☐ N/A	☐ N
(c) The observed pressure drop, for a gas pressure/vacuum test?	☐ Y	☐ N/A	☐ N
(d) Documentation of any visible, audible, or olfactory evidence of fluid loss, for a liquid pressure test?	☐ Y	☐ N/A	☐ N
4. Is all of the following information recorded anytime the process equipment train does not pass two consecutive pressure tests: *Note: Section 63.1036(b)(7)(v) specifies that these records must be maintained for only 2 years.*			
(a) The date of each pressure test?	☐ Y	☐ N/A	☐ N
(b) Repair methods applied in each attempt to repair the leak(s)?	☐ Y	☐ N/A	☐ N
(c) All of the following information if repair is not completed within 30 calendar days after the second pressure test:			
• Reason for the delay?	☐ Y	☐ N/A	☐ N
• Expected date for delivery of the replacement equipment?	☐ Y	☐ N/A	☐ N
• Actual date of delivery of the replacement equipment?	☐ Y	☐ N/A	☐ N
(d) Date of successful repair?	☐ Y	☐ N/A	☐ N
5. Are all records kept for at least 5 years, except as noted above? *§63.10(b)(1)*	☐ Y	☐ N/A	☐ N

Table 6-2. (continued)

II. Note All Deficiencies

Table 6-3. Checklist for Determining Compliance with the Enclosed Process Alternative

Note: Use this checklist for each process or portion of a process that is enclosed and emissions from equipment leaks are routed to a process, fuel gas system, or through a closed-vent system to a control device. A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

Process Identification:_____

I. Review of Records

1. Do records document all of the following information about the process unit and the enclosure: *§§63.1037(b) and 63.1038(c)(9)*
   - (a) Identification of the process unit and the organic HAP that it handles? ☐ Y ☐ N/A ☐ N
   - (b) A schematic of the process unit, enclosure, and closed-vent system? ☐ Y ☐ N/A ☐ N
   - (c) A description of the system used to create a negative pressure in the enclosure? ☐ Y ☐ N/A ☐ N
2. Do records document all of the following information, if emissions are routed through a closed-vent system to a non-flare control device: *§63.998(d)(4), as referenced from §§63.1037(a), 63.1034(b), 63.982(c)(3), and 63.986(c)*

   Note: Use the checklists in Tables 9-1, 9-2, and 10-1 if the control device is a flare. §§63.1037(a), 63.1034(b), and 63.982(b)
   - (a) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams? ☐ Y ☐ N/A ☐ N
   - (b) The dates and descriptions of any changes in the design specifications? ☐ Y ☐ N/A ☐ N
   - (c) A description of the parameter or parameters monitored to ensure that the control device is operated and maintained as designed, and a description of why each parameter was selected for monitoring? ☐ Y ☐ N/A ☐ N
   - (d) Dates and durations when the monitored parameter values indicate the closed-vent system and control device(s) were not being operated as designed? ☐ Y ☐ N/A ☐ N
   - (e) Dates and durations when the monitoring device was inoperative? ☐ Y ☐ N/A ☐ N
   - (f) Dates and durations of startup and shutdowns of the control devices? ☐ Y ☐ N/A ☐ N
3. Are all records kept for at least 5 years? *§63.10(b)(1)* ☐ Y ☐ N/A ☐ N

II. Visual Inspections

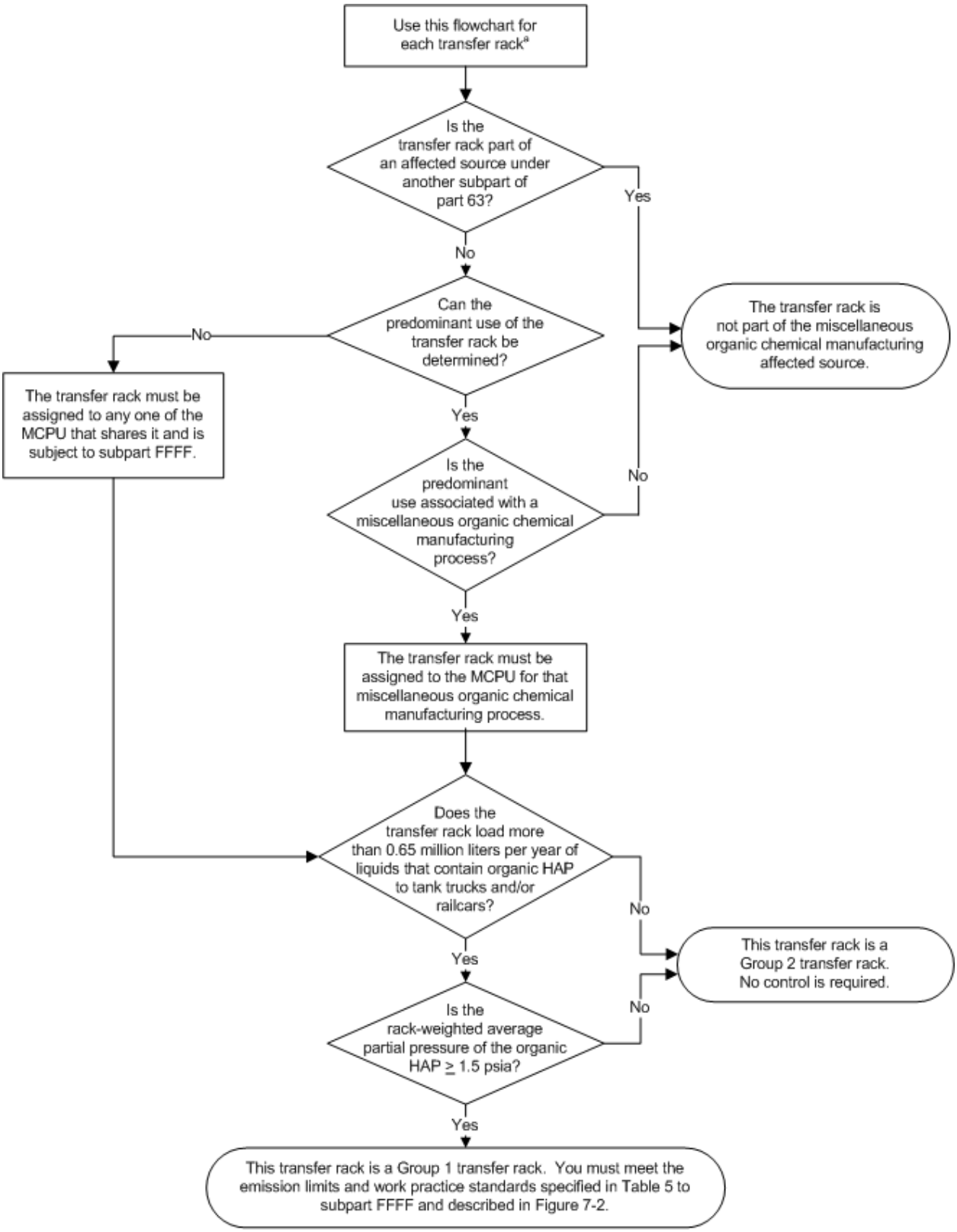
1. Is the equipment enclosed? ☐ Y ☐ N

Table 6-3. (continued)

III. Note All Deficiencies

7.0 Transfer Racks

This section contains applicability and control flowcharts and inspection checklists for controlling organic HAP emissions from transfer racks. Use Figures 7-1 and 7-2 to determine if the transfer rack is part of the affected source subject to subpart FFFF, the group status of transfer racks that are subject to subpart FFFF, and the available compliance options. Then use the checklist in Table 7-1 for each transfer rack. This checklist is used to identify the transfer rack and document its group status. If the transfer rack is Group 1, the checklist allows you to document the applicable control technique(s) for the emissions and it points you to checklists in other sections for closed-vent systems and applicable add-on control devices. The checklist also identifies some general recordkeeping requirements for both Group 1 and Group 2 transfer racks.



[a] "Transfer rack" means the collection of loading arms and loading hoses, at a single loading rack, including associated pumps, meters, shutoff valves, relief valves, and other piping and valves.

Figure 7-1. Applicability for transfer racks.

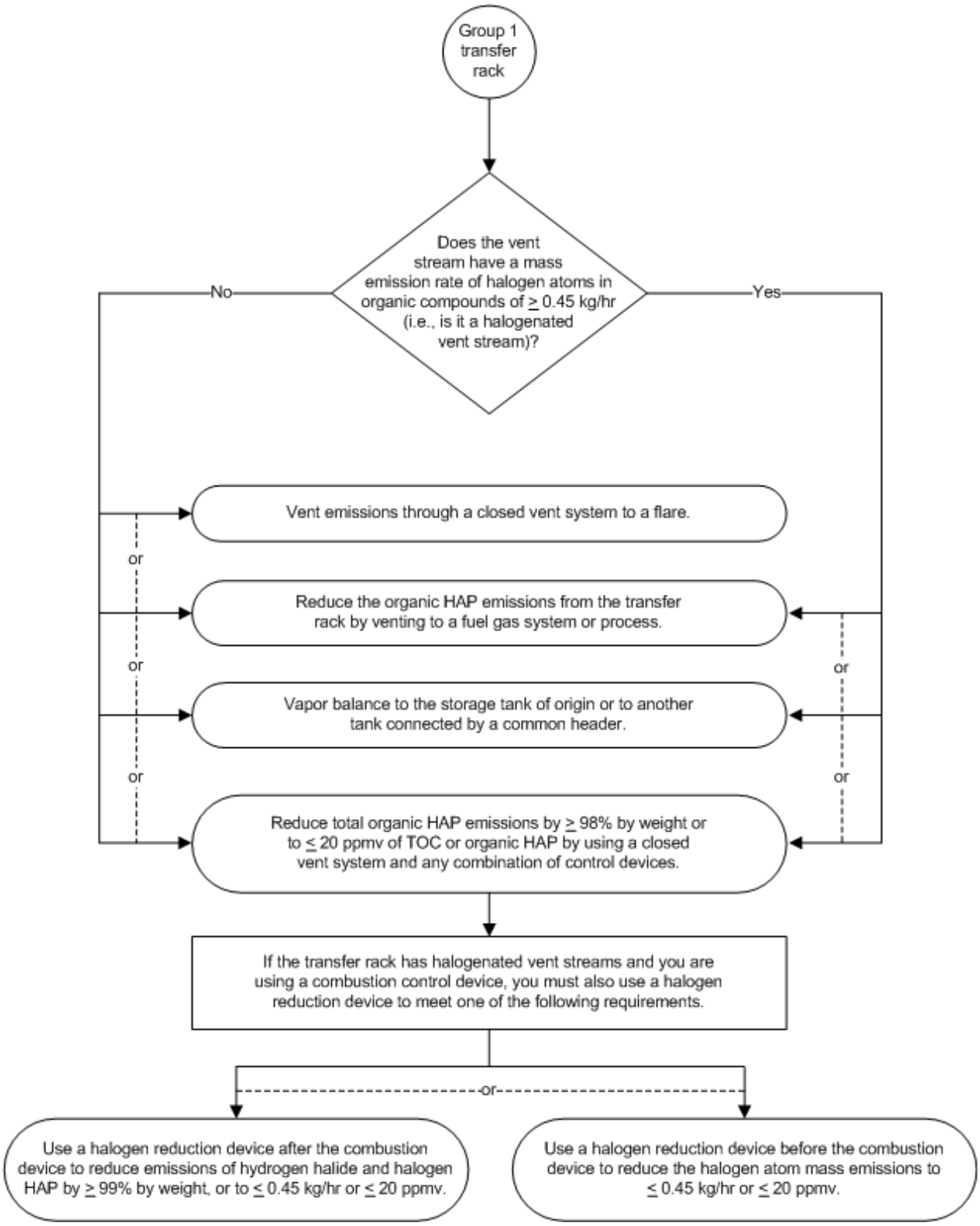


Figure 7-2. Emission limits and work practice standards for Group 1 transfer racks.

Table 7-1. Inspection Checklist for Controlling Organic HAP Emissions from Transfer Racks that Are Subject to Subpart FFFF

Note: Use this checklist for each transfer rack that is subject to subpart FFFF. A "yes" response to a question means compliance with that requirement, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

I. General Identification

1. Transfer Rack Identification: _____

2. What is the Group Status of the transfer rack (determined according to Figure 7-1):

   ☐ Group 1, or

   Continue with this checklist.

   ☐ Group 2

   No control is required, but go to item II.1 in this checklist to determine compliance with recordkeeping requirements.

3. Which type of emission limit applies to the organic HAP emissions from the Group 1 transfer rack? (check all that apply)

   ☐ Use a flare? *(go to checklists in Tables 9-1, 9-2, and 10-1)*

   Note: Halogenated vent streams may not be controlled using a flare, unless a halogen reduction device before the flare reduces the mass emission rate of halogen atoms in organic compounds to less that 0.45 kg/hr. See item "4" in this checklist.

   ☐ Reduce organic HAP emissions by ≥98 percent in a control device or to less than 20 ppmv as organic HAP or TOC using one or more of the following add-on devices:

   Note: Also see item "4" in this checklist if the transfer rack emits a halogenated vent stream that is controlled with a combustion device.

   ☐ A thermal incinerator? (go to checklists in Tables 9-1, 9-2, and 10-2)

   ☐ A catalytic incinerator? (go to checklists in Tables 9-1, 9-2, and 10-3)

   ☐ A boiler or process heater with a capacity less than 44 MW that does not have the emission stream introduced with the primary fuel? (go to checklists in Tables 9-1, 9-2, and 10-4).

   ☐ A boiler or process heater with a capacity greater than 44 MW or that has the vent stream introduced with the primary fuel? (go to checklists in Tables 9-1, 9-2, and 10-5)

   ☐ A carbon adsorber? (go to checklists in Tables 9-1, 9-2, and 10-6).

Table 7-1. (continued)

I. General Identification			
☐ An absorber? (go to checklists in Tables 9-1, 9-2, and either 10-7 or 10-10)			
☐ A condenser? (go to checklists in Tables 9-1, 9-2, and 10-8)			
☐ Another type of control device? (go to checklists in Tables 9-1, 9-2, and 10-9)			
☐ Vent emissions to a fuel gas system or process? (the owner or operator must submit a statement of connection in the notification of compliance status report; go to Table 12-1)			
☐ Vapor balance to the storage tank of origin (or to another tank connected by a common header)? (go to item "II.2" in this checklist)			
4. If halogenated vent streams from the transfer rack are controlled using a combustion device, are additional controls that meet either of the following requirements also used: *See definition of "halogenated vent stream" in §63.2550(i).*	☐ Y	☐ N/A	☐ N
(a) Is a halogen reduction device used before the combustion device to reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to a concentration ≤20 ppmv, or (go to the appropriate checklist in Section 10; for example, go to Table 10-10 if the halogen reduction device is a scrubber)			
(b) Is a halogen reduction device used after the combustion device to reduce hydrogen halide and halogen HAP emissions by ≥99 percent, to ≤0.45 kg/hr, or to a concentration ≤20 ppmv? (go to the appropriate checklist in Section 10; for example, go to Table 10-10 if the halogen reduction device is a scrubber) *Note: This option in item "4.b" is not allowed when the halogenated vent stream is controlled with a flare.*			
II. Review of Records			
1. For both Group 1 and Group 2 transfer racks, are records kept of the following information as part of an operating scenario: *§63.2525(b)*			
(a) Design and actual throughput of the transfer rack?	☐ Y	☐ N/A	☐ N
(b) Weight percent HAP of liquid loaded?	☐ Y	☐ N/A	☐ N
(c) Annual rack-weighted average HAP partial pressure?	☐ Y	☐ N/A	☐ N

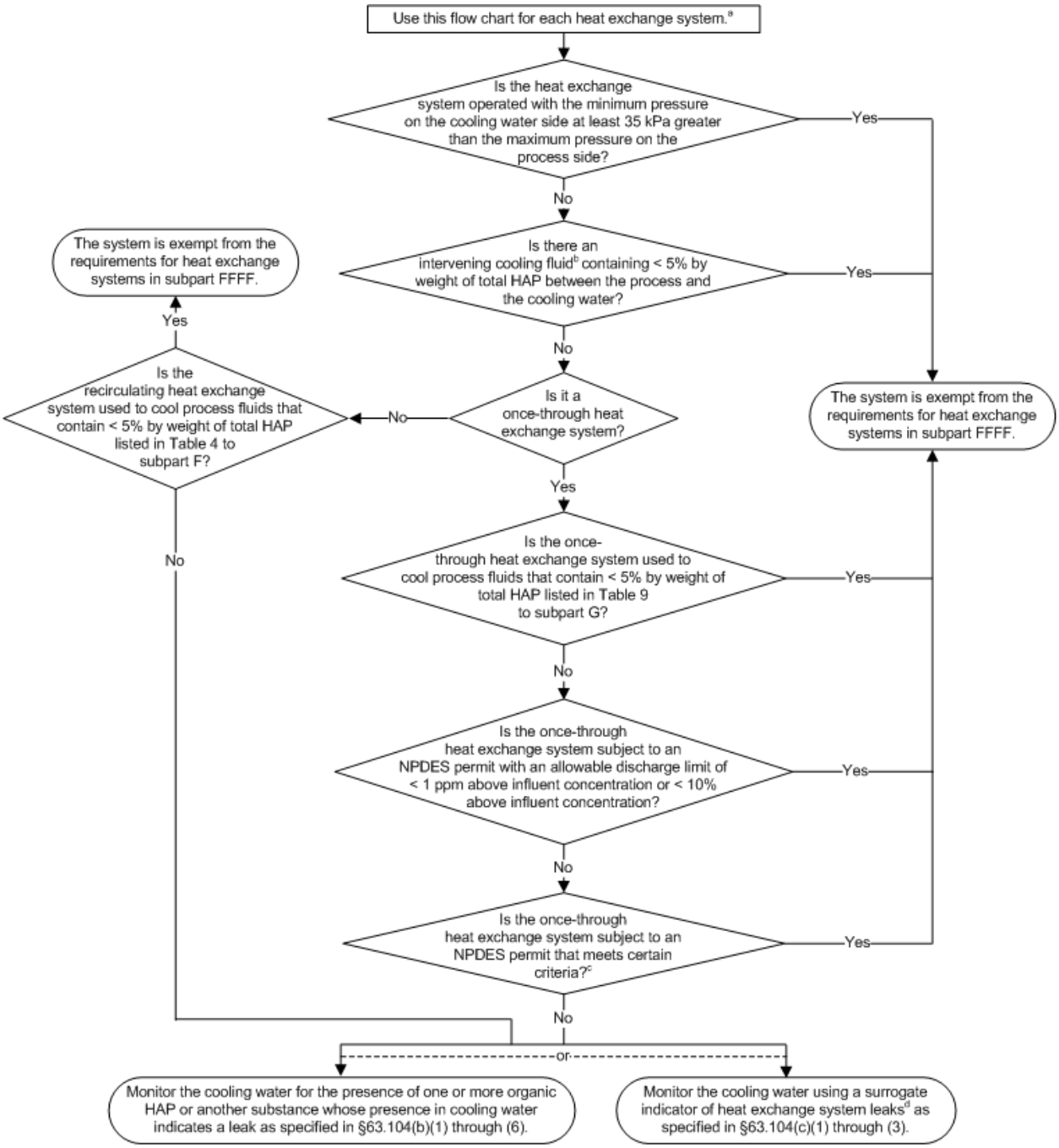
Table 7-1. (continued)

II. Review of Records			
2. If emissions from a Group 1 transfer rack are controlled by vapor balancing, is the vapor balancing system designed and operated to collect organic HAP emissions displaced from tank trucks and railcars during loading and route them to the originating storage tank or another storage tank connected by a common header? *Table 5 to subpart FFFF*	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

8.0 Heat Exchange Systems

This section contains a flowchart of applicability and control requirements and an inspection checklist for heat exchange systems. Use Figure 8-1 to determine if a heat exchange system is subject to the leak monitoring requirements in §63.104 of subpart G (as referenced from §63.2490 and Table 10 in subpart FFFF). Use the checklist in Table 8-1 to determine compliance with the monitoring options.



[a] Heat exchange system means any cooling tower system or once-through cooling water system (e.g., river or pond water). A heat exchange system can include more than one heat exchanger and can include an entire recirculating or once-through cooling system.

[b] This intervening fluid serves to isolate the cooling water from the process fluid and the intervening fluid is not sent through a cooling tower or discharged.

[c] The NPDES permit must (a) require monitoring to detect a leak of process fluids into cooling water; (b) specify the normal range to maintain; (c) require monitoring no less frequently than monthly for the first six months and quarterly thereafter; and (d) require reporting and correction when monitoring is not within the normal range.

[d] Surrogate indicators that could be used to develop an acceptable monitoring program are ion specific electrode monitoring, pH, conductivity or other representative indicators.

Figure 8-1. Applicability and work practice standards for heat exchange systems.

Table 8-1. Compliance Checklist for Heat Exchange Systems Requiring Leak Detection

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" responses means noncompliance with the requirement. If the requirement is not applicable, check the "N/A" box.

I. Review of Records

1. Do records indicate that heat exchange systems are monitored for leaks by either of the following (provided they are not exempt from monitoring for reasons specified in Figure 8-1):	☐ Y	☐ N	☐ N/A
(a) Monitoring for the presence of total HAP, total volatile organic compounds, total organic carbon, one or more speciated HAP, or other representative substances as indicators of a leak, or *§63.104(b) introductory paragraph*			
(b) Monitoring using a surrogate indicator of leaks? *§63.104(c) introductory paragraph*			
2. When monitoring of a surrogate indicator of heat exchange system leaks is used, is a monitoring plan available that contains all of the following: *§63.104(c)(1)*			
(a) The procedures that will be used to detect leaks of process fluids into cooling water?	☐ Y	☐ N	☐ N/A
(b) A description of the parameter(s) or condition(s) to be monitored?	☐ Y	☐ N	☐ N/A
(c) An explanation of how the selected parameter(s) or condition(s) will reliably indicate the presence of a leak?	☐ Y	☐ N	☐ N/A
(d) The parameter level(s) or condition(s) that constitute a leak, including supporting data and calculations?	☐ Y	☐ N	☐ N/A
(e) The monitoring frequency (which must be no less frequent than monthly for the first 6 months and quarterly thereafter?	☐ Y	☐ N	☐ N/A
(f) The records that will be maintained?	☐ Y	☐ N	☐ N/A
3. If monitoring results indicate a leak is detected, are records of all of the following available: *§63.104(d)(1), (f)(1)(i), and (f)(1)(ii)*			
(a) Monitoring records identifying the leak?	☐ Y	☐ N	☐ N/A
(b) Date the leak was detected?	☐ Y	☐ N	☐ N/A
(c) If the results were determined to be due to a condition other than a leak, the basis for that determination?	☐ Y	☐ N	☐ N/A
4. If the results are confirmed to be a leak, are records of all of the following available: *§63.104(f)(1)(iii) and (iv)*			
(a) Date(s) of efforts to repair the leak?	☐ Y	☐ N	☐ N/A
(b) The method or procedure used to confirm repair of the leak?	☐ Y	☐ N	☐ N/A

Table 8-1. (continued)

I. Review of Records			
(c) Date the repair was confirmed?	☐ Y	☐ N	☐ N/A
5. If repair of a leak has been delayed, do records indicate either of the following, along with a schedule for completing the repair as soon as practical: *§63.104(e)(2)(i) and (ii)*	☐ Y	☐ N	☐ N/A
(a) The basis of a determination that a shutdown for repair would cause greater emissions than the emissions likely to result from delaying repair, or			
(b) Evidence that the necessary parts or personnel were not available to make the repair? *Note: Documentation is not necessary if the leaking equipment is isolated from the process, or if a shutdown is scheduled within the next 2 months after determination that a delay of repair is necessary. §63.104(e) introductory text and (e)(1)*			
6. Are all records kept for at least 5 years? *§63.10(b)(1)*	☐ Y	☐ N	

II. Note All Deficiencies

9.0 Closed-Vent Systems

This section contains checklists for closed-vent systems. Table 9-1 contains a checklist for the bypass line provisions, and Table 9-2 contains a checklist for leak detection of closed-vent systems. The checklists for process vents, storage tanks, transfer operations, and wastewater in Sections 3, 4, 5, and 7 refer to the checklists in this section when the provisions regarding bypass lines and leak detection of closed-vent systems apply. The checklists also apply if emissions from equipment leaks are directed through a closed-vent system to a flare. The checklists do not apply to systems that route vapors to recovery devices for continuous process vents or process condensers for batch process vents because these recovery devices and process condensers are part of the process, and the system of piping, ductwork, and connections would not meet the definition of a closed-vent system. The checklists do not apply to closed-vent systems for equipment leaks (except for routing emissions to a flare) because the options addressed by checklists in section 6 apply. The checklists also do not apply to equipment that handles in-process liquid streams that meet the criteria of §§63.2485(l) and 63.149.

