

complying with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams. For sources referenced to this part from 40 CFR part 63, subpart H, and if the purged process fluid does not contain any organic HAP listed in table 9 of 40 CFR part 63, subpart G, the waste management unit need not be subject to and operated in compliance with the requirements of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams provided the facility has a National Pollution Discharge Elimination System (NPDES) permit or sends the wastewater to an NPDES-permitted facility.

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR parts 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(5) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

(d) *In-situ sampling systems.* In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (b) and (c) of this section.

**§ 65.114 Standards: Open-ended valves or lines.**

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the implementation date specified in § 65.1(f) of subpart A of this part.

(b) *Equipment and operational requirements.* (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve except as provided in § 65.102(b) and paragraphs (c) and (d) of this section. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance. The operational provisions of paragraphs (b)(2) and (b)(3) of this section also apply.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (b)(1) of this section at all other times.

(c) *Emergency shutdown exemption.* Open-ended valves or lines in an

emergency shutdown system that are designed to open automatically in the event of a process upset are exempt from the requirements of paragraph (b) of this section.

(d) *Polymerizing materials exemption.* Open-ended valves or lines containing materials that would autocatalytically polymerize or would present an explosion, serious over pressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraph (b) of this section are exempt from the requirements of paragraph (b) of this section.

**§ 65.115 Standards: Closed vent systems and control devices; or emissions routed to a fuel gas system or process.**

(a) *Compliance schedule.* The owner or operator shall comply with this section no later than the implementation date specified in § 65.1(f) of subpart A of this part.

(b) *Compliance standard.* (1) Owners or operators of closed vent systems and nonflare control devices used to comply with provisions of this subpart shall design and operate the closed vent systems and nonflare control devices to reduce emissions of regulated material with an efficiency of 95 percent or greater or to reduce emissions of regulated material to a concentration of 20 parts per million by volume or, for an enclosed combustion device, to provide a minimum residence time of 0.50 second at a minimum of 760 °C (1400 °F). Owners and operators of closed vent systems and nonflare control devices used to comply with this part shall comply with the provisions of § 65.142(d) of subpart G of this part, except as provided in § 65.102(b). Note that this includes the startup, shutdown, and malfunction plan specified in § 65.6.

(2) Owners or operators of closed vent systems and flares used to comply with the provisions of this subpart shall design and operate the flare as specified in § 65.142(d) of subpart G of this part, except as provided in § 65.102(b). Note that this includes the startup, shutdown, and malfunction plan specified in § 65.6.

(3) Owners or operators routing emissions from equipment leaks to a fuel gas system or process shall comply with the provisions of § 65.142(d) of subpart G of this part, except as provided in § 65.102(b).

**§ 65.116 Quality improvement program for pumps.**

(a) *Criteria.* If, on a 6-month rolling average, at least the greater of either 10 percent of the pumps in a process unit

(or plant site) or three pumps in a process unit (or plant site) leak, the owner or operator shall comply with the requirements specified in paragraphs (a)(1) and (a)(2) of this section.

(1) Pumps that are in food/medical service or in polymerizing monomer service shall comply with all requirements except for those specified in paragraph (d)(8) of this section.

(2) Pumps that are not in food/medical or polymerizing monomer service shall comply with all requirements of this section.

(b) *Exiting the QIP.* The owner or operator shall comply with the requirements of this section until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps calculated as a 6-month rolling average in the process unit (or plant site). Once the performance level is achieved, the owner or operator shall comply with the requirements in § 65.107.

(c) *Resumption of QIP.* If in a subsequent monitoring period, the process unit (or plant site) has greater than 10 percent of the pumps leaking or three pumps leaking (calculated as a 6-month rolling average), the owner or operator shall resume the quality improvement program starting at performance trials.

(d) *QIP requirements.* The quality improvement program shall meet the requirements specified in paragraphs (d)(1) through (d)(8) of this section.

(1) The owner or operator shall comply with the requirements in § 65.107.

(2) *Data collection.* The owner or operator shall collect the data specified in paragraphs (d)(2)(i) through (d)(2)(v) of this section and maintain records for each pump in each process unit (or plant site) subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or plant site basis.

(i) Pump type (for example, piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (for example, external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed.

(ii) Service characteristics of the stream such as discharge pressure, temperature, flow rate, corrosivity, and annual operating hours.

(iii) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation.

(iv) If a leak is detected, the repair methods used and the instrument readings after repair.

(v) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance.

(3) The owner or operator shall continue to collect data on the pumps as long as the process unit (or plant site) remains in the quality improvement program.

(4) *Pump or pump seal inspection.* The owner or operator shall inspect all pumps or pump seals that exhibited frequent seal failures and were removed from the process unit due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

(5) *Data analysis.* (i) The owner or operator shall analyze the data collected to comply with the requirements of paragraph (d)(2) of this section to determine the services, operating or maintenance practices, and pump or pump seal designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process-specific factors.

(ii) The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the process unit or plant site. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit (or plant site).

(iii) The analysis shall include consideration of the information specified in paragraphs (d)(5)(iii)(A) through (d)(5)(iii)(C) of this section.

(A) The data obtained from the inspections of pumps and pump seals

removed from the process unit due to leaks;

(B) Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services; and

(C) Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter- or intracompany program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of the quality improvement program. The first analysis shall be performed using data collected for a minimum of 6 months. An analysis of the data shall be done each year the process unit is in the quality improvement program.

(6) *Trial evaluation program.* A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify use of superior performing pump seal technology or pumps that can be applied to the areas identified as having poorer than average performance except as provided in paragraph (d)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit (or plant site) the pump designs or seal technologies, and operating and maintenance practices that have been identified by others as having low emission performance.

(i) The trial evaluation program shall include on-line trials of pump seal technologies or pump designs and operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 10 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing pump seal technologies or pumps is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in paragraph (e)(3)(ii) of this section.

(ii) The number of pump seal technologies or pumps in the trial evaluation program shall be the lesser of 1 percent or two pumps for programs

involving single process units and the lesser of 1 percent or five pumps for programs involving a plant site or groups of process units. The minimum number of pumps or pump seal technologies in a trial program shall be one.

(iii) The trial evaluation program shall specify and include documentation of the information specified in paragraphs (d)(6)(iii)(A) through (d)(6)(iii)(D) of this section.

(A) The candidate superior performing pump seal designs or technologies to be evaluated, the stages for evaluating the identified candidate pump designs or pump seal technologies, including the time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps.

(iv) The performance trials shall initially be conducted at least for a 6-month period beginning not later than 18 months after the start of the quality improvement program. No later than 24 months after the start of the quality improvement program, the owner or operator shall have identified pump seal technologies or pump designs that combined with appropriate process, operating, and maintenance practices operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified except as provided in paragraph (d)(6)(vi) of this section. The initial list of superior emission performance pump designs or pump seal technologies shall be amended in the future, as appropriate, as additional information and experience are obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 employees shall be exempt from trial evaluations of pump seals or pump designs. Plant sites exempt from the trial evaluations of pumps shall begin the pump seal or pump replacement program at the start of the fourth year of the quality improvement program.

(vi) An owner or operator who has conducted performance trials on all alternative superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance

trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible alternative superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) *Quality assurance program.* Each owner or operator shall prepare and implement a pump quality assurance program that details purchasing specifications and maintenance procedures for all pumps and pump seals in the process unit. The quality assurance program may establish any number of categories, or classes, of pumps as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (d)(5) of this section, if applicable, the findings of the trial evaluation required in paragraph (d)(6) of this section, and the operating conditions in the process unit. The quality assurance program shall be updated each year as long as the process unit has the greater of either 10 percent or more leaking pumps or has three leaking pumps.

(i) The quality assurance program shall meet the requirements specified in paragraphs (d)(7)(i)(A) through (d)(7)(i)(D) of this section.

(A) Establish minimum design standards for each category of pumps or pump seal technology. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or the pump seal;

(C) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the plant site or process unit or by a designated representative; and

(D) Detail off-line pump maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished pumps and pump seals will meet the design specifications for the pump category

and will operate so that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees, and no later than the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees.

(8) *Pump or pump seal replacement.* Beginning at the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees and at the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees, the owner or operator shall replace as described in paragraphs (d)(8)(i) and (d)(8)(ii) of this section the pumps or pump seals that are not superior emission performance technology with pumps or pump seals that have been identified as superior emission performance technology and that comply with the quality assurance standards for the pump category. Superior emission performance technology is that category or design of pumps or pump seals with emission performance that when combined with appropriate process, operating, and maintenance practices will result in less than 10 percent leaking pumps for specific applications in the process unit or plant site. Superior emission performance technology includes material or design changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent, or pump replacement.

(i) Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in light liquid service. The calculated value shall be rounded to the nearest nonzero integer value. The minimum number of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of § 65.107 are pumps determined to be superior performance technology.

(ii) The owner or operator may delay replacement of pump seals or pumps with superior technology until the next planned process unit shutdown provided the number of pump seals and pumps replaced is equivalent to the 20 percent or greater annual replacement rate.

(iii) The pumps shall be maintained as specified in the quality assurance program.

(e) *QIP recordkeeping.* In addition to the records required by paragraph (d)(2) of this section, the owner or operator shall maintain records for the period of the quality improvement program for the process unit as specified in paragraphs (e)(1) through (e)(6) of this section.

(1) When using a pump quality improvement program as specified in this section, record the information specified in paragraphs (e)(1)(i) through (e)(1)(iii) of this section.

(i) The rolling average percent leaking pumps.

(ii) Documentation of all inspections conducted under the requirements of paragraph (d)(4) of this section and any recommendations for design or specification changes to reduce leak frequency.

(iii) The beginning and ending dates while meeting the requirements of paragraph (d) of this section.

(2) If a leak is not repaired within 15 calendar days after discovery of the leak, the reason for the delay and the expected date of successful repair.

(3) Records of all analyses required in paragraph (d) of this section. The records will include the information specified in paragraphs (e)(3)(i) through (e)(3)(iv) of this section.

(i) A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions, and the maintenance practices.

(ii) The reasons for rejecting specific candidate superior emission performing pump technology from performance trials.

(iii) The list of candidate superior emission performing valve or pump technologies and documentation of the performance trial program items required under paragraph (d)(6)(iii) of this section.

(iv) The beginning date and duration of performance trials of each candidate superior emission performing technology.

(4) All records documenting the quality assurance program for pumps as specified in paragraph (d)(7) of this section, including records indicating that all pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance.

(5) Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in paragraph (d)(8) of this section.

(6) Information and data to show the corporation has fewer than 100 employees, including employees

providing professional and technical contracted services.

**§ 65.117 Alternative means of emission limitation: Batch processes.**

(a) *General requirement.* As an alternative to complying with the requirements of §§ 65.106 through 65.114 and 65.116, an owner or operator of a batch process that operates in regulated material service during the calendar year may comply with one of the standards specified in paragraphs (b) and (c) of this section, or the owner or operator may petition for approval of an alternative standard under the provisions of § 65.102(b). The alternative standards of this section provide the options of pressure testing or monitoring the equipment for leaks. The owner or operator may switch among the alternatives provided the change is documented as specified in paragraph (b)(7) of this section.

(b) *Pressure testing of the batch equipment.* The following requirements shall be met if an owner or operator elects to use pressure testing of batch product-process equipment to demonstrate compliance with this subpart.

(1) *Reconfiguration.* Each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train shall be pressure-tested for leaks before regulated material is first fed to the equipment and the equipment is placed in regulated material service.

(i) When the batch product-process equipment train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment.

(ii) Each batch product-process that operates in regulated material service during a calendar year shall be pressure-tested at least once during that calendar year.

(iii) Pressure testing is not required for routine seal breaks, such as changing hoses or filters, that are not part of the reconfiguration to produce a different product or intermediate.

(2) *Testing procedures.* The batch product-process equipment shall be tested either using the procedures specified in paragraph (b)(5) of this section for pressure vacuum loss or with a liquid using the procedures specified in paragraph (b)(6) of this section.

(3) *Leak detection.* (i) For pressure or vacuum tests using a gas, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 pound per square inch gauge) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss.

(ii) For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss.

(4) *Leak repair.* (i) If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before startup of the process.

(ii) If a batch product-process fails the retest or the second of two consecutive pressure tests, it shall be repaired as soon as practical but not later than 30 calendar days after the second pressure test except as specified in paragraph (e) of this section.

(5) *Gas pressure test procedure for pressure or vacuum loss.* The procedures specified in paragraphs (b)(5)(i) through (b)(5)(v) of this section shall be used to pressure test batch product-process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of paragraph (b)(3)(i) of this section.

(i) The batch product-process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively the equipment shall be placed under a vacuum.

(ii) Once the test pressure is obtained, the gas source or vacuum source shall be shut off.

(iii) The test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded. The pressure in the batch product-process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

$$\Delta(P/t) = (P_f - P_i) / (t_f - t_i) \quad (117-1)$$

Where:

$\Delta(P/t)$  = Change in pressure, pounds per square inch gauge/hr.

$P_f$  = Final pressure, pounds per square inch gauge.

$P_i$  = Initial pressure, pounds per square inch gauge.

$t_f - t_i$  = Elapsed time, hours.

(iv) The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) that has a precision of  $\pm 2.5$  millimeters mercury (0.10 inch of mercury) in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of

at least  $\pm 10$  percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise that equals a rate of 1 pound per square inch gauge per hour (7 kilopascals per hour).

(v) An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise.

(6) *Pressure test procedure using test liquid.* The procedures specified in paragraphs (b)(6)(i) through (b)(6)(iv) of this section shall be used to pressure test batch product-process equipment using a liquid to demonstrate compliance with the requirements of paragraph (b)(3)(ii) of this section.

(i) The batch product-process equipment train or section of the equipment train shall be filled with the test liquid (for example, water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.

(ii) The test shall be conducted for a period of at least 60 minutes unless it can be determined in a shorter period of time that the test is a failure.

(iii) Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

(iv) An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid.

(7) *Pressure testing recordkeeping.* The owner or operator of a batch product-process who elects to pressure test the batch product-process equipment train to demonstrate compliance with this subpart shall maintain records of the information specified in paragraphs (b)(7)(i) through (b)(7)(v) of this section.

(i) The identification of each product or product code produced during the calendar year. It is not necessary to identify individual items of equipment in a batch product-process equipment train.

(ii) Physical tagging of the equipment to identify that it is in regulated material service and subject to the provisions of this subpart is not required. Equipment in a batch product-process subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(iii) The dates of each pressure test required in paragraph (b) of this section,

the test pressure, and the pressure drop observed during the test.

(iv) Records of any visible, audible, or olfactory evidence of fluid loss.

(v) When a batch product-process equipment train does not pass two consecutive pressure tests, the information specified in paragraphs (b)(7)(v)(A) through (b)(7)(v)(E) of this section shall be recorded in a log and kept for 2 years.

(A) The date of each pressure test and the date of each leak repair attempt;

(B) Repair methods applied in each attempt to repair the leak;

(C) The reason for the delay of repair;

(D) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment; and

(E) The date of successful repair.

(c) *Equipment monitoring.* The following requirements shall be met if an owner or operator elects to monitor the equipment in a batch process to detect leaks by the method specified in § 65.104(b) to demonstrate compliance with this subpart.

(1) The owner or operator shall comply with the requirements of §§ 65.106 through 65.116 as modified by paragraphs (c)(2) through (c)(4) of this section.

(2) The equipment shall be monitored for leaks by the method specified in § 65.104(b) when the equipment is in regulated material service or is in use with any other detectable material.

(3) The equipment shall be monitored for leaks as specified in paragraphs (c)(3)(i) through (c)(3)(iv) of this section.

(i) Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of startup of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in the process unit.

(ii) Connectors shall be monitored in accordance with the requirements in § 65.108.

(iii) Equipment other than connectors shall be monitored at the frequencies specified in table 1 of this subpart. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of this subpart is operating.

(iv) The monitoring frequencies specified in paragraph (c)(3)(iii) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor anytime during the specified monitoring period (for example, month, quarter, year), provided the monitoring

is conducted at a reasonable interval after completion of the last monitoring campaign. For example, if the equipment is not operating during the scheduled monitoring period, the monitoring can be done during the next period when the process is operating.

(4) If a leak is detected, it shall be repaired as soon as practical but not later than 15 calendar days after it is detected except as provided in paragraph (e) of this section.

(d) *Added equipment recordkeeping.*

(1) For batch product-process units that the owner or operator elects to monitor as provided under paragraph (c) of this section, the owner or operator shall prepare a list of equipment added to batch product-process units since the last monitoring period required in paragraphs (c)(3)(ii) and (c)(3)(iii) of this section.

(2) Maintain records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit. These records are not required if the owner or operator does not adjust monitoring frequency by the time in use, as provided in paragraph (c)(3)(iii) of this section.

(3) Record and keep pursuant to § 65.4 of subpart A of this part the date and results of the monitoring required in paragraph (c)(3)(i) of this section for equipment added to a batch product-process unit since the last monitoring period required in paragraphs (c)(3)(ii) and (c)(3)(iii) of this section. If no leaking equipment is found during this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.

(e) *Delay of repair.* Delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available providing the conditions specified in paragraphs (e)(1) and (e)(2) of this section are met.

(1) Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted.

(2) The repair is made no later than 10 calendar days after delivery of the replacement equipment.

(f) *Periodic report contents.* For owners or operators electing to meet the requirements of paragraph (b) of this section, the periodic report to be filed pursuant to § 65.120(b) shall include the information listed in paragraphs (f)(1) through (f)(4) of this section for each process unit.

(1) Batch product-process equipment train identification;

(2) The number of pressure tests conducted;

(3) The number of pressure tests where the equipment train failed the pressure test; and

(4) The facts that explain any delay of repairs.

**§ 65.118 Alternative means of emission limitation: Enclosed-vented process units.**

(a) *Use of closed vent system and control device.* Process units enclosed in such a manner that all emissions from equipment leaks are vented through a closed vent system to a control device meeting the requirements of either § 65.115 or § 65.102(b) are exempt from the requirements of §§ 65.106 through 65.116. The enclosure shall be maintained under a negative pressure at all times while the process unit is in operation to ensure that all emissions are routed to a control device.

