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(e)(7)(ii) of this section, and must prove by a preponderance of evidence that:

(A) The excess emissions were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, or a process to operate in a normal and usual manner; and could not have been prevented through careful planning, proper design or better operation and maintenance practices; and did not stem from any activity or event that could have been foreseen and avoided, or planned for; and were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

(B) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs;

(C) The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;

(D) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(E) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment, and human health;

(F) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices;

(G) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs;

(H) At all times, the affected facility was operated in a manner consistent with good practices for minimizing emissions; and

(I) The owner or operator has prepared a written root cause analysis, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using the best monitoring methods and engineering judgment, the amount of excess emissions

that were the result of the malfunction.

(ii) *Notification.* The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in this subpart to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (e)(7)(i) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

[61 FR 48399, Sept. 19, 1995, as amended at 68 FR 37350, June 23, 2003; 71 FR 20457, Apr. 20, 2006; 76 FR 22596, Apr. 21, 2011]

§ 63.563 Compliance and performance testing.

(a) The following procedures shall be used to determine compliance with the emissions limits under § 63.562(b)(1), (c)(2), and (d)(1):

(1) *Vent stream by-pass requirements for the terminal's vapor collection system.* (i) In accordance with § 63.562(b)(1)(i), (c)(2)(i), and (d)(1)(i), each valve in the terminal's vapor collection system that would route displaced vapors to the atmosphere, either directly or indirectly, shall be secured closed during marine tank vessel loading operations either by using a car-seal or a lock-and-key type configuration, or the by-pass line from the valve shall be equipped with a flow indicator, except for those valves used for pressure/vacuum relief, analyzers, instrumentation devices, sampling, and venting for

maintenance. Marine tank vessel loading operations shall not be performed with open by-pass lines.

(ii) Repairs shall be made to valves, car-seals, or closure mechanisms no later than 15 days after a change in the position of the valve or a break in the car-seal or closure mechanism is detected or no later than prior to the next marine tank vessel loading operation, whichever is later.

(2) *Ship-to-shore compatibility of vapor collection systems.* Following the date on which the initial performance test is completed, marine tank vessel loading operations must be performed only if the marine tank vessel's vapor collection equipment is compatible to the terminal's vapor collection system; marine tank vessel loading operations must be performed only when the marine tank vessel's vapor collection equipment is connected to the terminal's vapor collection system, as required in § 63.562(b)(1)(ii), (c)(2)(ii), and (d)(1)(ii).

(3) *Pressure/vacuum settings for the marine tank vessel's vapor collection equipment.* During the initial performance test required in paragraph (b)(1) of this section, the owner or operator of an affected source shall demonstrate compliance with operating pressure requirements of 33 CFR 154.814 using the procedures in § 63.565(b).

(4) *Vapor-tightness requirements of the marine vessel.* The owner or operator of an affected source shall use the procedures in paragraph (a)(4)(i), (ii), (iii), or (iv) of this section to ensure that marine tank vessels are vapor tight, as required in § 63.562(b)(1)(iii), (c)(2)(iii), and (d)(1)(iii).

(i) *Pressure test documentation for determining vapor tightness of the marine vessel.* The owner or operator of a marine tank vessel, who loads commodities containing HAP not determined to be exempt under § 63.560(d) at an affected source, shall provide a copy of the vapor-tightness pressure test documentation described in § 63.567(i) for each marine tank vessel prior to loading. The date of the test listed in the documentation must be within the preceding 12 months, and the test must be conducted in accordance with the procedures in § 63.565(c)(1). Following the date on which the initial performance

test is completed, the affected source must check vapor-tightness pressure test documentation for marine tank vessels loaded at positive pressure.

(ii) *Leak test documentation for determining vapor tightness of the marine vessel.* If no documentation of the vapor tightness pressure test as described in paragraph (a)(4)(i) of this section is available, the owner or operator of a marine tank vessel, who loads commodities containing HAP not determined to be exempt under § 63.560(d) at an affected source, shall provide the leak test documentation described in § 63.567(i) for each marine tank vessel prior to loading. The date of the test listed in the documentation must be within the preceding 12 months, and the test must be conducted in accordance with the procedures in § 63.565(c)(2). If the marine tank vessel has failed its most recent vapor-tightness leak test at that terminal, the owner or operator of the non-vapor-tight marine tank vessel shall provide documentation that the leaks detected during the previous vapor-tightness test have been repaired and documented with a successful vapor-tightness leak test described in § 63.565(c)(2) conducted during loading. If the owner or operator of the marine tank vessel can document that repair is technically infeasible without cleaning and gas freeing or dry-docking the vessel, the owner or operator of the affected source may load the marine tank vessel. Following the date on which the initial performance test is completed, an affected source must check the vapor-tightness leak test documentation for marine tank vessels loaded at positive pressure.