Table 9-1. Compliance Checklist for Bypass Line Provisions for Closed-vent Systems

Note: Complete this checklist for each closed-vent system that contains a bypass line that could divert a vent stream away from a control device to the atmosphere. A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

System Identification: _____

I. Review of Records

Note: The items in this checklist do not apply to low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes.

1. Are all of the following records available for a bypass line that is equipped with a flow indicator: *§§63.998(d)(1)(ii)(A) and 63.148(i)(3)(i)*
   - (a) Hourly records of whether the flow indicator in the bypass line was operating? ☐ Y ☐ N ☐ N/A
   - (b) Whether a diversion was detected at any time during each hour? ☐ Y ☐ N ☐ N/A
   - (c) The times of all periods when the vent stream was diverted from the control device? ☐ Y ☐ N ☐ N/A
   - (d) The times of all periods when the flow indicator was not operating? ☐ Y ☐ N ☐ N/A
2. Are all of the following records available for a bypass line that is equipped with a seal mechanism: *§§63.998(d)(1)(ii)(B) and 63.148(i)(3)(ii)*
   - (a) Occurrence of each monthly inspection of the seals or closure mechanism? ☐ Y ☐ N ☐ N/A
   - (b) All periods when the seal mechanism was broken, the bypass line valve position was changed, or the key to unlock the bypass line valve was checked out? ☐ Y ☐ N ☐ N/A
3. Are all records kept for at least 5 years? *§63.10(b)(1)* ☐ Y ☐ N

II. Visual Inspection

1. Is a flow indicator present at the entrance to any bypass line that could divert the vent stream flow away from the control device to the atmosphere, or are all bypass line valves sealed in a closed position (e.g., with a car seal or lock-and-key configuration)? ☐ Y ☐ N ☐ N/A

Table 9-1. (continued)

III. Note All Deficiencies

Table 9-2. Compliance Checklist for Closed-Vent Systems

Note: Complete this checklist for each closed-vent system. A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

Equipment Identification: _____

I. Review of Records

Note: This checklist does not apply to closed-vent systems that are operated under negative pressure. §§63.983(a), 63.133(b)(4), 63.134(b)(5), 63.135(d)(4), 63.136(b)(4), and 63.137(b)(4)

1. Are records kept that identify all parts of closed-vent systems that are designated as either unsafe-to-inspect or difficult-to-inspect? *§§63.998(d)(1)(i) and 63.148(i)(1) and (2)*	☐ Y	☐ N	☐ N/A
2. For equipment that is designated as difficult to inspect, is a written plan kept that describes the actual monitoring frequency that will be used (and is at least once every five years)? *§§63.983(b)(3)(ii), 63.998(d)(1)(i), and 63.148(h)(2) and (i)(1)*	☐ Y	☐ N	☐ N/A
3. For equipment that is designated as unsafe to inspect, is a written plan kept that indicates equipment will be inspected as frequently as practicable during safe-to-inspect times (but not more frequently than annually)? *§§63.983(b)(2)(ii), 63.998(d)(1)(i), and 63.148(g)(2) and (i)(1)*	☐ Y	☐ N	☐ N/A
4. For each annual inspection during which a leak was detected, was all of the following information recorded and reported:[a] *§§63.998(d)(1)(iii) and 63.148(i)(4)*			
(a) Identification information of the leaking closed-vent system?	☐ Y	☐ N	☐ N/A
(b) Name or initials of operator conducting the inspection?	☐ Y	☐ N	☐ N/A
(c) Instrument identification number, if instrument monitoring applies?	☐ Y	☐ N	☐ N/A
(d) Date the leak was detected?	☐ Y	☐ N	☐ N/A
(e) Date of the first attempt to repair the leak?	☐ Y	☐ N	☐ N/A
(f) Maximum instrument reading after the leak is repaired or determined to be non-repairable?	☐ Y	☐ N	☐ N/A
(g) Explanation of delay in repair, if the leak was not repaired within 15 days after it was discovered?	☐ Y	☐ N	☐ N/A
(h) Name or initials of person who decides repairs cannot be made without a shutdown? *§63.148(i)(4)(v)* *Note: This record is required only if the closed-vent system is used to convey wastewater emissions.*	☐ Y	☐ N	☐ N/A

Table 9-2. (continued)

I. Review of Records

(i) Expected date of successful repair if not repaired within 15 days? *§63.148(i)(4)(vi)* *Note: This record is required only if the closed-vent system is used to convey wastewater emissions.*	☐ Y	☐ N	☐ N/A
(j) Dates of shutdowns that occur while the equipment is unrepaired? *§63.148(i)(4)(vii)* *Note: This record is required only if the closed-vent system is used to convey wastewater emissions.*	☐ Y	☐ N	☐ N/A
(k) Date of successful repair of the leak?	☐ Y	☐ N	☐ N/A
5. For each inspection during which no leaks were detected, were records kept of all of the following:[a] *§§63.998(d)(1)(iv) and 63.148(i)(5) and (6)*			
(a) Record that the inspection was performed?	☐ Y	☐ N	☐ N/A
(b) Date of the inspection?	☐ Y	☐ N	☐ N/A
(c) Statement that no leaks were found?	☐ Y	☐ N	☐ N/A
6. Are all records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

II. Note All Deficiencies

[a] Annual **visual inspections** for visible, audible, or olfactory indications of leaks are required for closed-vent systems that are constructed of hard-piping. Annual **instrument monitoring** using Method 21 of 40 CFR part 60, Appendix A, is required for closed-vent systems constructed of duct work. *§63.983(b)(1)(i)(B) and (ii)*

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10.0 Control Device and Recovery Device Checklists

This section contains checklists specific to several types of typical control devices and recovery devices. The checklists in Tables 10-1 through 10-10 apply to control devices and recovery devices for continuous process vents, batch process vents, storage tanks, transfer racks, and waste management units. The checklists in Sections 3, 4, 5, and 7 refer to these checklists when they are applicable. The checklist in Table 10-11 is for a biofilter, which is specifically listed in Table 2 to subpart FFFF as an acceptable control device for batch process vents. Biofilters are not prohibited as control devices for other emission points, but they would have to achieve 98 percent reductions or outlet concentrations < 20 ppm and meet the requirements of §63.995 according to the checklist in Table 10-9. The checklist in Table 10-12 is for fabric filters, which may be used to control HAP metals emissions from process vents at new sources.

The checklists in this section are not applicable for all control devices. For example, although the checklist in Table 10-1 applies to emissions from equipment leaks that are routed through a closed-vent system to a flare, the checklists in Tables 10-2 through 10-12 do not apply to equipment leaks. The checklists in this section also do not apply to equipment that handles in-process liquid streams that meet the criteria of §§63.2485(l) and 63.149. Finally, if inlet HAP emissions to a control device are less than 1 tpy, an owner or operator may elect to monitor one or more operating parameters at least once per averaging period (operating block or day) in accordance with §63.2450(k)(6). The owner or operator must use the precompliance report to request approval of the procedures to be implemented. The checklists in this section may need to be modified to reflect the approved recordkeeping requirements for compliance with this option.

The following table identifies the types of devices that are addressed by the checklists in this section:

For the following device...	Use the checklist in...	Beginning on page...
Flare	Table 10-1	10-3
Thermal incinerator	Table 10-2	10-5
Catalytic incinerator	Table 10-3	10-9
Boiler or process heater with a design heat input capacity less than 44 MW and the vent stream is not introduced with the primary fuel	Table 10-4	10-14

For the following device...	Use the checklist in...	Beginning on page...
Boiler or process heater with a design heat input capacity greater than 44 MW or the emission stream is introduced with the primary fuel	Table 10-5	10-18
Carbon adsorber	Table 10-6	10-19
Gas absorber (scrubbing fluid anything other than water)	Table 10-7	10-23
Condenser	Table 10-8	10-28
Control or recovery device not specifically listed	Table 10-9	10-33
Scrubber for halogenated vent streams, or gas absorber where water is the scrubbing fluid	Table 10-10	10-35
Biofilter	Table 10-11	10-39
Fabric filter	Table 10-12	10-42

Carbon adsorbers, condensers, and absorbers are usually treated as control devices, but for process vents they can be either control devices or recovery devices depending on the situation. When used as a control device for continuous process vents and/or batch process vents, performance testing and continuous monitoring and associated requirements generally apply. These requirements also apply if the equipment is used as a recovery device for Group 1 batch process vents. However, for batch process vents, a condenser could be a process condenser (i.e., part of the process) if the criteria specified in the rule are met and it is so identified in the notification of compliance status report. In that case, none of the provisions in Table 10-8 apply. For continuous process vents, recovery devices are always considered part of the process, but are subject to continuous monitoring requirements if the TRE of the continuous process vent leaving the last recovery device is below 5.0 for an existing source or below 8.0 for a new source. The checklists in Tables 10-6, 10-7, and 10-8 reflect these differences, but care should be exercised in their use where recovery devices are involved to be certain which requirements are applicable.

Table 10-1. Compliance Checklist for Flares

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Flare Identification: _____

I. Review of Records

1. Is all of the following information recorded (and included in the flare compliance assessment report): *§§63.998(a)(1)(i)(A) through (C) and 63.146(b)(7)(i)(A) through (C)*

   (a) Flare design (i.e., steam-assisted, air-assisted, or non-assisted)? ☐ Y ☐ N

   (b) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the flare compliance assessment? ☐ Y ☐ N

   (c) All periods during the flare compliance assessment when all pilot flames are absent or, if only the flare flame is monitored, all periods when the flare flame is absent? ☐ Y ☐ N ☐ N/A

2. Are hourly records kept of whether the monitor is continuously operating and whether the flare flame or at least one pilot flame is continuously present? *§§63.998(a)(1)(ii) and 63.143(e)(1) and Table 13 to subpart G* ☐ Y ☐ N

   Note: Section 63.143 specifies monitoring only of pilot flames for flares that are used to control emissions from wastewater system. Therefore, sources wishing to monitor the flare flame for wastewater emissions streams should submit a request for alternative monitoring as specified in §63.8(f) of the General Provisions.

3. Are records kept of the times and durations of all periods during which the flare flame or all pilot flames are absent? *§§63.998(a)(1)(iii)(A) and 63.147(d)(1)* ☐ Y ☐ N ☐ N/A

4. Are records kept of the times and durations of all periods during which the monitor is not operating? *§63.998(a)(1)(iii)(B)* ☐ Y ☐ N ☐ N/A

5. Are all records kept for at least 5 years? *§63.10(b)(1)* ☐ Y ☐ N

II. Visual Inspection

1. Is a device for detecting pilot flames or the flare flame present and operating? ☐ Y ☐ N

Table 10-1. (continued)

III. Note All Deficiencies

Table 10-2. Compliance Checklist for Thermal Incinerators

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Thermal Incinerator Identification: _____

I. Review of Records

1. Does the facility maintain the initial compliance records in (a) or (b):

   (a) The following records of performance tests:

   - Either the percent reduction or outlet concentration of organic HAP or TOC? *§63.998(a)(2)(ii)(B)(4)* ☐ Y ☐ N/A ☐ N
   - The firebox temperature averaged over the full period of the performance test? *§63.998(a)(2)(ii)(B)(1)* ☐ Y ☐ N/A ☐ N

   (b) Documentation of the design evaluation in the notification of compliance status report? *§63.2520(d)(2)(ii)* ☐ Y ☐ N/A ☐ N

   Note: A design evaluation may be conducted as an alternative to a performance test if the only emissions controlled by the thermal incinerator are from wastewater. A design evaluation also may be conducted if the thermal incinerator is a small control device as defined in §63.2550(i) that is used to comply with a percent reduction emission limit. §§63.2450(h) and 63.139(d)

2. Do records document that the facility continuously monitors the temperature of the gas stream in the firebox (or in the ductwork immediately downstream of the firebox before any substantial heat exchange occurs) or does the facility have documentation that they requested and received approval to conduct an alternative to continuous monitoring or to monitor an alternative parameter(s)? *§§63.988(c)(1), 63.996(d), 63.143(e)(1) and (3), and Table 13 to subpart G* ☐ Y ☐ N

   Note: Section 63.143(e)(2) specifies that an organic monitoring device may be used as an alternative to temperature monitoring. Although the rule explicitly provides this approach as an alternative only for wastewater control devices, sources wishing to use this as an alternative for other emission streams should follow the procedures for requesting approval of alternative monitoring as specified in §63.8(f) of the General Provisions.

   Note: If the alternative parameter is the emissions concentration as measured using a CEMS, also use the checklist in Table 11-1.

Table 10-2. (continued)

I. Review of Records			
3. If the facility continuously monitors temperature (or other approved parameters), has the facility:			
(a) Established a site-specific operating range for the monitored parameter? *§§63.996(c)(6) and 63.143(f)*	☐ Y	☐ N/A	☐ N
(b) Followed manufacturer's or other written specifications or recommendations for installation, operation, and calibration of the monitoring equipment? *§§63.996(c)(1) and (3) and 63.143(g)*	☐ Y	☐ N/A	☐ N
(c) Maintained records of continuously monitored values in one of the following formats: *§§63.998(b)(1), 63.147(d), and 63.152(f)(2) and (3)* • all measured values, or • all block average values for 15-minute or shorter periods calculated from all measured data values during each period (or from at least one measured data value per minute if measured more frequently than once per minute), or • all continuous records for only the most recent 3 valid hours of records (under §63.998(b)(1)(iii)) or for the current operating day (under §63.152(f)(3)(i)), and block hourly average values for earlier data? *Note: To use the third option, the data must be collected from an automated CPMS, and the hourly averages must include periods of CPMS breakdown and malfunction (§63.998(b)(1)(iii)) or the daily average must be within the established range (§63.152(f)(3) and (4)).*	☐ Y	☐ N/A	☐ N
(d) Maintained records of either daily average values or a statement that all values were within the established operating range? *§§63.998(b)(3), 63.147(d), and 63.152(f)(6)* *Note: If the owner or operator chooses to maintain a statement that all values are within their established ranges and the daily average value is not calculated and recorded, then continuous or short-term block averages may not be discarded as otherwise allowed by the third option in item "c" above. §§63.998(b)(3)(ii) and 63.152(f)(6)* *Note: Averages may be over an operating block if the thermal incinerator is used only for batch process vents. §63.2460(c)(4)*	☐ Y	☐ N/A	☐ N

Table 10-2. (continued)

I. Review of Records			
(e) As an alternative to "c" and "d" above when the conditions for alternative recordkeeping in §63.998(b)(5)(i)(A) through (F) or §63.152(g)(1)(i) through (vi) are met, does the facility meet both of the following requirements: *Note: This alternative is not allowed if the thermal incinerator is used only for storage tank emissions. §63.998(b)(5) introductory paragraph.*			
• Document in their notification of compliance status report or a compliance report that they were implementing this alternative?	☐ Y	☐ N/A	☐ N
• Retain only the daily average? *Note: No record of the daily average is required if 6 months have passed without an excursion. §§63.998(d)(5)(ii) and 63.152(g)(2)*	☐ Y	☐ N/A	☐ N
(f) Maintained records of the occurrence and cause of all periods when the monitored temperature is outside the established range? *§63.998(d)(5)* *Note: This requirement does not apply if the thermal incinerator is used only for wastewater emissions (although the occurrence will be documented by virtue of the daily average value being outside the established range).*	☐ Y	☐ N/A	☐ N
4. If the facility received approval to monitor an alternative parameter, are they performing the recordkeeping specified by the Administrator (§63.147(e) for wastewater controls) or approved by the Administrator (§§63.999(d)(1) and (2), 63.8(f), and 63.10(b)(2)(vii) for control devices used for all other emissions)? *Note: If an alternative parameter is monitored continuously, the records described above in item "3" would be required for the alternative parameter. Alternative recordkeeping might be required if the alternative monitoring is not continuous.*	☐ Y	☐ N/A	☐ N
5. For any CPMS, does the facility have records of all of the following: *§§63.998(c)(1)(i) and (ii) and 63.2485(o)*			
(a) The procedure used for calibrating the CPMS?	☐ Y	☐ N/A	☐ N
(b) The date and time of completion of calibration and preventive maintenance of the CPMS?	☐ Y	☐ N/A	☐ N
(c) The "as found" and "as left" CPMS readings, whenever an adjustment is made that affects the CPMS reading and a "no adjustment" statement otherwise?	☐ Y	☐ N/A	☐ N

Table 10-2. (continued)

I. Review of Records			
(d) The start time and duration (or start and stop times) of any periods when the CPMS is inoperative?	☐ Y	☐ N/A	☐ N
(e) The occurrence and duration of each startup, shutdown, and malfunction of the CPMS during which excess emissions occur?	☐ Y	☐ N/A	☐ N
(f) Documentation of whether procedures specified in the source's startup, shutdown, and malfunction plan were followed for each startup, shutdown, and malfunction during which excess emissions occurred?	☐ Y	☐ N/A	☐ N
(g) Documentation of each startup, shutdown, and malfunction event?	☐ Y	☐ N/A	☐ N
(h) Documentation that there were no excess emissions during each startup, shutdown, or malfunction event, as applicable?	☐ Y	☐ N/A	☐ N
(i) The total duration of operating time during the reporting period?	☐ Y	☐ N/A	☐ N
6. Are all required records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N
II. Visual Inspection			
1. Is a temperature monitoring device present in the firebox or in the ductwork immediately downstream from the firebox, or is an approved alternative monitor present and operating? *Note: Section 63.143(e)(2) specifies that an organic monitoring device is also acceptable for a thermal incinerator that is used to control emissions from waste management units and wastewater treatment units.*		☐ Y	☐ N
III. Note All Deficiencies			

Table 10-3. Compliance Checklist for Catalytic Incinerators

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Catalytic Incinerator Identification: _____

I. Review of Records

1. Does the facility maintain either of the following initial compliance records:

   (a) Both of the following records of performance tests:

   - Either the percent reduction or outlet concentration of organic HAP or TOC? *§63.998(a)(2)(ii)(B)(4)* ☐ Y ☐ N/A ☐ N
   - The upstream temperature, downstream temperature, and temperature difference across the catalyst bed, all averaged over the full period of the performance test? *§63.998(a)(2)(ii)(B)(2)* ☐ Y ☐ N/A ☐ N

     Note: The downstream temperature and the temperature difference across the bed do not need to be recorded if the facility complies with the annual catalyst activity check option in §63.2450(k)(4).

   (b) Documentation of the design evaluation in the notification of compliance status report? *§63.2520(d)(2)(ii)* ☐ Y ☐ N/A ☐ N

   Note: A design evaluation may be conducted as an alternative to a performance test if the only emissions controlled by the catalytic incinerator are from wastewater. A design evaluation may also be conducted if the catalytic incinerator is a small control device as defined in §63.2550(i) that is used to comply with a percent reduction emission limit. §§63.2450(h) and 63.139(d)

2. Do records document that the facility meets one of the following monitoring requirements to demonstrate ongoing compliance for the catalytic incinerator: ☐ Y ☐ N

   (a) Temperatures are monitored according to one or both of the following procedures, as applicable:

   - For any gas streams other than wastewater, continuous monitoring of the gas stream temperature immediately before and after the catalyst bed, and determination of the daily average temperature differential across the catalyst bed? *§§63.988(c)(2) and 63.998(c)(2)(ii)*
   - For any wastewater emission streams, continuously monitors either the temperature before the catalyst bed or the temperature differential across the catalyst bed? *§63.143(e)(1) and Table 13 to subpart G*

Table 10-3. (continued)

I. Review of Records			
(b) Continuous monitoring of the temperature of the gas stream immediately before the catalyst bed and catalyst bed activity level checks at least once every 12 months? *§63.2450(k)(4)* *Note: This option is not explicitly allowed for a catalytic incinerator that controls wastewater emissions. Therefore, sources wishing to conduct this monitoring for wastewater emission streams should follow the procedures for requesting approval of alternative monitoring in §§63.143(e)(3) and 63.8(f).*			
(c) Uses an "organic monitoring device" to continuously monitor a parameter that provides an indication of the organic concentration at the outlet of the catalytic incinerator? *§63.143(e)(2)* *Note: This option is explicitly allowed as an alternative only for wastewater emission streams. A source wishing to use this alternative for other emission streams should follow the procedures for requesting approval of alternative monitoring as specified in §§63.143(e)(3) and 63.8(f).*			
(d) Has documentation that they requested and received approval to conduct an alternative to continuous monitoring or to monitor an alternative parameter(s)? *§§63.996(d) and 63.143(e)(3)* *Note: If the alternative parameter is the emissions concentration as measured using a CEMS, also use the checklist in Table 11-1.*			
3. For each continuously monitored parameter, has the facility:			
(a) Established a site-specific operating range? *§§63.996(c)(6) and 63.143(f)* *Note: An operating range is also required for the temperature difference across the catalyst bed if complying with §63.988(c)(2)*	☐ Y	☐ N/A	☐ N
(b) Maintained records of monitoring data in one of the following formats: *§§63.998(b)(1), 63.147(d), and 63.152(f)(2) and (3)* • All measured values, or • All block average values for 15-minute or shorter periods calculated from all measured data values during each period (or from at least one measured data value per minute if measured more frequently than once per minute), or	☐ Y	☐ N/A	☐ N

Table 10-3. (continued)

I. Review of Records			
• All continuous records for only the most recent 3 valid hours of records (under §63.998(b)(1)(iii)) or for the current operating day (under §63.152(f)(3)(i)), and block hourly average values for earlier data? *Note: To use the third option, the data must be collected from an automated CPMS, and the hourly averages must include periods of CPMS breakdown and malfunction (§63.998(b)(1)(iii)) or the daily average must be within the established range (§63.152(f)(3) and (4)).*			
(c) Maintained records of either daily average values or a statement that all values were within the established operating range? *§§63.998(b)(3), 63.147(d), and 63.152(f)(6)* *Note: If the daily average value is not calculated and recorded, then continuous or short-term block averages may not be discarded as otherwise allowed by the third option in item "c" above. §§63.998(b)(3)(ii) and 63.152(f)(6)* *Note: Averages may be over an operating block if the catalytic incinerator is used only for batch process vents. §63.2460(c)(4)*	☐ Y	☐ N/A	☐ N
(d) As an alternative to "c" and "d" above when the conditions for alternative recordkeeping in §63.998(b)(5)(i)(A) through (F) or §63.152(g)(1)(i) through (vi) are met, does the facility meet both of the following requirements: *Note: This alternative is not allowed if the catalytic incinerator is used only for storage tank emissions. §63.998(b)(5) introductory paragraph*			
• Document in their notification of compliance status report or a compliance report that they were implementing this alternative?	☐ Y	☐ N/A	☐ N
• Retain only the daily average? *Note: No record of the daily average is required if 6 months have passed without an excursion. §§63.998(d)(5)(ii) and 63.152(g)(2)*	☐ Y	☐ N/A	☐ N
4. If the facility monitors the inlet and outlet temperatures as specified in §63.988(c)(2), do they maintain records of the daily average temperature differential? *§§63.996(c)(6) and 63.998(c)(2)(ii)*	☐ Y	☐ N/A	☐ N
5. If the facility monitors the inlet temperature and conducts annual checks of the activity level of the catalyst as specified in §63.2450(k)(4), do they maintain records of the annual activity level checks and the subsequent corrective actions? *§63.2450(k)(4)(ii)*	☐ Y	☐ N/A	☐ N