(b) *Recordkeeping.* Owners and operators choosing to comply with the requirements of this section shall maintain the records specified in paragraphs (b)(1) through (b)(3) of this section.

(1) Identification of the process unit(s) and the regulated materials they handle.

(2) A schematic of the process unit, enclosure, and closed vent system.

(3) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

**§ 65.119 Recordkeeping provisions.**

(a) *Recordkeeping system.* An owner or operator of more than one regulated source subject to the provisions of this subpart may comply with the recordkeeping requirements for these regulated sources in one recordkeeping system. The recordkeeping system shall identify each record by regulated source and the type of program being implemented (for example, quarterly monitoring, quality improvement) for each type of equipment. The records required by this subpart are summarized in paragraphs (b) and (c) of this section.

(b) *General equipment leak records.*

(1) As specified in § 65.103(a) through (c), the owner or operator shall keep general and specific equipment identification if the equipment is not physically tagged and the owner or operator is electing to identify the equipment subject to subpart F of this part through written documentation such as a log or other designation.

(2) The owner or operator shall keep a written plan as specified in § 65.103(c)(4) for any equipment that is designated as unsafe- or difficult-to-monitor.

(3) The owner or operator shall maintain a record of the identity and an explanation as specified in § 65.103(d)(2) for any equipment that is designated as unsafe to repair.

(4) As specified in § 65.103(e), the owner or operator shall maintain a record of the identity of compressors operating with an instrument reading of less than 500 parts per million.

(5) The owner or operator shall keep records associated with the determination that equipment is in heavy liquid service as specified in § 65.103(f).

(6) The owner or operator shall keep records for leaking equipment as specified in § 65.104(e)(2).

(7) The owner or operator shall keep records for leak repair as specified in § 65.105(f) and records for delay of repair as specified in § 65.105(d).

(c) *Specific equipment leak records.*

(1) For valves, the owner or operator shall maintain the records specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this section.

(i) The monitoring schedule for each process unit as specified in § 65.106(b)(3)(i).

(ii) The valve subgrouping records specified in § 65.106(b)(4)(iv), if applicable.

(2) For pumps, the owner or operator shall maintain the records specified in paragraphs (c)(2)(i) through (c)(2)(iii) of this section.

(i) Documentation of pump visual inspections as specified in § 65.107(b)(4).

(ii) Documentation of dual mechanical seal pump visual inspections as specified in § 65.107(e)(1)(v).

(iii) For the criteria as to the presence and frequency of drips for dual mechanical seal pumps, records of the design criteria and explanations and any changes and the reason for the changes, as specified in § 65.107(e)(1)(i).

(3) For connectors, the owner or operator shall maintain the records specified in § 65.108(b)(3)(v) which identify a monitoring schedule for each process unit.

(4) For agitators equipped with a dual mechanical seal system that includes barrier fluid system, the owner or operator shall keep records as specified in § 65.109(e)(1)(vi)(B).

(5) For pressure relief devices in gas/vapor or light liquid service, the owner or operator shall keep records of the dates and results of monitoring following a pressure release, as specified in § 65.111(c)(3).

(6) For compressors, the owner or operator shall maintain the records

specified in paragraphs (c)(6)(i) and (c)(6)(ii) of this section.

(i) For criteria as to failure of the seal system and/or the barrier fluid system, record the design criteria and explanations and any changes and the reason for the changes, as specified in § 65.112(d)(2).

(ii) For compressors operating under the alternative compressor standard, record the dates and results of each compliance test as specified in § 65.112(f)(2).

(7) For a pump QIP program, the owner or operator shall maintain the records specified in paragraphs (c)(7)(i) through (c)(7)(v) of this section.

(i) Individual pump records as specified in § 65.116(d)(2).

(ii) Trial evaluation program documentation as specified in § 65.116(d)(6)(iii).

(iii) Engineering evaluation documenting the basis for judgement that superior emission performance technology is not applicable as specified in § 65.116(d)(6)(vi).

(iv) Quality assurance program documentation as specified in § 65.116(d)(7).

(v) QIP records as specified in § 65.116(e).

(8) For process units complying with the batch process unit alternative, the owner or operator shall maintain the records specified in paragraphs (c)(8)(i) and (c)(8)(ii) of this section.

(i) Pressure test records as specified in § 65.117(b)(7).

(ii) Records for equipment added to the process unit as specified in § 65.117(d).

(9) For process units complying with the enclosed-vented process unit alternative, the owner or operator shall maintain the records for enclosed-vented process units as specified in § 65.118(b).

**§ 65.120 Reporting provisions.**

(a) *Initial Compliance Status Report.* Unless the information specified in paragraphs (a)(1) through (a)(3) has previously been submitted, each owner or operator shall submit an Initial Compliance Status Report according to the procedures in § 65.5(d) of subpart A of this part. The notification shall include the information listed in paragraphs (a)(1) through (a)(3) of this section, as applicable.

(1) The notification shall provide the information listed in paragraphs (a)(1)(i) through (a)(1)(iii) of this section for each process unit subject to the requirements of this subpart.

(i) Process unit identification.

(ii) Number of each equipment type (for example, valves, pumps) excluding equipment in vacuum service.

(iii) Method of compliance with the standard (for example, "monthly leak detection and repair" or "equipped with dual mechanical seals").

(2) The notification shall provide the information listed in paragraphs (a)(2)(i) and (a)(2)(ii) of this section for each process unit subject to the requirements of § 65.117(b).

(i) Batch products or product codes subject to the provisions of this subpart; and

(ii) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this subpart.

(3) The notification shall provide the information listed in paragraphs (c)(3)(i) and (c)(3)(ii) of this section for each process unit subject to the requirements in § 65.118.

(i) Process unit identification.

(ii) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of subpart G of this part.

(b) *Periodic reports.* The owner or operator shall report the information specified in paragraphs (b)(1) through (b)(9) of this section, as applicable, in the periodic report specified in § 65.5(e) of subpart A of this part.

(1) For the equipment specified in paragraphs (b)(1)(i) through (b)(1)(v) of this section, report in a summary format by equipment type the number of components for which leaks were detected, and for valves, pumps, and connectors show the percent leakers and the total number of components monitored. Also include the number of leaking components that were not repaired as required by § 65.105(a), and for valves and connectors identify the number of components that are determined by § 65.106(c)(3) to be nonreparable.

(i) Valves in gas/vapor service and in light liquid service pursuant to § 65.106(b) and (c).

(ii) Pumps in light liquid service pursuant to § 65.107(b) and (c).

(iii) Connectors in gas/vapor service and in light liquid service pursuant to § 65.108(b) and (c).

(iv) Agitators in gas/vapor service and in light liquid service pursuant to § 65.109(b).

(v) Compressors pursuant to § 65.112.

(2) Where any delay of repair is utilized pursuant to § 65.105(d), report that delay of repair has occurred and report the number of instances of delay of repair.

(3) If applicable, report the valve subgrouping information specified in § 65.106(b)(4)(iv).

(4) For pressure relief devices in gas/vapor service pursuant to § 65.111(b)

and for compressors pursuant to § 65.112(f) that are to be operated at a leak detection instrument reading of less than 500 parts per million, report the results of all monitoring to show compliance conducted within the semiannual reporting period.

(5) Report, if applicable, the initiation of a monthly monitoring program for valves pursuant to § 65.106(b)(3)(i).

(6) Report, if applicable, the initiation of a quality improvement program for pumps pursuant to § 65.116 of this subpart.

(7) [Reserved]

(8) Where the alternative means of emissions limitation for batch processes is utilized, report the information listed in § 65.117(f).

(9) Report the information listed in paragraph (a) of this section for the Initial Compliance Status Report for process units with later compliance dates. Report any revisions to items reported in an earlier Initial Compliance Status Report if the method of compliance has changed since the last report.

§§ 65.121–65.139 [Reserved].

TABLE 1 TO SUBPART F.—BATCH PROCESSES MONITORING FREQUENCY FOR EQUIPMENT OTHER THAN CONNECTORS

Operating time (percent of year)	Equivalent continuous process monitoring frequency time in use		
	Monthly	Quarterly	Semiannually
0 to <25 .....	Quarterly .....	Annually .....	Annually.
25 to <50 .....	Quarterly .....	Semiannually .....	Annually.
50 to <75 .....	Bimonthly .....	Three times .....	Semiannually.
75 to 100 .....	Monthly .....	Quarterly .....	Semiannually.

**Subpart G—Closed Vent Systems, Control Devices, and Routing to a Fuel Gas System or a Process**

**§ 65.140 Applicability.**

The provisions of this subpart and of subpart A of this part (including the startup, shutdown, and malfunction provisions in § 65.6 of subpart A of this part) apply to closed vent systems, control devices and recovery devices where another subpart expressly references the use of this subpart.

**§ 65.141 Definitions.**

All terms used in this subpart shall have the meaning given them in the Act and in subpart A of this part. If a term is defined in both subpart A of this part and in other subparts that reference the use of this subpart, the term shall have the meaning given in subpart A of this part for purposes of this subpart.

**§ 65.142 Standards.**

(a) *Storage vessel requirements.* The owner or operator expressly referenced to this subpart from subpart C of this part shall comply with the applicable requirements of paragraphs (a)(1) through (a)(3) of this section.

(1) *Closed vent system and flare.* Owners or operators subject to § 65.42(b)(4) of subpart C of this part who route storage vessel emissions through a closed vent system to a flare shall meet the requirements in § 65.143 for closed vent systems; § 65.147 for flares; and paragraphs (a), (b), and (c) of § 65.157 for provisions regarding flare compliance determinations; and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to storage vessel

emissions routed through a closed vent system to a flare.

(2) *Closed vent system and nonflare control device.* Owners or operators subject to § 65.42(b)(5) of subpart C of this part who route storage vessel emissions through a closed vent system to a nonflare control device shall meet the requirements in § 65.143 for closed vent systems and § 65.145 for nonflare control devices and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to storage vessel emissions routed through a closed vent system to a nonflare control device unless specifically required in the monitoring plan submitted under § 65.145(c).

(3) *Route to a fuel gas system or process.* Owners or operators subject to § 65.42(b)(6) of subpart C of this part who route storage vessel emissions to a fuel gas system or to a process shall meet the requirements in § 65.144 and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to storage vessel emissions being routed to a fuel gas system or to a process.

(b) *Process vent requirements.* The owner or operator expressly referenced to this subpart from subpart D of this part or 40 CFR part 60, subpart DDD, shall comply with the applicable requirements of paragraphs (b)(1) through (b)(3) of this section.

(1) *Closed vent system and flare.* Owners or operators subject to § 65.63(a)(1) of subpart D of this part or 40 CFR 60.562–1(a)(1)(i)(C) of subpart DDD who route Group 1 process vent emissions through a closed vent system to a flare shall meet the applicable requirements in § 65.143 for closed vent

systems; § 65.147 for flares; and paragraphs (a), (b), and (c) of § 65.157 for provisions regarding flare compliance determinations; and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to process vent emissions routed through a closed vent system to a flare.

(2) *Closed vent system and nonflare control device.* Owners or operators subject to § 65.63(a)(2) of subpart D of this part or 40 CFR 60.562–1(a)(1)(i)(A) or (a)(1)(i)(B) of subpart DDD who route process vent emissions through a closed vent system to a nonflare control device shall meet the applicable requirements in § 65.143 for closed vent systems; the requirements applicable to the control devices being used in §§ 65.148 through 65.152 or § 65.155; the applicable general monitoring requirements of § 65.156; the applicable performance test requirements and procedures of §§ 65.157 and 65.158; and the monitoring, recordkeeping, and reporting requirements referenced therein. Owners or operators subject to the halogen reduction device requirements of § 65.63(b) of subpart D must also comply with § 65.154 and the monitoring, recordkeeping, and reporting requirements referenced therein. The requirements of §§ 65.144 through 65.146 do not apply to process vents.

(3) *Final recovery devices.* Owners or operators subject to § 65.63(a)(3) of subpart D who use a final recovery device to maintain the TRE index value of a Group 2 process vent above 1.0 shall meet the requirements in § 65.153 and the monitoring, recordkeeping, and reporting requirements referenced therein applicable to the recovery

device being used and the applicable monitoring requirements in § 65.156 and the recordkeeping and reporting requirements referenced therein, except for § 65.156(c)(2)(ii). No other provisions of this subpart apply to Group 2A process vents.

(c) *Transfer rack requirements.* The owner or operator expressly referenced to this subpart from subpart E of this part shall comply with the applicable requirements of paragraphs (c)(1) through (c)(4) of this section.

(1) *Closed vent system and flare.* Owners or operators subject to § 65.83(a)(2) of subpart E of this part who route transfer rack emissions through a closed vent system to a flare shall meet the applicable requirements in § 65.143 for closed vent systems; § 65.147 for flares; and paragraphs (a), (b), and (c) of § 65.157 for provisions regarding flare compliance determinations; and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to transfer rack emissions routed through a closed vent system to a flare.

(2) *Closed vent system and nonflare control device for low-throughput transfer racks.* Owners or operators of low-throughput transfer racks subject to § 65.83(a)(1) of subpart E of this part who route low-throughput transfer rack emissions through a closed vent system to a nonflare control device shall meet the applicable requirements in § 65.143 for closed vent systems and § 65.145 for nonflare control devices and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to low-throughput transfer rack emissions routed through a closed vent system to a nonflare control device unless specifically required in the monitoring plan submitted under § 65.145(c).

(3) *Closed vent system and nonflare control devices for high-throughput transfer racks.* Owners or operators of high-throughput transfer racks subject to § 65.83(a)(1) of subpart E of this part who route high-throughput transfer rack emissions through a closed vent system to a nonflare control device shall meet the applicable requirements in § 65.143 for closed vent systems, the requirements applicable to the control device being used in §§ 65.148 through 65.152 or § 65.155; the applicable general monitoring of § 65.156; and the applicable performance test requirements and procedures of §§ 65.157 and 65.158; and the monitoring, recordkeeping, and reporting requirements referenced therein. Owners or operators subject to

§ 65.83(b) of subpart E must also comply with § 65.154 and the monitoring, recordkeeping, and reporting requirements referenced therein. The requirements of §§ 65.144 through 65.146 do not apply to high-throughput transfer rack emissions routed through a closed vent system to a nonflare control device. No other provisions of this subpart apply to transfer rack emissions routed through a closed vent system to a nonflare control device.

(4) *Route to a fuel gas system or to a process.* Owners or operators subject to § 65.83(a)(4) of subpart E of this part who route transfer rack emissions to a fuel gas system or to a process shall meet the applicable requirements in § 65.144 and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to transfer rack emissions being routed to a fuel gas system or to a process.

(d) *Equipment leak requirements.* The owner or operator expressly referenced to this subpart from subpart F of this part shall comply with the applicable requirements of paragraphs (d)(1) through (d)(3) of this section.

(1) *Closed vent system and flare.* Owners or operators subject to § 65.115(b) of subpart F of this part who route equipment leak emissions through a closed vent system to a flare shall meet the requirements in § 65.143 for closed vent systems; § 65.147 for flares; and paragraphs (a), (b) and (c) of § 65.157 for provisions regarding flare compliance determinations; and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to equipment leak emissions routed through a closed vent system to a flare.

(2) *Closed vent system and nonflare control device.* Owners or operators subject to § 65.115(b) of subpart F of this part who route equipment leak emissions through a closed vent system to a nonflare control device shall meet the requirements in § 65.143 for closed vent systems and § 65.146 for nonflare control devices used for equipment leak emissions and the monitoring, recordkeeping, and reporting requirements referenced therein. No other provisions of this subpart apply to equipment leak emissions routed through a closed vent system to a nonflare control device.

(3) *Route to a fuel gas system or to a process.* Owners or operators subject to § 65.115(b) of subpart F of this part who route equipment leak emissions to a fuel gas system or to a process shall meet the requirements in § 65.144 and the monitoring, recordkeeping, and

reporting requirements referenced therein. No other provisions of this subpart apply to equipment leak emissions being routed to a fuel gas system or to a process.

(e) *Combined emissions.* When emissions of different kinds (for example, emissions from process vents, transfer racks, and/or storage vessels) are combined, the owner or operator shall comply with the requirements of either paragraph (e)(1) or paragraph (e)(2) of this section.

(1) Comply with the applicable requirements of this subpart for each kind of emissions in the stream (for example, the requirements of § 65.142(b) for process vents, and the requirements of § 65.142(c) for transfer racks); or

(2) Comply with the first set of requirements identified in paragraphs (e)(2)(i) through (e)(2)(iii) of this section which applies to any individual emission stream that is included in the combined stream. Compliance with the first applicable set of requirements identified in paragraphs (e)(2)(i) through (e)(2)(iii) of this section constitutes compliance with all other requirements in paragraphs (e)(2)(i) through (e)(2)(iii) of this section applicable to other types of emissions in the combined stream.

(i) The requirements of § 65.142(b) for Group 1 process vents, including applicable monitoring, recordkeeping, and reporting;

(ii) The requirements of § 65.142(c) for high-throughput transfer racks, including applicable monitoring, recordkeeping, and reporting;

(iii) The requirements of § 65.142(a) for control of emissions from storage vessels or low-throughput transfer racks, including monitoring, recordkeeping, and reporting.

#### § 65.143 Closed vent systems.

(a) *Closed vent system equipment and operating requirements.* The provisions of paragraph (a) of this section apply to closed vent systems collecting regulated material from a storage vessel, process vent, transfer rack, or equipment leaks.

(1) *Collection of emissions.* Each closed vent system shall be designed and operated to collect the regulated material vapors from the emission point and to route the collected vapors to a control device.

(2) *Period of operation.* Closed vent systems used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(3) *Bypass monitoring.* Except for pressure relief devices needed for safety purposes, low leg drains, high point bleeds, analyzer vents, and open-ended valves or lines, the owner or operator



shall comply with the provisions of either paragraph (a)(3)(i) or (a)(3)(ii) of this section for each closed vent system that contains bypass lines that could divert a vent stream to the atmosphere.