(iii) *Leak test performed during loading using Method 21 for determining vapor tightness of the marine vessel.* If no documentation of vapor tightness as described in paragraphs (a)(4)(i) or (ii) of this section is available, the owner or operator of a marine tank vessel, who loads commodities containing HAP not determined to be exempt under § 63.560(d) at an affected source, shall perform a leak test of the marine tank vessel during marine tank vessel loading operation using the procedures described in § 63.565(c)(2).

(A) If no leak is detected, the owner or operator of a marine tank vessel shall complete the documentation described in § 63.567(i) prior to departure of the vessel.

(B) If a leak is detected, the owner or operator of the marine tank vessel shall document the vapor-tightness failure for the marine tank vessel prior to departure of the vessel. The leaking component shall be repaired prior to the next marine tank vessel loading operation at a controlled terminal unless the repair is technically infeasible without cleaning and gas freeing or dry-docking the vessel. If the owner or operator of the vessel provides documentation that repair of such equipment is technically infeasible without cleaning and gas freeing or dry-docking the vessel, the equipment responsible for the leak will be excluded from future Method 21 tests until repairs are effected. A copy of this documentation shall be maintained by the owner or operator of the affected source. Repair of the equipment responsible for the leak shall occur the next time the vessel is cleaned and gas freed or dry-docked. For repairs that are technically feasible without dry-docking the vessel, the owner or operator of the affected source shall not load the vessel again unless the marine tank vessel owner or operator can document that the equipment responsible for the leak has been repaired.

(iv) *Negative pressure loading.* The owner or operator of an affected source shall ensure that a marine tank vessel is loaded with the product tank below atmospheric pressure (i.e., at negative gauge pressure). The pressure shall be measured between the facility's vapor connection and its manual isolation valve, and the measured pressure must be below atmospheric pressure. Following the date on which the initial performance test is completed, marine tank vessel loading operations for non-vapor-tight vessels must be performed below atmospheric pressure (i.e., at negative gauge pressure) in the product tank.

(b) *Compliance determination for affected sources.* The following procedures shall be used to determine compliance with the emissions limits under § 63.562(b), (c), and (d).

(1) *Initial performance test.* An initial performance test shall be conducted using the procedures listed in § 63.7 of subpart A of this part according to the applicability in Table 1 of § 63.560, the procedures listed in this section, and the test methods listed in § 63.565. The initial performance test shall be conducted within 180 days after the compliance date for the specific affected source. During this performance test, sources subject to MACT standards under § 63.562(b)(2), (3), (4), and (5), and (d)(2) shall determine the reduction of HAP emissions, as VOC, for all combustion or recovery devices other than flares. Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. 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. Sources subject to RACT standards under § 63.562(c)(3), (4), and (5), and (d)(2) shall determine the reduction of VOC emissions for all combustion or recovery devices other than flares.

(2) *Performance test exemptions.* An initial performance test required in this section and in § 63.565(d) and the continuous monitoring in § 63.564(e) is not required in the following cases:

(i) When a boiler or process heater with a design heat input capacity of 44 Megawatts or less is used to comply with § 63.562(b)(2), (3), or (4), (c)(3) or (4), or (d)(2) and the vent stream is used as the primary fuel or with the primary fuel;

(ii) When a boiler or process heater with a design heat input capacity of 44 Megawatts or greater is used to comply with § 63.562(b)(2), (3) or (4), (c)(3) or (4), or (d)(2); or

(iii) When a boiler subject to 40 CFR part 266, subpart H, "Hazardous Waste Burned in Industrial Furnaces," that has demonstrated 99.99 percent destruction or recovery efficiency is used to comply with § 63.562(b)(2), (3), or (4), (c)(3) or (4), or (d)(2).