Table 10-3. (continued)

I. Review of Records

6. If the facility received approval to monitor an alternative parameter, are they performing the recordkeeping specified by the Administrator (§63.147(e) for wastewater controls) or approved by the Administrator (§§63.999(d)(1) and (2), 63.8(f), and 63.10(b)(2)(vii) for control devices used for all other emissions)? *Note: If an alternative parameter is monitored continuously, the records described above in item "3" would be required for the alternative parameter. Alternative recordkeeping might be required if the alternative monitoring is not continuous.*	☐ Y	☐ N/A	☐ N
7. Do records document the occurrence and cause of all periods when the daily averages of the continuously monitored parameters are outside their established ranges? *§§63.998(c)(2)(iii) and 63.998(d)(5)* *Note: This requirement also applies to the temperature differential across the catalyst bed, if the facility monitors both the inlet and outlet temperatures.* *Note: This requirement does not apply if the catalytic incinerator is used only for wastewater emissions (although the occurrence will be documented because operation outside the established range is a deviation, which must be included in the compliance report).*	☐ Y	☐ N/A	☐ N
8. For each CPMS, does the facility have manufacturer's or other written specifications or recommendations for installation, operation, and calibration of the monitoring equipment? *§§63.996(c)(1) and (3) and 63.143(g)*	☐ Y	☐ N/A	☐ N
9. For each CPMS, does the facility have records of all of the following: *§§63.998(c)(1)(i) and (ii) and 63.2485(o)*			
(a) The procedure used for calibrating the CPMS?	☐ Y	☐ N/A	☐ N
(b) The date and time of completion of calibration and preventive maintenance of the CPMS?	☐ Y	☐ N/A	☐ N
(c) The "as found" and "as left" CPMS readings, whenever an adjustment is made that affects the CPMS reading and a "no adjustment" statement otherwise?	☐ Y	☐ N/A	☐ N
(d) The start time and duration (or start and stop times) of any periods when the CPMS is inoperative?	☐ Y	☐ N/A	☐ N
(e) The occurrence and duration of each startup, shutdown, and malfunction of the CPMS during which excess emissions occur?	☐ Y	☐ N/A	☐ N
(f) Documentation of whether procedures specified in the source's startup, shutdown, and malfunction plan were followed for each startup, shutdown, and malfunction during which excess emissions occurred?	☐ Y	☐ N/A	☐ N
(g) Documentation of each startup, shutdown, and malfunction event?	☐ Y	☐ N/A	☐ N

Table 10-3. (continued)

I. Review of Records			
(h) Documentation that there were no excess emissions during each startup, shutdown, or malfunction event, as applicable?	☐ Y	☐ N/A	☐ N
(i) The total duration of operating time during the reporting period?	☐ Y	☐ N/A	☐ N
10. Are all required records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N
II. Visual Inspection			
1. Are any one of the following monitoring devices present and operating:			
(a) Temperature monitoring devices before and after the catalyst bed (if complying with §63.988(c)(2) or §63.143(e)(1))?	☐ Y	☐ N/A	☐ N
(b) A temperature monitoring device before the catalyst bed (if complying with §63.2450(k)(4))?	☐ Y	☐ N/A	☐ N
(c) An organic monitoring device at the outlet of the catalytic incinerator (if complying with §63.143(e)(2))?	☐ Y	☐ N/A	☐ N
(d) Any other approved monitoring device (if complying with §63.996(d) or §63.143(e)(3))?	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

Table 10-4. Compliance Checklist for a Boiler or Process Heater with a Design Heat Input Capacity Less than 44 Megawatts and the Vent Stream Is Not Introduced with the Primary Fuel

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Boiler or Process Heater Identification: _____

I. Review of Records

1. Does the facility maintain either of the following initial compliance records:

   (a) All of the following records of performance tests:

   - A description of the location at which the vent stream is introduced into the boiler or process heater? *§63.998(a)(2)(ii)(B)(5)* ☐ Y ☐ N/A ☐ N
   - Either the percent reduction or outlet concentration of organic HAP or TOC? *§63.998(a)(2)(ii)(B)(6)* ☐ Y ☐ N/A ☐ N
   - The firebox temperature averaged over the full period of the performance test? *§63.998(a)(2)(ii)(B)(3)* ☐ Y ☐ N/A ☐ N

   (b) Documentation of the design evaluation in the notification of compliance status report? *§63.2520(d)(2)(ii)* ☐ Y ☐ N/A ☐ N

   Note: A design evaluation may be conducted as an alternative to a performance test if the only emissions controlled by the boiler or process heater are from wastewater. A design evaluation also may be conducted if the boiler or process heater is a small control device that is used to comply with a percent reduction emission limit. §§63.2450(h) and 63.139(d)

2. If the location at which a wastewater vent stream is introduced to the boiler or process heater changes, does the facility maintain records of the change? *§63.147(c)* ☐ Y ☐ N/A ☐ N

   Note: This requirement applies only if the boiler or process heater is used to control wastewater emissions.

Table 10-4. (continued)

I. Review of Records

3. Do records document that the facility continuously monitors the temperature of the gas stream in the firebox, or does the facility have documentation that they requested and received approval to conduct an alternative to continuous monitoring or to monitor an alternative parameter(s)? *§§63.988(c)(1), 63.996(d), 63.143(e)(1) and (3), and Table 13 to subpart G* ☐ Y ☐ N

   Note: Section 63.143(e)(2) specifies that an organic monitoring device may be used as an alternative to temperature monitoring. Although the rule explicitly provides this approach as an alternative only for wastewater control devices, sources wishing to use this as an alternative for other emission streams should follow the procedures for requesting approval of alternative monitoring as specified in §63.8(f) of the General Provisions.

   Note: If the alternative parameter is the emissions concentration as measured using a CEMS, also use the checklist in Table 11-1.

4. For each continuously monitored parameter, has the facility:

   (a) Established a site-specific operating range for the monitored parameter? *§§63.996(c)(6) and 63.143(f)* ☐ Y ☐ N ☐ N/A

   (b) Followed manufacturer's or other written specifications or recommendations for installation, operation, and calibration of the monitoring equipment? *§§63.996(c)(1) and (3) and 63.143(g)* ☐ Y ☐ N ☐ N/A

   (c) Maintained records of continuously monitored values in one of the following formats: *§§63.998(b)(1), 63.147(d), and 63.152(f)(2) and (3)* ☐ Y ☐ N ☐ N/A

   - all measured values, or
   - all block average values for 15-minute or shorter periods calculated from all measured data values during each period (or from at least one measured data value per minute if measured more frequently than once per minute), or
   - all continuous records for only the most recent 3 valid hours of records (under §63.998(b)(1)(iii)) or for the current operating day (under §63.152(f)(3)(i)), and block hourly average values for earlier data?

   Note: To use the third option, the data must be collected from an automated CPMS, and the hourly averages must include periods of CPMS breakdown and malfunction (§63.998(b)(1)(iii)) or the daily average must be within the established range (§63.152(f)(3) and (4)).

Table 10-4. (continued)

I. Review of Records			
(d) Maintained records of either daily average values or a statement that all values were within the established operating range? *§§63.998(b)(3), 63.147(d), and 63.152(f)(6)* *Note: If the daily average value is not calculated and recorded, then continuous or short-term block averages may not be discarded as otherwise allowed by the third option in item "c" above. §§63.998(b)(3)(ii) and 63.152(f)(6)* *Note: Averages may be over an operating block if the boiler or process heater is used only for batch process vents. §63.2460(c)(4)*	☐ Y	☐ N	☐ N/A
(e) As an alternative to "c" and "d" above when the conditions for alternative recordkeeping in §63.998(b)(5)(i)(A) through (F) or §63.152(g)(1)(i) through (vi) are met, does the facility meet both of the following requirements: *Note: This alternative is not allowed if the boiler or process heater is used only for storage tank emissions. §63.998(b)(5) introductory paragraph*			
• Document in their notification of compliance status report or a compliance report that they were implementing this alternative?	☐ Y	☐ N/A	☐ N
• Retain only the daily average? *Note: No record of the daily average is required if 6 months have passed without an excursion. §§63.998(d)(5)(ii) and 63.152(g)(2)*	☐ Y	☐ N/A	☐ N
(f) Maintained records of the occurrence and cause of all periods when the monitored temperature is outside the established range? *§§63.998(c)(2)(iii) and 63.998(d)(5)* *Note: This requirement does not apply if the process heater or boiler is used only for wastewater emissions (although the occurrence will be documented by virtue of the daily average value being outside the established range).*	☐ Y	☐ N	☐ N/A
5. If the facility received approval to monitor an alternative parameter, are they performing the recordkeeping specified by the Administrator (§63.147(e) for wastewater controls) or approved by the Administrator (§§63.999(d)(1) and (2), 63.8(f), and 63.10(b)(2)(vii) for control devices used for all other emissions)? *Note: If an alternative parameter is monitored continuously, the records described above in item "3" would be required for the alternative parameter. Alternative recordkeeping might be required if the alternative monitoring is not continuous.*	☐ Y	☐ N	☐ N/A

Table 10-4. (continued)

I. Review of Records

6. For any CPMS, does the facility have records of all of the following: *§§63.998(c)(1)(i) and (ii) and 63.2485(o)*
   - (a) The procedure used for calibrating the CPMS? ☐ Y ☐ N ☐ N/A
   - (b) The date and time of completion of calibration and preventive maintenance of the CPMS? ☐ Y ☐ N ☐ N/A
   - (c) The "as found" and "as left" CPMS readings, whenever an adjustment is made that affects the CPMS reading and a "no adjustment" statement otherwise? ☐ Y ☐ N ☐ N/A
   - (d) The start time and duration (or start and stop times) of any periods when the CPMS is inoperative? ☐ Y ☐ N ☐ N/A
   - (e) The occurrence and duration of each startup, shutdown, and malfunction of the CPMS during which excess emissions occur? ☐ Y ☐ N ☐ N/A
   - (f) Documentation of whether procedures specified in the source's startup, shutdown, and malfunction plan were followed for each startup, shutdown, and malfunction during which excess emissions occurred? ☐ Y ☐ N ☐ N/A
   - (g) Documentation of each startup, shutdown, and malfunction event? ☐ Y ☐ N ☐ N/A
   - (h) Documentation that there were no excess emissions during each startup, shutdown, or malfunction event, as applicable? ☐ Y ☐ N ☐ N/A
   - (i) The total duration of operating time during the reporting period? ☐ Y ☐ N ☐ N/A
7. Are all required records kept for at least 5 years? *§63.10(b)(1)* ☐ Y ☐ N

II. Visual Inspection

1. Is a temperature monitoring device present in the firebox, or is an approved alternative monitor present and operating? ☐ Y ☐ N

   Note: Section 63.143(e)(2) specifies that an organic monitoring device is also acceptable for a thermal incinerator that is used to control emissions from waste management units and wastewater treatment units.

III. Note All Deficiencies

Table 10-5. Compliance Checklist for a Boiler or Process Heater with a Design Heat Input Capacity Greater than 44 Megawatts or the Emission Stream Is Introduced with the Primary Fuel

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Boiler or Process Heater Identification: _____

I. Review of Records

1. Do records describe the location at which the vent stream is introduced into the boiler or process heater? *§63.998(a)(2)(ii)(B)(5)* *Note: This requirement does not apply to boilers and process heaters used only for wastewater emissions (except as part of a design evaluation as specified in §63.139(d)(2)(iii)).*	☐ Y	☐ N/A	☐ N
2. If the location at which a wastewater vent stream is introduced to the boiler or process heater changes, does the facility maintain records of the change? *§63.147(c)* *Note: This requirement applies only if the boiler or process heater is used to control wastewater emissions.*	☐ Y	☐ N/A	☐ N

II. Note All Deficiencies

Table 10-6. Compliance Checklist for a Regenerative Carbon Adsorber Used as a Control Device or Recovery Device

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Note: This checklist does not apply if the carbon adsorber is used only to maintain a TRE above 5.0 for continuous process vents at an existing source (8.0 at a new source).

Carbon Adsorber Identification: _____

I. Review of Records

1. If the carbon adsorber is used as a recovery device for batch process vents or as a control device for any emission streams, does the facility maintain the initial compliance records in (a) or (b):

   (a) Both of the following records of performance tests:

   - Either the percent reduction or outlet concentration of organic HAP or TOC? *§63.998(a)(2)(ii)(C)(5)* ☐ Y ☐N/A ☐ N
   - Either the concentration of organic HAP or TOC at the outlet of the carbon adsorber averaged over the full period of the performance test, or all of the following during the period of each performance test: (1) the total regeneration stream mass or volumetric flow during each regeneration, (2) the temperature of the carbon bed after each regeneration, and (3) the temperature of the carbon bed within 15 minutes after the completion of each cooling cycle? *§63.998(a)(2)(ii)(C)(3) and (4)* ☐ Y ☐N/A ☐ N

   (b) Documentation of the design evaluation in the notification of compliance status report? *§63.2520(d)(2)(ii)* ☐ Y ☐N/A ☐ N

   Note: A design evaluation may be conducted as an alternative to a performance test if the only emissions controlled by the carbon adsorber are from wastewater. A design evaluation also may be conducted if the carbon adsorber is a small control device that is used to comply with a percent reduction emission limit. §§63.2450(h) and 63.139(d)

2. If the carbon adsorber is used as a recovery device for a continuous process vent, does the facility maintain documentation of all of the following information: *§63.998(a)(3)(iii), (iv), and (v)*

   (a) All measurements and calculations performed to determine the TRE index value? ☐ Y ☐ N/A ☐ N

Table 10-6. (continued)

I. Review of Records

(b) Either of the following:	☐ Y	☐ N/A	☐ N
• The total regeneration stream mass or volumetric flow during the period of the TRE index value determination, the temperature of the carbon bed after each regeneration during the period of the TRE index value determination, and the temperature of the carbon bed within 15 minutes of completion of any cooling cycle(s), or			
• The concentration of organic compounds at the exit of the carbon adsorber averaged over the same time period as the TRE index value determination?			
3. Do records document that the facility meets one of the following monitoring requirements for the carbon adsorber:		☐ Y	☐ N
(a) Monitors the total regeneration stream mass or volumetric flow for each regeneration cycle, the temperature of the carbon bed after each regeneration, and the temperature of the carbon bed within 15 minutes after the completion of the regeneration cooling cycle? *§§63.990(c)(3), 63.993(c)(3), 63.143(e)(1), and Table 13 to subpart G*			
(b) Uses an "organic monitoring device" to continuously monitor a parameter that provides an indication of the organic concentration at the outlet of the carbon adsorber (e.g., millivolts generated by the concentration sensor)? *§§63.990(c) introductory paragraph, 63.993(c)(3), and 63.143(e)(2)*			
(c) Has documentation that they requested and received approval to conduct an alternative to continuous monitoring or to monitor an alternative parameter(s)? *§§63.996(d) and 63.143(e)(3)* *Note: If the alternative parameter is the emissions concentration as measured using a CEMS, also use the checklist in Table 11-1.*			
4. For the monitored parameters, has the facility:			
(a) Established a site-specific operating range for each monitored parameter? *§§63.996(c)(6) and 63.143(f)*	☐ Y	☐ N/A	☐ N
(b) Followed manufacturer's or other written specifications or recommendations for installation, operation, and calibration of the monitoring equipment? *§§63.996(c)(1) and (3) and 63.143(g)*	☐ Y	☐ N/A	☐ N
(c) Maintained records of the following monitored parameters for each regeneration cycle, if complying with monitoring identified in item 3(a) of this checklist: *§§63.998(c)(3)(ii) and 63.147(d)(2)*			
• Total regeneration stream mass or volumetric flow?	☐ Y	☐ N/A	☐ N
• Temperature of the carbon bed after each regeneration?	☐ Y	☐ N/A	☐ N
• Temperature of the carbon bed within 15 minutes of completing any cooling cycle?	☐ Y	☐ N/A	☐ N

Table 10-6. (continued)

I. Review of Records			
(d) Maintained records of the periods of operation when a monitored parameter was outside its established range and the cause of these deviations? *§§63.998(c)(3)(iii) and 63.998(d)(5)* *Note: The rule does not explicitly specify this recordkeeping requirement if the carbon adsorber is used only for wastewater emissions. However, the date and time of each deviation, and a general summary of causes of deviations, must be included in the compliance reports. §63.2520(e)(5)(iii)(C) and (E).*	☐ Y	☐ N/A	☐ N
5. If the facility received approval to monitor an alternative parameter, are they performing the recordkeeping specified by the Administrator (§63.147(e) for wastewater controls) or approved by the Administrator (§§63.999(d)(1) and (2), 63.8(f), and 63.10(b)(2)(vii) for control devices used for all other emissions)?	☐ Y	☐ N/A	☐ N
6. For any CPMS, does the facility have records of all of the following: *§§63.998(c)(1)(i) and (ii) and 63.2485(o)*			
(a) The procedure used for calibrating the CPMS?	☐ Y	☐ N/A	☐ N
(b) The date and time of completion of calibration and preventive maintenance of the CPMS?	☐ Y	☐ N/A	☐ N
(c) The “as found” and “as left” CPMS readings, whenever an adjustment is made that affects the CPMS reading and a “no adjustment” statement otherwise?	☐ Y	☐ N/A	☐ N
(d) The start time and duration (or start and stop times) of any periods when the CPMS is inoperative?	☐ Y	☐ N/A	☐ N
(e) The occurrence and duration of each startup, shutdown, and malfunction of the CPMS during which excess emissions occur?	☐ Y	☐ N/A	☐ N
(f) Documentation of whether procedures specified in the source’s startup, shutdown, and malfunction plan were followed for each startup, shutdown, and malfunction during which excess emissions occurred?	☐ Y	☐ N/A	☐ N
(g) Documentation of each startup, shutdown, and malfunction event?	☐ Y	☐ N/A	☐ N
(h) Documentation that there were no excess emissions during each startup, shutdown, or malfunction event, as applicable?	☐ Y	☐ N/A	☐ N
(i) The total duration of operating time during the reporting period?	☐ Y	☐ N/A	☐ N
7. Are all required records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

Table 10-6. (continued)

II. Visual Inspection

1. Are any one of the following monitoring devices present and operating:

(a)	Temperature monitoring device in the carbon bed and a regeneration stream mass or volumetric flow monitoring device (if complying with §63.990(c)(3) or §63.143(e)(1))?	☐ Y	☐ N/A	☐ N
(b)	An organic monitoring device at the outlet of the carbon adsorber (if complying with §§63.990(c) introductory paragraph, 63.993(c)(3), or 63.143(e)(2))?	☐ Y	☐ N/A	☐ N
(c)	Any other approved monitoring device (if complying with §63.996(d) or §63.143(e)(3))?	☐ Y	☐ N/A	☐ N
(d)	If flow can be intermittent, a flow indicator at the inlet or outlet of the device?	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

Table 10-7. Compliance Checklist for an Absorber Used as a Control Device or Recovery Device and the Scrubbing Fluid Is Anything Other than Water

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Note: This checklist does not apply if the absorber is used only to maintain a TRE above 5.0 for continuous process vents at an existing source (8.0 at a new source).

Note: Use the checklist in Table 10-10 if the absorber is used to remove organic compounds and the scrubbing fluid is water.

Absorber Identification: _____

I. Review of Records			
1. If the absorber is used as a recovery device for batch process vents or as a control device for any emission streams, does the facility maintain the initial compliance records in (a) or (b):			
(a) The following records of performance tests:			
• Either the percent reduction or outlet concentration of organic HAP or TOC? *§63.998(a)(2)(ii)(C)(5)*	☐ Y	☐N/A	☐ N
• Either the concentration of organic HAP or TOC at the outlet of the absorber averaged over the full period of the performance test, or both the temperature and specific gravity of the exiting scrubber liquid averaged over the full period of the performance test? *§63.998(a)(2)(ii)(C)(1) and (4)*	☐ Y	☐N/A	☐ N
(b) Documentation of the design evaluation in the notification of compliance status report? *§63.2520(d)(2)(ii)* *Note: A design evaluation may be conducted as an alternative to a performance test if the only emissions controlled by the absorber are from wastewater. A design evaluation also may be conducted if the absorber is a small control device that is used to comply with a percent reduction emission limit. §§63.2450(h) and 63.139(d)*	☐ Y	☐N/A	☐ N
2. If the absorber is used as a recovery device for a continuous process vent, does the facility maintain documentation of all of the following information: *§63.998(a)(3)(i), (iv), and (v)*			
(a) All measurements and calculations performed to determine the TRE index value?	☐ Y	☐ N/A	☐N
(b) Either of the following:	☐ Y	☐ N/A	☐N
• Both the exit temperature and specific gravity of the absorbing liquid averaged over the same time period as the TRE index value determination, or			
• The organic compound concentration at the exit of the absorber averaged over the same time period as the TRE index value determination?			

Table 10-7. (continued)

I. Review of Records

3. Do records document that the facility meets one of the following monitoring requirements for the absorber: ☐ Y ☐ N

   (a) Continuously monitors the temperature and specific gravity of the scrubbing liquid exiting the absorber? *§§63.990(c)(1) and 63.993(c)(1)*

   Note: Subpart G does not specify requirements for absorbers used to control wastewater emissions. Also, for any other emission streams, if the difference between the specific gravity of the saturated scrubbing fluid and the fresh scrubbing fluid is less than 0.02 specific gravity units, then this option may not be used.

   (b) Uses an "organic monitoring device" to continuously monitor a parameter that provides an indication of the organic concentration at the outlet of the absorber? *§§63.990(c)(1), 63.993(c)(1), and 63.143(e)(2)*

   (c) Has documentation that they requested and received approval to conduct an alternative to continuous monitoring or to monitor an alternative parameter(s)? *§§63.996(d) and 63.143(e)(3)*

   Note: If the alternative parameter is the emissions concentration as measured using a CEMS, also use the checklist in Table 11-1.