(i) Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in § 65.163(a)(1)(i). The flow indicator shall be installed at the entrance to any bypass line.

(ii) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the closed position and the vent stream is not diverted through the bypass line. Records shall be generated as specified in § 65.163(a)(1)(ii).

(4) *Loading arms at transfer racks.* Each closed vent system collecting regulated material from a transfer rack shall be designed and operated so that regulated material vapors collected at one loading arm will not pass through another loading arm in the rack to the atmosphere.

(5) *Pressure relief devices in a transfer rack.* The owner or operator of a transfer rack subject to the provisions of this subpart shall ensure that no pressure relief device in the transfer rack's closed vent system shall open to the atmosphere during loading. Pressure relief devices needed for safety purposes are not subject to paragraph (a)(5) of this section.

(b) *Closed vent system inspection requirements.* The provisions of paragraph (b) of this section apply to closed vent systems collecting regulated material from a storage vessel, transfer rack or equipment leaks. Inspection records shall be generated as specified in § 65.163(a)(3) and (a)(4).

(1) Except for closed vent systems operated and maintained under negative pressure and as provided in paragraphs (b)(2) and (b)(3) of this section, each closed vent system shall be inspected as specified in paragraph (b)(1)(i) or (b)(1)(ii) of this section.

(i) If the closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (b)(1)(i)(A) and (b)(1)(i)(B) of this section.

(A) Conduct an initial inspection according to the procedures in paragraph (c) of this section; and

(B) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(ii) If the closed vent system is constructed of ductwork, the owner or operator shall conduct an initial and annual inspection according to the procedures in paragraph (c) of this section.

(2) Any parts of the closed vent system that are designated as described in § 65.163(a)(2) as unsafe to inspect are exempt from the inspection requirements of paragraph (b)(1) of this section if the conditions of paragraphs (b)(2)(i) and (b)(2)(ii) of this section are met.

(i) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (b)(1) of this section; and

(ii) The owner or operator has a written plan that requires inspection of the equipment as frequently as practical during safe-to-inspect times. Inspection is not required more than once annually.

(3) Any parts of the closed vent system that are designated, as described in § 65.163(a)(2), as difficult to inspect are exempt from the inspection requirements of paragraph (b)(1) of this section if the provisions of paragraphs (b)(3)(i) and (b)(3)(ii) of this section apply.

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

(ii) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(c) *Closed vent system inspection procedures.* The provisions of paragraph (c) of this section apply to closed vent systems collecting regulated material from a storage vessel, transfer rack, or equipment leaks.

(1) Each closed vent system subject to paragraph (c) of this section shall be inspected according to the procedures specified in paragraphs (c)(1)(i) through (c)(1)(vii) of this section.

(i) Inspections shall be conducted in accordance with Method 21 of 40 CFR part 60, appendix A, except as specified in this section.

(ii) Except as provided in paragraph (c)(1)(iii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the representative composition of the process fluid not each individual volatile organic compounds (VOC) in

the stream. For process streams that contain nitrogen, air, or other inerts that are not organic hazardous air pollutants (HAP's) or VOC, the representative stream response factor shall be determined on an inert-free basis. The response factor may be determined at any concentration for which the monitoring for leaks will be conducted.

(iii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (c)(1)(ii) of this section, the instrument readings may be adjusted by multiplying by the representative response factor of the process fluid calculated on an inert-free basis as described in paragraph (c)(1)(ii) of this section.

(iv) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(v) Calibration gases shall be as specified in paragraphs (c)(1)(v)(A) through (c)(1)(v)(C) of this section.

(A) Zero air (less than 10 parts per million hydrocarbon in air); and

(B) Mixtures of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (c)(1)(ii) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(C) If the detection instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,500 parts per million.

(vi) An owner or operator may elect to adjust or not adjust instrument readings for background. If an owner or operator elects not to adjust readings for background, all such instrument readings shall be compared directly to 500 parts per million to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall measure background concentration using the procedures in this section. The owner or operator shall subtract the background reading from the maximum concentration indicated by the instrument.

(vii) If the owner or operator elects to adjust for background, the arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared with 500 parts per million for determining whether there is a leak.

(2) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A.

(3) Except as provided in paragraph (c)(4) of this section, inspections shall be performed when the equipment is in regulated material service or in use with any other detectable gas or vapor.

(4) Inspections of the closed vent system collecting regulated material from a transfer rack shall be performed only while a tank truck or railcar is being loaded or is otherwise pressurized to normal operating conditions with regulated material or any other detectable gas or vapor.

(d) *Closed vent system leak repair provisions.* The provisions of paragraph (d) of this section apply to closed vent systems collecting regulated material from a storage vessel, transfer rack, or equipment leak.

(1) If there are visible, audible, or olfactory indications of leaks at the time of the annual visual inspections required by paragraph (b)(1)(i)(B) of this section, the owner or operator shall follow the procedure specified in either paragraph (d)(1)(i) or (d)(1)(ii) of this section.

(i) The owner or operator shall eliminate the indications of the leak.

(ii) The owner or operator shall monitor the equipment according to the procedures in paragraph (c) of this section.

(2) Leaks as indicated by an instrument reading greater than 500 parts per million by volume above background shall be repaired as soon as practical except as provided in paragraph (d)(3) of this section. Records shall be generated as specified in § 65.163(a)(3) when a leak is detected.

(i) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(ii) Except as provided in paragraph (d)(3) of this section, repairs shall be completed no later than 15 calendar days after the leak is detected or at the beginning of the next introduction of vapors to the system, whichever is later.

(3) Delay of repair of a closed vent system for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible without a closed vent system shutdown, as defined in § 65.2 of subpart A of this part, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed as soon as practical, but

not later than the end of the next closed vent system shutdown.

**§ 65.144 Fuel gas systems and processes to which storage vessel, transfer rack, or equipment leak regulated material emissions are routed.**

(a) *Equipment and operating requirements for fuel gas systems and processes.* (1) Except as provided in § 65.3(b)(1) of subpart A, the fuel gas system or process shall be operating at all times when regulated material emissions are routed to it.

(2) The owner or operator of a transfer rack subject to the provisions of this subpart shall ensure that no pressure relief device in the transfer rack's system returning vapors to a fuel gas system or process shall open to the atmosphere during loading. Pressure relief devices needed for safety purposes are not subject to paragraph (a)(2) of this section.

(3) Each process piping system collecting regulated material from a transfer rack shall be designed and operated so that regulated material vapors collected at one loading arm will not pass through another loading arm in the rack to the atmosphere.

(b) *Fuel gas system and process compliance determination.* (1) If emissions are routed to a fuel gas system, there is no requirement to conduct a performance test or design evaluation.

(2) For storage vessels and transfer racks and if emissions are routed to a process, the regulated material in the emissions shall predominantly meet one of or a combination of the conditions specified in paragraphs (b)(2)(i) through (b)(2)(iv) of this section. The owner or operator of storage vessels subject to paragraph (b)(2) of this section shall comply with the compliance demonstration requirements in paragraph (b)(3) of this section.

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

(ii) Transformed by chemical reaction into materials that are not regulated materials;

(iii) Incorporated into a product; and/or

(iv) Recovered.

(3) To demonstrate compliance with paragraph (b)(2) of this section for a storage vessel, the owner or operator shall prepare a design evaluation (or engineering assessment) that demonstrates the extent to which one or more of the conditions specified in paragraphs (b)(2)(i) through (b)(2)(iv) of this section are being met. The owner or operator shall submit the design evaluation as specified in § 65.165(a)(1).

(c) *Statement of connection.* For storage vessels and transfer racks, the owner or operator shall submit the reports specified in § 65.165(a)(2) and/or (a)(3), as appropriate.

**§ 65.145 Nonflare control devices used to control emissions from storage vessels or low-throughput transfer racks.**

(a) *Nonflare control device equipment and operating requirements.* The owner or operator shall operate and maintain the nonflare control device so that the monitored parameters defined as required in paragraph (c) of this section remain within the ranges specified in the Initial Compliance Status Report whenever emissions of regulated material are routed to the control device, except during periods of startup, shutdown, and malfunction.

(b) *Nonflare control device design evaluation or performance test requirements.* When using a control device other than a flare, the owner or operator shall comply with the requirements in paragraph (b)(1)(i), (b)(1)(ii), or (b)(1)(iii) of this section except as provided in paragraph (b)(2) of this section.

(1) Unless a design evaluation or performance test as required in the referencing subpart was previously conducted and submitted for the storage vessel or low-throughput transfer rack, the owner or operator shall either prepare and submit with the Initial Compliance Status Report, as specified in § 65.165(b), a design evaluation that includes the information specified in paragraph (b)(1)(i) of this section, or the results of the performance test as described in paragraph (b)(1)(ii) or (b)(1)(iii) of this section.

(i) *Design evaluation.* The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency during the reasonably expected maximum storage vessel filling or transfer loading rate. This documentation is to include a description of the gas stream that enters the control device, including flow and regulated material content, and additionally for storage vessels, under varying liquid level conditions, and the information specified in paragraphs (b)(1)(i)(A) through (b)(1)(i)(E) of this section, as applicable. This documentation shall be submitted with the Initial Compliance Status Report as specified in § 65.165(b).

(A) The efficiency determination is to include consideration of all vapors, gases, and liquids, other than fuels, received by the control device.

(B) If an enclosed combustion device with a minimum residence time of 0.5

seconds and a minimum temperature of 760 °C is used to meet the emission reduction requirement specified in § 65.42(b)(5) or (c)(2) of subpart C of this part for storage vessels or § 65.83(a)(1) of subpart E of this part for transfer racks, documentation that those conditions exist is sufficient to meet the requirements of paragraph (b)(1)(i) of this section.

(C) Except as provided in paragraph (b)(1)(i)(B) of this section for enclosed combustion devices, the design evaluation shall include the estimated autoignition temperature of the stream being combusted, the flow rate of the stream, the combustion temperature, and the residence time at the combustion temperature.

(D) For carbon adsorbers, the design evaluation shall include the estimated affinity of the regulated pollutant vapors for carbon, the amount of carbon in each bed, the number of beds, the humidity, the temperature, the flow rate of the inlet stream and, if applicable, the desorption schedule, the regeneration stream pressure or temperature, and the flow rate of the regeneration stream. For vacuum desorption, pressure drop shall be included.

(E) For condensers, the design evaluation shall include the final temperature of the stream vapors, the type of condenser, and the design flow rate of the emission stream.

(ii) *Performance test.* A performance test is acceptable to demonstrate compliance with § 65.42(b)(5) of subpart C of this part for storage vessels and § 65.83(a)(1) of subpart E of this part for transfer racks. The owner or operator is not required to prepare a design evaluation for the control device as described in paragraph (b)(1)(i) of this section if a performance test will be performed that meets the criteria specified in paragraphs (b)(1)(ii)(A) and (b)(1)(ii)(B) of this section.

(A) The performance test demonstrates that the control device achieves greater than or equal to the required control efficiency specified in § 65.42(b)(5) of subpart C of this part for storage vessels or § 65.83(a)(1) of subpart E of this part for transfer racks; and

(B) The performance test meets the applicable performance test requirements of §§ 65.157 and 65.158, and the results are submitted as part of the Initial Compliance Status Report as specified in § 65.165(b).

(iii) If the control device used to comply with § 65.42(b)(5) of subpart C of this part for storage vessels or with § 65.83(a)(1) of subpart E of this part for low-throughput transfer racks, as applicable, is also used to comply with

§ 65.63(a)(2) of subpart D of this part for process vents or § 65.83(a)(1) of subpart E of this part for transfer racks (for non low-throughput transfer racks), a performance test required by § 65.148(b), § 65.149(b), § 65.150(b), § 65.151(b), § 65.152(b), or § 65.155(b) is acceptable to demonstrate compliance with § 65.42(b)(5) of subpart C of this part for storage vessels or § 65.83(a)(1) of subpart E of this part for low-throughput transfer racks, as applicable. The owner or operator is not required to prepare a design evaluation for the control device as described in paragraph (b)(1)(i) of this section, if a performance test will be performed which meets the criteria specified in paragraphs (b)(1)(iii)(A) and (b)(1)(iii)(B) of this section.

(A) The performance test demonstrates that the control device achieves greater than or equal to the required control efficiency specified in § 65.42(b)(5) of subpart C of this part for storage vessels or § 65.83(a)(1) of subpart E of this part for transfer racks; and

(B) The performance test is submitted as part of the Initial Compliance Status Report as specified in § 65.165(b).

(2) A design evaluation or performance test is not required if the owner or operator uses a combustion device meeting the criteria in paragraph (b)(2)(i), (b)(2)(ii), (b)(2)(iii), or (b)(2)(iv) of this section.

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

(ii) A boiler or process heater burning hazardous waste for which the owner or operator meets the requirements specified in paragraph (b)(2)(ii)(A) or (b)(2)(ii)(B) of this section.

(A) The boiler or process heater has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H, or

(B) The boiler or process heater has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(iii) A hazardous waste incinerator for which the owner or operator meets the requirements specified in paragraph (b)(2)(iii)(A) or (b)(2)(iii)(B) of this section.

(A) The incinerator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O; or

(B) The incinerator has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

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

(c) *Nonflare control device monitoring requirements.* (1) Unless previously established under an applicable standard prior to the implementation date of this part as specified in § 65.1(f) of subpart A of this part, the owner or operator shall submit with the Initial Compliance Status Report a monitoring plan containing the information specified in § 65.165(b) to identify the parameters that will be monitored to assure proper operation of the control device.

(2) The owner or operator shall monitor the parameters specified in the Initial Compliance Status Report or in the operating permit. Records shall be generated as specified in § 65.163(b)(1).

#### **§ 65.146 Nonflare control devices used for equipment leaks only.**

(a) *Equipment and operating requirements.* (1) Owners or operators using a nonflare control device to meet the applicable requirements in § 65.115(b) of subpart F of this part shall meet the requirements of this section.

(2) Control devices used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) *Performance test requirements.* A performance test is not required for any control device used only to control emissions from equipment leaks.

(c) *Monitoring requirements.* Owners or operators of control devices that are used to comply only with the provisions of § 65.115(b) of subpart F of this part shall monitor these control devices to ensure that they are operated and maintained in conformance with their design. The owner or operator shall maintain the records as specified in § 65.163(d).

#### **§ 65.147 Flares.**

(a) *Flare equipment and operating requirements.* Flares subject to this subpart shall meet the performance requirements of paragraphs (a)(1) through (a)(7) of this section.

(1) Flares shall be operated at all times when emissions are vented to them.

(2) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (b)(3)(i) of this section except for periods not to exceed a total of 5 minutes during any two consecutive hours.

(3) Flares shall be operated with a flare flame or at least one pilot flame present at all times, as determined by the methods specified in paragraph (c) of this section.

(4) Flares shall be used only when the net heating value of the gas being combusted is 11.2 megajoules per standard cubic meter (300 British thermal units per standard cubic foot) or greater if the flare is steam-assisted or air-assisted, or when the net heating value of the gas being combusted is 7.45 megajoules per standard cubic meter (200 British thermal units per standard cubic foot) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (b)(3)(ii) of this section.

(5) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(6) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity as determined by the methods specified in paragraph (b)(3)(iii) of this section, of less than 18.3 meters per second (60 feet per sec) except as provided in paragraphs (a)(6)(i) and (a)(6)(ii) of this section, as applicable.

(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity as determined by the methods specified in paragraph (b)(3)(iii) of this section equal to or less than 122 meters per second (400 feet per second) if the net heating value of the gas being combusted is greater than 37.3 megajoules per standard cubic meter (1,000 British thermal units per standard cubic foot).

(ii) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (b)(3)(iii) of this section, of less than the velocity,  $V_{max}$  and less than 122 meters per second (400 feet per sec), where the maximum permitted velocity,  $V_{max}$ , is determined by the following equation:

$$\text{Log}_{10}(V_{max}) = (H_T + 28.8) / 31.7 \quad (147-1)$$

Where:

$V_{max}$  = Maximum permitted velocity, meters per second

28.8 = Constant

31.7 = Constant

$H_T$  = The net heating value as determined in paragraph (b)(3)(ii) of this section.

(7) Air-assisted flares shall be designed for and operated with an exit velocity as determined by the methods specified in paragraph (b)(3)(iii) of this section less than the velocity,  $V_{max}$ , where the maximum permitted velocity,  $V_{max}$ , is determined by the following equation.

$$V_{max} = 8.706 + 0.7084 (H_T) \quad (147-2)$$

Where:

$V_{max}$  = Maximum permitted velocity, meters per second

8.706 = Constant

0.7084 = Constant

$H_T$  = The net heating value as determined in paragraph (b)(3)(ii) of this section.

(b) *Flare compliance determination.*

(1) Unless an initial flare compliance determination of the flare was previously conducted and submitted under the referencing subpart, the owner or operator shall conduct an initial flare compliance determination of any flare used to comply with the provisions of this subpart. Flare compliance determination records shall be kept as specified in § 65.159(a) and (b) and a flare compliance determination report shall be submitted as specified in § 65.164. An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet regulated material or TOC concentration when a flare is used.

(2) Unless already permitted by the applicable title V permit, if an owner or operator elects to use a flare to replace an existing control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 65.167(a). Upon implementing the change, a flare compliance determination shall be performed using the methods specified in paragraph (b)(3) of this section within 180 days. The compliance determination report shall be submitted to the Administrator within 60 days of completing the determination as provided in § 65.164(b)(2). If an owner or operator elects to use a flare to replace an existing final recovery device that is used on a Group 2A process vent, the owner or operator shall comply with the applicable provisions of §§ 65.63(e) and 65.67(b) of subpart D of this part and submit the notification specified in § 65.167(a).

(3) Flare compliance determinations shall meet the requirements specified in paragraphs (b)(3)(i) through (b)(3)(iv) of this section.