(3) *Operation and maintenance inspections.* If the 3-hour or 3-cycle block average operating parameters in paragraphs (b)(4) through (9) of this section,

outside the acceptable operating ranges, are measured and recorded, i.e., variances of the pollution control device or monitoring equipment, the owner or operator of the affected source shall perform an unscheduled inspection of the control device and monitoring equipment and review of the parameter monitoring data. The owner or operator of the affected source shall perform an inspection and review when total parameter variance time for the control device is greater than 10 percent of the operating time for marine tank vessel loading operations on a 30-day, rolling-average basis. The inspection and review shall be conducted within 24 hours after passing the allowable variance time of 10 percent. The inspection checklist from the requirements of § 63.562(e)(2)(iii) and the monitoring data from requirements in §§ 63.562(e)(2)(ii) and 63.564 should be used to identify any maintenance problems that may be associated with the variance. The unscheduled inspection should encompass all components of the control device and monitoring equipment that can be inspected while in operation. If any maintenance problem is identified during the inspection, the owner or operator of the affected source must take corrective action (e.g., adjustments to operating controls, etc.) as soon as practicable. If no immediate maintenance problems are identified from the inspection performed while the equipment is operating, a complete inspection in accordance with § 63.562(e)(2) must be conducted prior to the next marine tank vessel loading operation and corrective action (e.g., replacement of defective parts) must be taken as soon as practicable for any maintenance problem identified during the complete inspection.

(4) *Combustion device, except flare.* During the initial performance test required in paragraph (b)(1) of this section, the owner or operator shall determine the efficiency of and/or the outlet VOC concentration from the combustion device used to comply with § 63.562(b)(2), (3), and (4), (c)(3) and (4), and (d)(2) using the test methods in § 63.565(d). The owner or operator shall

comply with paragraph (b)(4)(i) or (ii) of this section.

(i) *Outlet VOC concentration limit for required percent combustion efficiency.* The owner or operator shall establish as an operating parameter the baseline VOC concentration using the procedures described in § 63.565(g). Following the date on which the initial performance test is completed, the facility shall be operated with a block average outlet VOC concentration as determined in § 63.564(e)(1) no more than 20 percent above the baseline VOC concentration.

(ii) *Baseline temperature for required percent combustion efficiency.* The owner or operator shall establish as an operating parameter the baseline temperature using the procedures described in § 63.565(f). Following the date on which the initial performance test is completed, the facility shall be operated with the block average temperature as determined in § 63.564(e)(2) or (3) no more than 28 °C (50 °F) below the baseline temperature.

(5) *Flare.* During the initial performance test required in paragraph (b)(1) of this section, the owner or operator shall establish that the flare used to comply with the emissions standards in § 63.562(b)(2), (3), and (4), (c)(3) and (4), and (d)(2) is in compliance with the design requirements for flares cited in § 63.565(e). Following the date on which the initial determination of compliance is established, the facility shall operate with the presence of a pilot flame in the flare, as determined in § 63.564(f).

(6) *Carbon adsorber.* During the initial performance test required in paragraph (b)(1) of this section, the owner or operator shall determine the efficiency of and/or the outlet VOC concentration from the recovery device used to comply with § 63.562(b)(2), (3), (4), and (5), (c)(3), (4), and (5), and (d)(2) using the test methods in § 63.565(d). The owner or operator shall comply with paragraph (b)(6)(i) as well as either paragraph (b)(6)(ii) or (iii) of this section. The owner or operator of affected sources complying with paragraph (b)(6)(ii)(B) or (C) of this section shall conduct a performance test once each year.

(i) *Compliance determination for carbon bed regeneration.* Desorbed hydrocarbons from regeneration of the off-line carbon bed shall be vented to the on-line carbon bed.

(ii) *Baseline parameters for required percent recovery efficiency.* The owner or operator shall comply with paragraph (b)(6)(ii)(A), (B), or (C) of this section.

(A) *Outlet VOC concentration limit for required percent recovery efficiency.* The owner or operator shall establish as an operating parameter the baseline VOC concentration using the procedures described in § 63.565(g). Following the date on which the initial performance test is completed, the facility shall be operated with a block average outlet VOC concentration as determined in § 63.564(g)(1) no more than 20 percent above the baseline VOC concentration.

(B) *Carbon adsorbers with vacuum regeneration.* The owner or operator shall establish as operating parameters the baseline regeneration time for the vacuum stage of carbon bed regeneration using the procedures described in § 63.565(h) and shall establish the baseline vacuum pressure (negative gauge pressure) using the procedures described in § 63.565(i). Following the date on which the initial performance test is completed, the facility shall be operated with block average regeneration time of the vacuum stage of carbon bed regeneration as determined in § 63.564(g)(2) no more than 20 percent below the baseline regeneration time, and the facility shall be operated with the block average vacuum pressure (negative gauge pressure) as determined in § 63.564(g)(2) no more than 20 percent above the baseline vacuum pressure.