4. For each continuously monitored parameter, has the facility:

   (a) Established a site-specific operating range for the parameter? *§§63.996(c)(6) and 63.143(f)* ☐ Y ☐ N/A ☐ N

   (b) Followed manufacturer's or other written specifications or recommendations for installation, operation, and calibration of the monitoring equipment? *§§63.996(c)(1) and (3) and 63.143(g)* ☐ Y ☐ N/A ☐ N

   (c) Maintained records of the monitoring data in one of the following formats: *§§63.998(b)(1), 63.147(d), and 63.152(f)(2) and (3)* ☐ Y ☐ N/A ☐ N

   - All measured values, or
   - All block average values for 15-minute or shorter periods calculated from all measured data values during each period (or from at least one measured data value per minute if measured more frequently than once per minute), or

Table 10-7. (continued)

I. Review of Records			
• All continuous records for only the most recent 3 valid hours of records (under §63.998(b)(1)(iii)) or for the current operating day (under §63.152(f)(3)(i)), and block hourly average values for earlier data? *Note: To use the third option, the data must be collected from an automated CPMS, and the hourly averages must include periods of CPMS breakdown and malfunction (§63.998(b)(1)(iii)) or the daily average must be within the established range (§63.152(f)(3) and (4)).*			
(d) Maintained records of either daily average values or a statement that all values were within the established operating range? *§§63.998(b)(3), 63.147(d), and 63.152(f)(6)* *Note: If the daily average value is not calculated and recorded, then continuous or short-term block averages may not be discarded as otherwise allowed by the third option in item "c" above. §§63.998(b)(3)(ii) and 63.152(f)(6)* *Note: Averages may be over an operating block if the absorber is used only for batch process vents. §63.2460(c)(4)*	☐ Y	☐ N/A	☐ N
(e) As an alternative to "c" and "d" above when the conditions for alternative recordkeeping in §63.998(b)(5)(i)(A) through (F) or §63.152(g)(1)(i) through (vi) are met, does the facility meet both of the following requirements: *Note: This alternative is not allowed if the absorber is used only for storage tank emissions. §63.998(b)(5) introductory paragraph*			
• Document in their notification of compliance status report or a compliance report that they were implementing this alternative?	☐ Y	☐ N/A	☐ N
• Retain only the daily average? *Note: No record of the daily average is required if 6 months have passed without an excursion. §§63.998(d)(5)(ii) and 63.152(g)(2)*	☐ Y	☐ N/A	☐ N
(f) Maintained records of both the periods of operation when the daily average of any continuously monitored parameter was outside its established range and the cause of these deviations? *§§63.998(c)(3)(iii) and 63.998(d)(5)* *Note: The rule does not explicitly specify this recordkeeping requirement if the absorber is used only for wastewater emissions. However, the date and time of each deviation, the daily average, and a general summary of the causes of deviations must be included in the compliance reports. §63.2520(e)(5)(iii)(C), (E), and (L)*	☐ Y	☐ N/A	☐ N

Table 10-7. (continued)

I. Review of Records			
5. If the facility received approval to monitor an alternative parameter, are they performing the recordkeeping specified by the Administrator (§63.147(e) for wastewater controls) or approved by the Administrator (§§63.999(d)(1) and (2), 63.8(f), and 63.10(b)(2)(vii) for control devices used for all other emissions)?	☐ Y	☐ N/A	☐ N
6. For any CPMS, does the facility have records of all of the following: *§§63.998(c)(1)(i) and (ii) and 63.2485(o)*			
(a) The procedure used for calibrating the CPMS?	☐ Y	☐ N/A	☐ N
(b) The date and time of completion of calibration and preventive maintenance of the CPMS?	☐ Y	☐ N/A	☐ N
(c) The "as found" and "as left" CPMS readings, whenever an adjustment is made that affects the CPMS reading and a "no adjustment" statement otherwise?	☐ Y	☐ N/A	☐ N
(d) The start time and duration (or start and stop times) of any periods when the CPMS is inoperative?	☐ Y	☐ N/A	☐ N
(e) The occurrence and duration of each startup, shutdown, and malfunction of the CPMS during which excess emissions occur?	☐ Y	☐ N/A	☐ N
(f) Documentation of whether procedures specified in the source's startup, shutdown, and malfunction plan were followed for each startup, shutdown, and malfunction during which excess emissions occurred?	☐ Y	☐ N/A	☐ N
(g) Documentation of each startup, shutdown, and malfunction event?	☐ Y	☐ N/A	☐ N
(h) Documentation that there were no excess emissions during each startup, shutdown, or malfunction event, as applicable?	☐ Y	☐ N/A	☐ N
(i) The total duration of operating time during the reporting period?	☐ Y	☐ N/A	☐ N
7. Are all required records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N
II. Visual Inspection			
1. Are any one of the following monitoring devices present and operating:			
(a) Temperature and specific gravity monitoring devices in the scrubbing fluid exit line (if complying with §63.990(c)(1) or §63.143(e)(1))?	☐ Y	☐ N/A	☐ N
(b) An organic monitoring device at the outlet of the absorber (if complying with §§63.990(c)(1), 63.993(c)(1), or 63.143(e)(2))?	☐ Y	☐ N/A	☐ N
(c) Any other approved monitoring device (if complying with §63.996(d) or §63.143(e)(3))?	☐ Y	☐ N/A	☐ N
(d) If flow can be intermittent, a flow indicator at the inlet or outlet of the device?	☐ Y	☐ N/A	☐ N

Table 10-7. (continued)

III. Note All Deficiencies

Table 10-8. Compliance Checklist for a Condenser Used as a Control Device or Recovery Device

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Note: This checklist does not apply if the condenser is used only to maintain a TRE above 5.0 for continuous process vents at an existing source (8.0 at a new source). This checklist also does not apply if the condenser is only a process condenser for batch process vents.

Condenser Identification: _____

I. Review of Records

1. If the condenser is used as a recovery device for batch process vents or as a control device for any emission streams, does the facility maintain the initial compliance records in (a), (b), or (c):

   (a) The following records of performance tests:

   - Either the percent reduction or outlet concentration of organic HAP or TOC? *§63.998(a)(2)(ii)(C)(5)* ☐ Y ☐N/A ☐ N
   - Either the concentration of organic HAP or TOC at the outlet of the condenser averaged over the full period of the performance test, or the exit (product side) temperature averaged over the full period of the performance test? *§63.998(a)(2)(ii)(C)(2) and (4)* ☐ Y ☐N/A ☐ N

   (b) Documentation of the design evaluation in the notification of compliance status report? *§63.2520(d)(2)(ii)* ☐ Y ☐N/A ☐ N

   Note: A design evaluation may be conducted as an alternative to a performance test if the only emissions controlled by the condenser are from wastewater. A design evaluation also may be conducted if the condenser is a small control device that is used to comply with a percent reduction emission limit. §§63.2450(h) and 63.139(d)

   (c) Calculations of the controlled emissions and corresponding percent reduction in the notification of compliance status report? *§63.2520(d)(2)(ii)* ☐ Y ☐ N/A ☐ N

   Note: This option applies only if the emissions routed to the condenser are from batch process vents. §63.2460(c)(2)(iii)

Table 10-8. (continued)

I. Review of Records			
2. If the condenser is used as a recovery device for a continuous process vent, does the facility maintain documentation of all of the following information: *§63.998(a)(3)(ii), (iv), and (v)*			
(a) Measurements and calculations performed to determine the TRE index value?	☐ Y	☐ N/A	☐ N
(b) Either the exit (product side) temperature or outlet concentration of organic compounds averaged over the same time period as the TRE index value determination?	☐ Y	☐ N/A	☐ N
3. Do records document that the facility meets one of the following monitoring requirements for the condenser:		☐ Y	☐ N
(a) Continuously monitors the product side exit temperature of the condenser, or *§§63.990(c)(2) and 63.993(c)(2)*			
(b) Uses an "organic monitoring device" to continuously monitor a parameter that provides an indication of the organic concentration at the outlet of the condenser, or *§§63.990(c)(2), 63.993(c)(2), and 63.143(e)(2)*			
(c) Has documentation that they requested and received approval to conduct an alternative to continuous monitoring or to monitor an alternative parameter(s)? *§§63.996(d) and 63.143(e)(3)* *Note: If the alternative parameter is the emissions concentration as measured using CEMS, also use the checklist in Table 11-1.*			
4. For each continuously monitored parameter, has the facility:			
(a) Established a site-specific operating range for the parameter? *§§63.996(c)(6) and 63.143(f)*	☐ Y	☐ N/A	☐ N
(b) Followed manufacturer's or other written specifications or recommendations for installation, operation, and calibration of the monitoring equipment? *§§63.996(c)(1) and (3) and 63.143(g)*	☐ Y	☐ N/A	☐ N
(c) Maintained records of the monitoring data in one of the following formats: *§§63.998(b)(1), 63.147(d), and 63.152(f)(2) and (3)* • All measured values, or • All block average values for 15-minute or shorter periods calculated from all measured data values during each period (or from at least one measured data value per minute if measured more frequently than once per minute), or	☐ Y	☐ N/A	☐ N

Table 10-8. (continued)

I. Review of Records			
• All continuous records for only the most recent 3 valid hours of records (under §63.998(b)(1)(iii)) or for the current operating day (under §63.152(f)(3)(i)), and block hourly average values for earlier data? *Note: To use the third option, the data must be collected from an automated CPMS, and the hourly averages must include periods of CPMS breakdown and malfunction (§63.998(b)(1)(iii)) or the daily average must be within the established range (§63.152(f)(3) and (4)).*			
(d) Maintained records of either daily average values or a statement that all values were within the established operating range? *§§63.998(b)(3), 63.147(d), and 63.152(f)(6)* *Note: If the daily average value is not calculated and recorded, then continuous or short-term block averages may not be discarded as otherwise allowed by the third option in item "c" above. §§63.998(b)(3)(ii) and 63.152(f)(6)* *Note: Averages may be over an operating block if the condenser is used only for batch process vents. §63.2460(c)(4)*	☐ Y	☐ N/A	☐ N
(e) As an alternative to "c" and "d" above when the conditions for alternative recordkeeping in §63.998(b)(5)(i)(A) through (F) or §63.152(g)(1)(i) through (vi) are met, does the facility meet both of the following requirements: *Note: This alternative is not allowed if the condenser is used only for storage tank emissions. §63.998(b)(5) introductory paragraph*			
• Document in their notification of compliance status report or a compliance report that they were implementing this alternative?	☐ Y	☐ N/A	☐ N
• Retain only the daily average? *Note: No record of the daily average is required if 6 months have passed without an excursion, as long as the daily average continues to be within established ranges. The facility must document in its notification of compliance status report that it is electing not to retain this record. §§63.998(d)(5)(ii) and 63.152(g)(2)*	☐ Y	☐ N/A	☐ N

Table 10-8. (continued)

I. Review of Records			
(f) Maintained records of both the periods of operation when the daily average of any continuously monitored parameter was outside its established range and the cause of these deviations? *§§63.998(c)(3)(iii) and 63.998(d)(5)* *Note: The rule does not explicitly specify this recordkeeping requirement if the condenser is used only for wastewater emissions. However, the date and time, daily averages, and a general summary of causes of deviations must be included in the compliance reports. §63.2520(e)(5)(iii)(C), (E), and (L)*	☐ Y	☐ N/A	☐ N
5. If the facility received approval to monitor an alternative parameter, are they performing the recordkeeping specified by the Administrator (§63.147(e) for wastewater controls) or approved by the Administrator (§§63.999(d)(1) and (2), 63.8(f), and 63.10(b)(2)(vii) for control devices used for all other emissions)?	☐ Y	☐ N/A	☐ N
6. For any CPMS, does the facility have records of all of the following: *§§63.998(c)(1)(i) and (ii) and 63.2485(o)*			
(a) The procedure used for calibrating the CPMS?	☐ Y	☐ N/A	☐ N
(b) The date and time of completion of calibration and preventive maintenance of the CPMS?	☐ Y	☐ N/A	☐ N
(c) The “as found” and “as left” CPMS readings, whenever an adjustment is made that affects the CPMS reading and a “no adjustment” statement otherwise?	☐ Y	☐ N/A	☐ N
(d) The start time and duration (or start and stop times) of any periods when the CPMS is inoperative?	☐ Y	☐ N/A	☐ N
(e) The occurrence and duration of each startup, shutdown, and malfunction of the CPMS during which excess emissions occur?	☐ Y	☐ N/A	☐ N
(f) Documentation of whether procedures specified in the source’s startup, shutdown, and malfunction plan were followed for each startup, shutdown, and malfunction during which excess emissions occurred?	☐ Y	☐ N/A	☐ N
(g) Documentation of each startup, shutdown, and malfunction event?	☐ Y	☐ N/A	☐ N
(h) Documentation that there were no excess emissions during each startup, shutdown, or malfunction event, as applicable?	☐ Y	☐ N/A	☐ N
(i) The total duration of operating time during the reporting period?	☐ Y	☐ N/A	☐ N
7. Are all required records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

Table 10-8. (continued)

II. Visual Inspection			
1. Are any one of the following monitoring devices present and operating:			
(a) A temperature monitoring device at the product side exit of the condenser (if complying with §63.990(c)(2) or §63.143(e)(1)?	☐ Y	☐ N/A	☐ N
(b) An organic monitoring device at the outlet of the condenser (if complying with §63.990(c)(2), §63.993(c)(2), or §63.143(e)(2))?	☐ Y	☐ N/A	☐ N
(c) Any other approved monitoring device (if complying with §63.996(d) or §63.143(e)(3))?	☐ Y	☐ N/A	☐ N
(d) If flow can be intermittent, a flow indicator at the inlet or outlet of the device?	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

Table 10-9. Compliance Checklist for a Control Device or Recovery Device Not Specifically Listed

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Control Device or Recovery Device Identification: _____

I. Review of Records			
1. If the device is a recovery device for batch process vents or a control device for any emission streams, does the facility maintain either of the following initial compliance records:			
(a) Data collected during a performance test as approved by the Administrator? *§§63.995(b), 63.998(a)(2)(i), 63.143(e)(3), and 63.146(b)(7)(ii)(C)*	☐ Y	☐N/A	☐ N
(b) Documentation of a design evaluation in the notification of compliance status report? *§63.2520(d)(2)(ii)* *Note: A design evaluation may be conducted as an alternative to a performance test if the device is a small control device that is used to comply with a percent reduction emission limit. §§63.2450(h) and 63.2460(c)(2)(ii)*	☐ Y	☐N/A	☐ N
2. If the device is used as a recovery device for a continuous process vent, does the facility keep all of the following records:			
(a) Records as approved by the Administrator? *§63.993(c)(4)*	☐ Y	☐ N/A	☐ N
(b) All measurements and calculations performed to determine the TRE index value? *§63.998(a)(3)(v)*	☐ Y	☐ N/A	☐ N
3. If the facility received approval for any monitoring, are the parameters being monitored and recorded as approved by the Administrator? *§§63.147(e), 63.995(c), 63.999(d)(2), 63.8(f), and 63.10(b)(2)(vii)*	☐ Y	☐ N/A	☐ N
4. Are all required records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

II. Visual Inspection			
1. Are all approved monitoring devices present and operating?	☐ Y	☐ N/A	☐ N

Table 10-9. (continued)

III. Note All Deficiencies

Table 10-10. Compliance Checklist for a Scrubber Used as a Control Device or an Absorber that Uses Water as the Scrubbing Fluid

Note: Use this checklist for scrubbers that control halogen atoms in halogenated vent streams prior to a combustion device or control hydrogen halide and halogen emissions from process vents or that are generated by combusting a halogenated vent stream. Also use this checklist for a gas absorber that removes organic compounds and uses water as the scrubbing fluid (these devices are also considered to be "scrubbers" in this checklist). A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Scrubber Identification: _____

I. Review of Records

1. Does the facility maintain the initial compliance records in (a) or (b):

(a) Either of the following records of performance tests:

- If the scrubber is used before a combustion device to reduce the halogen atom mass emission rate, a record of the halogen concentration prior to the combustion device? *§§63.994(b)(2) and 63.998(a)(4)* ☐ Y ☐N/A ☐ N
- If the scrubber is used to control hydrogen halide and halogen emissions from process vents or after a combustion device, all of the following records: *§§63.998(a)(2)(ii)(D) and 63.2450(k)(3)*
  - The resulting percent reduction, mass emission rate, or outlet concentration? ☐ Y ☐N/A ☐ N
  - The pH or caustic strength of the scrubber effluent averaged over the time period of the performance test? ☐ Y ☐N/A ☐ N
  - The scrubber liquid-to-gas ratio averaged over the time period of the performance test? ☐ Y ☐N/A ☐ N

(b) Documentation of the design evaluation in the notification of compliance status report? *§63.2520(d)(2)(ii)* ☐ Y ☐N/A ☐ N

Note: A design evaluation may be conducted as an alternative to a performance test if the scrubber is a small control device that is used to comply with a percent reduction emission limit. A design evaluation also may be conducted for any halogen reduction device prior to a combustion control device. §§63.994(b)(2), 63.2450(f) and (h), and 63.2485(g)

Table 10-10. (continued)

I. Review of Records

2. Do records document that the facility meets one of the following monitoring requirements for the scrubber: ☐ Y ☐ N

   (a) Monitors all of the following parameters:

   - Continuously monitors either the pH or the caustic strength of the scrubber effluent? *§§63.994(c)(1)(i) and 63.2450(k)(3)*

     Note: As an alternative to continuous monitoring, the pH or caustic strength may be measured at least once per day for halogen scrubbers that control only batch process vents.

   - Continuously monitors the flow of the scrubber liquid influent? *§63.994(c)(1)(ii)*

   - Has measured or otherwise determined the inlet gas flow? *§63.994(c)(1)(iii)*

   (b) Has documentation that they requested and received approval to conduct an alternative to continuous monitoring or to monitor an alternative parameter(s)? *§63.996(d)*

3. For each continuously monitored parameter, has the facility:

   (a) Established a site-specific operating range for the parameter? *§63.996(c)(6)* ☐ Y ☐ N/A ☐ N

   (b) Followed manufacturer's or other written specifications or recommendations for installation, operation, and calibration of the monitoring equipment? *§63.996(c)(1) and (3)* ☐ Y ☐ N/A ☐ N

   (c) Maintained records of the monitoring data in one of the following formats: *§63.998(b)(1)* ☐ Y ☐ N/A ☐ N

   - All measured values, or

   - All block average values for 15-minute or shorter periods calculated from all measured data values during each period (or from at least one measured data value per minute if measured more frequently than once per minute), or

   - All continuous records for only the most recent 3 valid hours of records and block hourly average values for earlier data?

     Note: To use the third option, the data must be collected from an automated CPMS, and the hourly averages must include periods of CPMS breakdown and malfunction. §63.998(b)(1)(iii)

Table 10-10. (continued)

I. Review of Records			
(d) Maintained records of either daily average values or a statement that all values were within the established operating range? *§63.998(b)(3)* *Note: If the daily average value is not calculated and recorded, then continuous or short-term block averages may not be discarded as otherwise allowed by the third option in item "c" above. §63.998(b)(3)(ii)*	☐ Y	☐ N/A	☐ N
(e) As an alternative to "c" and "d" above when the conditions for alternative recordkeeping in §63.998(b)(5)(i)(A) through (F) are met, does the facility meet both of the following requirements: *Note: This alternative is not allowed if the scrubber is used only for storage tank emissions. §63.998(b)(5) introductory paragraph and §63.2485(g)*			
• Document in their notification of compliance status report or a compliance report that they were implementing this alternative?	☐ Y	☐ N/A	☐ N
• Retain only the daily average? *Note: No record of the daily average is required if 6 months have passed without an excursion. §63.998(d)(5)(ii)*	☐ Y	☐ N/A	☐ N
(f) Maintained records of both the periods of operation when the daily average of any continuously monitored parameter was outside its established range and the cause of these deviations? *§§63.998(c)(3)(iii) and 63.998(d)(5)*	☐ Y	☐ N/A	☐ N
4. If the facility received approval to monitor an alternative parameter, are they performing the recordkeeping approved by the Administrator? *§§63.999(d)(1) and (2), 63.8(f), and 63.10(b)(2)(vii)*	☐ Y	☐ N/A	☐ N
5. For any CPMS, does the facility have records of all of the following: *§63.998(c)(1)(i) and (ii)*			
(a) The procedure used for calibrating the CPMS?	☐ Y	☐ N/A	☐ N
(b) The date and time of completion of calibration and preventive maintenance of the CPMS?	☐ Y	☐ N/A	☐ N
(c) The "as found" and "as left" CPMS readings, whenever an adjustment is made that affects the CPMS reading and a "no adjustment" statement otherwise?	☐ Y	☐ N/A	☐ N
(d) The start time and duration (or start and stop times) of any periods when the CPMS is inoperative?	☐ Y	☐ N/A	☐ N
(e) The occurrence and duration of each startup, shutdown, and malfunction of the CPMS during which excess emissions occur?	☐ Y	☐ N/A	☐ N

Table 10-10. (continued)

I. Review of Records			
(f) Documentation of whether procedures specified in the source's startup, shutdown, and malfunction plan were followed for each startup, shutdown, and malfunction during which excess emissions occurred?	☐ Y	☐ N/A	☐ N
(g) Documentation of each startup, shutdown, and malfunction event?	☐ Y	☐ N/A	☐ N
(h) Documentation that there were no excess emissions during each startup, shutdown, or malfunction event, as applicable?	☐ Y	☐ N/A	☐ N
(i) The total duration of operating time during the reporting period?	☐ Y	☐ N/A	☐ N
6. Are all required records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N
II. Visual Inspection			
1. Are either of the following monitoring devices present and operating:			
(a) Effluent pH or caustic strength monitor and effluent liquid flow monitor (if complying with §63.994(c)(1))?	☐ Y	☐ N/A	☐ N
(b) Any other approved monitoring device (if complying with §§63.994(c)(2) and 63.996(d))?	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

Table 10-11. Compliance Checklist for Biofilters

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Biofilter Identification: _____

I. Review of Records

1. Does the facility maintain the following records of performance tests:

   Note: A design evaluation is not allowed for biofilters. §63.2460(c)(9)(ii)

   (a) Either the percent reduction or outlet concentration of organic HAP or TOC? *§63.998(a)(2)(ii)(B)(4)* ☐ Y ☐ N/A ☐ N

   (b) Either the biofilter bed temperature or the outlet total organic HAP or TOC concentration averaged over the full period of the performance test? *§§63.998(a)(2)(ii)(B)(1) and 63.2460(c)(9)(ii)(C)* ☐ Y ☐ N/A ☐ N

2. Do records document that the facility meets one of the following monitoring requirements to demonstrate ongoing compliance for the biofilter: ☐ Y ☐ N

   (a) Continuously monitors the biofilter bed temperature? *§63.2460(c)(9)(iii)*

   (b) Uses an "organic monitoring device" to continuously monitor a parameter that provides an indication of the organic concentration at the outlet of the biofilter? *§63.2460(c)(9)(iii)*

3. For each continuously monitored parameter, has the facility:

   (a) Established a site-specific operating range for the monitored parameter? *§§63.996(c)(6) and 63.2460(c)(9)(iii)* ☐ Y ☐ N/A ☐ N

   (b) Followed manufacturer's or other written specifications or recommendations for installation, operation, and calibration of the monitoring equipment? *§63.996(c)(1) and (3)* ☐ Y ☐ N/A ☐ N

   (c) Maintained records of continuously monitored values in one of the following formats: *§63.998(b)(1)* ☐ Y ☐ N/A ☐ N

   - all measured values, or
   - all block average values for 15-minute or shorter periods calculated from all measured data values during each period (or from at least one measured data value per minute if measured more frequently than once per minute), or
   - all continuous records for only the most recent 3 valid hours of records, and block hourly average values for earlier data?

   Note: To use the third option, the data must be collected from an automated CPMS, and the hourly averages must include periods of CPMS breakdown and malfunction (§63.998(b)(1)(iii)).

Table 10-11. (continued)

I. Review of Records			
(d) Maintained records of either daily average values or a statement that all values were within the established operating range? *§63.998(b)(3)* *Note: If the owner or operator chooses this option and the daily average value is not calculated and recorded, then continuous or short-term block averages may not be discarded as otherwise allowed by the third option in item "c" above. §63.998(b)(3)(ii)* *Note: Averages may be over an operating block if the biofilter is used only for batch process vents. §63.2460(c)(4)*	☐ Y	☐ N/A	☐ N
(e) As an alternative to "c" and "d" above when the conditions for alternative recordkeeping in §63.998(b)(5)(i)(A) through (F) are met, does the facility meet both of the following requirements:			
• Document in their notification of compliance status report or a compliance report that they were implementing this alternative?	☐ Y	☐ N/A	☐ N
• Retain only the daily average? *Note: No record of the daily average is required if 6 months have passed without an excursion. §63.998(d)(5)(ii)*	☐ Y	☐ N/A	☐ N
(f) Maintained records of the occurrence and cause of all periods when the monitored parameter is outside its established range? *§63.998(d)(5)*	☐ Y	☐ N/A	☐ N
4. If the facility received approval to monitor an alternative parameter, are they performing the recordkeeping approved by the Administrator (§§63.999(d)(1) and (2), 63.8(f), and 63.10(b)(2)(vii))? *Note: If an alternative parameter is monitored continuously, the records described above in item "3" would be required for the alternative parameter. Alternative recordkeeping might be required if the alternative monitoring is not continuous.*	☐ Y	☐ N/A	☐ N
5. For any CPMS, does the facility have records of all of the following: *§63.998(c)(1)(i) and (ii)*			
(a) The procedure used for calibrating the CPMS?	☐ Y	☐ N/A	☐ N
(b) The date and time of completion of calibration and preventive maintenance of the CPMS?	☐ Y	☐ N/A	☐ N
(c) The "as found" and "as left" CPMS readings, whenever an adjustment is made that affects the CPMS reading and a "no adjustment" statement otherwise?	☐ Y	☐ N/A	☐ N
(d) The start time and duration (or start and stop times) of any periods when the CPMS is inoperative?	☐ Y	☐ N/A	☐ N
(e) The occurrence and duration of each startup, shutdown, and malfunction of the CPMS during which excess emissions occur?	☐ Y	☐ N/A	☐ N

Table 10-11. (continued)

I. Review of Records			
(f) Documentation of whether procedures specified in the source's startup, shutdown, and malfunction plan were followed for each startup, shutdown, and malfunction during which excess emissions occurred?	☐ Y	☐ N/A	☐ N
(g) Documentation of each startup, shutdown, and malfunction event?	☐ Y	☐ N/A	☐ N
(h) Documentation that there were no excess emissions during each startup, shutdown, or malfunction event, as applicable?	☐ Y	☐ N/A	☐ N
(i) The total duration of operating time during the reporting period?	☐ Y	☐ N/A	☐ N
6. Do records indicate that repeat performance tests were conducted at the following times: *§63.2460(c)(9)(iv)*			
(a) Within 2 years after the previous performance test?	☐ Y	☐ N/A	☐ N
(b) Within 150 days after either of the following events:			
• Replacement of any portion of the biofilter media with a different type of media?	☐ Y	☐ N/A	☐ N
• Replacement of more than 50 percent of the biofilter media with the same type of media?	☐ Y	☐ N/A	☐ N
7. Are all required records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N
II. Visual Inspection			
1. Are any of the following monitoring devices present and operating?			
(a) Temperature monitoring device (or multiple devices) in the biofilter bed?	☐ Y	☐ N/A	☐ N
(b) An organic monitoring device at the outlet of the biofilter bed?	☐ Y	☐ N/A	☐ N
(c) Any other approved monitoring device, if applicable?	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

Table 10-12. Compliance Checklist for Fabric Filters

Note: A "yes" response to a question indicates compliance with that requirement, and a "no" response indicates noncompliance with the requirement. If a requirement is not applicable, check the "N/A" box.