(i) Method 22 of appendix A of part 60 shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours, except for transfer racks as provided in paragraph (b)(3)(i)(A) or (b)(3)(i)(B) of this section.

(A) For transfer racks, if the loading cycle is less than 2 hours, then the observation period for that run shall be for the entire loading cycle.

(B) For transfer racks, if additional loading cycles are initiated within the 2-

hour period, then visible emissions observations shall be conducted for the additional cycles.

(ii) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K_1 \sum_{j=1}^n D_j H_j \quad (147-3)$$

where:

$H_T$  = Net heating value of the sample, megajoules per standard cubic meter; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 millimeters of mercury (30 inches of mercury), but the standard temperature for determining the volume corresponding to 1 mole is 20 °C;

$K_1 = 1.740 \times 10^{-7}$  (parts per million by volume)<sup>-1</sup> (gram-mole per standard cubic meter) (megajoules per kilocalories), where the standard temperature for gram mole per standard cubic meter is 20 °C;

$D_j$  = Concentration of sample component j, in parts per million by volume on a wet basis, as measured for organics by Method 18 of part 60, appendix A and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946-77; and

$H_j$  = Net heat of combustion of sample component j, kilocalories per gram-mole at 25 °C and 760 millimeters of mercury (30 inches of mercury). The heats of combustion of stream components may be determined using ASTM D2382-76 if published values are not available or cannot be calculated.

(iii) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Methods 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A as appropriate; by the unobstructed (free) cross-sectional area of the flare tip.

(iv) Flare flame or pilot monitors, as applicable, shall be operated during any flare compliance determination.

(c) *Flare monitoring requirements.* Where a flare is used, the following monitoring equipment is required: a device (including but not limited to a thermocouple, ultraviolet beam sensor, or infrared sensor) capable of continuously detecting that at least one pilot flame or the flare flame is present. Flare monitoring and compliance records shall be kept as specified in § 65.159 (c) and (d).

**§ 65.148 Incinerators.**

(a) *Incinerator equipment and operating requirements.* (1) Owners or operators using incinerators to meet the 98 weight-percent emission reduction or 20 parts per million by volume outlet concentration requirement as specified in § 65.63(a)(2) of subpart D of this part or 40 CFR 60.562-1(a)(1)(i)(A) of subpart DDD for process vents, or § 65.83(a)(1) of subpart E of this part for transfer racks, as applicable, shall meet the requirements of this section.

(2) Incinerators used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) *Incinerator performance test requirements.* (1) Unless an initial performance test was previously conducted and submitted under the referencing subpart and except as specified in § 65.157(b) and paragraph (b)(2) of this section, the owner or operator shall conduct an initial performance test of any incinerator used to comply with the provisions of this subpart according to the procedures in §§ 65.157 and 65.158. Performance test records shall be kept as specified in § 65.160(a) and (b) and a performance test report shall be submitted as specified in § 65.164. As provided in § 65.145(b)(1), a performance test may be used as an alternative to the design evaluation for storage vessels and low-throughput transfer rack controls. As provided in § 65.146(b), no performance test is required for equipment leaks.

(2) An owner or operator is not required to conduct a performance test for a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

(3) Unless already permitted by the applicable title V permit, if an owner or operator elects to use an incinerator to replace an existing control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 65.167(a) before implementing the change. Upon implementing the change, an incinerator performance test shall be performed, using the methods specified in § 65.157 and within 180 days if required by paragraph (b)(1) of this section. The performance test report shall be submitted to the Administrator within 60 days of completing the determination as provided in § 65.164(b)(2). If an

owner or operator elects to use an incinerator to replace an existing recovery device that is used on a Group 2A process vent, the owner or operator shall comply with the applicable provisions of §§ 65.63(e) and 65.67(b) of subpart D of this part and submit the notification specified in § 65.167(a).

(c) *Incinerator monitoring requirements.* (1) Where an incinerator is used, a temperature monitoring device capable of providing a continuous record that meets the provisions specified in paragraph (c)(1)(i) or (c)(1)(ii) of this section is required. Monitoring results shall be recorded as specified in § 65.161. General requirements for monitoring and continuous parameter monitoring systems are contained in § 65.156.

(i) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the fire box or in the ductwork immediately downstream of the fire box in a position before any substantial heat exchange occurs.

(ii) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

(2) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the incinerator. In order to establish the range, the information required in § 65.165(c) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications of § 65.157(b)(1) or upon existing ranges or limits established under a referencing subpart.

**§ 65.149 Boilers and process heaters.**

(a) *Boiler and process heater equipment and operating requirements.*

(1) Owners or operators using boilers and process heaters to meet the 98 weight-percent emission reduction or 20 parts per million by volume outlet concentration requirement as specified in § 65.63(a)(2) of subpart D of this part or 40 CFR 60.562-1(a)(1)(i)(A) of subpart DDD for process vents, or § 65.83(a)(1) of subpart E of this part for transfer racks, as applicable, shall meet the requirements of this section.

(2) The vent stream shall be introduced into the flame zone of the boiler or process heater.

(3) Boilers and process heaters used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) *Boiler and process heater performance test requirements.* (1) Unless an initial performance test was previously conducted and submitted under the referencing subpart, and except as specified in § 65.157(b) and paragraph (b)(2) of this section, the owner or operator shall conduct an initial performance test of any boiler or process heater used to comply with the provisions of this subpart according to the procedures in §§ 65.157 and 65.158. Performance test records shall be kept as specified in § 65.160(a) and (b) and a performance test report shall be submitted as specified in § 65.164. As provided in § 65.145(b)(1), a performance test may be used as an alternative to the design evaluation for storage vessels and low-throughput transfer rack controls. As provided in § 65.146(b), no performance test is required to demonstrate compliance for equipment leaks.

(2) An owner or operator is not required to conduct a performance test when any of the control devices specified in paragraphs (b)(2)(i) through (b)(2)(iii) are used.

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

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

(iii) A boiler or process heater burning hazardous waste for which the owner or operator meets the requirements specified in paragraph (b)(2)(iii)(A) or (b)(2)(iii)(B) of this section.

(A) The boiler or process heater has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H; or

(B) The boiler or process heater has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(3) Unless already permitted by the applicable title V permit, if an owner or operator elects to use a boiler or process heater to replace an existing control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 65.167(a) before implementing the change. Upon implementing the change, a boiler or process heater performance test shall be performed using the methods specified in §§ 65.157 and 65.158 within 180 days if required by paragraph (b)(1) of this section. The performance test report shall be submitted to the Administrator

within 60 days of completing the determination as provided in § 65.164(b)(2). If an owner or operator elects to use a boiler or process heater to replace an existing recovery device that is used on a Group 2A process vent, the owner or operator shall comply with the applicable provisions of § 65.63(e) and § 65.67(b) of subpart D of this part and submit the notification specified in § 65.167(a).

(c) *Boiler and process heater monitoring requirements.* (1) Where a boiler or process heater of less than 44 megawatts (150 million British thermal units per hour) design heat input capacity is used and the regulated vent stream is not introduced as or with the primary fuel, a temperature monitoring device in the fire box capable of providing a continuous record is required. Any boiler or process heater in which all vent streams are introduced with primary fuel or are used as the primary fuel is exempt from monitoring. Monitoring results shall be recorded as specified in § 65.161. General requirements for monitoring and continuous parameter monitoring systems are contained in § 65.156.

(2) Where monitoring is required, the owner or operator shall establish a range for monitored parameters that indicates proper operation of the boiler or process heater. In order to establish the range, the information required in § 65.165(c) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications of § 65.157(b)(1) or upon existing ranges or limits established under a referencing subpart.

**§ 65.150 Absorbers used as control devices.**

(a) *Absorber equipment and operating requirements.* (1) Owners or operators using absorbers to meet the 98 weight-percent emission reduction or 20 parts per million by volume outlet concentration requirements as specified in § 65.63(a)(2) of subpart D of this part or 40 CFR 60.562-1(a)(1)(i)(A) of subpart DDD for process vents, or § 65.83(a)(1) of subpart E of this part for transfer racks, as applicable, shall meet the requirements of this section.

(2) Absorbers used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) *Absorber performance test requirements.* (1) Unless an initial performance test was previously conducted and submitted under the referencing subpart and except as specified in § 65.157(b), the owner or

operator shall conduct an initial performance test of any absorber used as a recapture device to comply with the provisions of this subpart according to the procedures in §§ 65.157 and 65.158. Performance test records shall be kept as specified in § 65.160 (a) and (b) and a performance test report shall be submitted as specified in § 65.164. As provided in § 65.145(b)(1), a performance test may be used as an alternative to the design evaluation for storage vessels and low-throughput transfer rack controls. As provided in § 65.146(b), no performance test is required to demonstrate compliance for equipment leaks.

(2) Unless already permitted by the applicable title V permit, if an owner or operator elects to use an absorber to replace an existing recovery or control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 65.167(a) before implementing the change. Upon implementing the change, the provisions specified in paragraph (b)(2)(i) or (b)(2)(ii) as applicable shall be followed.

(i) *Replace final recovery device.* If an owner or operator elects to replace the final recovery device on a process vent with an absorber used as a control device, the owner or operator shall comply with the applicable provisions of §§ 65.63(e) and 65.67(b) of subpart D of this part.

(ii) *Replace control device.* If an owner or operator elects to replace a control device on a Group 1 process vent or a transfer rack with an absorber used as a control device, the owner or operator shall perform a performance test using the methods specified in §§ 65.157 and 65.158 within 180 days. The performance test report shall be submitted to the Administrator within 60 days of completing the test as provided in § 65.164(b)(2).

(c) *Absorber monitoring requirements.* (1) Where an absorber is used as a control device, either an organic monitoring device capable of providing a continuous record or a scrubbing liquid temperature monitoring device and a specific gravity monitoring device, each capable of providing a continuous record, shall be used. Monitoring results shall be recorded as specified in § 65.161. General requirements for monitoring and continuous parameter monitoring systems are contained in § 65.156.

(2) The owner or operator shall establish a range for monitored parameters that indicates proper

operation of the absorber. In order to establish the range, the information required in § 65.165(c) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications of § 65.157(b)(1) or upon existing ranges or limits established under a referencing subpart.

**§ 65.151 Condensers used as control devices.**

(a) *Condenser equipment and operating requirements.* (1) Owners or operators using condensers to meet the 98 weight-percent emission reduction or 20 parts per million by volume outlet concentration requirements as specified in § 65.63(a)(2) of subpart D of this part or 40 CFR 60.562-1(a)(1)(i)(A) of subpart DDD for process vents, or § 65.83(a)(1) of subpart E of this part for transfer racks, as applicable, shall meet the requirements of this section.

(2) Condensers used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) *Condenser performance test requirements.* (1) Unless an initial performance test was previously conducted and submitted under the referencing subpart and except as specified in § 65.157(b), the owner or operator shall conduct an initial performance test of any condenser used as a recapture device to comply with the provisions of this subpart according to the procedures in §§ 65.157 and 65.158. Performance test records shall be kept as specified in § 65.160 (a) and (b) and a performance test report shall be submitted as specified in § 65.164. As provided in § 65.145(b)(1), a performance test may be used as an alternative to the design evaluation for storage vessels and low-throughput transfer rack controls. As provided in § 65.146(b), no performance test is required to demonstrate compliance for equipment leaks.

(2) Unless already permitted by the applicable title V permit, if an owner or operator elects to use a condenser to replace an existing recovery or control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 65.167(a) before implementing the change. Upon implementing the change, the provisions specified in paragraph (b)(2)(i) or (b)(2)(ii) of this section, as applicable, shall be followed.

(i) *Replace final recovery device.* If an owner or operator elects to replace the final recovery device on a process vent with a condenser used as a control device, the owner or operator shall comply with the applicable provisions of §§ 65.63(e) and 65.67(b) of subpart D of this part.

(ii) *Replace control device.* If an owner or operator elects to replace a control device on a Group 1 process vent or a transfer rack with a condenser used as a control device, the owner or operator shall perform a performance test using the methods specified in §§ 65.157 and 65.158 within 180 days. The performance test report shall be submitted to the Administrator within 60 days of completing the test as provided in § 65.164(b)(2).

(c) *Condenser monitoring requirements.* (1) Where a condenser is used as a control device, an organic monitoring device capable of providing a continuous record or a condenser exit (product side) temperature monitoring device capable of providing a continuous record shall be used. Monitoring results shall be recorded as specified in § 65.161. General requirements for monitoring and continuous parameter monitoring systems are contained in § 65.156.

(2) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the condenser. In order to establish the range, the information required in § 65.165(c) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications in § 65.157(b)(1) or upon existing ranges or limits established under a referencing subpart.

**§ 65.152 Carbon adsorbers used as control devices.**

(a) *Carbon adsorber equipment and operating requirements.* (1) Owners or operators using carbon adsorbers to meet the 98 weight-percent emission reduction or 20 parts per million by volume outlet concentration requirements as specified in § 65.63(a)(2) of subpart D of this part or 40 CFR 60.562-1(a)(1)(i)(A) of subpart DDD for process vents, or § 65.83(a)(1) of subpart E of this part for transfer racks, as applicable, shall meet the requirements of this section.

(2) Carbon adsorbers used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) *Carbon adsorber performance test requirements.* (1) Unless an initial

performance test was previously conducted and submitted under the referencing subpart and except as specified in § 65.157(b), the owner or operator shall conduct an initial performance test of any carbon adsorber used as a control device to comply with the provisions of this subpart according to the procedures in §§ 65.157 and 65.158. Performance test records shall be kept as specified in § 65.160 (a) and (b) and a performance test report shall be submitted as specified in § 65.164. As provided in § 65.145(b)(1), a performance test may be used as an alternative to the design evaluation for storage vessels and low-throughput transfer rack controls. As provided in § 65.146(b), no performance test is required to demonstrate compliance for equipment leaks.

(2) Unless already permitted by the applicable title V permit, if an owner or operator elects to use a carbon adsorber to replace an existing recovery or control device at a later date, the owner or operator shall notify the Administrator either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 65.167(a) before implementing the change. Upon implementing the change, the provisions specified in paragraph (b)(2)(i) or (b)(2)(ii) as applicable shall be followed.

(i) *Replace final recovery device.* If an owner or operator elects to replace the final recovery device on a process vent with a carbon adsorber used as a control device, the owner or operator shall comply with the applicable provisions of §§ 65.63(e) and 65.67(b) of subpart D of this part.

(ii) *Replace control device.* If an owner or operator elects to replace a control device on a Group 1 process vent or transfer rack with a carbon adsorber used as a recapture device, the owner or operator shall perform a performance test using the methods specified in §§ 65.157 and 65.158 within 180 days. The performance test report shall be submitted to the Administrator within 60 days of completing the test as provided in § 65.164(b)(2).

(c) *Carbon adsorber monitoring requirements.* (1) Where a carbon adsorber is used as a control device, an organic monitoring device capable of providing a continuous record or an integrating regeneration stream flow monitoring device having an accuracy of  $\pm 10$  percent or better capable of recording the total regeneration stream mass or volumetric flow for each regeneration cycle and a carbon-bed temperature monitoring device, capable of recording the carbon bed temperature

after each regeneration and within 15 minutes of completing any cooling cycle shall be used. Monitoring results shall be recorded as specified in § 65.161. General requirements for monitoring and continuous parameter monitoring systems are contained in § 65.156.

(2) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the carbon adsorber. Where the regeneration stream flow and carbon-bed temperature are monitored, the range shall be in terms of the total regeneration stream flow per regeneration cycle and the temperature of the carbon-bed determined within 15 minutes of the completion of the regeneration cooling cycle. In order to establish the range, the information required in § 65.165(c) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications in § 65.157(b)(1) or upon existing ranges or limits established under a referencing subpart.

**§ 65.153 Absorbers, condensers, carbon adsorbers and other recovery devices used as final recovery devices.**

(a) *Final recovery device equipment and operating requirements.* (1) Owners or operators using a recovery device to meet the requirement to operate and maintain a TRE above 1.0 as specified in § 65.63(a)(3) of subpart D of this part for process vents shall meet the requirements of this section.

(2) Recovery devices used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) *Recovery device performance test requirements.* (1) There are no performance test requirements for recovery devices. Records of TRE index value determination shall be generated as specified in § 65.160(c).

(2) *Replace a final recovery device or control device.* Unless already permitted by the applicable title V permit, if an owner or operator elects to use a recovery device to replace an existing final recovery or control device at a later date, the owner or operator shall notify the Administrator, either by amendment of the regulated source's title V permit or, if title V is not applicable, by submission of the notice specified in § 65.167(a) before implementing the change. Upon implementing the change, the owner or operator shall comply with the applicable provisions of §§ 65.63(e) and 65.67(b) of subpart D of this part.

(c) *Recovery device monitoring requirements.* (1) Where an adsorber is

the final recovery device in the recovery system and the TRE index value is between 1.0 and 4.0, either an organic monitoring device capable of providing a continuous record or a scrubbing liquid temperature monitoring device and a specific gravity monitoring device, each capable of providing a continuous record shall be used. Monitoring results shall be recorded as specified in § 65.161. General requirements for monitoring and continuous parameter monitoring systems are contained in § 65.156.

(2) Where a condenser is the final recovery device in the recovery system and the TRE index value is between 1.0 and 4.0, an organic monitoring device capable of providing a continuous record or a condenser exit (product side) temperature monitoring device capable of providing a continuous record shall be used. Monitoring results shall be recorded as specified in § 65.161. General requirements for monitoring and continuous parameter monitoring systems are contained in § 65.156.

(3) Where a carbon adsorber is the final recovery device in the recovery system and the TRE index value is between 1.0 and 4.0, an organic monitoring device capable of providing a continuous record; or an integrating regeneration stream flow monitoring device having an accuracy of  $\pm 10$  percent or better, capable of recording the total regeneration stream mass or volumetric flow for each regeneration cycle, and a carbon-bed temperature monitoring device, capable of recording the carbon-bed temperature after each regeneration and within 15 minutes of completing any cooling cycle shall be used. Monitoring results shall be recorded as specified in § 65.161. General requirements for monitoring and continuous parameter monitoring systems are contained in § 65.156.