(C) *Carbon adsorbers with steam regeneration.* The owner or operator shall establish as operating parameters the baseline total stream flow using the procedures described in § 63.565(j) and a baseline carbon bed temperature after cooling of the bed using the procedures in § 63.565(f)(2). Following the date on which the initial performance test is completed, the facility shall be operated with the total stream flow, as determined in § 63.564(g)(3), no more than 20 percent below the baseline stream flow and with the carbon bed temperature (measured within 15 minutes after

completion of the cooling cycle), as determined in § 63.564(g)(3), no more than 10 percent or 5.6 °C (10 °F) above the baseline carbon bed temperature, whichever is less stringent.

(iii) *Outlet VOC concentration of 1,000 ppmv for gasoline loading.* Following the date on which the initial performance test is completed, the facility shall operate with a block average outlet VOC concentration as determined in § 63.564(g)(1) of no more than 1,200 ppmv VOC.

(7) *Condenser/refrigeration unit.* During the initial performance test required in paragraph (b)(1) of this section, the owner or operator shall determine the efficiency of and/or the outlet VOC concentration from the recovery device used to comply with § 63.562(b)(2), (3), and (4), (c)(3) and (4), and (d)(2) using the test methods in § 63.565(d). The owner or operator shall comply with either paragraph (b)(7)(i), (ii), or (iii) of this section.

(i) *VOC outlet concentration limit for required percent recovery efficiency.* The owner or operator shall establish as an operating parameter the baseline VOC concentration using the procedures described in § 63.565(g). Following the date on which the initial performance test is completed, the facility shall be operated with a block average outlet VOC concentration as determined in § 63.564(h)(2) no more than 20 percent above the baseline VOC concentration.

(ii) *Baseline temperature for required percent recovery efficiency.* The owner or operator shall establish as an operating parameter the baseline temperature using the procedures described in § 63.565(f). Following the date on which the initial performance test is completed, the facility shall operate with a block average temperature, as determined in § 63.564(h)(1), no more than 28 °C (50 °F) above the baseline temperature.

(iii) *Baseline parameters for 1,000 ppmv VOC concentration limit for gasoline loading.* The owner or operator shall monitor either the outlet VOC concentration or the outlet temperature of the unit. For sources monitoring temperature, the owner or operator shall establish as an operating parameter the baseline temperature using the procedures described in § 63.565(f). Following

the date on which the initial performance test is completed, the facility shall operate with a block average outlet VOC concentration, as determined in § 63.564(h)(2), of no more than 1,200 ppmv VOC or with a block average temperature, as determined in § 63.564(h)(1), no more than 28 °C (50 °F) above the baseline temperature.

(8) *Absorber.* During the initial performance test required in paragraph (b)(1) of this section, the owner or operator shall determine the efficiency of the absorber and/or the outlet VOC concentration from the recovery device used to comply with § 63.562(b)(2), (3), and (4), (c)(3) and (4), and (d)(2) using the test methods in § 63.565(d). The owner or operator shall comply with either paragraph (b)(8)(i) or (ii) of this section.

(i) *VOC outlet concentration limit for required percent recovery efficiency.* The owner or operator shall establish as an operating parameter the baseline VOC concentration using the procedures described in § 63.565(g). Following the date on which the initial performance test is completed, the facility shall be operated with a block average outlet VOC concentration as determined in § 63.564(i)(1) no more than 20 percent above the baseline VOC concentration.

(ii) *Baseline liquid-to-vapor ratio for required percent recovery efficiency.* The owner or operator shall establish as an operating parameter the baseline liquid flow to vapor flow (L/V) ratio using the procedures described in § 63.565(k). Following the date on which the initial performance test is completed, the facility shall operate with a block average L/V ratio, as determined in § 63.564(i)(2), no more than 20 percent below the baseline L/V ratio.

(9) *Alternative control devices.* For sources complying with § 63.562(b)(2), (3), and (4), (c)(3) and (4), and (d)(2) with the use of a control technology other than the devices discussed in paragraphs (b)(4) through (8) of this section, the owner or operator of an affected source shall provide to the Administrator information describing the design and operation of the air pollution control system, including recommendations for the operating parameter(s) to be monitored to indicate proper operation and maintenance of

the air pollution control system. Based on this information, the Administrator shall determine the operating parameter(s) to be established during the performance test. During the initial performance test required in paragraph (b)(1) of this section, the owner or operator shall determine the efficiency of the air pollution control system using the test methods in § 63.565(d). The device shall achieve at least the percent destruction efficiency or recovery efficiency required under § 63.562(b)(2), (3), and (4), (c)(3) and (4), and (d)(2). The owner or operator shall establish the operating parameter(s) approved by the Administrator. Following the date on which the initial performance test is complete, the facility shall operate either above or below a maximum or minimum operating parameter, as appropriate.