Note: Use this checklist for fabric filters that control HAP metals emissions from process vents at new sources.

Fabric Filter Identification: _____

I. Review of Records			
1. Does the facility maintain records of performance tests showing the fabric filter reduces HAP metals emissions by at least 97 percent? *§63.2465(d)(2)* *Note: A design evaluation is not allowed for fabric filters.*	☐ Y	☐ N/A	☐ N
2. Do records document that the facility meets one of the following monitoring requirements to demonstrate ongoing compliance for the fabric filter:		☐ Y	☐ N
(a) Use a bag leak detection system? *§63.1366(b)(1)(xi) as referenced from §63.2465(d)(3)*			
(b) Has documentation that they requested and received approval to conduct alternative monitoring? *§63.8(f)*			
3. For each bag leak detection system, do records show the facility followed EPA guidance for installation, operation, and calibration of the system? *§63.1366(b)(1)(xi)(D)* *Note: Written specifications or instructions from the system manufacturer may be used in the absence of EPA guidance.*	☐ Y	☐ N/A	☐ N
4. For each bag leak detection system, does the facility maintain all of the following records: *§63.2525(k)*			
(a) Date and time of each bag leak detection alarm?	☐ Y	☐ N/A	☐ N
(b) Brief explanation of the cause of the alarm?	☐ Y	☐ N/A	☐ N
(c) Description of the corrective action taken?	☐ Y	☐ N/A	☐ N
5. If the facility received approval to conduct alternative monitoring, are they performing the recordkeeping approved by the Administrator (§§63.8(f) and 63.10(b)(2)(vii))?	☐ Y	☐ N/A	☐ N
6. Are all required records kept for at least 5 years? *§63.10(b)(1)*		☐ Y	☐ N

Table 10-12. (continued)

II. Visual Inspection

1. If the facility uses a bag leak detection system:

(a) Does it provide output of relative particulate matter emissions?	☐ Y	☐ N/A	☐ N
(b) Is it equipped with an alarm?	☐ Y	☐ N/A	☐ N
(c) Are sensors located either in each compartment or cell of a positive pressure fabric filter or downstream of a negative pressure or induced draft fabric filter?	☐ Y	☐ N/A	☐ N
(d) Are the sensitivity or range, averaging period, alarm set points, and alarm delay time the same as in the operation and maintenance plan? *§63.1366(b)(1)(xi)(F)* *Note: Sensitivity may be increased by up to 100 percent or decreased by up to 50 percent during a 365-day period, provided the baghouse is first inspected to demonstrate it is in good operating condition.*	☐ Y	☐ N/A	☐ N
2. If the facility received approval for alternative monitoring, is the alternative monitoring device present and operating?	☐ Y	☐ N/A	☐ N

III. Note All Deficiencies

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11.0 Alternative Standard

This section contains a flowchart of control requirements and an inspection checklist for process vents and storage tanks that comply with the alternative standard in §63.2505 of subpart FFFF. Use Figure 11-1 to determine the applicable control requirements under the alternative standard. Then use the inspection checklist in Table 11-1 to determine compliance with the continuous emissions monitoring requirements. Use the checklist in Table 11-2 to determine compliance for a scrubber that is used to comply with the percent reduction alternative to the otherwise applicable concentration limit for hydrogen halide and halogen HAP that are generated in a combustion device that controls a halogenated vent stream.

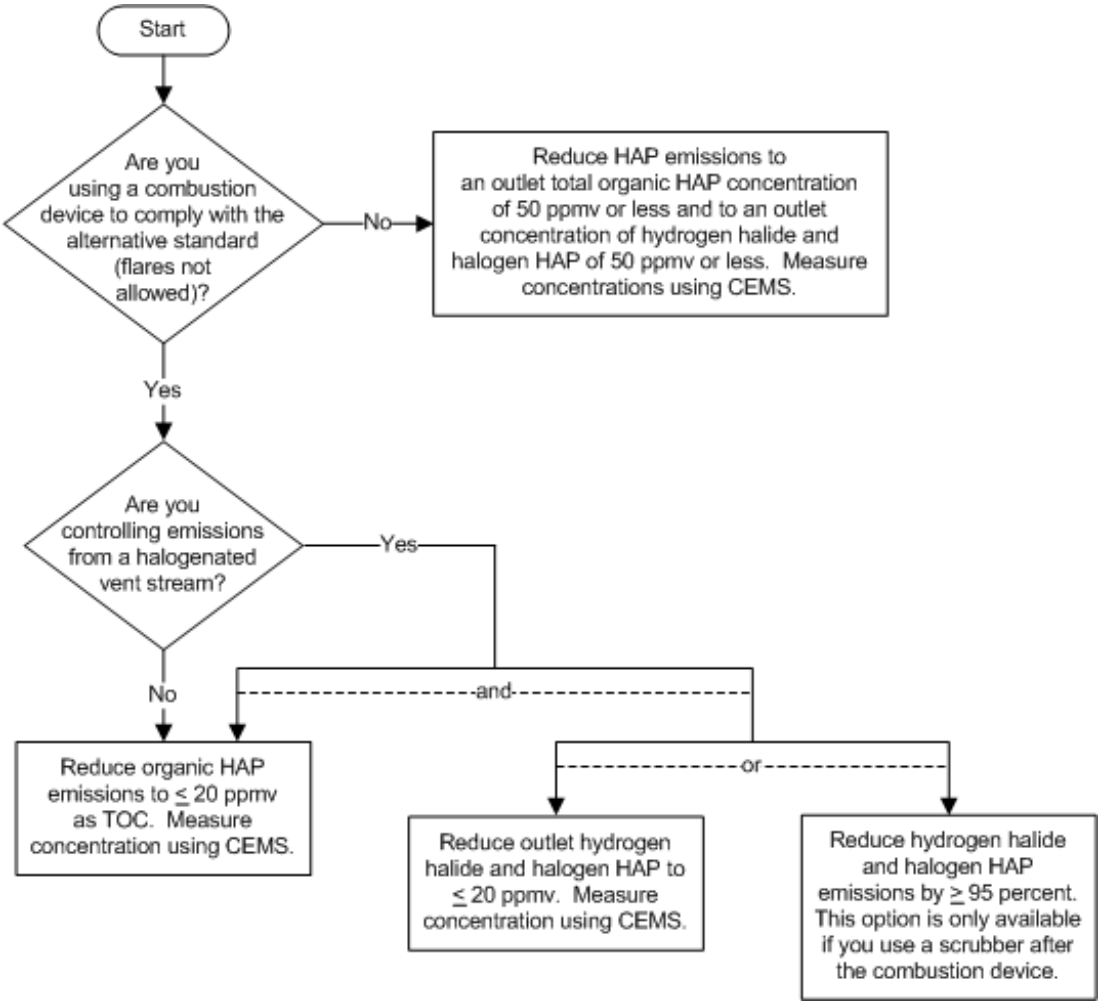

Figure 11-1. Alternative standard for process vents or storage tanks.

Table 11-1. Checklist to Demonstrate Compliance with Continuous Emissions Monitoring Requirements

Note: Use this checklist when emissions from process vents and/or storage tanks are vented to a control device and the facility uses CEMS to comply with the alternative standard as specified in §63.2505 or when the emissions concentration is used as the parameter that is monitored to demonstrate ongoing compliance with a percent reduction emissions limit. The checklist applies to CEMS for organic HAP and to CEMS for hydrogen halide and halogen HAP. A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

Process or Process Vent Identification:_____
Storage Tank Identification:_____
Control Device Identification:_____

I. Review of Records

1.	Does the facility have all of the following initial compliance records:			
(a)	Documentation that the Administrator was notified at least 60 days before conducting a performance evaluation of the CEMS? *§63.8(e)(2)*		☐ Y	☐ N
(b)	Results of CEMS performance evaluations (and measurements needed to determine conditions of performance evaluation)? *§63.10(b)(2)(viii) and (ix)*		☐ Y	☐ N
(c)	Identification in the notification of compliance status report of target analytes or predominant HAP that are used to calibrate the CEMS? *§§63.2505(b)(3) and 63.2450(j)(2)*		☐ Y	☐ N
(d)	Identification of the process vent(s) and/or storage tank(s), the control requirement, monitoring requirements, and type of control as part of the operating scenario(s) for the MCPU? *§63.2525(b)*		☐ Y	☐ N
(e)	Written copies of all of the procedures (e.g., calibrations) that are part of the quality control program? *§§63.8(d)(2) and 63.10(c)(14)*		☐ Y	☐ N
2.	Does the facility have all of the following ongoing quality control records:			
(a)	CEMS calibration checks? *§63.10(b)(2)(x)*		☐ Y	☐ N
(b)	Adjustments and maintenance performed on the CEMS? *§63.10(b)(2)(xi)*	☐ Y	☐ N/A	☐ N
3.	Does the facility have all of the following operating records:			
(a)	All CEMS measurements when emissions are vented to the control device (including periods of SSM, unavoidable CEMS breakdowns, and out-of-control periods)? *§63.10(b)(2)(vii) and (c)(1)*	☐ Y	☐ N/A	☐ N
(b)	Date and time when CEMS was malfunctioning or inoperative (except for zero [low-level] and high level checks)? *§§63.10(b)(2)(vi) and (c)(5)*	☐ Y	☐ N/A	☐ N
(c)	Nature and cause of malfunctions (if known) and corrective actions taken? *§63.10(c)(10) and (11)*	☐ Y	☐ N/A	☐ N

Table 11-1. (continued)

I. Review of Records			
(d) Date and time when CEMS was out of control (e.g., calibration drift exceeds specifications or CEMS fails cylinder gas audit)? *§63.10(b)(2)(vi) and (c)(6)*	☐ Y	☐ N/A	☐ N
(e) Date and time of each deviation from the outlet concentration emission limit, and whether or not the deviation occurred during a period of startup, shutdown, and malfunction? *§63.2525(h)*	☐ Y	☐ N/A	☐ N
4. Are the CEMS data (excluding data collected when the CEMS was out of control) reduced to operating day averages for comparison with the outlet concentration emission limits? *§§63.2505(b)(7) and 63.8(c)(7)(ii)*		☐ Y	☐ N
5. If the emissions are combined with supplemental gases before the control device, do records show the facility corrects the concentrations to account for dilution caused by supplemental gases using the procedures specified in §§63.2450(i) and 63.2460(c)(6)? *§63.2450(j)(5)*	☐ Y	☐ N/A	☐ N
6. Are all records kept for at least 5 years? *§63.10(b)(1)*	☐ Y	☐ N/A	☐ N
II. Visual Inspections			
1. Are CEMS for TOC and/or total hydrogen halide and halogen HAP, as applicable, located in the exhaust line from the control device and operating? *Note: A CEMS for hydrogen halide and halogen HAP is not required if these HAP are generated in a combustion device that controls halogenated vent streams and the facility uses a scrubber to reduce the hydrogen halide and halogen HAP emissions by >95 percent. See the checklist in Table 11-2 to determine compliance with these requirements.*		☐ Y	☐ N
III. Note All Deficiencies			

Table 11-2. Checklist for Parameter Monitoring Option for Scrubbers Used to Reduce Hydrogen Halide and Halogen HAP Emissions Under the Alternative Standard

Note: Use this checklist when a facility generates hydrogen halide and halogen HAP emissions in a combustion control device that controls a halogenated vent stream, and the facility elects to control the hydrogen halide and halogen HAP emissions to >95 percent (using a scrubber) instead of to <20 ppmv. A "yes" response to a question in this checklist means compliance with that requirement, and a "no"response means noncompliance with the requirement. If a question is not applicable, check the "N/A" box.

Identification of Process Vents and Storage Tanks with Halogenated Vent Streams:_____

Scrubber Identification:_____

I. Review of Records

1. Do results of the initial performance test demonstrate 95 percent reduction in total hydrogen halide and halogen HAP emissions? *§63.2505(b)(5)(i)*	☐ Y	☐ N/A	☐ N
2. Do records indicate that the facility monitors all of the following scrubber operating parameters: *§§63.994(c), 63.2505(b)(5)(ii), and 63.2450(k)*			
(a) continuous monitoring of pH or caustic strength?	☐ Y	☐ N/A	☐ N
(b) continuous monitoring of liquid flow?	☐ Y	☐ N/A	☐ N
(c) measurement or other determination of gas flow?	☐ Y	☐ N/A	☐ N
3. For each continuously monitored parameter, has the facility:			
(a) Established a site-specific operating range for the monitored parameter? *§§63.996(c)(6), 63.999(b)(3), and 63.2505(b)(5)(i)*	☐ Y	☐ N/A	☐ N
(b) Followed manufacturer's or other written specifications or recommendations for installation, operation, and calibration of the monitoring equipment? *§63.996(c)(1) and (3)*	☐ Y	☐ N/A	☐ N
(c) Maintained records of continuously monitored parameters in one of the following formats: *§63.998(b)(1)* • all measured values, or • all block average values for 15-minute or shorter periods calculated from all measured data values during each period (or from at least one measured data value per minute if measured more frequently than once per minute), or • all continuous records for only the most recent 3 valid hours of records and block average values for earlier data? *Note: To use the third option, the data must be collected from an automated CPMS, and hourly averages must include periods of CPMS breakdown and malfunction. §63.998(b)(1)(iii)*	☐ Y	☐ N/A	☐ N

Table 11-2. (continued)

I. Review of Records			
(d) Maintained records of either daily average values of continuously monitored parameters or a statement that all values are within the established operating range? *§§63.998(b)(3) and 63.2505(b)(7)* *Note: If the daily average value is not calculated and recorded, then continuous or short-term block averages may not be discarded as otherwise allowed by the third option in item "2" above. §63.998(b)(3)(ii)* *Note: Daily averages must be reported in the compliance report for all days when an excursion occurred. An excursion is either a daily average value outside the established range or a day for which insufficient monitoring data were collected. §63.999(c)(6)*	☐ Y	☐ N/A	☐ N
(e) As an alternative to "c" and "d" above, does the facility retain only the daily average because the conditions for alternative recordkeeping in §63.998(b)(5)(i)(A) are met (and did the facility document in their notification of compliance status report that they were implementing this alternative)? *Note: No record of the daily average is required if 6 months have passed without an excursion. §63.998(d)(5)(ii)*	☐ Y	☐ N/A	☐ N
(f) Maintained records of the occurrence and cause of all periods when the monitored parameters are outside their established ranges? *§63.998(d)(5)*	☐ Y	☐ N/A	☐ N
4. For each CPMS, does the facility have records of all of the following: *§63.998(c)(1)(i)*			
(a) procedure used for calibrating the CPMS?	☐ Y	☐ N/A	☐ N
(b) date and time of completion of calibration and preventive maintenance?	☐ Y	☐ N/A	☐ N
(c) "as found" and "as left" CPMS readings, whenever an adjustment is made that affects the CPMS reading, and a "no adjustment" statement otherwise?	☐ Y	☐ N/A	☐ N
(d) start time and duration (or start and stop times) of any periods when the CPMS is inoperative?	☐ Y	☐ N/A	☐ N
(e) occurrence and duration of each start-up, shutdown, and malfunction during which excess emissions occur?	☐ Y	☐ N/A	☐ N
(f) if excess emissions occur during a period of SSM, documentation that procedures in the SSM plan were followed or a description of actions taken?	☐ Y	☐ N/A	☐ N
(g) documentation of each SSM event?	☐ Y	☐ N/A	☐ N

Table 11-2. (continued)

I. Review of Records			
(h) if no excess emissions occur during an SSM event, documentation affirming this result?	☐ Y	☐ N/A	☐ N
(i) the total duration of operating time during the reporting period?	☐ Y	☐ N/A	☐ N
5. Are all records kept for at least 5 years? *§63.10(b)(1)*	☐ Y	☐ N/A	☐ N
II. Visual Inspections			
1. Are the following devices present and operating:			
(a) pH or caustic strength monitoring device?		☐ Y	☐ N
(b) liquid flow monitoring device?		☐ Y	☐ N
(c) gas flow monitoring device (if complying with §63.994(c)(1)(ii)(B))?	☐ Y	☐ N/A	☐ N
(d) if flow can be intermittent, a flow indicator at the inlet or outlet to the control device?	☐ Y	☐ N/A	☐ N
III. Note All Deficiencies			

12.0 Reporting

This section contains inspection checklists for various reports required under subpart FFFF. Use Table 12-1 to determine compliance with the requirements for notification of compliance status reports. Use Table 12-2 to determine compliance with compliance reporting requirements.

Table 12-1. Inspection Checklist for Notification of Compliance Status Report

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the question is not applicable, check the "N/A" box.

I. Review of Records			
1. Does the report include the results of all applicability determinations (including Group 1 or Group 2 determinations), emission calculations, or other analyses used to identify and quantify HAP usage and/or emissions from the affected source? *§63.2520(d)(2)(i)* *Note: Quantifying usage is an option only for Group 2 batch process vents. As an alternative to estimating uncontrolled emissions from Group 2 batch process vents at an existing source, an owner or operator may elect to demonstrate that non-reactive organic HAP are the only HAP used in the process and that usage is <10,000 lb/yr. §63.2460(b)(7)*	☐ Y	☐ N/A	☐ N
2. Does the report include all of the following information related to initial compliance determinations, as applicable:			
(a) Emissions profiles and descriptions of worst-case operating and/or testing conditions when a performance test is conducted for a control device that is used to comply with an emission limit for batch process vents? *§63.2520(d)(2)(ii) and (v)*	☐ Y	☐ N/A	☐ N
(b) Performance test reports, including site-specific operating limits and supporting data and calculation records? *§§63.2520(d)(2)(ii) and (iii), 63.999(a)(2) and (3), 63.146(b)(7)(ii)(A) and (C), 63.146(b)(8) and (9)(ii), and 63.152(b)* *Note: Operating limits and supporting calculations may be included in operating scenarios.*	☐ Y	☐ N/A	☐ N
(c) Flare compliance assessments? *§§63.2450(f)(2)(ii), 63.2520(d)(2)(ii), 63.999(a)(2), and 63.146(b)(7)(i)*	☐ Y	☐ N/A	☐ N
(d) Design evaluations, including site-specific operating limits? *§§63.2520(d)(2)(ii) and (iii); 63.999(b)(2)(i) through (iv); and 63.146(b)(7)(ii)(A) and (B), (b)(8), and (b)(9)(i)* *Note: Operating limits and supporting calculations may be included in operating scenarios.*	☐ Y	☐ N/A	☐ N
(e) If storage tank emissions are routed to a process, a design evaluation or engineering assessment demonstrating the extent to which the emissions are recycled, consumed, transformed by chemical reaction into materials that are not HAP, incorporated into a product, and/or removed? *§§63.984(b)(2) and (3) and 63.999(b)(1)(i)*	☐ Y	☐ N/A	☐ N

Table 12-1. (continued)

I. Review of Records			
(f) If storage tank emissions are routed to a fuel gas system, a statement documenting that the emission stream is connected to the fuel gas system? *§§63.984(c) and 63.999(b)(1)(ii)*	☐ Y	☐ N/A	☐ N
(g) If emissions from a Group 1 transfer rack are routed to a fuel gas system or process, a statement of connection? *§63.999(b)(1)(iii)*	☐ Y	☐ N/A	☐ N
(h) Determination of whether a condenser associated with batch operations is a control device or a process condenser? *§§63.2460(c)(1) and 63.2520(d)(2)(ii)*	☐ Y	☐ N/A	☐ N
3. Does the report include descriptions of monitoring devices and monitoring frequencies? *§63.2520(d)(2)(iii)*			
4. Does the report include all of the following information about wastewater systems:			
(a) Information about each wastewater stream from an MCPU that contains PSHAP and/or SHAP? *§63.146(b)(2) and Table 15 to subpart G* *Note that Table 15 to subpart G indicates that the information may be submitted in other formats. Including this information in an operating scenario is one option.*	☐ Y	☐ N/A	☐ N
(b) Information about each treatment process that receives, manages, or treats a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream? *§63.146(b)(4) and Table 17 to subpart G* *Note that this information may be included in operating scenarios for each process that discharges wastewater to the treatment unit.*	☐ Y	☐ N/A	☐ N
(c) Information about each waste management unit that receives or manages a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream? *§63.146(b)(5) and Table 18 to subpart G* *Note that this information may be submitted in the operating scenarios for each process that discharges wastewater to the waste management unit.*	☐ Y	☐ N/A	☐ N
(d) Information about each residual removed from a Group 1 wastewater stream? *§63.146(b)(6) and Table 19 to subpart G* *Note that this information may be submitted in the operating scenarios for each process that discharges wastewater to the waste management unit.*	☐ Y	☐ N/A	☐ N

Table 12-1. (continued)

I. Review of Records

(e) All of the following for an initial compliance demonstration, if the facility complies with the alternative requirements for wastewater that is Group 1 for SHAP:			
• Data used in the demonstration (e.g., PSHAP and SHAP concentrations, wastewater flows, F_{bio} and inputs for WATER9 modeling)?	☐ Y	☐ N/A	☐ N
• Emissions from an uncontrolled equalization unit, neutralization unit, and/or clarifier as estimated using WATER9 modeling?	☐ Y	☐ N/A	☐ N
• Description of and results of WATER9 modeling validation procedures?	☐ Y	☐ N/A	☐ N
• Results of overall destruction efficiency as calculated using Equation 1 in §63.2485(n)(2)?	☐ Y	☐ N/A	☐ N
5. Does the report include all of the following information about equipment leaks: *§63.2520(d)(2)(vii) and the sections cited below*			
(a) Identification of process unit or affected facility? *§63.1039(a)(1)(i)*	☐ Y	☐ N/A	☐ N
(b) Number of each equipment type, excluding equipment in vacuum service? *§63.1039(a)(1)(ii)*	☐ Y	☐ N/A	☐ N
(c) Method of compliance with the standards? *§63.1039(a)(1)(iii)*	☐ Y	☐ N/A	☐ N
(d) If the method of compliance is pressure testing, the products or product codes and the planned schedule for pressure testing? *§63.1039(a)(2)*	☐ Y	☐ N/A	☐ N
(e) If the method of compliance is to enclose the process unit or affected facility, identification of the process unit or affected facility, a description of the system used to create a negative pressure in the enclosure, and a description of the control device to which the emissions are routed? *§63.1039(a)(3)*	☐ Y	☐ N/A	☐ N
6. Does the report identify the following equipment and related information:			
(a) Parts of the affected source that are subject to other rules and the authority under which the facility will comply for such equipment? *§63.2520(d)(2)(vi)* *Note: Section 63.2535 identifies other rules that may overlap with subpart FFFF and the applicable compliance options.*	☐ Y	☐ N/A	☐ N
(b) Storage tanks that comply with the vapor balancing option in §63.2470(e)? *§63.2520(d)(2)(viii)*	☐ Y	☐ N/A	☐ N

Table 12-1. (continued)

I. Review of Records

7. Does the report include the following records for each process unit group (PUG), if any, that the facility developed: *§63.2520(d)(2)(ix) and the sections cited below*

   (a) Identification of each MCPU and other process units that are part of the initial PUG, and the procedure used to create the PUG (e.g., processing equipment that is shared by process units)? *§63.2535(l)(1)(v)* ☐ Y ☐ N/A ☐ N

   (b) Determination of the primary product for the initial PUG? *§63.2535(l)(2)(iv)* ☐ Y ☐ N/A ☐ N

8. Does the report include operating scenarios for all MCPUs at the affected source, and does each operating scenario contain the following information, as applicable: *§§63.2520(d)(2)(iv) and 63.2525(b)*

   (a) A description of the process and the type of process equipment used? ☐ Y ☐ N/A ☐ N

   (b) Identification of process vents and wastewater points of determination for the process, and identification of storage tanks and transfer racks that are assigned to the MCPU? ☐ Y ☐ N/A ☐ N

   Note: Emission episodes (i.e., HAP emissions for a standard batch in lb/batch) should be included for the process vents if compliance with the emission limits is by a method other than the alternative standard.