(4) Unless previously approved by the Administrator under an applicable standard prior to the implementation date of this part, as specified in § 65.1(f) of subpart A of this part, if an owner or operator uses a recovery device other than those listed in this subpart, the owner or operator shall submit a description of planned monitoring, reporting and recordkeeping procedures as required under § 65.162(e). The Administrator will approve or deny the proposed monitoring, reporting and recordkeeping requirements as part of the review of the submission or permit application or by other appropriate means.

(5) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the recovery device. In

order to establish the range, the information required in § 65.165(c) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications in § 65.157(b)(1) or upon existing ranges or limits established under a referencing subpart. Where the regeneration stream flow and carbon-bed temperature are monitored, the range shall be in terms of the total regeneration stream flow per regeneration cycle and the temperature of the carbon-bed determined within 15 minutes of the completion of the regeneration cooling cycle.

**§ 65.154 Halogen scrubbers and other halogen reduction devices.**

(a) *Halogen scrubber and other halogen reduction device equipment and operating requirements.* (1) An owner or operator of halogen scrubbers and other halogen reduction devices subject to this subpart shall reduce the overall emissions of hydrogen halides and halogens by 99 percent or reduce the outlet mass of total hydrogen halides and halogens to less than 0.45 kilograms per hour (0.99 pound per hour) as specified in § 65.63(b) of subpart D of this part for process vents or § 65.83(b) of subpart E of this part for transfer racks, as applicable, and shall meet the requirements of this section.

(2) Halogen scrubbers and other halogen reduction devices used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) *Halogen scrubber and other halogen reduction device performance test requirements.* (1) Unless an initial performance test was previously conducted and submitted under the referencing subpart, an owner or operator of a combustion device followed by a halogen scrubber or other halogen reduction device to control halogenated vent streams in accordance with § 65.63(b)(1) of subpart D of this part for process vents or § 65.83(b)(1) of subpart E of this part for transfer racks shall conduct an initial performance test to determine compliance with the control efficiency or emission limits for hydrogen halides and halogens according to the procedures in §§ 65.157 and 65.158. Performance test records shall be kept as specified in § 65.160(a) and (b) and a performance test report shall be submitted as specified in § 65.164.

(2) Unless the halogen atom mass emission rate was previously determined under the referencing subpart, an owner or operator of a halogen scrubber or other halogen

reduction technique to reduce the vent stream halogen atom mass emission rate to less than 0.45 kilogram per hour (0.99 pound per hour) prior to a combustion device used to comply with § 65.63(b)(2) of subpart D of this part for process vents or § 65.83(b)(2) of subpart E of this part for transfer racks shall determine the halogen atom mass emission rate prior to the combustor according to the procedures in § 65.64(g) of subpart D of this part or § 65.83(b)(3) of subpart E of this part. Records of the halogen concentration in the vent stream shall be generated as specified in § 65.160(d).

(c) *Halogen scrubber and other halogen reduction device monitoring requirements.* (1) Where a halogen scrubber is used, the monitoring equipment specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this section is required for the scrubber. Monitoring results shall be recorded as specified in § 65.161. General requirements for monitoring and continuous parameter monitoring systems are contained in § 65.156.

(i) A pH monitoring device capable of providing a continuous record shall be installed to monitor the pH of the scrubber effluent.

(ii) A flow meter capable of providing a continuous record shall be located at the scrubber influent for liquid flow. Gas stream flow shall be determined using one of the procedures specified in paragraphs (c)(1)(ii)(A) through (c)(1)(ii)(C) of this section.

(A) The owner or operator may determine gas stream flow using the design blower capacity, with appropriate adjustments for pressure drop.

(B) If the scrubber is subject to regulations in 40 CFR parts 264 through 266 that have required a determination of the liquid to gas (L/G) ratio prior to the applicable compliance date for the chemical manufacturing process unit of which it is part as specified in 40 CFR 63.100(k) of subpart F (if the referencing subpart is 40 CFR part 63, subpart F) or prior to the implementation date as specified in § 65.1(f) of subpart A of this part (for all other referencing subparts), the owner or operator may determine gas stream flow by the method that had been utilized to comply with those regulations. A determination that was conducted prior to that compliance date may be utilized to comply with this subpart if it is still representative.

(C) The owner or operator may prepare and implement a gas stream flow determination plan that documents an appropriate method that will be used to determine the gas stream flow. The plan shall require determination of gas stream flow by a method that will at



least provide a value for either a representative or the highest gas stream flow anticipated in the scrubber during representative operating conditions other than startups, shutdowns, or malfunctions. The plan shall include a description of the methodology to be followed and an explanation of how the selected methodology will reliably determine the gas stream flow and a description of the records that will be maintained to document the determination of gas stream flow. The owner or operator shall maintain the plan as specified in § 65.5 of subpart A of this part.

(2) Where a halogen reduction device other than a scrubber is used, the procedures in § 65.162(e) shall be followed to establish monitoring parameters.

(3) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the scrubber or other halogen reduction device. In order to establish the range, the information required in § 65.165(c) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications in § 65.157(b)(1) or upon existing ranges or limits established under a referencing subpart.

#### § 65.155 Other control devices.

(a) *Other control device equipment and operating requirements.* (1) Owners or operators using a control device other than one listed in §§ 65.147 through 65.152 to meet the 98 weight-percent emission reduction or 20 parts per million by volume outlet concentration requirements specified in § 65.63(a)(2) of subpart D of this part or 40 CFR 60.562-1(a)(1)(i)(A) of subpart DDD for process vents or § 65.83(a)(1) of subpart E of this part for transfer racks, as applicable, shall meet the requirements of this section.

(2) Other control devices used to comply with the provisions of this subpart shall be operated at all times when emissions are vented to them.

(b) *Other control device performance test requirements.* Unless an initial performance test was previously conducted and submitted under the referencing subpart, an owner or operator of a control device other than those specified in §§ 65.147 through 65.152, to comply with § 65.63(a)(2) of subpart D of this part for process vents or § 65.83(a)(1) of subpart E of this part for transfer racks shall perform an initial performance test according to the procedures in §§ 65.157 and 65.158.

Performance test records shall be kept as specified in § 65.160(a) and (b) and a performance test report shall be submitted as specified in § 65.164.

(c) *Other control device monitoring requirements.* (1) Unless previously submitted and approved under the referencing subpart, if an owner or operator uses a control device other than those listed in this subpart, the owner or operator shall submit a description of planned monitoring, reporting, and recordkeeping procedures as required under § 65.162(e). The Administrator will approve, deny, or modify based on the reasonableness of the proposed monitoring, reporting, and recordkeeping requirements as part of the review of the submission or permit application or by other appropriate means.

(2) The owner or operator shall establish a range for monitored parameters that indicates proper operation of the control device. To establish the range, the information required in § 65.165(c) shall be submitted in the Initial Compliance Status Report or the operating permit application or amendment. The range may be based upon a prior performance test meeting the specifications in § 65.157(b)(1) or upon existing ranges or limits established under a referencing subpart.

#### § 65.156 General monitoring requirements for control and recovery devices.

(a) *General monitoring requirement applicability.* (1) This section applies to the owner or operator of a regulated source required to monitor under this subpart.

(2) Flares subject to § 65.147(c) are not subject to the requirements of this section.

(3) Flow indicators are not subject to the requirements of this section.

(b) *Conduct of monitoring.* (1) Monitoring shall be conducted as set forth in this section and in the relevant sections of this subpart unless the provision in either paragraph (b)(1)(i) or (b)(1)(ii) of this section applies.

(i) The Administrator specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures; or

(ii) The Administrator approves the use of alternatives to any monitoring requirements or procedures as provided in § 65.7(b), (c), and (d) of subpart A of this part.

(2) When one CPMS is used as a backup to another CPMS, the owner or operator shall report the results from the CPMS used to meet the monitoring

requirements of this subpart. If both such CPMS are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CPMS for the relevant compliance period.

(c) *Operation and maintenance of continuous parameter monitoring systems.* (1) All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturers specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(2) The owner or operator of a regulated source shall maintain and operate each CPMS as specified in this section or in a relevant subpart, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of a regulated source shall ensure the immediate repair or replacement of CPMS parts to correct "routine" or otherwise predictable CPMS malfunctions. The necessary parts for routine repairs of the affected equipment shall be readily available.

(ii) Except for Group 2A process vents, if the startup, shutdown, and malfunction plan is followed during a CPMS startup, shutdown, or malfunction and the CPMS is repaired immediately, this action shall be reported in the semiannual startup, shutdown, and malfunction report required under § 65.6(b)(1) of subpart A of this part.

(iii) The Administrator's determination of whether acceptable operation and maintenance procedures are being used for the CPMS will be based on information that may include, but is not limited to, review of operation and maintenance procedures, operation and maintenance records, manufacturer's recommendations and specifications, and inspection of the CPMS.

(3) All CPMS's shall be installed and operational, and the data verified as specified in this subpart either prior to or in conjunction with conducting performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(4) All CPMS shall be installed such that representative measurements of

parameters from the regulated source are obtained.

(5) In accordance with § 65.3(a)(3) of subpart A of this part, except for system breakdowns, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero and span adjustments, all CPMS shall be in continuous operation when emissions are being routed to the monitored device.

(d) Except for Group 2A process vents, the parameter monitoring data shall be used to determine compliance with the required operating conditions for the monitored control devices. For each excursion, except for excused excursions, the owner or operator shall be deemed to have failed to have applied the control in a manner that achieves the required operating conditions.

(1) An excursion means any of the three cases listed in paragraphs (d)(1)(i) through (d)(1)(iii) of this section. For a control device where multiple parameters are monitored, if one or more of the parameters meets the excursion criteria in paragraph (d)(1)(i), (d)(1)(ii), or (d)(1)(iii), this is considered a single excursion for the control device.

(i) When the daily average value of one or more monitored parameters is outside the permitted range.

(ii) When the period of control or recovery device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours.

(iii) When the period of control or recovery device operation is less than 4 hours in an operating day and more than 1 hour during the period of operation does not constitute a valid hour of data due to insufficient monitoring data.

(iv) Monitoring data are insufficient to constitute a valid hour of data as used in paragraphs (d)(1)(ii) and (d)(1)(iii) of this section, if measured values are unavailable for any of the 15-minute periods within the hour. For data compression systems approved under § 65.162(d)(4), monitoring data are insufficient to calculate a valid hour of data if there are less than four data values recorded during the hour.

(2) One excused excursion for each control device or recovery device for each semiannual period is allowed.

(3) The excursions described in paragraphs (d)(3)(i) through (d)(3)(iii) of this section are not violations, and do not count as excused excursions.

(i) Excursions which occur during periods of startup, shutdown, and malfunction, when the source is being

operated during such periods in accordance with its startup, shutdown, and malfunction plan as required by § 65.6 of subpart A.

(ii) Excursions which occur due to failure to collect a valid hour of data during periods of startup, shutdown, and malfunction, when the source is being operated during such periods in accordance with its startup, shutdown, and malfunction plan as required by § 65.6 of subpart A.

(iii) Excursions which occur during periods of nonoperation of the regulated source or portion thereof, resulting in cessation of the emissions to which monitoring applies.

(4) Nothing in paragraph (d) of this section shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of this part.

(5) Paragraph (d) of this section, except paragraph (d)(3) of this section, shall apply only to emission points and control devices for which continuous monitoring is required by this subpart.

(e) *Alternative monitoring parameter.* An owner or operator may request approval to monitor control, recovery, halogen scrubber, or halogen reduction device operating parameters other than those specified in this subpart by following the procedures specified in § 65.162(e).

**§ 65.157 Performance test and flare compliance determination requirements.**

(a) *Performance tests and flare compliance determinations.* Where §§ 65.145 through 65.155 require or the owner or operator elects to conduct a performance test of a nonflare control device or a halogen reduction device, or a compliance determination for a flare, the requirements of paragraphs (b) through (d) of this section apply.

(b) *Prior test results and waivers.* Initial performance tests and initial flare compliance determinations are required only as specified in this subpart.

(1) Unless requested by the Administrator, an owner or operator is not required to conduct a performance test or flare compliance determination under this subpart if a prior performance test or compliance determination was conducted using the same methods specified in § 65.158 and either no process changes have been made since the test or the owner or operator can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

(2) Individual performance tests and flare compliance determinations may be

waived upon written application to the Administrator per § 65.164(b)(3) if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance under 40 CFR part 63 or a waiver of compliance under 40 CFR part 61, or the owner or operator has requested an extension of compliance under 40 CFR part 63 or a waiver of compliance under 40 CFR part 61, and the Administrator is still considering that request.

(3) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notification is given to the owner or operator of the source.

(c) *Performance tests and flare compliance determinations schedule.*

(1) Unless a waiver of performance testing or flare compliance determination is obtained under this section or the conditions of another subpart of this part, the owner or operator shall perform such tests specified in paragraphs (c)(1)(i) through (c)(1)(vii) of this section.

(i) Within 180 days after the effective date of a relevant standard for a new source that has an initial startup date before the effective date of that standard; or

(ii) Within 180 days after initial startup for a new source that has an initial startup date after the effective date of a relevant standard; or

(iii) Within 180 days after the compliance date specified in a referencing subpart for an existing source or within 180 days after startup of an existing source if the source begins operation after the effective date of the relevant 40 CFR part 63 emission standard; or

(iv) Within 180 days after the compliance date for an existing source subject to an emission standard established pursuant to section 112(f) of the Act; or

(v) Within 180 days after the termination date of the source's extension of compliance or a waiver of compliance for an existing source that obtains an extension of compliance under 40 CFR 63.6(i) of subpart A or a waiver of compliance under 40 CFR 61.11 of subpart A; or

(vi) Within 180 days after the compliance date for a new source, subject to an emission standard established pursuant to section 112(f) of the Act, for which construction or reconstruction is commenced after the proposal date of a relevant standard

established pursuant to section 112(d) of the Act but before the proposal date of the relevant standard established pursuant to section 112(f) [see 40 CFR 63.6(b)(4) of subpart A]; or

(vii) When an emission standard promulgated under part 63 is more stringent than the standard that was proposed [see 40 CFR 63.6(b)(3) of subpart A], the owner or operator of a new or reconstructed source subject to that standard for which construction or reconstruction is commenced between the proposal and promulgation dates of the standard shall comply with performance testing requirements within 180 days after the standard's effective date or within 180 days after startup of the source, whichever is later. If the promulgated standard is more stringent than the proposed standard, the owner or operator may choose to demonstrate compliance with either the proposed or the promulgated standard. If the owner or operator chooses to comply with the proposed standard initially, the owner or operator shall conduct a second performance test within 3 years and 180 days after the effective date of the standard, or after startup of the source, whichever is later, to demonstrate compliance with the promulgated standard.

(2) The Administrator may require an owner or operator to conduct performance tests and compliance determinations at the regulated source at any time when the action is authorized by section 114 of the Act.

(d) *Performance testing facilities.* If required to do performance testing, the owner or operator of each new regulated source and, at the request of the Administrator, the owner or operator of each existing regulated source, shall provide performance testing facilities as specified in paragraphs (d)(1) through (d)(5) of this section.

(1) Sampling ports adequate for test methods applicable to such source. This includes, as applicable, the requirements specified in paragraphs (d)(1)(i) and (d)(1)(ii) of this section.

(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(ii) Providing a stack or duct free of cyclonic flow during performance tests as demonstrated by applicable test methods and procedures.

(2) Safe sampling platform(s);

(3) Safe access to sampling platform(s);

(4) Utilities for sampling and testing equipment; and

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

**§ 65.158 Performance test procedures for control devices.**

(a) *General procedures.* Where §§ 65.145 through 65.155 require or the owner or operator elects to conduct a performance test of a control device or a halogen reduction device, an owner or operator shall follow the requirements of paragraphs (a)(1) through (a)(3) of this section, as applicable.

(1) Performance tests shall be conducted at maximum representative operating conditions for the process unless the Administrator specifies or approves alternate operating conditions. During the performance test, an owner or operator may operate the control or halogen reduction device at maximum or minimum representative operating conditions for monitored control or halogen reduction device parameters, whichever results in lower emission reduction. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(2) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this subpart, in each relevant standard, and, if required, in applicable appendices of 40 CFR parts 51, 60, 61, and 63 unless the Administrator allows revisions to the test methods as specified in one or more of the paragraphs (a)(2)(i) through (a)(2)(v) of this section.

(i) The Administrator specifies or approves, in specific cases, the use of a test method with minor changes in methodology; or

(ii) The Administrator approves the use of an alternative test method, the results of which the Administrator has determined to be adequate for indicating whether a specific regulated source is in compliance. The alternative method or data shall be validated using the applicable procedures of Method 301 of appendix A of 40 CFR part 63; or

(iii) The Administrator approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors; or

(iv) The Administrator waives the requirement for the performance test as provided in § 65.157(b)(2) because the owner or operator of a regulated source has demonstrated by other means to the Administrator's satisfaction that the regulated source is in compliance with the relevant standard; or

(v) The Administrator approves the use of an equivalent method.

(3) Each performance test shall consist of three separate runs using the applicable test method. Except as provided in paragraphs (a)(3)(i) and (a)(3)(ii) of this section, each run shall be conducted for at least 1 hour and under the conditions specified in this section. For the purpose of determining compliance with an applicable standard, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

(i) For control devices that are used to control emissions from transfer racks (except low-throughput transfer racks), and that are capable of continuous vapor processing but do not handle continuous emissions or emissions from transfer racks that load simultaneously from multiple loading arms each run shall represent at least one complete tank truck or tank car loading period during which regulated materials are loaded, and samples shall be collected using integrated sampling or grab samples taken at least four times per hour at approximately equal intervals of time, such as 15-minute intervals.