(10) *Emission estimation.* The owner or operator of a source subject to § 63.562(b)(2), (3), and (4) shall use the emission estimation procedures in § 63.565(l) to calculate HAP emissions.

(c) *Leak detection and repair for vapor collection systems and control devices.* The following procedures are required for all sources subject to § 63.562(b), (c), or (d).

(1) *Annual leak detection and repair for vapor collection systems and control devices.* The owner or operator of an affected source shall inspect and monitor all ductwork and piping and connections to vapor collection systems and control devices once each calendar year using Method 21.

(2) *Ongoing leak detection and repair for vapor collection systems and control devices.* If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method, all ductwork and piping and connections to vapor collection systems and control devices shall be inspected to the extent necessary to positively identify the potential leak and any potential leaks shall be monitored within 5 days by Method 21. Each detection of a leak shall be recorded, and the leak shall be tagged until repaired.

(3) When a leak is detected, a first effort to repair the vapor collection system and control device shall be made

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within 15 days or prior to the next marine tank vessel loading operation, whichever is later.

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§ 63.564 Monitoring requirements.

(a)(1) The owner or operator of an affected source shall comply with the monitoring requirements in § 63.8 of subpart A of this part in accordance with the provisions for applicability of subpart A to this subpart in Table 1 of § 63.560 and the monitoring requirements in this section.

(2) Each owner or operator of an affected source shall monitor the parameters specified in this section. All monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the source are obtained. For monitoring equipment purchased from a vendor, verification of the operational status of the monitoring equipment shall include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(3) Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all continuous parametric monitoring systems (CPMS) and CEMS shall be in continuous operation while marine tank vessel loading operations are occurring and shall meet minimum frequency of operation requirements. Sources monitoring by use of CEMS and CPMS shall complete a minimum of one cycle of operation (sampling, analyzing, and/or data recording) for each successive 15-minute period.

(4) The owner or operator of a CMS installed in accordance with these emissions standards shall comply with the performance specifications either in performance specification (PS) 8 in 40 CFR part 60, appendix B for CEMS or in § 63.7(c)(6) of subpart A of this part for CPMS.

(5) A CEMS is out of control when the measured values (i.e., daily calibrations, multipoint calibrations, and performance audits) exceed the limits specified in either PS 8 or in § 63.8(c)(7) of subpart A of this part. The owner or

operator of a CEMS that is out of control shall submit all information concerning out of control periods, including start and end dates and hours and descriptions of corrective actions taken, in the excess emissions and continuous monitoring system performance report required in § 63.567(e).

(b) *Vapor collection system of terminal.* Owners or operators of a source complying with § 63.563(a)(1) that uses a vapor collection system that contains valves that could divert a vent stream from a control device used to comply with the provisions of this subpart shall comply with paragraph (b)(1), (2), or (3) of this section.

(1) Measure and record the vent stream flowrate of each by-pass line once every 15 minutes. The owner or operator shall install, calibrate, maintain, and operate a flow indicator and data recorder. The flow indicator shall be installed immediately downstream of any valve (i.e., entrance to by-pass line) that could divert the vent stream from the control device to the atmosphere.

(2) Measure the vent stream flowrate of each by-pass line once every 15 minutes. The owner or operator shall install, calibrate, maintain, and operate a flow indicator with either an audio or visual alarm. The flow indicator and alarm shall be installed immediately downstream of any valve (i.e., entrance to by-pass line) that could divert the vent stream from the control device to the atmosphere. The alarm shall be checked every 6 months to demonstrate that it is functioning properly.

(3) Visually inspect the seal or closure mechanism once during each marine tank vessel loading operation and at least once every month to ensure that the valve is maintained in the closed position and that the vent stream is not diverted through the by-pass line; record all times when the car seals have been broken and the valve position has been changed. Each by-pass line valve shall be secured in the closed position with a car-seal or a lock-and-key type configuration.

(c) *Pressure/vacuum settings for the marine tank vessel's vapor collection equipment.* Owners or operators of a source complying with § 63.563(a)(3) shall