   (c) Applicable control requirements for each emission stream, including the level of required control? ☐ Y ☐ N/A ☐ N

   Note: Emission limits are for collective organic HAP from all batch process vents and collective hydrogen halide and halogen HAP emissions from all process vents (excluding hydrogen halide and halogen HAP emissions formed in combustion control devices). Therefore, the operating scenario should identify the level of control for each vent if some vents are controlled to different levels than others.

   (d) Identification of each type of control device and treatment process used, and a description of operating and/or testing conditions for the control devices? ☐ Y ☐ N/A ☐ N

   (e) Identification of each process vent, wastewater POD, transfer rack, and storage tank (including those from other processes) that are simultaneously routed to each control device and treatment process? ☐ Y ☐ N/A ☐ N

   (f) A description of the monitoring requirements for each control device and treatment process, and each parametric level (i.e., operating limit) used to demonstrate ongoing compliance? ☐ Y ☐ N/A ☐ N

   (g) Calculations and engineering analyses required to demonstrate compliance (e.g., TRE calculations for continuous process vents)? ☐ Y ☐ N/A ☐ N

Table 12-1. (continued)

I. Review of Records	
9. Has a responsible official of the affected source signed the report, certified its accuracy, and attested to whether the source has complied with the requirements in subpart FFFF? *§63.9(h)(2)(i) introductory text*	☐ Y ☐ N

II. Note All Deficiencies

Table 12-2. Inspection Checklist for Compliance Reports

Note: A "yes" response to a question in this checklist means compliance with that requirement, and a "no" response means noncompliance with the requirement. If the question is not applicable, check the "N/A" box.

I. Review of Records

1. Do compliance reports include all of the following general information:			
(a) Company name and address? *§63.2520(e)(1)*		☐ Y	☐ N
(b) Date of the report? *§63.2520(e)(3)*		☐ Y	☐ N
(c) Name, title, and signature by a responsible official of the company certifying the accuracy of the report? *§63.2520(e)(2)*		☐ Y	☐ N
2. If excess emissions occurred (e.g., a daily average operating parameter exceeded an operating limit) with any startup, shutdown, and/or malfunction during a reporting period, does the compliance report for that period include the following records: *§63.2520(e)(4)*			
(a) That procedures in the facility's SSMP were followed, or documentation of actions taken that were inconsistent with the SSMP?	☐ Y	☐ N/A	☐ N
(b) A brief description of each malfunction?	☐ Y	☐ N/A	☐ N
3. If there were no deviations from any emission limit, operating limit, or work practice standard during a reporting period, does the compliance report for that period include a statement documenting the absence of any such deviations? *§63.2520(e)(5)(i)*	☐ Y	☐ N/A	☐ N
4. If a reporting period included deviations from any emission limits, operating limits, and/or work practice standards where ongoing compliance is not demonstrated by using a CMS, does the compliance report for the period include the following information: *§63.2520(e)(5)(ii)*			
(a) The total operating time of the affected source during the reporting period?	☐ Y	☐ N/A	☐ N
(b) The total number of deviations?	☐ Y	☐ N/A	☐ N
(c) The total duration of deviations?	☐ Y	☐ N/A	☐ N
(d) The cause(s) of deviations (including unknown cause, if applicable)?	☐ Y	☐ N/A	☐ N
(e) The corrective action(s) taken?	☐ Y	☐ N/A	☐ N
(f) Operating logs for the day(s) during which the deviation occurred?	☐ Y	☐ N/A	☐ N
Note: Operating logs are required only for processes with batch vents from batch operations.			
Note: Operating logs are not required for deviations of the work practice standards for equipment leaks.			

Table 12-2. (continued)

I. Review of Records			
5. If a reporting period included any deviations from an emission limit or operating limit where a CMS is used to demonstrate ongoing compliance, does the compliance report for that period include the following information for the days when the deviations occurred (e.g., daily average of the monitored parameter does not meet the operating limit, or data availability requirements are not met): *§§63.2520(e)(5)(iii), 63.999(c)(6)(i), 63.146(d) and (e), and 63.152(c)(2)*			
(a) Date and time each CMS was inoperative (except for zero [low-level] and high level checks)?	☐ Y	☐ N/A	☐ N
(b) For a CEMS, the date, time, and duration that the CEMS was out of control, and corrective actions taken?	☐ Y	☐ N/A	☐ N
(c) Date and time that each deviation started and stopped, and indication of whether the deviation occurred during a period of SSM?	☐ Y	☐ N/A	☐ N
(d) Identification of each HAP known to be in the emission stream?	☐ Y	☐ N/A	☐ N
(e) Brief description of the CMS?	☐ Y	☐ N/A	☐ N
(f) Date of the most recent CMS certification or audit?	☐ Y	☐ N/A	☐ N
(g) Operating logs?	☐ Y	☐ N/A	☐ N
Note: Operating logs are required only for processes with batch vents from batch operations.			
(h) Operating day averages of the operating parameter (or pollutant concentration)?	☐ Y	☐ N/A	☐ N
(i) Summary statistics regarding the total duration, percent of operating time, and causes for all deviations from emission limits and operating limits, including information on the deviations from outlet concentration limits under the alternative standard?	☐ Y	☐ N/A	☐ N
(j) Summary of the total duration of CMS downtime during the reporting period, and calculation of the total duration as a percentage of the total operating time for the affected source during the reporting period?	☐ Y	☐ N/A	☐ N
6. For Group 2 batch process vents based on HAP usage < 10,000 lb/yr or HAP emissions < 1,000 lb/yr, does the compliance report include records associated with each calculation that exceeds either threshold? *§63.2520(e)(5)(iv)*	☐ Y	☐ N/A	☐ N
7. For each CEMS that was never out of control during a reporting period, does the compliance report for that period include a statement documenting this result? *§63.2520(e)(6)*	☐ Y	☐ N/A	☐ N
8. If a flare is used to comply with an emission limit in subpart FFFF, does the compliance report include records of periods when all pilot flames were absent or the flare flame was absent? *§§63.999(c)(3) and 63.146(e)(1)*	☐ Y	☐ N/A	☐ N

Table 12-2. (continued)

I. Review of Records			
9. If a carbon adsorber is used to comply with an emission limit in subpart FFFF, does the compliance report document all carbon bed regeneration cycles during which a monitored parameter (e.g., regeneration stream flow or carbon bed temperature) did not meet an applicable operating limit? *§§63.999(c)(6)(ii) and 63.146(e)(1)*	☐ Y	☐ N/A	☐ N
10. If a closed-vent system is required to route emissions to a control device, does the compliance report include the following information about the closed-vent system: *§§63.999(c)(2) and 63.148(j)*			
(a) The following records when a leak is detected:			
• Identification information of the leaking closed-vent system?	☐ Y	☐ N/A	☐ N
• Name, initials, or identification number of operator conducting the inspection?	☐ Y	☐ N/A	☐ N
• Instrument identification number, if instrument monitoring applies?	☐ Y	☐ N/A	☐ N
• Date the leak was detected?	☐ Y	☐ N/A	☐ N
• Date of the first attempt to repair the leak?	☐ Y	☐ N/A	☐ N
• Maximum instrument reading after the leak is repaired or determined to be non-repairable?	☐ Y	☐ N/A	☐ N
• Explanation of delay in repair, if the leak was not repaired within 15 days after it was discovered?	☐ Y	☐ N/A	☐ N
• Name or initials of the person who decided repairs could not be made without a shutdown, expected date of successful repair if not repaired within 15 days, and dates of shutdowns that occur while the equipment remains unrepaired, if applicable? *Note: These records must be included only if the closed-vent system is used to convey emissions from wastewater systems.*	☐ Y	☐ N/A	☐ N
• Date of successful repair of the leak?	☐ Y	☐ N/A	☐ N
(b) The times when a vent stream is diverted from the control device through a bypass line?	☐ Y	☐ N/A	☐ N
(c) The times when maintenance is performed on car-sealed valves, when the seal is broken, when the bypass line valve position is changed, or the key for a lock-and-key type configuration has been checked out?	☐ Y	☐ N/A	☐ N

Table 12-2. (continued)

I. Review of Records

11. Does the compliance report include the following information for equipment leaks:

(a) A summary of the following data for valves in gas and vapor service and light liquid service, pumps in light liquid service, connectors in gas and vapor service and light liquid service, agitators in gas and vapor service and light liquid service, and compressors: *§63.1039(b)(1)*

Note: Information about connectors is not required for existing sources that comply with §63.2480(b)(4) or (c)(4).

- Number of each type of component for which leaks were detected? ☐ Y ☐ N/A ☐ N
- The percent leakers for valves, pumps, and connectors? ☐ Y ☐ N/A ☐ N
- Total number of components monitored? ☐ Y ☐ N/A ☐ N
- Number of leaking components that were not repaired? ☐ Y ☐ N/A ☐ N
- The number of valves and connectors determined to be nonrepairable? ☐ Y ☐ N/A ☐ N

(b) Documentation of the occurrence and number of times delay of repair has been used? *§63.1039(b)(2)* ☐ Y ☐ N/A ☐ N

(c) The following records of any valve subgroups: *§63.1039(b)(3)*

- The valves assigned to each subgroup? ☐ Y ☐ N/A ☐ N
- Monitoring results and calculations made for each subgroup for each monitoring period? ☐ Y ☐ N/A ☐ N
- Identification of any valves that have been reassigned from one subgroup to another during the reporting period, and the date of such reassignments? ☐ Y ☐ N/A ☐ N
- Results of the semiannual overall performance calculation? ☐ Y ☐ N/A ☐ N

(d) For pressure relief devices and compressors operating with an instrument reading less than 500 ppm above background, results of all monitoring conducted during the reporting period to show compliance? *§63.1039(b)(4)* ☐ Y ☐ N/A ☐ N

(e) Documentation of the initiation of a monthly monitoring program for valves, if applicable? *§63.1039(b)(5)* ☐ Y ☐ N/A ☐ N

(f) Documentation of the initiation of a quality improvement program for pumps, if applicable? *§63.1039(b)(6)* ☐ Y ☐ N/A ☐ N

Table 12-2. (continued)

I. Review of Records			
(g) If compliance is demonstrated by pressure testing, records of the following: *§63.1039(b)(7)*			
• Process equipment train identification?	☐ Y	☐ N/A	☐ N
• The number of pressure tests conducted?	☐ Y	☐ N/A	☐ N
• The number of pressure tests where the equipment train failed the pressure test?	☐ Y	☐ N/A	☐ N
• Explanation for any delay of repair?	☐ Y	☐ N/A	☐ N
12. If a floating roof is used to meet the emission limit for a storage tank, does each compliance report include the following information:			
(a) Records of inspection results when failures are identified (i.e., storage tank identification, date of inspection, description of failure, description of repairs and the dates they were made, and date storage tank is removed from service, if applicable)? *§63.1066(b)(2)*	☐ Y	☐ N/A	☐ N
(b) Any request to use an alternate control device? *§63.1066(b)(3)*	☐ Y	☐ N/A	☐ N
13. If emissions from a storage tank are routed to a control device, does each compliance report include all of the following information related to periods of planned routine maintenance:			
(a) All of the following records of periods of planned routine maintenance during the reporting period: *§63.999(c)(4)(i)*			
• The time of day and date when each period of planned routine maintenance started?	☐ Y	☐ N/A	☐ N
• The time of day and date when each period of planned routine maintenance ends?	☐ Y	☐ N/A	☐ N
• Description of the type of maintenance performed?	☐ Y	☐ N/A	☐ N
(b) Total number of hours in the current and preceding reporting periods when the control device was not operating in compliance with subpart SS requirements due to planned routine maintenance? *§63.999(c)(4)(ii)*	☐ Y	☐ N/A	☐ N
(c) A description of the planned routine maintenance for the next reporting period (i.e., the type of maintenance to be performed, the expected frequency of the maintenance, and the expected length of the maintenance periods)? *§63.999(c)(4)(iii)*	☐ Y	☐ N/A	☐ N
14. For inspections of waste management units during which a control equipment failure was detected, does the compliance report include records of the following information: *§63.146(c)*			
(a) Date of inspection?	☐ Y	☐ N/A	☐ N
(b) Identification of each waste management unit in which a control equipment failure was detected?	☐ Y	☐ N/A	☐ N

Table 12-2. (continued)

I. Review of Records			
(c) Description of the failure?	☐ Y	☐ N/A	☐ N
(d) Description of the nature of the repair?	☐ Y	☐ N/A	☐ N
(e) Date of repair?	☐ Y	☐ N/A	☐ N
15. If process wastewater is sent offsite for treatment, do compliance reports document the identity of new treatment facilities or transferees for the wastewater, if any, during the reporting period? *§63.152(c)(4)(iv)*	☐ Y	☐ N/A	☐ N
16. If a floating roof is used to meet a requirement for wastewater tanks, does each compliance report include any requests for extensions to conduct inspections of the floating roof or for an extension for repair if repair could not be completed or the vessel emptied within 45 days after a failed inspection? *§63.146(g)*	☐ Y	☐ N/A	☐ N
17. Do compliance reports include a copy of each new operating scenario (including revisions to existing operating scenarios) operated during the reporting period? *§63.2520(e)(7)*	☐ Y	☐ N/A	☐ N
18. If repair of a leaking heating exchange system has been delayed, is all of the following information included in all compliance reports until the leak is repaired: *§63.104(f)(2)*			
(a) Identification of the leak?	☐ Y	☐ N/A	☐ N
(b) Date the leak was detected?	☐ Y	☐ N/A	☐ N
(c) Whether or not the leak has been repaired?	☐ Y	☐ N/A	☐ N
(d) Reason(s) for the delay of repair?	☐ Y	☐ N/A	☐ N
(e) Documentation of emissions estimates, if repair was delayed because emissions from shutdown could be greater than emissions likely to result from delaying repair?	☐ Y	☐ N/A	☐ N
(f) Either the expected date of repair (if the leak remains unrepaired) or the date the leak was successfully repaired?	☐ Y	☐ N/A	☐ N
19. If any process units were added to a process unit group during the reporting period, does the compliance report for that period include the following records for the added process units: *§63.2520(e)(8)*			
(a) Description of the process unit(s)?	☐ Y	☐ N/A	☐ N
(b) Rationale for including the additional process unit(s) in the process unit group?	☐ Y	☐ N/A	☐ N

Table 12-2. (continued)

I. Review of Records			
20.	Does the compliance report document any changes to information originally reported in the notification of compliance status report or previous compliance reports (i.e., changes that are not within the scope of operating scenarios)? *§§63.2520(e)(10) and 63.1039(b)(8)* *Note: Advance notification is required for 3 types of planned changes: any change in information submitted in the precompliance report, a change in status of a control device from small to large, and a change from Group 2 to Group 1 for any emission point (except batch process vents that have been Group 2 for at least one year).*	☐ Y	☐ N/A ☐ N

II. Note All Deficiencies

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Appendix A

Questions and Answers on Provisions in Subpart FFFF

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Applicability

QA1. Does the replacement and/or debottlenecking of process equipment in an existing miscellaneous chemical manufacturing process unit (MCPU) make the MCPU a reconstructed facility subject to new source standards?

AA1. Yes, under certain conditions. A new affected source can be created through either the construction or reconstruction of an affected source (the facility-wide collection of MCPU and heat exchange systems, wastewater, and waste management units that are associated with manufacturing miscellaneous organic chemicals) or a dedicated MCPU. (See section 63.2440(c)). "Construction", as defined in section 63.2550, applies to the on-site fabrication, erection, or installation of an affected source or MCPU. Since the MCPU described is existing, the only way the facility would have a new affected source after implementing the changes is if the changes satisfy the criteria in the definition of reconstruction (i.e., the capital cost of the replaced equipment exceeds 50% of the capital cost of a comparable new source of either a dedicated MCPU (one with a PTE of at least 10/25 tpy) or an affected source. In the case of the reconstruction of a dedicated MCPU, the changes could constitute reconstruction for the dedicated MCPU alone so that it becomes a new affected source, while the collection of all of the other MCPU's at the facility are still an existing affected source. Debottlenecking of a process with no replacement of equipment would not trigger new source requirements.

QA2. A process unit which produces an North American Industry Classification System (NAICS) 325 organic chemical is located at a major source under 40 CFR part 63 and includes facilities affected by other MACT standards. The process unit does not process, use or produce a HAP. Is this process unit an subject to the Miscellaneous Organic National Emission Standards for Hazardous Air Pollutants (MON)? If so, what are compliance requirements?

AA2. No. The MCPU is not subject to the MON (subpart FFFF). Section 63.2435(b)(2) specifies that an MCPU must "process, use, or produce" a hazardous air pollutant (HAP) for it to be subject to subpart FFFF.

QA3. The statutory definition of "Research & Development (R&D) facility" is somewhat general. How can a facility justify that a pilot system qualifies as an R&D facility?

AA3. The rule doesn't address pilot scale operations specifically, but it would have to meet the statutory definition for R&D (see section 112(c)(7) of the CAA) to meet the exemption at section 63.2345(c)(1). A facility wishing a determination of applicability should submit a formal request in writing to their delegated authority.

QA4. A plant uses hydrochloric acid to regenerate ion exchange (I-X) resin which is not associated with any MON process. From the definition of ancillary, the I-X system would appear to be an "ancillary" activity. Would the hydrochloric acid (HCl) storage tank also be included with the I-X ancillary activity and exempt from MON requirements?

AA4. An ancillary activity determination would be made only for a MON process. Thus, the ion exchange system as described in the question are exempt from the MON because the process it is associated with is not a MON process. On the other hand, if it were a MON process, then

the ion exchange system would be an ancillary activity that is exempt from the MON. In either case, applicability for the HCl storage tank would depend on the predominant use of the HCl, as detailed in section 63.2435(d). For example, if the HCl were used only in the ion exchange system, then the storage tank would be part of the ancillary activity and exempt from the MON. Alternatively, if some of the HCl is used in the process, then the predominant use will determine whether the storage tank is part of the MCPU or exempt.

QA5. What is the difference between primary product determinations in the Hazardous Organic National Emission Standards for Hazardous Air Pollutants (HON) rule versus the MON rule?

AA5. The HON uses a primary product determination to identify process units that are subject to the HON (i.e., all processes operated in equipment for which the primary product is a material listed in Table 1 to subpart F). The MON, on the other hand, does not use a primary product determination to establish process applicability because the MON applies to processes that produce materials that meet the criteria specified in section 63.2435(b) whenever such materials are produced; the production of other materials in the same equipment, or different configurations of the equipment, at other times has no bearing on the applicability determination (and the MON does not apply to the production of these other materials). However, a primary product determination is included in the MON as part of an option for minimizing the burden of complying with overlapping standards for non-dedicated (multipurpose) equipment. This "process unit group" option in section 63.2535(l) allows an owner or operator to determine the primary product for a collection of non-dedicated equipment; typically, the owner or operator may then comply with the NESHAP that applies to that material at all times, regardless of what process the equipment is configured to produce.

QA6. Two reactors that share no equipment. One is used to make methyl esters only. The other is used to make esters, a small percentage of which is methyl ester. Are the two reactor trains part of the same process?

AA6. When similar products are produced, the manufacturer must evaluate information on each product to determine if any of them are part of a family of materials (FOM) as defined in section 63.2550(i). The question does not indicate how many different esters (including methyl esters) are produced, and it does not provide enough information to determine if any of the esters are part of the same FOM. Thus, we can provide only a general response that may not address all possible scenarios. One extreme is if all of the esters, including methyl esters, are part of the same FOM. In this case, production of all of the esters is considered to be a single MCPU (i.e., both reactor trains always are part of the same MCPU). The other extreme would be if none of the esters form a FOM. For this scenario, because the MON is a process-based standard rather than an equipment-based standard, production of each ester would constitute a separate MCPU. This means the MCPU for a particular ester exists whenever that ester is being produced in any equipment (i.e., both reactor trains could be part of the same MCPU from time to time, but only if they are both used to produce the same ester). Between these two extremes are potentially numerous scenarios where various esters are part of a FOM and others are not. Since one reactor train is dedicated to the production of methyl esters, the two reactor trains would be part of the same MCPU only under conditions similar to those described for the two extremes (i.e., for each FOM that uses both reactors, or for any individual methyl ester that is not part of a FOM and is

produced using both reactors). Finally, note that if any of the ester production processes do not use, produce, or process HAP, then the MON would not apply during production of those esters.

QA7. Does a non-dedicated unit that is subject to Subpart JJJ and for which no controls are required need to be evaluated under MON?

AA7. No, there cannot be an affected source subject to both rules at the same time. If the process unit is designated as a TPPU under subpart JJJ, then it is not subject to subpart FFFF, even when making products other than thermoplastics, unless the primary product determination changes and it is no longer subject to subpart JJJ.

Process vents

QPV1. What is the averaging period for demonstrating on-going compliance with the alternative standard for vents?

APV1. Section 63.2505(b)(7) specifies that compliance with the alternative standard is based on daily averages.

QPV2. If performance tests are conducted and show compliance with 20-ppmv limit, must a CEMS be installed or can compliance be demonstrated with surrogate parameter monitoring?

APV2. Parameter monitoring is allowed if complying with the procedures specified in sections 63.2450 through 63.2470 and Tables 1 through 4. For example, one of the emission limit options specified in Table 1 is a 20 ppmv outlet concentration limit. Section 63.2450(d) specifies that if you reduce emissions by venting emissions through a closed-vent system to a control device (to comply with emission limit in table 1), then you must meet the requirements in section 63.982(c). This section then refers you to other sections in subpart SS, including parameter monitoring requirements in 63.988(c) for combustion control devices. Alternatively, section 63.2505, the "alternative standard", is a method of compliance which specifies a 20 ppmv outlet concentration limit (for combustion devices) for which compliance must be demonstrated by using CEMS.

QPV3. For MCPUs with both batch and continuous process vents, if the batch and continuous vents are not manifolded together, is the total resource effectiveness (TRE) applied to the continuous vent and the 10,000 lb/yr exemption applied separately to the batch vents?

APV3. Yes, that is correct. Additionally, even if the streams are manifolded together, the Group status of the vents must be determined independently, but the owner/operator may use the hierarchy for combined streams at section 63.2450(c) for determining the applicable requirements.

QPV4. How are streams that are unsafe to meet required control addressed under the rule? For example, a high hydrogen-containing stream which cannot be combusted?