(ii) For intermittent vapor processing systems used for controlling transfer rack emissions (except low-throughput transfer racks) that do not handle continuous emissions or multiple loading arms of a transfer rack that load simultaneously, each run shall represent at least one complete control device cycle, and samples shall be collected using integrated sampling or grab samples taken at least four times per hour at approximately equal intervals of time, such as 15-minute intervals.

(b) *Test methods.* Where §§ 65.145 through 65.155 require or the owner or operator elects to conduct a performance test of a control device or a halogen reduction device, an owner or operator shall conduct that performance test using the procedures in paragraphs (b)(1) through (b)(4) of this section, as applicable. The regulated material concentration and percent reduction may be measured as either total regulated material or as TOC minus methane and ethane according to the procedures specified.

(1) Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling sites.

(i) For determination of compliance with a percent reduction requirement of total regulated material or TOC, sampling sites shall be located at the inlet of the control device as specified in paragraphs (b)(1)(i)(A) and (b)(1)(i)(B) of this section and at the outlet of the control device.

(A) For process vents, the control device inlet sampling site shall be located after the final product recovery device.

(B) If a vent stream is introduced with the combustion air or as a secondary fuel into a boiler or process heater with a design capacity less than 44 megawatts (150 million British thermal units per hour), selection of the location of the inlet sampling sites shall ensure the measurement of total regulated material or TOC (minus methane and ethane) concentrations, as applicable, in all vent streams and primary and secondary fuels introduced into the boiler or process heater.

(ii) For determination of compliance with the 20 parts per million by volume total regulated material or TOC limit in § 65.63(a)(2) of subpart D of this part, § 65.83(a)(1) of subpart E of this part, and 40 CFR 60.562-1(a)(1)(i)(A) of subpart DDD, the sampling site shall be located at the outlet of the control device.

(2) The gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(3) To determine compliance with the 20 parts per million by volume total regulated material or TOC (minus methane and ethane) limit, the owner or operator shall use Method 18 of 40 CFR part 60, appendix A, to measure either TOC minus methane and ethane or total regulated material, as applicable. Alternatively, any other method or data that have been validated according to the applicable procedures in Method 301 of appendix A of 40 CFR part 63, may be used. Method 25A may be used for transfer racks as detailed in paragraph (b)(3)(iv) of this section. The procedures specified in paragraphs (b)(3)(i) through (b)(3)(iv) of this section shall be used to calculate parts per million by volume concentration, corrected to 3 percent oxygen.

(i) Except as provided in paragraphs (a)(3)(i) and (a)(3)(ii) of this section, the minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

(ii) The concentration of either TOC (minus methane or ethane) or total regulated material shall be calculated according to paragraph (b)(3)(ii)(A) or (b)(3)(ii)(B) of this section.

(A) The TOC concentration ( $C_{\text{TOC}}$ ) is the sum of the concentrations of the individual components and shall be computed for each run using equation 158-1.

$$C_{\text{REG, or } C_{\text{TOC}}} = \sum_{i=1}^x \frac{\left( \sum_{j=1}^n C_{ji} \right)}{x} \quad (158-1)$$

Where:

$C_{\text{REG, or } C_{\text{TOC}}}$  = Concentration of total regulated material or concentration of TOC (minus methane and ethane), dry basis, parts per million by volume.  
 $x$  = Number of samples in the sample run.

$n$  = Number of components in the sample.

$C_{ji}$  = Concentration of sample components  $j$  of sample  $i$ , dry basis, parts per million by volume.

(B) The total regulated material ( $C_{\text{REG}}$ ) shall be computed according to equation 158-1 except that only the regulated species shall be summed. Where the regulated material is organic HAP's, the list of organic HAP's provided in table 2 of 40 CFR part 63, subpart F, shall be used.

(iii) The concentration of TOC or total regulated material, as applicable, shall be corrected to 3 percent oxygen if a combustion device is the control device.

(A) The emission rate correction factor (or excess air) integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A, shall be used to determine the oxygen concentration. The sampling site shall be the same as that of the regulated material or organic compound samples, and the samples shall be taken during the same time that the regulated material or organic compound samples are taken.

(B) The concentration corrected to 3 percent oxygen ( $C_c$ ) shall be computed using equation 158-2.

$$C_c = C_m \left( \frac{17.9}{20.9 - \%O_{2d}} \right) \quad (158-2)$$

Where:

$C_c$  = Concentration of TOC or regulated material corrected to 3 percent oxygen, dry basis, parts per million by volume.

$C_m$  = Concentration of TOC (minus methane and ethane) or regulated material, dry basis, parts per million by volume.

$\%O_{2d}$  = Concentration of oxygen, dry basis, percentage by volume.

(iv) Method 25A of 40 CFR part 60, appendix A may be used for the purpose of determining compliance with the 20 parts per million by volume limit specified in § 65.83(a)(1) of subpart E of this part for transfer racks. If Method 25A of 40 CFR part 60, appendix A is used, the procedures specified in paragraphs (b)(3)(iv)(A) through (b)(3)(iv)(D) of this section shall be used to calculate the concentration of organic compounds ( $C_{\text{TOC}}$ ).

(A) The principal organic HAP in the vent stream shall be used as the calibration gas.

(B) The span value for Method 25A of 40 CFR part 60, appendix A, shall be between 1.5 and 2.5 times the concentration being measured.

(C) Use of Method 25A of 40 CFR part 60, appendix A, is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.

(D) The concentration of TOC shall be corrected to 3 percent oxygen using the procedures and equation in paragraph (b)(3)(iii) of this section.

(4) To determine compliance with a percent reduction requirement, the owner or operator shall use Method 18 of 40 CFR part 60, appendix A; alternatively, any other method or data that have been validated according to the applicable procedures in Method 301 of appendix A of 40 CFR part 63 may be used. Method 25A of 40 CFR part 60, appendix A may be used for transfer racks as detailed in paragraph (b)(4)(v) of this section. Procedures specified in paragraphs (b)(4)(i) through (b)(4)(v) of this section shall be used to calculate percent reduction efficiency.

(i) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15-minute intervals during the run.

(ii) The mass rate of either TOC (minus methane and ethane) or total regulated material ( $E_i$ ,  $E_o$ ) shall be computed as applicable.

(A) Equations 158-3 and 158-4 shall be used.

$$E_i = K_2 \left( \sum_{j=1}^n C_{ij} M_{ij} \right) Q_i \quad (158-3)$$

$$E_o = K_2 \left( \sum_{j=1}^n C_{oj} M_{oj} \right) Q_o \quad (158-4)$$

Where:

$E_i$ ,  $E_o$  = Emission rate of TOC (minus methane and ethane) ( $E_{TOC}$ ) or emission rate of total organic HAP ( $E_{HAP}$ ) in the sample at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.

$K_2$  = Constant,  $2.494 \times 10^{-6}$  (parts per million)<sup>-1</sup> (gram-mole per standard cubic meter) (kilogram per gram) (minute per hour), where standard temperature (gram-mole per standard cubic meter) is 20 °C.

$n$  = Number of components in the sample.

$C_{ij}$ ,  $C_{oj}$  = Concentration on a dry basis of organic compound  $j$  in parts per million by volume of the gas stream at the inlet and outlet of the control device, respectively. If the TOC emission rate is being calculated,  $C_{ij}$  and  $C_{oj}$  include all organic compounds measured minus methane and ethane; if the total organic HAP emissions rate is being calculated, only organic HAP are included.

$M_{ij}$ ,  $M_{oj}$  = Molecular weight of organic compound  $j$ , gram per gram-mole, of the gas stream at the inlet and outlet of the control device, respectively.

$Q_i$ ,  $Q_o$  = Process vent flow rate, dry standard cubic meter per minute, at a temperature of 20 °C, at the inlet and outlet of the control device, respectively.

(B) Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by Method 18 of 40 CFR part 60, appendix A, are summed using equations 158-3 and 158-4.

(C) Where the mass rate of total regulated material is being calculated, only the species comprising the regulated material shall be summed using equations 158-3 and 158-4. Where the regulated material is organic HAP's, the list of organic HAP's provided in table 2 of 40 CFR part 63, subpart F, shall be used.

(iii) The percent reduction in TOC (minus methane and ethane) or total regulated material shall be calculated using equation 158-5.

$$R = \frac{E_i - E_o}{E_i} (100) \quad (158-5)$$

Where:

$R$  = Control efficiency of control device, percent.

$E_i$  = Mass rate of TOC (minus methane and ethane) or total regulated material at the inlet to the control device as calculated under paragraph (b)(4)(ii) of this section, kilograms TOC per hour or kilograms regulated material per hour.

$E_o$  = Mass rate of TOC (minus methane and ethane) or total regulated material at the outlet of the control device, as calculated under paragraph (b)(4)(ii) of this section, kilograms TOC per hour or kilograms total regulated material per hour.

(iv) If the vent stream entering a boiler or process heater with a design capacity less than 44 megawatts (150 million British thermal units) is introduced with the combustion air or as a secondary fuel, the weight-percent reduction of total regulated material or TOC (minus methane and ethane) across the device shall be determined by comparing the TOC (minus methane and ethane) or total regulated material in all combusted vent streams and primary and secondary fuels with the TOC (minus methane and ethane) or total regulated material exiting the combustion device, respectively.

(v) Method 25A of 40 CFR part 60, appendix A, may also be used for the purpose of determining compliance with the percent reduction requirement for transfer racks.

(A) If Method 25A of 40 CFR part 60, appendix A, is used to measure the concentration of organic compounds ( $C_{TOC}$ ), the principal regulated material in the vent stream shall be used as the calibration gas.

(B) An emission testing interval shall consist of each 15-minute period during the performance test. For each interval, a reading from each measurement shall be recorded.

(C) The average organic compound concentration and the volume measurement shall correspond to the same emissions testing interval.

(D) The mass at the inlet and outlet of the control device during each testing interval shall be calculated using equation 158-6.

$$M_j = F k V_s C_t \quad (158-6)$$

Where:

$M_j$  = Mass of organic compounds emitted during testing interval  $j$ , kilograms.

$F = 10^{-6}$  = Conversion factor, (cubic meters regulated material per cubic meters air) \* (parts per million by volume) - 1.

$K$  = Density, kilograms per standard cubic meter regulated material.

=659 kilograms per standard cubic meter regulated material. (Note: The

density term cancels out when the percent reduction is calculated. Therefore, the density used has no effect. The density of hexane is given so that it can be used to maintain the units of Mj.)

$V_s$  = Volume of air-vapor mixture exhausted at standard conditions, 20 °C and 760 millimeters of mercury (30 inches of mercury), standard cubic meters.

$C_t$  = Total concentration of organic compounds (as measured) at the exhaust vent, parts per million by volume, dry basis.

(E) The organic compound mass emission rates at the inlet and outlet of the control device shall be calculated as follows: where:

$$E_i = \frac{\sum_{j=1}^n M_{ij}}{T} \quad (158-7)$$

$$E_o = \frac{\sum_{j=1}^n M_{oj}}{T} \quad (158-8)$$

Where:

$E_i$ ,  $E_o$  = Mass flow rate of organic compounds at the inlet (i) and outlet (o) of the control device, kilograms per hour.

$n$  = Number of testing intervals.

$M_{ij}$ ,  $M_{oj}$  = Mass of organic compounds at the inlet (i) or outlet (o) during testing interval  $j$ , kilograms.

$T$  = Total time of all testing intervals, hours.

(c) *Halogen test method.* An owner or operator using a halogen scrubber or other halogen reduction device to control halogenated vent streams in compliance with § 65.63(b)(1) of subpart D of this part for process vents or § 65.83(b)(1) of subpart E of this part for transfer racks, who is required to conduct a performance test to determine compliance with the control efficiency or emission limits for hydrogen halides and halogens, as specified in § 65.154(b)(1) shall follow the procedures specified in paragraphs (c)(1) through (c)(4) of this section.

(1) For an owner or operator determining compliance with the percent reduction of total hydrogen halides and halogens, sampling sites shall be located at the inlet and outlet of the scrubber or other halogen reduction device used to reduce halogen emissions. For an owner or operator determining compliance with the less than 0.45 kilogram per hour (0.99 pounds per hour) outlet emission limit for total hydrogen halides and halogens,

the sampling site shall be located at the outlet of the scrubber or other halogen reduction device and prior to any releases to the atmosphere.

(2) Except as provided in paragraph (a)(2) of this section, Method 26 or Method 26A of 40 CFR part 60, appendix A, shall be used to determine the concentration, in milligrams per dry standard cubic meter, of total hydrogen halides and halogens that may be present in the vent stream. The mass emissions of each hydrogen halide and halogen compound shall be calculated from the measured concentrations and the gas stream flow rate.

(3) To determine compliance with the percent removal efficiency, the mass emissions for any hydrogen halides and halogens present at the inlet of the halogen reduction device shall be summed together. The mass emissions of the compounds present at the outlet of the scrubber or other halogen reduction device shall be summed together. Percent reduction shall be determined by comparison of the summed inlet and outlet measurements.

(4) To demonstrate compliance with the less than 0.45 kilogram per hour (0.99 pound per hour) outlet emission limit, the test results must show that the mass emission rate of total hydrogen halides and halogens measured at the outlet of the scrubber or other halogen reduction device is below 0.45 kilogram per hour (0.99 pound per hour).

**§ 65.159 Flare compliance determination and monitoring records.**

(a) *Conditions of flare compliance determination records.* Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of flare compliance determinations performed pursuant to § 65.147(b).

(b) *Flare compliance determination records.* When using a flare to comply with this subpart, record the information specified in paragraphs (b)(1) through (b)(3) of this section for each flare compliance determination performed pursuant to § 65.147(b). As specified in § 65.164(a)(1), the owner or operator shall include this information in the flare compliance determination report.

(1) Flare design (i.e., steam-assisted, air-assisted, or nonassisted);

(2) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the flare compliance determination; and

(3) All periods during the flare compliance determination when all pilot flames are absent or, if only the

flare flame is monitored, all periods when the flare flame is absent.

(c) *Monitoring records.* Each owner or operator shall keep up to date and readily accessible hourly records of whether the flare flame or pilot flame monitors are continuously operating and whether the flare flame or at least one pilot flame is continuously present. For transfer racks, hourly records are required only while the transfer vent stream is being vented.

(d) *Compliance records.* (1) Each owner or operator shall keep records of the times and duration of all periods during which the flare flame and all the pilot flames are absent. This record shall be submitted in the periodic reports as specified in § 65.166(c).

(2) Each owner or operator shall keep records of the times and durations of all periods during which the flare flame or pilot flame monitors are not operating.

**§ 65.160 Performance test and TRE index value determination records.**

(a) *Availability of performance tests records.* Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests performed pursuant to § 65.148(b), § 65.149(b), § 65.150(b), § 65.151(b), § 65.152(b), § 65.154(b), or § 65.155(b).

(b) *Nonflare control device and halogen reduction device performance test records.* Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of the data specified in paragraphs (b)(1) through (b)(3) of this section, as applicable, measured during each performance test performed pursuant to § 65.148(b), § 65.149(b), § 65.150(b), § 65.151(b), § 65.152(b), § 65.154(b), or § 65.155(b), and also include that data in the Initial Compliance Status Report as specified in § 65.164(a). The same data specified in paragraphs (b)(1) through (b)(3) of this section, as applicable, shall be submitted in the reports of all subsequently required performance tests where either the emission control efficiency of a nonflare control device or the outlet concentration of TOC or regulated material is determined.

(1) *Nonflare combustion device.* Where an owner or operator subject to the provisions of paragraph (b) of this section seeks to demonstrate compliance with a percent reduction requirement or a parts per million by volume requirement using a nonflare combustion device, the information specified in paragraphs (b)(1)(i) through (b)(1)(vi) of this section shall be recorded.

(i) For thermal incinerators, record the fire box temperature averaged over the full period of the performance test.

(ii) For catalytic incinerators, record the upstream and downstream temperatures and the temperature difference across the catalyst bed averaged over the full period of the performance test.

(iii) For an incinerator, record the percent reduction of regulated material or TOC achieved by the incinerator determined as specified in § 65.158(b)(4), as applicable, or the concentration of regulated material or TOC (parts per million by volume, by compound) determined as specified in § 65.158(b)(3) at the outlet of the incinerator.

(iv) For a boiler or process heater, record a description of the location at which the vent stream is introduced into the boiler or process heater.

(v) For boilers or process heaters with a design heat input capacity less than 44 megawatts (150 British thermal units per hour) and where the vent stream is not introduced with or as the primary fuel, record the fire box temperature averaged over the full period of the performance test.

(vi) For a boiler or process heater with a design heat input capacity of less than 44 megawatts (150 British thermal units per hour) and where the process vent stream is introduced with combustion air or used as a secondary fuel and is not mixed with the primary fuel, record the percent reduction of regulated material or TOC, or the concentration of regulated material or TOC (parts per million by volume, by compound) determined as specified in § 65.158(b)(3) at the outlet of the combustion device.

(2) *Other nonflare control devices.* Where an owner or operator seeks to use an absorber, condenser, or carbon adsorber as a control device, the information specified in paragraphs (b)(2)(i) through (b)(2)(v) shall be recorded, as applicable.

(i) Where an absorber is used as the control device, the exit specific gravity and average exit temperature of the absorbing liquid measured at least every 15 minutes and averaged over the same time period as the performance test (both measured while the vent stream is normally routed and constituted); or

(ii) Where a condenser is used as the control device, the average exit (product side) temperature measured at least every 15 minutes and averaged over the same time period as the performance test while the vent stream is routed and constituted normally; or

(iii) Where a carbon adsorber is used as the control device, the total regeneration stream mass flow during

each carbon-bed regeneration cycle during the period of the performance test measured at least every 15 minutes and averaged over the same time period as the performance test (full carbon-bed cycle), and temperature of the carbon-bed after each regeneration during the period of the performance test (and within 15 minutes of completion of any cooling cycle or cycles); or

(iv) As an alternative to paragraph (b)(2)(i), (b)(2)(ii), or (b)(2)(iii) of this section, the concentration level or reading indicated by the organics monitoring device at the outlet of the absorber, condenser, or carbon adsorber measured at least every 15 minutes and averaged over the same time period as the performance test while the vent stream is normally routed and constituted.

(v) For an absorber, condenser, or carbon adsorber used as a control device, the percent reduction of regulated material or TOC achieved by the control device determined as specified in § 65.158(b)(4), or the concentration of regulated material or TOC (parts per million by volume, by compound) determined as specified in § 65.158(b)(3) at the outlet of the control device.

(3) *Halogen reduction devices.* When using a scrubber following a combustion device to control a halogenated vent stream, record the information specified in paragraphs (b)(3)(i) through (b)(3)(iii) of this section.

(i) The percent reduction or scrubber outlet mass emission rate of total hydrogen halides and halogens as specified in § 65.158(c).

(ii) The pH of the scrubber effluent averaged over the time period of the performance test; and

(iii) The scrubber liquid-to-gas ratio averaged over the time period of the performance test.

(c) *Recovery device monitoring records during the TRE index value determination.* For Group 2A process vents, the records specified in paragraph (c)(1) through (c)(5) of this section, as applicable, shall be maintained and they shall be reported as specified in § 65.164(a)(3).

(1) Where an absorber is the final recovery device in the recovery system, the exit specific gravity and average exit temperature of the absorbing liquid measured at least every 15 minutes and averaged over the same time period as the TRE index value determination (both measured while the vent stream is normally routed and constituted); or

(2) Where a condenser is the final recovery device in the recovery system, the average exit (product side) temperature measured at least every 15

minutes and averaged over the same time period as the TRE index value determination while the vent stream is routed and constituted normally; or

(3) Where a carbon adsorber is the final recovery device in the recovery system, the total regeneration stream mass flow measured at least every 15 minutes and averaged over the same time during each carbon-bed regeneration cycle during the period of the TRE index value determination, and temperature of the carbon-bed after each regeneration during the period of the TRE index value determination (and within 15 minutes of completion of any cooling cycle or cycles); or

(4) As an alternative to paragraph (c)(1), (c)(2), or (c)(3) of this section, the concentration level or reading indicated by an organics monitoring device at the outlet of the absorber, condenser, or carbon adsorber measured at least every 15 minutes and averaged over the same time period as the TRE index value determination while the vent stream is normally routed and constituted.

(5) All measurements and calculations performed to determine the TRE index value of the vent stream as specified in § 65.64(h) of subpart D of this part.

(d) *Halogen concentration records.* Record the halogen concentration in the vent stream determined according to the procedures as specified in § 65.63(b) of subpart D of this part or § 65.83(b) of subpart E of this part. Submit this record in the Initial Compliance Status Report, as specified in § 65.165(d).

#### **§ 65.161 Continuous records and monitoring system data handling.**

(a) *Required records.* Where this subpart requires a monitoring device capable of providing a continuous record, the owner or operator shall maintain the record specified in paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section, as applicable. The provisions of this section apply to owners and operators of storage vessels and low-throughput transfer racks only if specified by the applicable monitoring plan established under § 65.165(c)(1) and (c)(2).

(1) A record of values measured at least once every 15 minutes or each measured value for systems that measure more frequently than once every 15 minutes; or

(2) A record of 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

(3) A record of block hourly average values calculated from each 15-minute

block average period or from at least one measured value per minute if measured more frequently than once per minute, and a record of the most recent 3 valid hours of continuous (15-minute or shorter) records meeting the requirements of paragraph (a)(1) or (a)(2) of this section.

(4) A record as required by an alternative approved under § 65.162(d).

(b) *Excluded data.* Monitoring data recorded during periods identified in paragraphs (b)(1) through (b)(3) of this section shall not be included in any average computed to determine compliance under this subpart.

(1) Monitoring system breakdowns, repairs, preventive maintenance, calibration checks, and zero (low-level) and high-level adjustments;

(2) Periods of non-operation of the process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies; and

(3) Startups, shutdowns, and malfunctions.

(c) *Additional records.* In addition to the records specified in paragraph (a) of this section, owners or operators shall also keep records as specified in paragraphs (c)(1) and (c)(2) of this section unless an alternative monitoring or recordkeeping system has been requested and approved under § 65.162(d).

(1) Except as specified in paragraph (c)(2) of this section, daily average values of each continuously monitored parameter shall be calculated from data meeting the specifications of paragraph (b) of this section for each operating day and retained for 5 years. The data shall be reported in the periodic report as specified in § 65.166(f), if applicable.

(i) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per operating day if operation is not continuous (for example, for transfer racks, the average shall cover periods of loading). If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the daily average instead of all measured values.

(ii) The operating day shall be the period defined in the operating permit or the Initial Compliance Status Report. It may be from midnight to midnight or another daily period.

(2) If all recorded values for a monitored parameter during an operating day are within the range established in the Initial Compliance Status Report or in the operating permit, the owner or operator may record that

all values were within the range and retain this record for 5 years rather than calculating and recording a daily average for that operating day.

(d) *Valid data.* Unless determined to be excluded data according to paragraph (b) of this section, the data collected pursuant to paragraphs (a) through (c) of this section shall be considered valid.

(e) *Alternative recordkeeping.* For any parameter with respect to any item of equipment, the owner or operator may implement the recordkeeping requirements in paragraph (e)(1) or (e)(2) of this section as alternatives to the continuous parameter monitoring and recordkeeping provisions listed in paragraphs (a) through (c) of this section. The owner or operator shall retain each record required by paragraph (e)(1) or (e)(2) of this section as provided in § 65.4 of subpart A of this part.

(1) The owner or operator may retain only the daily average value and is not required to retain more frequently monitored operating parameter values for a monitored parameter with respect to an item of equipment if the requirements of paragraphs (e)(1)(i) through (e)(1)(vi) of this section are met. The owner or operator shall notify the Administrator of implementation of paragraph (e)(1) of this section in the Initial Compliance Status Report as required in § 65.165(e) or, if the Initial Compliance Status Report has already been submitted, in the periodic report as required in § 65.166(f)(4) immediately preceding implementation of the requirements of paragraph (e)(1) of this section.

(i) The monitoring system shall be capable of detecting unrealistic or impossible data during periods of operation other than startups, shutdowns, or malfunctions (for example, a temperature reading of  $-200^{\circ}\text{C}$  on a boiler) and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(ii) The monitoring system shall generate a running average of the monitoring values, updated at least hourly throughout each operating day, that have been obtained during that operating day, and the capability to observe this average is readily available to the Administrator on-site during the operating day. The owner or operator shall record the occurrence of any period meeting the criteria in paragraphs (e)(1)(ii)(A) through (e)(1)(ii)(C) of this section. All instances in an operating day constitute a single occurrence.

(A) The running average is above the maximum or below the minimum established limits; and

(B) The running average is based on at least six 1-hour average values; and

(C) The running average reflects a period of operation other than a startup, shutdown, or malfunction.

(iii) The monitoring system shall be capable of detecting unchanging data during periods of operation other than startups, shutdowns, or malfunctions except in circumstances where the presence of unchanging data is the expected operating condition based on past experience (for example, pH in some scrubbers), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(iv) The monitoring system shall alert the owner or operator by an alarm if the running average parameter value calculated under paragraph (e)(1)(ii) of this section reaches a set point that is appropriately related to the established limit for the parameter that is being monitored.

(v) The owner or operator shall verify the proper functioning of the monitoring system, including its ability to comply with the requirements of paragraph (e)(1) of this section, at the times specified in paragraphs (e)(1)(v)(A) through (e)(1)(v)(C) of this section. The owner or operator shall document that the required verifications occurred.

(A) Upon initial installation.

(B) Annually after initial installation.

(C) After any change to the programming or equipment constituting the monitoring system, that might reasonably be expected to alter the monitoring system's ability to comply with the requirements of this section.

(vi) The owner or operator shall retain the records identified in paragraphs (e)(1)(vi)(A) through (e)(1)(vi)(C) of this section.

(A) Identification of each parameter for each item of equipment for which the owner or operator has elected to comply with the requirements of § 65.162(e).

(B) A description of the applicable monitoring system(s) and of how compliance will be achieved with each requirement of paragraph (e)(1)(i) through (e)(1)(v) of this section. The description shall identify the location and format (for example, on-line storage; log entries) for each required record. If the description changes, the owner or operator shall retain both the current and the most recent outdated description. Owners and operators shall retain the current description of the

monitoring system as long as the description is current, but not less than 5 years from the date of its creation. The current description shall be retained on-site at all times or be accessible from a central location by computer or other means that provide access within 2 hours after a request. The owner or operator shall retain the most recent outdated description at least until 5 years from the date of its creation. The outdated description shall be retained on-site (or accessible from a central location by computer that provides access within 2 hours after a request) at least 6 months after being outdated. Thereafter, the outdated description may be stored off-site.

(C) A description and the date of any change to the monitoring system that would reasonably be expected to affect its ability to comply with the requirements of paragraph (e)(1) of this section.

(2) If an owner or operator has elected to implement the requirements of paragraph (e)(1) of this section and a period of 6 consecutive months has passed without an excursion as defined in paragraph (e)(2)(iv) of this section, the owner or operator is no longer required to record the daily average value for that parameter for that unit of equipment for any operating day when the daily average value is less than the maximum or greater than the minimum established limit. With approval by the Administrator, monitoring data generated prior to the compliance date of this subpart shall be credited toward the period of 6 consecutive months if the parameter limit and the monitoring were required and/or approved by the Administrator.

(i) If the owner or operator elects not to retain the daily average values, the owner or operator shall notify the Administrator in the next periodic report. The notification shall identify the parameter and unit of equipment.

(ii) If there is an excursion as defined in paragraph (e)(2)(iv) of this section on any operating day after the owner or operator has ceased recording daily averages as provided in paragraph (e)(2) of this section, the owner or operator shall immediately resume retaining the daily average value for each day and shall notify the Administrator in the next periodic report. The owner or operator shall continue to retain each daily average value until another period of 6 consecutive months has passed without an excursion.

(iii) The owner or operator shall retain the records specified in paragraphs (e)(1)(i) through (e)(1)(vi) of this section for the duration specified in § 65.4 of subpart A of this part. For any calendar



week, if compliance with paragraphs (e)(1)(i) through (e)(1)(iv) of this section does not result in retention of a record of at least one occurrence or measured parameter value, the owner or operator shall record and retain at least one parameter value during a period of operation other than a startup, shutdown, or malfunction.

(iv) For purposes of paragraph (e) of this section, an excursion means that the daily average value of monitoring data for a parameter is greater than the maximum or less than the minimum established value except as provided in paragraphs (e)(2)(iv)(A) and (e)(2)(iv)(B) of this section.

(A) The daily average value during any startup, shutdown, or malfunction shall not be considered an excursion for purposes of paragraph (e) if the owner or operator follows the applicable provisions of the startup, shutdown, and malfunction plan required by § 65.6 of subpart A of this part.

(B) An excused excursion as described in § 65.156(d) shall not be considered an excursion for purposes of paragraph (e) of this section.

**§ 65.162 Nonflare control and recovery device monitoring records.**

(a) *Monitoring system records.* For process vents and transfer racks (except low-throughput transfer racks), the owner or operator subject to this subpart shall keep the records specified in paragraph (a) of this section as well as records specified elsewhere in this part.

(1) For CPMS's used to comply with this part, a record of the procedure used for calibrating the CPMS.

(2) For a CPMS used to comply with this subpart, records of the information specified in paragraphs (a)(2)(i) through (a)(2)(v) of this section, as applicable.

(i) The date and time of completion of calibration and preventive maintenance of the CPMS.

(ii) The "as found" and "as left" CPMS readings whenever an adjustment is made that affects the CPMS reading and a "no adjustment" statement otherwise.

(iii) The start time and duration or start and stop time of any periods when the CPMS is inoperative or malfunctioning.

(iv) Records of the occurrence and duration of each startup, shutdown, and malfunction of CPMS used to comply with this part during which excess emissions (as defined in § 65.3(a)(4) of subpart A of this part) occur.

(v) For each startup, shutdown, and malfunction during which excess emissions as defined in § 65.3(b)(4) of subpart A of this part occur, records whether the procedures specified in the

source's startup, shutdown, and malfunction plan were followed and documentation of actions taken that are not consistent with the plan. These records may take the form of a checklist, or other form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for the event.

(3) Records of startup, shutdown, and malfunction and CPMS calibration and maintenance are not required if they pertain solely to Group 2A process vents.

(b) *Combustion control and halogen reduction device monitoring records.* (1) Each owner or operator using a combustion control or halogen reduction device to comply with this subpart shall keep, as applicable, up to date and readily accessible continuous records, as specified in § 65.161(a); and records of the equipment operating parameters specified to be monitored under § 65.148(c) (incinerator monitoring), § 65.149(c) (boiler and process heater monitoring), § 65.154(c) (halogen reduction device monitoring), § 65.155(c) (other control device monitoring), or specified by the Administrator in accordance with paragraph (e) of this section.

(2) Each owner or operator shall keep records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in § 65.161(c)(1). For catalytic incinerators, record the daily average of the temperature upstream of the catalyst bed and the daily average of the temperature differential across the bed. For halogen scrubbers, record the daily average pH and the liquid-to-gas ratio.

(3) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of periods of operation during which the parameter boundaries are exceeded and report these exceedances as specified in § 65.166(f)(1). The parameter boundaries are established pursuant to § 65.148(c)(2) (incinerator monitoring), § 65.149(c)(2) (boiler and process heater monitoring), § 65.154(c)(2) (halogen reduction device monitoring), or § 65.155(c)(2) (other control device monitoring), as applicable.

(c) *Monitoring records for recovery devices on Group 2A process vents and for absorbers, condensers, carbon adsorbers, or other noncombustion systems used as control devices.* (1) Each owner or operator using a recovery device to achieve and maintain a TRE index value greater than 1.0 but less than 4.0 or using an absorber, condenser, carbon adsorber, or other noncombustion system as a control

device shall keep readily accessible, continuous records, as specified in § 65.161(a), of the equipment operating parameters specified to be monitored under § 65.150(c) (absorber monitoring), § 65.151(c) (condenser monitoring), § 65.152(c) (carbon adsorber monitoring), § 65.153(c) (recovery device monitoring) or § 65.155(c) (other control device monitoring), or specified by the Administrator in accordance with paragraph (e) of this section. For transfer racks, continuous records are required while the transfer vent stream is being vented.

(2) Each owner or operator shall keep records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in § 65.161(c)(1). If carbon adsorber regeneration stream flow and carbon bed regeneration temperature are monitored, the records specified in paragraphs (c)(2)(i) and (c)(2)(ii) of this section shall be kept instead of the daily averages and the records shall be reported as specified in § 65.166(f)(2).

(i) Records of total regeneration stream mass or volumetric flow for each carbon-bed regeneration cycle.

(ii) Records of the temperature of the carbon bed after each regeneration and within 15 minutes of completing any cooling cycle.

(3) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of periods of operation during which the parameter boundaries are exceeded and report these exceedances as specified in § 65.166(f)(1). The parameter boundaries are established pursuant to § 65.150(c)(2) (absorber monitoring), § 65.151(c)(2) (condenser monitoring), § 65.152(c)(2) (carbon adsorber monitoring), or § 65.155(c)(2) (other control device monitoring), as applicable.

(d) *Alternatives to the continuous operating parameter monitoring and recordkeeping provisions.* An owner or operator may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in §§ 65.148(c), 65.149(c), 65.150(c), 65.151(c), 65.152(c), 65.153(c), 65.154(c), 65.160, and paragraphs (b) and (c) of this section.

(1) Requests shall be included in the operating permit application or as otherwise specified by the permitting authority and shall contain the information specified in paragraphs (d)(3) through (d)(5) of this section, as applicable.

(2) The provisions in § 65.7(c) of subpart A of this part shall govern the review and approval of requests.

(3) An owner or operator of a source that does not have an automated monitoring and recording system capable of measuring parameter values at least once every 15 minutes and generating continuous records may request approval to use a nonautomated system with less frequent monitoring.

(i) The requested system shall include manual reading and recording of the value of the relevant operating parameter no less frequently than once per hour. Daily average values shall be calculated from these hourly values and recorded.

(ii) The request shall contain the information specified in paragraphs (d)(3)(ii)(A) through (d)(3)(ii)(D) of this section:

(A) A description of the planned monitoring and recordkeeping system;

(B) Documentation that the source does not have an automated monitoring and recording system capable of meeting the specified requirements;

(C) Justification for requesting an alternative monitoring and recordkeeping system; and

(D) Demonstration to the Administrator's satisfaction that the proposed monitoring frequency is sufficient to represent control device operating conditions considering typical variability of the specific process and control device operating parameter being monitored.

(4) An owner or operator may request approval to use an automated data compression recording system that does not record monitored operating parameter values at a set frequency (for example, once every 15 minutes) but records all values that meet set criteria for variation from previously recorded values.

(i) The requested system shall be designed to perform the functions specified in paragraphs (d)(4)(i)(A) through (d)(4)(i)(E) of this section.

(A) Measure the operating parameter value at least once every 15 minutes.

(B) Record at least four values each hour during periods of operation.

(C) Record the date and time when monitors are turned off or on.

(D) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident.

(E) Compute daily average values of the monitored operating parameter based on recorded data. If the daily average is not an excursion as defined in § 65.161(e)(2)(iv), the data for that operating day may be converted to hourly average values and the four or

more individual records for each hour in the operating day may be discarded.

(ii) The request shall contain a description of the monitoring system and data compression recording system, including the criteria used to determine which monitored values are recorded and retained, the method for calculating averages, and a demonstration that the system meets all criteria in paragraph (d)(4)(i) of this section.

(5) An owner or operator may request approval to use other alternative monitoring and recordkeeping systems as specified in § 65.7(b) of subpart A of this part. The application shall contain a description of the proposed alternative system. In addition, the application shall include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the regulated source using the required method.