APV4. The rule has provisions at 63.2450(q) for a narrowly defined a class of energetics and organic peroxides producers and allows, on a case-specific basis, a procedure to request an

alternative compliance option. For these materials, the owner or operator must prepare and submit documentation in the precompliance report explaining why an undue safety hazard would be created if the air emission controls specified in 40 CFR part 63, subpart FFFF, were installed on process vents, wastewater, and storage tanks containing energetics and organic peroxides, and describing what practices would be implemented to minimize HAP emissions. The rule does not currently have procedures for other classes of compounds which may cause a safety issue.

QPV5. Is a non-dedicated process vent subject to Polymers and Resins (P&R) IV Maximum Achievable Control Technology (MACT) standard also subject to the MON? Does the TRE have to be recalculated under MON if the primary product is a P&R IV process?

APV5. No, there cannot be an affected source subject to both rules at the same time. If the process unit is designated as a thermoplastic product process (TPPU) under subpart JJJ, then it is not subject to subpart FFFF, even when making products other than thermoplastics, unless the primary product determination changes and it is no longer subject to subpart JJJ.

QPV6. Within a HON regulated CMPU, there is a periodic "unit operation" in which carbon beds are regenerated to drive off HAP. This practice results in a non-continuous vent to the control device (CVS furnace-scrubber). Uncontrolled HAP emissions are >200 lb/yr. Is this a MON regulated batch process vent? Right now, we can control this vent under our state's air toxics rule.

APV6. If the carbon beds are used as control devices to meet requirements in the HON, then they are not subject to the MON. However, if the carbon beds are used within the process (e.g., to purify a product), then they would be batch operations with batch process vents that are subject to the MON.

QPV7. Within a MON regulated MCPU there is a maintenance knock out drum. The drum is used to collect solvent (HAP) that is flushed through equipment prior to opening for maintenance. The drum bottoms are either routed back to the reactor as a feedstock, or sent off-site for disposal. What is the correct classification of this drum? Is it a surge control vessel when the material is sent back to the process and a process tank when material is sent for offsite disposal? Assuming the gas stream off of the drum is considered a batch process vent and is the only batch vent in the process, if its uncontrolled emissions are < 10,000 lb/yr and it is manifolded with a Group 1 continuous process vent, do I comply with the provision for continuous halogenated PV's in the hierarchy at section 63.2450(c)(2)(ii)?

APV7. The solvent flush and collection of spent solvent in the knock out drum is a cleaning operation that meets the definition of "shutdown" because this activity is conducted only when ceasing continuous operations, in this case to perform maintenance. Thus, the owner or operator should comply with the requirements for startup, shutdown, and malfunction for this activity as specified in sections 63.8(e), 63.998(d)(3) and (c)(1)(ii)(D), and 63.2520(d)(4) and (5). For example, procedures for this activity should be described in the facility's startup, shutdown, and malfunction plan (SSMP). Since the shutdown activity involves more than just the knock out drum, the SSMP should address procedures for operating and maintaining the process equipment to minimize emissions during the cleaning activity in addition to procedures for the knockout

drum. The ultimate disposition of both layers from the knock out drum do not affect the requirements, except that they must be described in the SSMP.

QPV8. A MON MCPU and several HON chemical manufacturing process units (CMPU's) share a common control device. A HON performance test was performed in 1998. The MON MCPU was constructed in 2001, after the performance test. Can the facility use the HON test for the MON compliance demonstration?

APV8. Section 63.997 of subpart SS governs the use of prior test results. The owner or operator should request permission to substitute a prior test by written application to the Administrator as specified in 63.999(a)(1)(iv). For MON batch process vents, requirements of section 63.1257(b)(8) must be met.

Wastewater

QWW1. Is the HAP content in hydrocarbon included in the determination of wastewater (WW) characteristics, or are hydrocarbons presumed to be removed by the recovery device?

AWW1. HAPs in all phases of wastewater, not just aqueous phase, must be included in the Group determination.

QWW2. Can a recovery device (to remove hydrocarbons) be physically located downstream at the wastewater treatment plant (WWTP), or does it have to be at the process area?

AWW2. A recovery device may be located at the WWTP

QWW3. Can hydrocarbon recovered in a WW stream stripper be returned to the process, or does it have to be destroyed?

AWW3. Recovered chemicals may be returned to the process.

QWW4. A MON plant routes its wastewater to the wastewater treatment system of an adjacent paper mill (owned by the same company).

- Does the paper mill need to submit an initial notification that it will be receiving/treating MON wastewater?
- Is the paper mill considered an "off-site treater"?

AWW4. "Major source means any ...group of stationary sources located within a contiguous area under common control ..." Therefore, the paper mill would be part of the source and not an off-site treater.

QWW5. In determining the "annual average flow rate" for a wastewater stream from batch operations, do you always assume 8760 hours/year operation, or do you divide by total hours of batch activity?

AWW5. Assume 8760 hr/yr, as in the HON.

QWW6. What are the requirements for wastewater going to a RCRA incinerator?

AWW6. Wastewater going to RCRA units is covered by the rule as a compliance option. The rule lets you send the wastewater either offsite or onsite to a RCRA unit. If it goes offsite to a RCRA incinerator, section 63.2485(i)(1) allows you to document in the notification of compliance status report that the wastewater will be treated as hazardous waste at an offsite facility that meets the requirements of section 63.138(h) and waives the requirement for the offsite treater to submit certification. Note that the notice required by section 63.132(g)(1)(ii), that must accompany each shipment, has not been overridden, and that the stringency determination requirements of section 63.2535(g) must still be performed and documented in the notification of compliance status report.

Equipment leaks

QEL1. Does the leak detection method for disturbed equipment have to be Method 21 or can the equipment be visual or vacuum tested?

AEL1. When complying with the requirements of subpart UU as specified in Table 6 to subpart FFFF, there is the option of complying with the pressure/vacuum testing alternative means of emission limitation in section 63.1036(b), rather than monitoring each component. Section 63.2480(c) specifies that no testing is required when flexible hose connections are the only disturbed equipment in an equipment train. Whenever any other components are disturbed, a test must be conducted as specified in 63.1036(b). Neither Method 21 or visual monitoring is part of this option.

QEL2. Are pressure relief devices (PRDs) on storage tanks subject to leak detection and repair (LDAR) under the MON? Are they considered to be in gas service? Is vacuum testing only allowed in subpart UU?

AEL2. LDAR programs don't apply to PRDs which are conservation vents on storage tanks. However, for a Group 1 storage tank, PRDs could be part of the closed vent system (CVS) to a control device and, therefore, would be subject to the requirements for CVS as specified in section 63.983 of subpart SS. A PRD that is part of a CVS on a Group 2 storage tank is not subject to CVS requirements. Subpart TT does not have provisions for vacuum testing as an alternative means of emission limitation.

QEL3. A process was originally subject to subpart I of the HON for methylene chloride at a PHARMA Plant. The process is now subject to the PHARMA MACT and its LDAR requirements, but has an approved P2 compliance plan. Is the PMPU subject to any LDAR under the MON?

AEL3. The PMPU is still part of the pharmaceuticals production affected source that is subject to subpart GGG. Thus, it is not subject to subpart FFFF. Furthermore, if the source is in compliance with the P2 alternative in subpart GGG, and the P2 alternative includes equipment in the PMPU subject to the LDAR requirements for GGG, then no LDAR is required for that equipment which is part of the P2 plan.

QEL4. If a major source has equipment that is subject to subpart I (which requires compliance through subpart H), and now has a MON affected source, can the source opt to comply only with Subpart H of the HON for all the equipment?

AEL4. Yes, section 63.2535(d) specifies that if you have an affected source (i.e., a MON affected source) and you also have equipment (anywhere at the major source) that is subject to subpart I, then you may elect to comply with the requirements of subpart H for all of the equipment.

QEL5. How does one determine the monitoring frequency for nondedicated equipment that is used to produce multiple products, some of which may use volatile organic HAP (VOHAP) and some of which may not? For example, some of the equipment components are in (VOHAP) service a few months and then empty. Some are in VOHAP service then in non-VOHAP service.

AEL5. MON LDAR requirements are in effect for the components anytime they are in VOHAP service. Subpart UU has alternative provisions in section 63.1036(c)(3)(iv) to simplify equipment monitoring for batch processes based on the proportion of the year the batch product process that is subject to the provisions of subpart UU are operating. If the source elects not to use the batch monitoring frequencies in Table 1 per section 63.1036, then the component should be monitored at the appropriate frequency per the requirements of sections 63.1025 through 63.1034. If the component is not in VOHAP service during the scheduled monitoring period, then the monitoring would be done during the next period when the equipment is in VOHAP service.

QEL6. Is valve position monitoring an acceptable means to flow monitor a bypass valve? Does the 5% minimum HAP concentration limit apply to CVS monitoring?

AEL6. Subpart FFFF references CVS requirements in subparts SS and G. Sections 63.983(a)(3)(i) in subpart SS and 63.148(f)(1) in subpart G specify that bypass monitoring may be accomplished by using a flow indicator at the entrance to the bypass line. According to the definition of flow indicator in sections 63.981 and 63.111, the valve position may be used to determine whether gas flow could be present in a line. Also, neither subpart FFFF nor the referenced CVS provisions in sections 63.983 and 63.148 specify a minimum HAP concentration level below which CVS monitoring is not required.

QEL7. Can historical quarterly monitoring data showing <2% leak rate for valves be used to begin skip monitoring for MON? Or must the historical data be monthly?

AEL7. According to section 63.1025(b)(3)(ii), monitoring data collected both before a source becomes subject to subpart FFFF and in accordance with the criteria specified in sections 63.1023(b)(1) through (5) or in section 63.1023(b)(6) may be used to qualify initially for less frequent monitoring. Thus, historical quarterly monitoring data obtained using the specified methods and showing that <2 percent of the valves are leaking may be used to qualify for skip monitoring at the appropriate frequency specified in sections 63.1026(b)(3)(ii) through (v). For example, if historical quarterly data show the percent leakers are between 1 and 2 percent, then the owner or operator may continue with quarterly monitoring after the compliance date. Note that the percent leakers determination must be based on an average from at least two sets of data in accordance with section 63.1025(c)(2).

QEL8. In the Organic Liquid Distribution (OLD) MACT if controls are not required for loading racks and storage tanks, then LDAR is not required. Why doesn't the MON have this OLD provision?

AEL8. The MON is a different source category with a different MACT floor determination.

Heat exchangers

QHE1. Does monthly monitoring of heat exchange/cooling towers need to begin on/after the compliance date or can it start early?

AHE1. Nothing in the regulation precludes the facility from early compliance with the standards.

QHE2. Does the inlet and outlet of each heat exchanger need to be tested or can groups of heat exchangers be tested? From a cooling tower, can the inlet concentration to all of the heat exchangers be tested once?

AHE2. Table 10 to subpart FFFF specifies that heat exchangers must comply with the requirements of section 63.104 for each heat exchange system. The introductory paragraph in section 63.104(b) specifies that the sample may be taken "at either the entrance and exit of each heat exchange system or at locations where the cooling water enters and exits each heat exchanger or any combination of heat exchangers." For a recirculating system, if the owner or operator elects to sample over the entire system, section 63.104(b)(1) specifies that the entrance is the point at which the cooling water leaves the cooling tower prior to being returned to the process equipment.

General requirements, recordkeeping, and reporting

QG1. There are specific requirements for hydrogen halide and halogen HAP (HF, HCl, Cl_2) for process vents, but what are the requirements, if any, for these 3 HAPs in storage tanks, equipment leaks, and/or waste water? If there are requirements, what test methods would be used to determine compliance?

AG1. Storage tank requirements make no distinction between organic HAPs and other HAPs (the maximum true vapor pressure must be determined for the HAP that are stored). Table 6 to subpart FFFF specifies that equipment leak requirements apply only to equipment that is in organic HAP service; organic HAP does not include hydrogen halide and halogen HAP. Section 63.2485(c) and Tables 8 and 9 to subpart FFFF specify which HAP are subject to wastewater requirements; hydrogen halide and halogen HAP are not included. In addition, note that all emission types are subject to requirements if the HAP are halogenated (i.e., contain organic compounds where the halogen atom content exceeds 0.45 kg/hr), and some of these requirements may be the same as for hydrogen halide and halogen HAP.

QG2. Is continuous monitoring system (CMS) equal to continuous parametric monitoring system (CPMS) in compliance report requirements? What are the requirements for continuous emissions monitoring systems (CEMS)?

AG2. According to section 63.2 of the General Provisions to 40 CFR part 63, CEMS and CPMS are different types of CMS. Table 12 to subpart FFFF specifies that CMS requirements in the General Provisions apply only to CEMS, whereas requirements for CPMS are specified in subparts G and SS. Additional requirements for CEMS are specified in section 63.2450(j) of subpart FFFF. Finally, the compliance reporting requirements in section 63.2520(e)(5)(iii) for deviations when a CMS is used to comply with an emission limit apply to both CPMS and CEMS, except for some information that is required only for CEMS (e.g., information about the date, time, and duration of out of control periods is required only for CEMS).

QG3. What is an example of an operating scenario? Would changing to a different product in the same equipment constitute a different operating scenario?

AG3. An operating scenario includes the information listed at section 63.2525(b), and the operating scenario for each MCPU is unique because it includes information specific to the product or family of materials that defines the MCPU, even if the equipment is the same as for another MCPU. Thus, changing to a different product that is not part of the same family of materials always means a different operating scenario is now applicable. Additionally, an owner or operator may opt to have multiple operating scenarios for a single product, or family of materials, in order to have the operational flexibility to employ differing compliance strategies.

QG4. If you have a Group 2 emission point that could exceed the Group 1 thresholds during an SSM event, are they required to be included in the startup, shutdown, and malfunction plan (SSMP)? If no, is it recommended? Can the owner/operator (o/o) choose to include them? How must they be reported?

AG4. Per 63.2525(j), Group 2 streams do not need to be addressed in the SSMP, even if they exceed the Group 1 threshold during an startup, shutdown, and malfunction (SSM) event. There is no requirement to report SSM of Group 2 emission streams. The o/o may choose to include Group 2 emission points in the SSMP at their discretion.

QG5. How do the definitions of batch startup and shutdown apply to batch processes. The rule states that the startup of a campaign under normal procedures (i.e., steps) is NOT a startup as defined in the rule.

AG5. That is correct. Routine operations are not considered startup or shutdown. The beginning of a campaign after maintenance or after switching to a product that has been produced in the past are considered to be routine. We consider between batches, ending a campaign, or ending a batch for planned, preventative maintenance to be routine. These routine operations include both standard and nonstandard batches. A nonstandard batch is a reasonably anticipated variation of the standard MCPU. For example, an additional purification step necessary to meet quality assurance may constitute a nonstandard batch for which additional emissions may need to be calculated. If the steps taken to put a particular batch into operation or to cease operation differ from those specified in a standard batch or nonstandard batch (i.e., are not routine), then the event would be startup or shutdown as specified in the definitions for these terms in section 63.2550(i).

QG6. Is data compression allowed under MON?

AG6. The MON refers to recordkeeping requirements in subparts SS and G. Data compression is allowed for data that meet the requirements specified in sections 63.998(b)(1), (3)(ii), (5)(i), and (5)(ii) of subpart SS and sections 63.152(f) and (g) of subpart G.

QG7. The only MON requirement for pressure release vents (PRVs) is under LDAR. For a malfunction resulting in the lifting of a PRV, is it correct to consider that excess emissions occur only if the LDAR requirement is not met (i.e., not monitored for <500 ppm leakage within 5 days after the release)?

AG7. If the o/o does not re-monitor and record the results of the monitoring after the PRV lifted, that would be a deviation of the LDAR requirements in section 63.1011(c) or section 63.1030(c). The term excess emissions applies to the SSM of process operations, i.e., the PRV lifting, according to 63.998(d)(3), as well as the SSM of the CVS or CD according to 63.998(c)(1)(ii)(D)-(G).

QG8. Can a source submit more than one precompliance report to address issues that arise after the initial submittal?

AG8. Additional reports may be submitted up to the date the precompliance report is due. After the compliance date of rule, section 63.2520(e)(10)(ii) contains the provisions for submitting items which require preapproval (submit 60 days before the change). The rule does not currently address the situation where something comes up in between the 6 month period after submittal of the precompliance report and prior to the compliance date.

QG9. Must monitoring and recordkeeping continue during periods of non-operation of process equipment (e.g., seasonal shutdown)?

AG9. Section 63.998(b)(2)(ii) specifies that any data collected during "periods of non-operation of the process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies" are to be excluded from averages used to determine compliance.

QG10. The MON references subpart SS for flare requirements. Is there a deviation if there is a data point for a steam or air-assisted flare where the net heating value of the gas being combusted is <300 BTU/scf, but the hourly average is >300 BTU/scf?.

AG10. The MON requires owners or operators using a flare to control batch or continuous vents to meet the requirements for flares in 40 CFR 63.987, which reference section 63.11(b) of the General Provisions for flare performance requirements. The 300 Btu/scf is the performance criteria established for initial compliance, not an on-going parametric monitoring requirement. The on-going parametric monitoring requirements for flares is found at section 63.987(c) and include the detection of the pilot or flare flame.

QG11. The rule requires data during SSM venting to be included in the daily averages. However, section 63.2450(a) says that the o/o must be in compliance with emission limits except during periods of SSM. This does not seem to agree with the requirement to include SSM events in the daily averages.

AG11. The o/o has to include data collected during the SSM event to know whether or not excess emissions occurred during the SSM event. Section 63.998(c)(1)(ii)(E) and (d)(3) of subpart SS require records of each SSM event during which excess emissions occur.

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Appendix B

Definitions in Subpart FFFF

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Ancillary activities means boilers and incinerators (not used to comply with the emission limits in Tables 1 through 7 to this subpart), chillers and refrigeration systems, and other equipment and activities that are not directly involved (i.e., they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a product or isolated intermediate.

Batch operation means a noncontinuous operation involving intermittent or discontinuous feed into equipment, and, in general, involves the emptying of the equipment 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.

Batch process vent means a vent from a unit operation or vents from multiple unit operations within a process that are manifolded together into a common header, through which a HAP-containing gas stream is, or has the potential to be, released to the atmosphere. Examples of batch process vents include, but are not limited to, vents on condensers used for product recovery, reactors, filters, centrifuges, and process tanks. The following are not batch process vents for the purposes of this subpart:

(1) Continuous process vents;

(2) Bottoms receivers;

(3) Surge control vessels;

(4) Gaseous streams routed to a fuel gas system(s);

(5) Vents on storage tanks, wastewater emission sources, or pieces of equipment subject to the emission limits and work practice standards in Tables 4, 6, and 7 to this subpart;

(6) Drums, pails, and totes;

(7) Flexible elephant trunk systems that draw ambient air (i.e., the system is not ducted, piped, or otherwise connected to the unit operations) away from operators when vessels are opened; and

(8) Emission streams from emission episodes that are undiluted and uncontrolled containing less than 50 ppmv HAP are not part of any batch process vent. A vent from a unit operation, or a vent from multiple unit operations that are manifolded together, from which total uncontrolled HAP emissions are less than 200 lb/yr is not a batch process vent; emissions for all emission episodes associated with the unit operation(s) must be included in the determination of the total mass emitted. The HAP concentration or mass emission rate may be determined using any of the following: process knowledge that no HAP are present in the emission stream; an engineering assessment as discussed in §63.1257(d)(2)(ii), except that you do not need to demonstrate that the equations in §63.1257(d)(2)(i) do not apply, and the precompliance reporting requirements specified in §63.1257(d)(2)(ii)(E) do not apply for the purposes of this demonstration; equations specified in §63.1257(d)(2)(i), as applicable; test data using Method 18 of 40 CFR part 60, appendix A; or any other test method that has been validated according to the procedures in Method 301 of appendix A of this part.

Biofilter means an enclosed control system such as a tank or series of tanks with a fixed roof that contact emissions with a solid media (such as bark) and use microbiological activity to transform organic pollutants in a process vent stream to innocuous compounds such as carbon dioxide, water, and inorganic salts. Wastewater treatment processes such as aeration lagoons or activated sludge systems are not considered to be biofilters.

Bottoms receiver means a tank that collects bottoms from continuous distillation before the stream is sent for storage or for further downstream processing.

Construction means the onsite fabrication, erection, or installation of an affected source or MCPU. Addition of new equipment to an MCPU subject to existing source standards does not constitute construction, but it may constitute reconstruction of the affected source or MCPU if it satisfies the definition of reconstruction in §63.2.

Consumption means the quantity of all HAP raw materials entering a process in excess of the theoretical amount used as reactant, assuming 100 percent stoichiometric conversion. The raw materials include reactants, solvents, and any other additives. If a HAP is generated in the process as well as added as a raw material, consumption includes the quantity generated in the process.

Continuous operation means any operation that is not a batch operation.

Continuous process vent means the point of discharge to the atmosphere (or the point of entry into a control device, if any) of a gas stream if the gas stream has the characteristics specified in §63.107(b) through (h), or meets the criteria specified in §63.107(i), except:

(1) The reference in §63.107(e) to a chemical manufacturing process unit that meets the criteria of §63.100(b) means an MCPU that meets the criteria of §63.2435(b);

(2) The reference in §63.107(h)(4) to §63.113 means Table 1 to this subpart;

(3) The references in §63.107(h)(7) to §§63.119 and 63.126 mean Tables 4 and 5 to this subpart; and

(4) For the purposes of §63.2455, all references to the characteristics of a process vent (e.g., flowrate, total HAP concentration, or TRE index value) mean the characteristics of the gas stream.

(5) The reference to "total organic HAP" in §63.107(d) means "total HAP" for the purposes of this subpart FFFF.

(6) The references to an "air oxidation reactor, distillation unit, or reactor" in §63.107 mean any continuous operation for the purposes of this subpart.

(7) A separate determination is required for the emissions from each MCPU, even if emission streams from two or more MCPU are combined prior to discharge to the atmosphere or to a control device.

Dedicated MCPU means an MCPU that consists of equipment that is used exclusively for one process, except that storage tanks assigned to the process according to the procedures in §63.2435(d) also may be shared by other processes.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limit, operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Emission point means each continuous process vent, batch process vent, storage tank, transfer rack, and wastewater stream.

Energetics means propellants, explosives, and pyrotechnics and include materials listed at 49 CFR 172.101 as Hazard Class I Hazardous Materials, Divisions 1.1 through 1.6.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic HAP service; and any control devices or systems used to comply with Table 6 to this subpart.

Excess emissions means emissions greater than those allowed by the emission limit.

Family of materials means a grouping of materials with the same basic composition or the same basic end use or functionality produced using the same basic feedstocks with essentially identical HAP emission profiles (primary constituent and relative magnitude on a pound per product basis) and manufacturing equipment configuration. Examples of families of materials include multiple grades of the same product or different variations of a product (e.g., blue, black, and red resins).

Group 1 batch process vent means each of the batch process vents in a process for which the collective uncontrolled organic HAP emissions from all of the batch process vents are greater than or equal to 10,000 lb/yr at an existing source or greater than or equal to 3,000 lb/yr at a new source.

Group 2 batch process vent means each batch process vent that does not meet the definition of Group 1 batch process vent.

Group 1 continuous process vent means a continuous process vent for which the flow rate is greater than or equal to 0.005 standard cubic meter per minute, and the total resource effectiveness index value, calculated according to §63.2455(b), is less than or equal to 1.9 at an existing source and less than or equal to 5.0 at a new source.

Group 2 continuous process vent means a continuous process vent that does not meet the definition of a Group 1 continuous process vent.

Group 1 storage tank means a storage tank with a capacity greater than or equal to 10,000 gal storing material that has a maximum true vapor pressure of total HAP greater than or equal to 6.9 kilopascals at an existing source or greater than or equal to 0.69 kilopascals at a new source.

Group 2 storage tank means a storage tank that does not meet the definition of a Group 1 storage tank.

Group 1 transfer rack means a transfer rack that loads more than 0.65 million liters/year of liquids that contain organic HAP with a rack-weighted average partial pressure, as defined in §63.111, greater than or equal to 1.5 pound per square inch absolute.

Group 2 transfer rack means a transfer rack that does not meet the definition of a Group 1 transfer rack.