(e) *Monitoring a different parameter than those listed.* The owner or operator who has been directed by § 65.154(c)(2) or § 65.155(c)(1) to set monitoring parameters or who requests as allowed by § 65.156(e) approval to monitor a different parameter than those listed in § 65.148(c), § 65.149(c), § 65.150(c), § 65.151(c), § 65.152(c), § 65.153(c), § 65.154(c), § 65.160, or paragraphs (b) or (c) of this section shall submit the information specified in paragraphs (e)(1) through (e)(3) of this section with the operating permit application or as otherwise specified by the permitting authority.

(1) A description of the parameter(s) to be monitored to ensure the process, control technology, or pollution prevention measure is operated in conformance with its design and achieves the specified emission limit, percent reduction, or nominal efficiency, and an explanation of the criteria used to select the parameter(s).

(2) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device, the schedule for this demonstration, and a statement that the owner or operator will establish a range for the monitored parameter as part of the Initial Compliance Status Report required in § 65.5(d) of subpart A of this part unless this information has already been included in the operating permit application or previously established under a referencing subpart.

The frequency and content of monitoring, recording, and reporting if monitoring and recording is not continuous, or if reports of daily average values when the monitored parameter value is outside the range established in

the operating permit or Initial Compliance Status Report will not be included in Periodic Reports as specified in § 65.166(e). The rationale for the proposed monitoring, recording, and reporting system shall be included.

#### § 65.163 Other records.

(a) *Closed vent system records.* For closed vent systems, the owner or operator shall record the information specified in paragraphs (a)(1) through (a)(4) of this section, as applicable.

(1) For each closed vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either paragraph (a)(1)(i) or (a)(1)(ii) of this section, as applicable. The information shall be reported as specified in § 65.166(b).

(i) Hourly records of whether the flow indicator specified under § 65.143(a)(3)(i) was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(ii) Where a seal mechanism is used to comply with § 65.143(a)(3)(ii), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has been broken.

(2) For closed vent systems collecting regulated material from a storage vessel, transfer rack, or equipment leak, the owner or operator shall record the identification of all parts of the closed vent system that are designated as unsafe or difficult to inspect pursuant to § 65.143(b)(2) or (b)(3), an explanation of why the equipment is unsafe or difficult to inspect, and the plan for inspecting the equipment as required by § 65.143(b)(2)(ii) or (b)(3)(ii).

(3) For a closed vent system collecting regulated material from a storage vessel, transfer rack, or equipment leaks, when a leak is detected as specified in § 65.143(d)(1), the information specified in paragraphs (a)(3)(i) through (a)(3)(vi) of this section shall be recorded. The data shall be reported as specified in § 65.166(b)(1).

(i) The instrument and the equipment identification number and the operator name, initials, or identification number.

(ii) The date the leak was detected and the date of the first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) The maximum instrument reading measured by the procedures in § 65.143(c) after the leak is successfully repaired or determined to be nonrepairable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(vi) Copies of the periodic reports if records are not maintained on a computerized database capable of generating summary reports from the records.

(4) For each instrumental or visual inspection conducted in accordance with § 65.143(b)(1) for closed vent systems collecting regulated material from a storage vessel, transfer rack, or equipment leaks during which no leaks are detected, the owner or operator shall record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(b) *Storage vessel and transfer rack records.* For storage vessels, an owner or operator shall keep readily accessible records of the information specified in paragraphs (b)(1) through (b)(3) of this section, as applicable. For low-throughput transfer racks, an owner or operator shall keep readily accessible records of the information specified in paragraph (b)(1).

(1) A record of the measured values of the parameters monitored in accordance with § 65.145(c)(2) and report in the periodic report as specified in § 65.166(e), if applicable.

(2) A record of the planned routine maintenance performed on the control system during which the control system does not meet the applicable specifications of § 65.143(a), § 65.145(a), or § 65.147(a), as applicable, due to the planned routine maintenance. Such a record shall include the information specified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section. This information shall be submitted in the periodic reports as specified in § 65.166(d)(1).

(i) The first time of day and date the requirements of § 65.143(a), § 65.145(a), or § 65.147(a), as applicable, were not met at the beginning of the planned routine maintenance.

(ii) The first time of day and date the requirements of § 65.143(a), § 65.145(a), or § 65.147(a), as applicable, were met at the conclusion of the planned routine maintenance.

(iii) A description of the type of maintenance performed.

(3) *Bypass records for storage vessel emissions routed to a process or fuel gas system.* An owner or operator who uses the bypass provisions of § 65.144(a)(2) shall keep in a readily accessible location the records specified in paragraphs (b)(3)(i) through (b)(3)(iii) of this section.

(i) The reason it was necessary to bypass the process equipment or fuel gas system;

(ii) The duration of the period when the process equipment or fuel gas system was bypassed;

(iii) Documentation or certification of compliance with the applicable provisions of § 65.42(b)(6)(i) through (b)(6)(iii).

(c) *Regulated source and control equipment startup, shutdown and malfunction records.* (1) Records of the occurrence and duration of each startup, shutdown, and malfunction of process equipment or of air pollution control equipment used to comply with this part during which excess emissions (as defined in § 65.3(a)(4) of subpart A of this part) occur.

(2) For each startup, shutdown, and malfunction during which excess emissions occur, records whether the procedures specified in the source's startup, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. For example, if a startup, shutdown, and malfunction plan includes procedures for routing control device emissions to a backup control device (for example, the incinerator for a halogenated stream could be routed to a flare during periods when the primary control device is out of service), records must be kept of whether the plan was followed. These records may take the form of a checklist or other form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for the event.

(3) Records of startup, shutdown, and malfunction and continuous monitoring system calibration and maintenance are not required if they pertain solely to Group 2A process vents.

(d) *Equipment leak records.* The owner or operator shall maintain records of the information specified in paragraphs (d)(1) and (d)(2) of this section for closed vent systems and control devices subject to the provisions of subpart F of this part. The owner or

operator shall meet the record retention requirements of § 65.4 of subpart A of this part, except the records specified in paragraph (d)(1) of this section shall be kept as long as the equipment is in operation.

(1) The design specifications and performance demonstrations specified in paragraphs (d)(1)(i) through (d)(1)(iii) of this section.

(i) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

(ii) The dates and descriptions of any changes in the design specifications.

(iii) A description of the parameter or parameters monitored as required in § 65.146(c), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(2) Records of operation of closed vent systems and control devices, as specified in paragraphs (d)(2)(i) through (d)(2)(iii) of this section.

(i) Dates and durations when the closed vent systems and control devices required in § 65.115(b) of subpart F of this part are not operated as designed as indicated by the monitored parameters, including periods when a flare flame or at least one pilot flame is not present.

(ii) Dates and durations during which the monitoring system or monitoring device is inoperative.

(iii) Dates and durations of startups and shutdowns of control devices required in § 65.115(b) of subpart F of this part.

(e) *Records of monitored parameters outside of range.* The owner or operator shall record the occurrences and the cause of periods when the monitored parameters are outside of the parameter ranges documented in the Initial Compliance Status Report in accordance with § 65.165(b). This information shall be reported in the periodic report as specified in § 65.166(e).

**§ 65.164 Performance test and flare compliance determination notifications and reports.**

(a) *Performance test and flare compliance determination reports.* Performance test reports and flare compliance determination reports shall be submitted as specified in paragraphs (a)(1) through (a)(3) of this section.

(1) For performance tests or flare compliance determinations, the Initial Compliance Status Report or report required by paragraph (b)(2) of this section shall include one complete test report as specified in paragraph (a)(2) of this section for each test method used for a particular kind of emission point

and other applicable information specified in paragraph (a)(3) of this section. For additional tests performed for the same kind of emission point using the same method, the results and any other information required in applicable sections of this subpart or in other subparts of this part shall be submitted, but a complete test report is not required.

(2) A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(3) The performance test or flare compliance determination report shall also include the information specified in paragraphs (a)(3)(i) through (a)(3)(iii) of this section, as applicable.

(i) For flare compliance determinations, the owner or operator shall submit the records specified in § 65.159(b).

(ii) For nonflare combustion device and halogen reduction device performance tests as required under § 65.148(b), § 65.149(b), § 65.150(b), § 65.151(b), § 65.152(b), § 65.154(b), or § 65.155(b), the owner or operator shall submit the applicable records specified in § 65.160(b).

(iii) For Group 2A process vents, the owner or operator shall submit the records specified in § 65.160(c), as applicable.

(b) *Other notifications and reports.* (1) The owner or operator shall notify the Administrator of the intention to conduct a performance test at least 30 calendar days before the performance test is scheduled to allow the Administrator the opportunity to have an observer present. If after 30 day's notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test the owner or operator of an affected facility shall notify the Administrator as soon as possible of any delay in the original test date. The owner or operator shall provide at least 7 days prior notice of the rescheduled date of the performance test or arrange a rescheduled date with the Administrator by mutual agreement.

(2) Unless specified differently in this subpart or another subpart of this part, performance test and flare compliance

determination reports not submitted as part of an Initial Compliance Status Report shall be submitted to the Administrator within 60 days of completing the test or determination.

(3) Any application for a waiver of an initial performance test or flare compliance determination as allowed by § 65.157(b)(2), shall be submitted no later than 90 calendar days before the performance test or flare compliance determination is required. The application for a waiver shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the source performing the test.

#### § 65.165 Initial Compliance Status Reports.

(a) An owner or operator who elects to comply with § 65.144 by routing emissions from a storage vessel or transfer rack to a process or to a fuel gas system shall submit as part of the Initial Compliance Status Report the information specified in paragraphs (a)(1) and (a)(2) or (a)(3) of this section, as applicable.

(1) If storage vessel emissions are routed to a process, the owner or operator shall submit the information specified in § 65.144(b)(3).

(2) As specified in § 65.144(c) if storage vessel emissions are routed to a fuel gas system, the owner or operator shall submit a statement that the emission stream is connected to a fuel gas system.

(3) As specified in § 65.144(c) report that the transfer rack emission stream is being routed to a fuel gas system or process, when complying with the requirements of § 65.83(a)(4) of subpart E of this part.

(b) An owner or operator who elects to comply with § 65.145 by routing emissions from a storage vessel or low-throughput transfer rack to a nonflare control device shall submit with the Initial Compliance Status Report required by § 65.5(d) of subpart A of this part the applicable information specified in paragraphs (b)(1) through (b)(6) of this section. Owners and operators who elect to comply with § 65.145(b)(1)(i) by submitting a design evaluation shall submit the information specified in paragraphs (b)(1) through (b)(4) of this section. Owners and operators who elect to comply with § 65.145(b)(1)(ii) by submitting performance test results shall submit the information specified in paragraphs (b)(1), (b)(2), (b)(4) and (b)(5) of this section. Owners and operators who elect to comply with § 65.145(b)(1)(iii) by submitting performance test results for a shared control device shall submit the

information specified in paragraph (b)(6) of this section.

(1) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed (for example, when the liquid level in the storage vessel is being raised). If continuous records are specified, indicate whether the provisions of § 65.166(f) apply.

(2) The operating range for each monitoring parameter identified in the monitoring plan required by § 65.145(c)(1). The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.

(3) The documentation specified in § 65.145(b)(1)(i), if the owner or operator elects to prepare a design evaluation.

(4) The provisions of § 65.166(f) do not apply to any low-throughput transfer rack for which the owner or operator has elected to comply with § 65.145 or to any storage vessel for which the owner or operator is not required to keep continuous records, as specified by the applicable monitoring plan established under § 65.145(c)(1) and (c)(2). If continuous records are required, the owner or operator shall specify in the monitoring plan whether the provisions of § 65.166(f) apply.

(5) A summary of the results of the performance test described in § 65.145(b)(1)(ii) or (b)(1)(iii), as applicable. If a performance test is conducted as provided in § 65.145(b)(1)(ii), submit the results of the performance test, including the information specified in § 65.164(a)(1) and (a)(2).

(6) Identification of the storage vessel or transfer rack and control device for which the performance test will be submitted, and identification of the emission point(s), if any, that share the control device with the storage vessel or transfer rack and for which the performance test will be conducted.

(c) The owner or operator shall submit as part of the Initial Compliance Status Report the operating range for each monitoring parameter identified for each control, recovery, or halogen reduction device as determined in §§ 65.148(c)(2), 65.149(c)(2), 65.150(c)(2), 65.151(c)(2), 65.152(c)(2), 65.153(c)(5), 65.154(c)(3), and 65.155(c)(2). The specified operating range shall represent the conditions for which the control, recovery, or halogen reduction device is being properly operated and maintained. This report

shall include the information in paragraphs (c)(1) through (c)(3) of this section, as applicable, unless the range and the operating day definition have been established in the operating permit.

(1) The specific range of the monitored parameter(s) for each emission point;

(2) The rationale for the specific range for each parameter for each emission point, including any data and calculations used to develop the range and a description of why the range indicates proper operation of the control, recovery, or halogen reduction device, as specified in paragraph (c)(2)(i), (c)(2)(ii), or (c)(2)(iii) of this section, as applicable.

(i) If a performance test or TRE index value determination is required by this subpart or another subpart of this part for a control, recovery or halogen removal device, the range shall be based on the parameter values measured during the TRE index value determination or performance test and may be supplemented by engineering assessments and/or manufacturer's recommendations. TRE index value determinations and performance testing is not required to be conducted over the entire range of permitted parameter values.

(ii) If a performance test or TRE index value determination is not required by this subpart or other subparts of this part for a control, recovery, or halogen reduction device, the range may be based solely on engineering assessments and/or manufacturer's recommendations.

(iii) The range may be based on ranges or limits previously established under a referencing subpart.

(3) A definition of the source's operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the times at which an operating day begins and ends.

(d) *Halogen reduction device.* The owner or operator shall submit as part of the Initial Compliance Status Report the information recorded pursuant to § 65.160(d).

(e) *Alternative recordkeeping.* The owner or operator shall notify the administrator in the Initial Compliance Status Report if the alternative recordkeeping provisions of § 65.161(e)(1) are being implemented. If the Initial Compliance Status Report has been submitted, the notification must be in the periodic report submitted immediately preceding implementation of the alternative, as provided in § 65.166(f)(4).

#### § 65.166 Periodic reports.

(a) Periodic reports shall include the reporting period dates, the total source operating time for the reporting period, and, as applicable, all information specified in this section and in other subparts of this part, including reports of periods when monitored parameters are outside their established ranges.

(b) For closed vent systems subject to the requirements of § 65.143, the owner or operator shall submit as part of the periodic report the information specified in paragraphs (b)(1) through (b)(3) of this section, as applicable.

(1) The information recorded in § 65.163 (a)(3)(ii) through (a)(3)(v);

(2) Reports of the times of all periods recorded under § 65.163(a)(1)(i) when the vent stream is diverted from the control device through a bypass line; and

(3) Reports of all times recorded under § 65.163(a)(1)(ii) 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.

(c) For flares subject to this subpart, report all periods when all pilot flames were absent or the flare flame was absent as recorded in § 65.159(d)(1).

(d) For storage vessels, the owner or operator shall include in each periodic report required the information specified in paragraphs (d)(1) through (d)(3) of this section.

(1) For the 6-month period covered by the periodic report, the information recorded in § 65.163(b)(2)(i) through (b)(2)(iii).

(2) For the time period covered by the periodic report and the previous periodic report, the total number of hours that the control system did not meet the requirements of § 65.143(a), § 65.145(a), or § 65.147(a) due to planned routine maintenance.

(3) A description of the planned routine maintenance that is anticipated to be performed for the control system during the next 6-month periodic reporting period when the control system is not expected to meet the required control efficiency. This description shall include the type of maintenance necessary, planned frequency of maintenance, and expected lengths of maintenance periods.

(e) If a control device other than a flare is used to control emissions from storage vessels or low-throughput transfer racks, the periodic report shall identify and state the cause for each occurrence when the monitored parameters were outside of the parameter ranges documented in the

Initial Compliance Status Report in accordance with § 65.165(b).

(f) For process vents and transfer racks (except low-throughput transfer racks), periodic reports shall include the information specified in paragraphs (f)(1) through (f)(4).

(1) Periodic reports shall include the daily average values of monitored parameters, calculated as specified in § 65.161(c)(1) for any days when the daily average value is outside the bounds as specified in § 65.162(b)(3) or (c)(3), or the data availability requirements defined in § 65.156(d)(1) are not met, whether these excursions are excused or unexcused excursions. For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be specified.

(2) Report all carbon-bed regeneration cycles during which the parameters recorded under § 65.162(c)(2) were outside the ranges established in the Initial Compliance Status Report or in the operating permit.

(3) The provisions of paragraphs (f)(1) and (f)(2) of this section do not apply to any low-throughput transfer rack for which the owner or operator has elected to comply with § 65.145 or to any storage vessel for which the owner or operator is not required, by the applicable monitoring plan established under § 65.165(c)(1) and (c)(2) to keep continuous records. If continuous records are required, the owner or operator shall specify in the monitoring plan whether the provisions of paragraphs (f)(1) and (f)(2) of this section apply.

(4) If the owner or operator has chosen to use the alternative recordkeeping provisions of § 65.161(e)(1), and has not notified the Administrator in the Initial Compliance Status Report that the alternative recordkeeping provisions are being implemented as provided in § 65.165(e), the owner or operator shall notify the Administrator in the periodic report submitted immediately preceding implementation of the alternative.

#### § 65.167 Other reports.

(a) *Replacing an existing control or recovery device.* As specified in § 65.147(b)(2), § 65.148(b)(3), § 65.149(b)(3), § 65.150(b)(2), § 65.151(b)(2), § 65.152(b)(2), or § 65.153(b)(2), if an owner or operator at a facility not required to obtain a title V permit elects at a later date to use a different control or recovery device, then the Administrator shall be notified by the owner or operator before implementing the change. This notification may be included in the

facility's periodic reporting and shall include a description of any changes made to the closed vent system.

(b) *Startup, shutdown, and malfunction periodic reports.* Startup, shutdown, and malfunction periodic reports shall be submitted as required in § 65.6(c) of subpart A of this part.

**§§ 65.168–65.169 [Reserved]**

[FR Doc. 98–27260 Filed 10–27–98; 8:45 am]

BILLING CODE 6560–50–P