Group 1 wastewater stream means a wastewater stream consisting of process wastewater at an existing or new source that meets the criteria for Group 1 status in §63.2485(c) for compounds in Tables 8 and 9 to this subpart and/or a wastewater stream consisting of process wastewater at a new source that meets the criteria for Group 1 status in §63.132(d) for compounds in Table 8 to subpart G of this part 63.

Group 2 wastewater stream means any process wastewater stream that does not meet the definition of a Group 1 wastewater stream.

Halogen atoms mean chlorine and fluorine.

HAP metals means the metal portion of antimony compounds, arsenic compounds, beryllium compounds, cadmium compounds, chromium compounds, cobalt compounds, lead compounds, manganese compounds, mercury compounds, nickel compounds, and selenium compounds.

Halogenated vent stream means a vent stream determined to have a mass emission rate of halogen atoms contained in organic compounds of 0.45 kilograms per hour or greater determined by the procedures presented in §63.115(d)(2)(v).

Hydrogen halide and halogen HAP means hydrogen chloride, hydrogen fluoride, and chlorine.

In organic HAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP as determined according to the provisions of §63.180(d). The provisions of §63.180(d) also specify how to determine that a piece of equipment is not in organic HAP service.

Isolated intermediate means a product of a process that is stored before subsequent processing. An isolated intermediate is usually a product of a chemical synthesis, fermentation, or biological extraction process. Storage of an isolated intermediate marks the end of a process. Storage occurs at any time the intermediate is placed in equipment used solely for storage. The storage equipment is part of the MCPU that produces the isolated intermediate and is not assigned as specified in §63.2435(d).

Large control device means a control device that controls total HAP emissions of greater than or equal to 10 tpy, before control.

Maintenance wastewater means wastewater generated by the draining of process fluid from components in the MCPU into an individual drain system in preparation for or during maintenance activities. Maintenance wastewater can be generated during planned and unplanned shutdowns and during periods not associated with a shutdown. Examples of activities that can generate maintenance wastewater include descaling of heat exchanger tubing bundles, cleaning of distillation column traps, draining of pumps into an individual drain system, and draining of portions of the MCPU for repair. Wastewater from routine cleaning operations occurring as part of batch operations is not considered maintenance wastewater.

Maximum true vapor pressure has the meaning given in §63.111, except that it applies to all HAP rather than only organic HAP.

Miscellaneous organic chemical manufacturing process means all equipment which collectively function to produce a product or isolated intermediate that are materials described in §63.2435(b). For the purposes of this subpart, process includes any, all or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate. A process is also defined by the following:

(1) Routine cleaning operations conducted as part of batch operations are considered part of the process;

(2) Each nondedicated solvent recovery operation is considered a single process;

(3) Each nondedicated formulation operation is considered a single process that is used to formulate numerous materials and/or products; and

(4) Quality assurance/quality control laboratories are not considered part of any process; and

(5) Ancillary activities are not considered a process or part of any process.

(6) The end of a process that produces a solid material is either up to and including the dryer or extruder, or for a polymer production process without a dryer or extruder, it is up to and including the extruder, die plate, or solid-state reactor, except in two cases. If the dryer, extruder, die plate, or solid-state reactor is followed by an operation that is designed and operated to remove HAP solvent or residual HAP monomer from the solid, then the solvent removal operation is the last step in the process. If the dried solid is diluted or mixed with a HAP-based solvent, then the solvent removal operation is the last step in the process.

Nondedicated solvent recovery operation means a distillation unit or other purification equipment that receives used solvent from more than one MCPU.

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.

On-site or on site means, with respect to records required to be maintained by this subpart or required by another subpart referenced by this subpart, that records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the affected source or MCPU to which the records pertain, or storage in central files elsewhere at the major source.

Operating scenario means, for the purposes of reporting and recordkeeping, any specific operation of an MCPU as described by records specified in §63.2525(b).

Organic group means structures that contain primarily carbon, hydrogen, and oxygen atoms.

Organic peroxides means organic compounds containing the bivalent -o-o- structure which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

Point of determination means each point where process wastewater exits the MCPU or control device.

Note to definition for point of determination: The regulation allows determination of the characteristics of a wastewater stream: At the point of determination; or downstream of the point of determination if corrections are made for changes in flow rate and annual average concentration of soluble HAP and partially soluble HAP compounds as determined according to procedures in §63.144 of subpart G in this part 63. Such changes include losses by air emissions; reduction of annual average concentration or changes in flow rate by mixing with other water or wastewater streams; and reduction in flow rate or annual average concentration by treating or otherwise handling the wastewater stream to remove or destroy HAP.

Predominant HAP means as used in calibrating an analyzer, the single organic HAP that constitutes the largest percentage of the total organic HAP in the analyzed gas stream, by volume.

Process condenser means a condenser whose primary purpose is to recover material as an integral part of an MCPU. All condensers recovering condensate from an MCPU 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 MCPU 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, or

(2) To remove water vapor that would negatively affect the adsorption capacity of carbon in a downstream carbon adsorber, or

(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 tank means a tank or vessel that is used within a process to collect material discharged from a feedstock storage tank or equipment within the process before the material is transferred to other

equipment within the process or a product storage tank. A process tank has emissions that are related to the number of batches, and it does not accumulate product over multiple batches. A tank that is used to accumulate used solvent from multiple batches of a single process for purposes of solvent recovery is a process tank and does not represent the end of a process. Surge control vessels and bottoms receivers are not process tanks.

Production-indexed HAP consumption factor (HAP factor) means the result of dividing the annual consumption of total HAP by the annual production rate, per process.

Production-indexed VOC consumption factor (VOC factor) means the result of dividing the annual consumption of total VOC by the annual production rate, per process.

Quaternary ammonium compounds means a type of organic nitrogen compound in which the molecular structure includes a central nitrogen atom joined to four organic groups as well as an acid radical of some sort.

Recovery device means an individual unit of equipment used for the purpose of recovering chemicals from process vent streams and from wastewater streams for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. For the purposes of meeting requirements in Table 2 to this subpart, the recovery device must not be a process condenser and must recover chemicals to be reused in a process on site. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. To be a recovery device for a wastewater stream, a decanter and any other equipment based on the operating principle of gravity separation must receive only multi-phase liquid streams.

Responsible official means responsible official as defined in 40 CFR 70.2.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purposes of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes and practices, or other requirements for the safe handling of flammable, combustible, explosive, reactive, or hazardous materials.

Shutdown means the cessation of operation of a continuous operation for any purpose. Shutdown also means the cessation of a batch operation, or any related individual piece of equipment required or used to comply with this subpart, if the steps taken to cease operation differ from those described in a standard batch or nonstandard batch. Shutdown also applies to emptying and degassing storage vessels. Shutdown does not apply to cessation of batch operations at the end of a campaign or between batches within a campaign when the steps taken are routine operations.

Small control device means a control device that controls total HAP emissions of less than 10 tpy, before control.

Standard batch means a batch process operated within a range of operating conditions that are documented in an operating scenario. Emissions from a standard batch are based on the operating conditions that result in highest emissions. The standard batch defines the uncontrolled and controlled emissions for each emission episode defined under the operating scenario.

Startup means the setting in operation of a continuous operation for any purpose; the first time a new or reconstructed batch operation begins production; for new equipment added, including equipment required or used to comply with this subpart, the first time the equipment is put into operation; or for the introduction of a new product/process, the first time the product or process is run in equipment. For batch operations, startup applies to the first time the equipment is put into operation at the start of a campaign to produce a product that has been produced in the past if the steps taken to begin production differ from those specified in a standard batch or nonstandard batch. Startup does not apply when the equipment is put into operation as part of a batch within a campaign when the steps taken are routine operations.

Storage tank means a tank or other vessel that is used to store liquids that contain organic HAP and/or hydrogen halide and halogen HAP and that has been assigned to an MCPU according to the procedures in §63.2435(d). The following are not considered storage tanks for the purposes of this subpart:

(1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;
(2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;
(3) Vessels storing organic liquids that contain HAP only as impurities;
(4) Wastewater storage tanks;
(5) Bottoms receivers;
(6) Surge control vessels; and
(7) Process tanks.

Supplemental gases 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 gases. Air required to operate combustion device burner(s) is not considered supplemental gases.

Surge control vessel means feed drums, recycle drums, and intermediate vessels as part of any continuous operation. Surge control vessels are used within an MCPU when in-process storage, mixing, or management of flowrates or volumes is needed to introduce material into continuous operations.

Total organic compounds or (TOC) means the total gaseous organic compounds (minus methane and ethane) in a vent stream.

Transfer rack means the collection of loading arms and loading hoses, at a single loading rack, that are assigned to an MCPU according to the procedures specified in §63.2435(d) and are used to fill tank trucks and/or rail cars with organic liquids that contain one or more of the organic HAP listed in section 112(b) of the CAA of this subpart. Transfer rack includes the associated pumps, meters, shutoff valves, relief valves, and other piping and valves.

Unit operation means those processing steps that occur within distinct equipment that are used, among other things, to prepare reactants, facilitate reactions, separate and purify products, and recycle materials. Equipment used for these purposes includes, but is not limited to, reactors, distillation columns, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

Waste management unit means the equipment, structure(s), and/or device(s) used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include

wastewater tanks, air flotation units, surface impoundments, containers, oil-water or organic-water separators, individual drain systems, biological wastewater treatment units, waste incinerators, and organic removal devices such as steam and air stripper units, and thin film evaporation units. If such equipment is being operated as a recovery device, then it is part of a miscellaneous organic chemical manufacturing process and is not a waste management unit.

Wastewater means water that is discarded from an MCPU or control device through a POD and that contains either: an annual average concentration of compounds in Tables 8 and 9 to this subpart of at least 5 ppmw and has an annual average flowrate of 0.02 liters per minute or greater; or an annual average concentration of compounds in Tables 8 and 9 to this subpart of at least 10,000 ppmw at any flowrate. Wastewater means process wastewater or maintenance wastewater. The following are not considered wastewater for the purposes of this subpart:

(1) Stormwater from segregated sewers;
(2) Water from fire-fighting and deluge systems, including testing of such systems;
(3) Spills;
(4) Water from safety showers;
(5) Samples of a size not greater than reasonably necessary for the method of analysis that is used;
(6) Equipment leaks;
(7) Wastewater drips from procedures such as disconnecting hoses after cleaning lines; and
(8) Noncontact cooling water.

Wastewater stream means a stream that contains only wastewater as defined in this paragraph (i).

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

Appendix C

Summary of Initial Compliance Requirements for Process Vents and Monitoring Requirements for Various Types of Vent Streams

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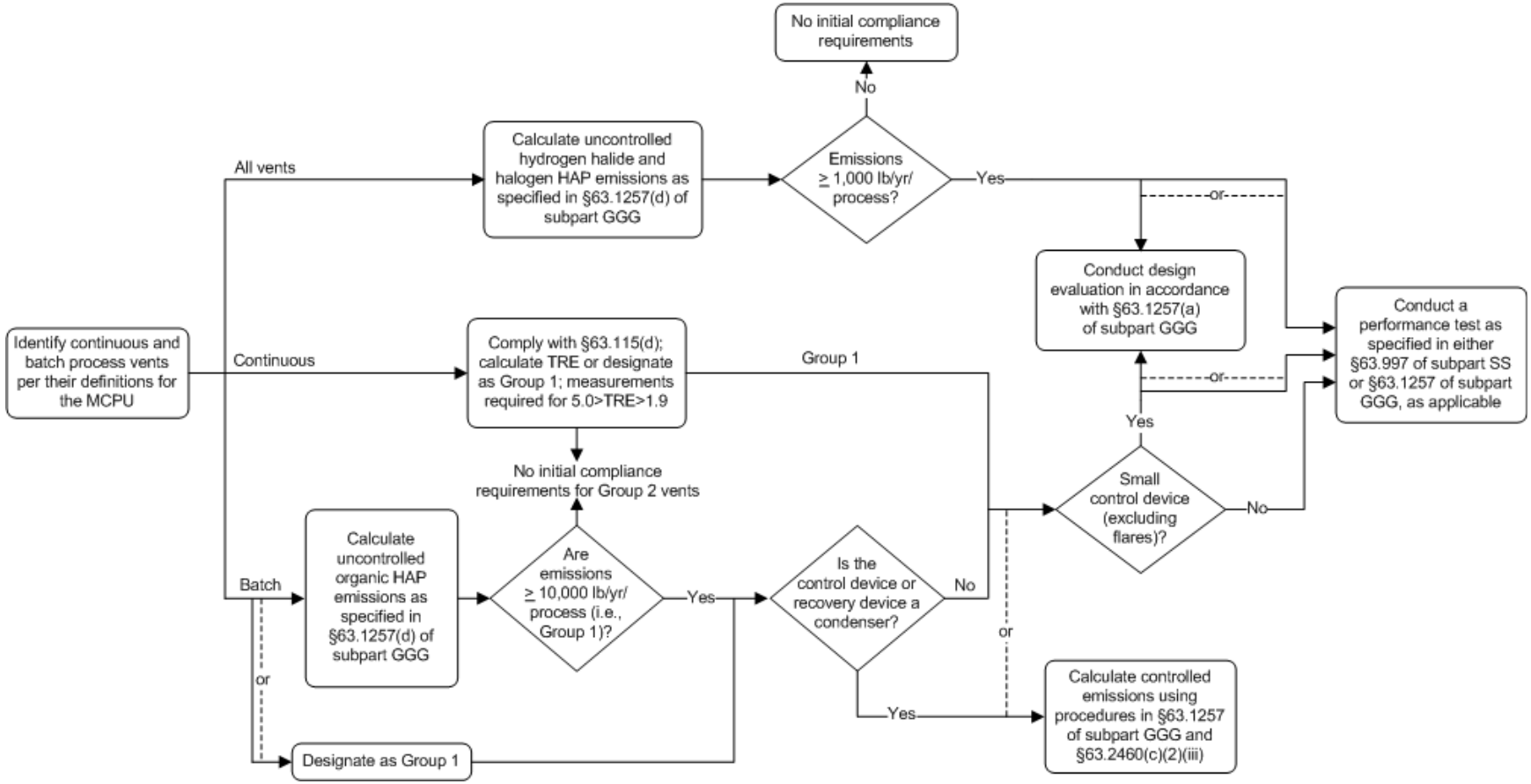

Figure C-1. Initial compliance demonstration for process vents.

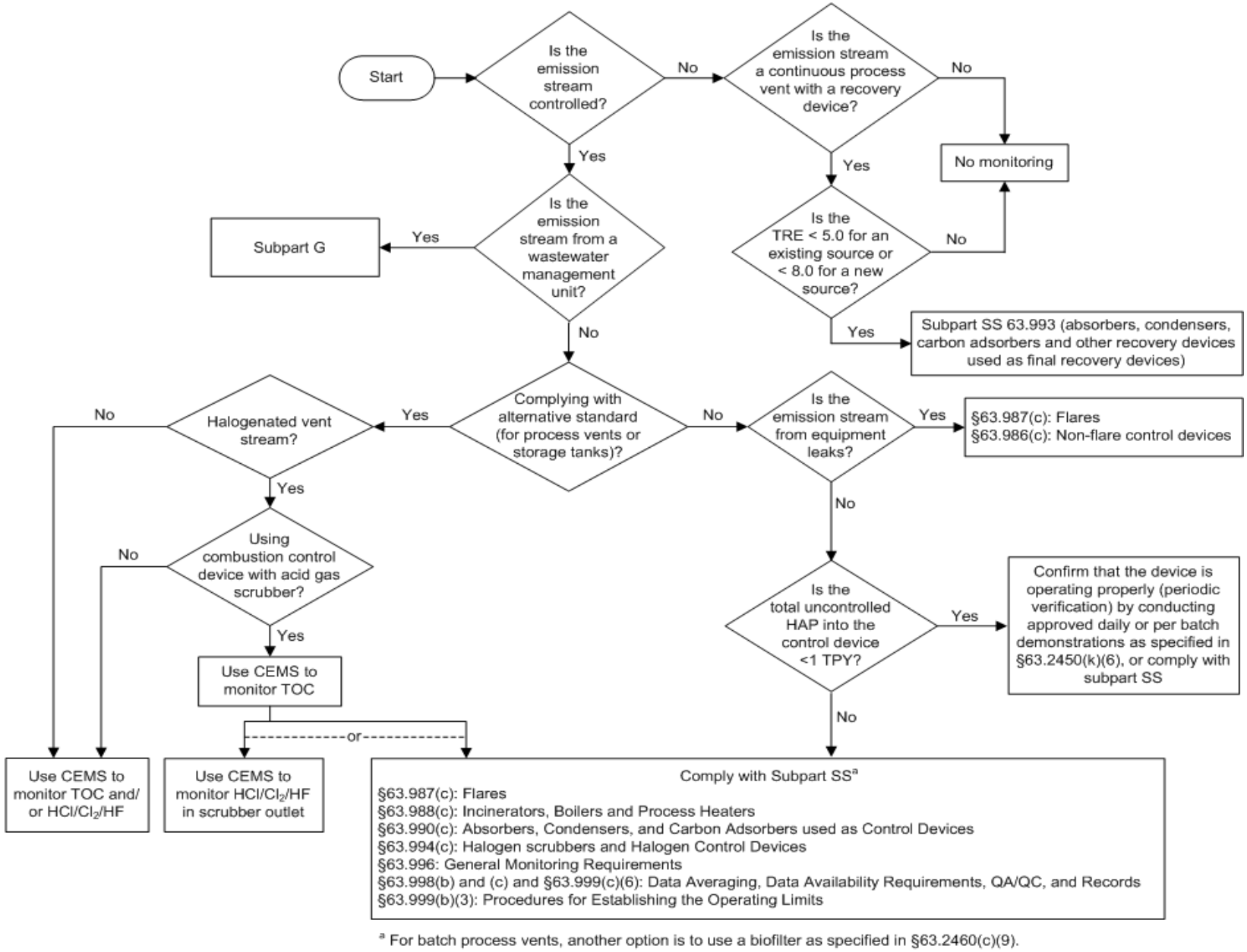

Figure C-2. Monitoring of vent streams.

Appendix D

Inspection and Monitoring Requirements for Waste Management Units as Specified in Table 11 to 40 CFR Part 63, Subpart G

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TABLE 11.—WASTEWATER—INSPECTION AND MONITORING REQUIREMENTS FOR WASTE MANAGEMENT UNITS

To comply with	Inspection or monitoring requirement	Frequency of inspection or monitoring	Method
Tanks:			
63.133(b)(1)	Inspect fixed roof and all openings for leaks	Initially Semi-annually	Visual.
63.133(c)	Inspect floating roof in accordance with §§63.120 (a)(2) and (a)(3).	See §63.120 (a)(2) and (a)(3).	Visual.
63.133(d)	Measure floating roof seal gaps in accordance with §§63.120 (b)(2)(i) through (b)(4).		See §63.120 (b)(2)(i) through (b)(4).
	—Primary seal gaps	Once every 5 years Initially Annually.	
	—Secondary seal gaps	.	
63.133(f) 63.133(g)	Inspect wastewater tank for control equipment failures and improper work practices.	Initially Semi-annually	Visual.
Surface impoundments:			
63.134(b)(1)	Inspect cover and all openings for leaks	Initially Semi-annually	Visual.
63.134(c)	Inspect surface impoundment for control equipment failures and improper work practices.	Initially Semi-annually	Visual.
Containers:			
63.135(b)(1), 63.135(b)(2) (ii).	Inspect cover and all openings for leaks	Initially Semi-annually	Visual.
63.135(d)(1)	Inspect enclosure and all openings for leaks	Initially Semi-annually	Visual.
63.135(e)	Inspect container for control equipment failures and improper work practices.	Initially Semi-annually	Visual.
Individual Drain Systems[a]:			
63.136(b)(1)	Inspect cover and all openings to ensure there are no gaps, cracks, or holes.	Initially Semi-annually	Visual.
63.136(c)	Inspect individual drain system for control equipment failures and improper work practices.	Initially Semi-annually	Visual.
63.136(e)(1)	Verify that sufficient water is present to properly maintain integrity of water seals.	Initially Semi-annually	Visual.
63.136(e)(2), 63.136(f)(1).	Inspect all drains using tightly-fitted caps or plugs to ensure caps and plugs are in place and properly installed.	Initially Semi-annually	Visual.

TABLE 11.—WASTEWATER—INSPECTION AND MONITORING REQUIREMENTS FOR WASTE MANAGEMENT UNITS—Continued

To comply with	Inspection or monitoring requirement	Frequency of inspection or monitoring	Method
63.136(f)(2)	Inspect all junction boxes to ensure covers are in place and have no visible gaps, cracks, or holes.	Initially Semi-annually	Visual or smoke test or other means as specified.
63.136(f)(3)	Inspect unburied portion of all sewer lines for cracks and gaps.	Initially Semi-annually	Visual.
Oil-water separators:			
63.137(b)(1)	Inspect fixed roof and all openings for leaks	Initially Semi-annually	Visual.
63.137(c)	Measure floating roof seal gaps in accordance with 40 CFR 60.696(d)(1).	Initially[b]	See 40 CFR 60.696(d)(1).
	—Primary seal gaps	Once every 5 years.	
63.137(c)	—Secondary seal gaps	Initially[b] Annually.	
63.137(d)	Inspect oil-water separator for control equipment failures and improper work practices.	Initially Semi-annually	Visual.

[a] As specified in §63.136(a), the owner or operator shall comply with either the requirements of §63.136 (b) and (c) or §63.136 (e) and (f).
[b] Within 60 days of installation as specified in §63.137(c).

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Appendix E

Control Equipment Failure for Waste Management Units

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Table E-1. Example Control Equipment Failures for Waste Management Units

For each . . .	Control equipment failures include, but are not limited to . . .	According to the following section of the rule . . .
wastewater tank	• the floating roof is not resting on either the surface of the liquid or on the leg supports • there is stored liquid on the floating roof • a rim seal is detached from the floating roof • there are holes, tears, cracks, or gaps in the rim seal or seal fabric of the floating roof • there are visible gaps between the seal of an internal floating roof and the wall of the wastewater tank • there are gaps between the metallic shoe seal or the liquid mounted primary seal of an external floating roof and the wasll of the wastewater tank that exceed 212 square centimeters per meter of tank diameter or the width of any portion oof any gap between the primary seal and the tank wall exceeds 3.81 centimeters • there are gaps between the secondary seal of an external floating roof and the wall of the wastewater tank that exceed 21.2 square centimeters per meter of tank diameter or the width of any portion of any gap between the secondary seal and the tank wall exceeds 1.27 centimeters • where a metallic shoe seal is used on an external floating roof, one end of the metallic shoe does not extend into the stored liquid or one end of the metallic shoe does not extend a minimum vertical distance of 61 centimeters above the surface of the stored liquid • a gasket, joint, lid, cover, or door has a crack, gap, or is broken	§63.133(g)(1)(i) through (ix)
surface impoundment	any time a joint, lid, cover, or door has a crack or gap, or is broken	§63.134(c)(2)
container	any time a cover or door has a gap, crack, or is broken	§63.135(e)(2)
individual drain system covered in accordance with §63.136(b)	any time a joint, lid, cover, or door has a gap or crack, or is broken	§63.136(c)(2)

For each . . .	Control equipment failures include, but are not limited to . . .	According to the following section of the rule . . .
oil-water separator	• the floating roof is not resting on either the surface of the liquid or on the leg supports • there is stored liquid on the floating roof • a rim seal is detached from the floating roof • there are holes, tears, or other open spaces in the rim seal or seal fabric of the floating roof • there are gaps between the primary seal and the separator wall that exceed 67 square centimeters per meter of separator wall perimeter or the width of any portion of any gap between the primary seal and the separator wall exceeds 3.8 centimeters • there are gaps between the secondary seal and the separator wall that exceed 6.7 square centimeters per meter of separator wall perimeter or the width of any portion of any gap between the secondary seal and the separator wall exceeds 1.3 centimeters • a gasket, joint, lid, cover, or door has a gap or crack, or is broken	§63.137(e)(1)(i) through (vii)