

$$E = K_2 V_s \left(\sum_{j=1}^n \sum_{i=1}^m C_j * L_{ji} * M_{ji} \right)$$

where:

E=Mass of halogen atoms, dry basis, kilograms per hour.

K_2 =Constant, 2.494×10^{-6} (parts per million)⁻¹ (kilogram-mole per standard cubic meter) (minute/hour), where standard temperature is 20 °C.

C_j =Concentration of halogenated compound j in the gas stream, dry basis, parts per million by volume.

M_{ji} =Molecular weight of halogen atom i in compound j of the gas stream, kilogram per kilogram-mole.

L_{ji} =Number of atoms of halogen i in compound j of the gas stream.

V_s =Flow rate of gas stream, dry standard cubic meters per minute, determined according to § 63.128(a)(8) of this subpart.

j=Halogenated compound j in the gas stream.

i=Halogen atom i in compound j of the gas stream.

n=Number of halogenated compounds j in the gas stream.

m=Number of different halogens i in each compound j of the gas stream.

(e) For each Group 1 transfer rack the owner or operator shall load organic HAP's into only tank trucks and railcars which:

(1) Have a current certification in accordance with the U. S. Department of Transportation pressure test requirements of 49 CFR part 180 for tank trucks and 49 CFR 173.31 for railcars; or

(2) Have been demonstrated to be vapor-tight within the preceding 12 months, as determined by the procedures in § 63.128(f) of this subpart. Vapor-tight means that the truck or railcar tank will sustain a pressure change of not more than 750 pascals within 5 minutes after it is pressurized to a minimum of 4,500 pascals.

(f) The owner or operator of a transfer rack subject to the provisions of this subpart shall load organic HAP's to only tank trucks or railcars equipped with vapor collection equipment that is compatible with the transfer rack's vapor collection system.

(g) The owner or operator of a transfer rack subject to this subpart shall load organic HAP's to only tank trucks or railcars whose collection systems are connected to the transfer rack's vapor collection systems.

(h) 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 vapor collection system or in the organic hazardous air pollutants loading equipment of each tank truck or railcar shall begin to open during loading. Pressure relief devices needed for safety purposes are not subject to this paragraph.

(i) Each valve in the vent system that would divert the vent stream to the atmosphere, either directly or indirectly, shall be secured in a non-diverting position using a carseal or a lock-and-key type configuration, or shall be equipped with a flow indicator. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief devices needed for safety purposes is not subject to this paragraph.

[59 FR 19468, Apr. 22, 1994, as amended at 62 FR 2749, Jan. 17, 1997]

§ 63.127 Transfer operations provisions—monitoring requirements.

(a) Each owner or operator of a Group 1 transfer rack equipped with a combustion device used to comply with the 98 percent total organic hazardous air pollutants reduction or 20 parts per million by volume outlet concentration requirements in § 63.126(b)(1) of this subpart shall install, calibrate, maintain, and operate according to the manufacturers' specifications (or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately) the monitoring equipment specified in paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section, as appropriate.

(1) Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required.

(i) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox 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) Where a flare is used, a device (including but not limited to a thermocouple, infrared sensor, or an ultra-violet beam sensor) capable of continuously detecting the presence of a pilot flame is required.

(3) Where a boiler or process heater with a design heat input capacity less than 44 megawatts is used, a temperature monitoring device in the firebox equipped with a continuous recorder is required. Any boiler or process heater in which all vent streams are introduced with the primary fuel or are used as the primary fuel is exempt from this requirement.

(4) Where a scrubber is used with an incinerator, boiler, or process heater in the case of halogenated vent streams, the following monitoring equipment is required for the scrubber:

(i) A pH monitoring device equipped with a continuous recorder shall be installed to monitor the pH of the scrubber effluent.

(ii) A flow meter equipped with a continuous recorder shall be located at the scrubber influent for liquid flow. Gas stream flow shall be determined using one of the procedures specified in paragraphs (a)(4)(ii)(A) through (a)(4)(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 this subpart specified in § 63.100(k) of subpart F of this part, 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 the compliance date for this subpart 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 which will be used to determine the gas stream flow. The plan shall require determination of gas

stream flow by a method which 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 start-ups, 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 § 63.103(c).

(b) Each owner or operator of a Group 1 transfer rack that uses a recovery device or recapture device to comply with the 98-percent organic hazardous air pollutants reduction or 20 parts per million by volume hazardous air pollutants concentration requirements in § 63.126(b)(1) of this subpart shall install either an organic monitoring device equipped with a continuous recorder, or the monitoring equipment specified in paragraph (b)(1), (b)(2), or (b)(3) of this section, depending on the type of recovery device or recapture device used. All monitoring equipment shall be installed, calibrated, and maintained according to the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(1) Where an absorber is used, a scrubbing liquid temperature monitoring device equipped with a continuous recorder shall be used; and a specific gravity monitoring device equipped with a continuous recorder shall be used.

(2) Where a condenser is used, a condenser exit (product side) temperature monitoring device equipped with a continuous recorder shall be used.

(3) Where a carbon adsorber is used, an integrating regeneration stream flow monitoring device having an accuracy of ± 10 percent or better, capable of recording the total regeneration stream mass flow for each regeneration cycle; and a carbon bed temperature monitoring device, capable of recording the temperature of the carbon bed after regeneration and within 15 minutes of

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completing any cooling cycle shall be used.

(c) An owner or operator of a Group 1 transfer rack may request approval to monitor parameters other than those listed in paragraph (a) or (b) of this section. The request shall be submitted according to the procedures specified in §63.151(f) or §63.152(e) of this subpart. Approval shall be requested if the owner or operator:

(1) Seeks to demonstrate compliance with the standards specified in §63.126(b) of this subpart with a control device other than an incinerator, boiler, process heater, flare, absorber, condenser, or carbon adsorber; or

(2) Uses one of the control devices listed in paragraphs (a) and (b) of this section, but seeks to monitor a parameter other than those specified in paragraphs (a) and (b) of this subpart.

(d) The owner or operator of a Group 1 transfer rack using a vent system that contains by-pass lines that could divert a vent stream flow away from the control device used to comply with §63.126(b) of this subpart shall comply with paragraph (d)(1) or (d)(2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(1) 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 §63.130(b) of this subpart. The flow indicator shall be installed at the entrance to any by-pass line that could divert the vent stream away from the control device to the atmosphere; or

(2) Secure the by-pass line valve in the closed position with a car-seal or a lock-and-key type configuration.

(i) A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the by-pass line.

(ii) If a car-seal has been broken or a valve position changed, the owner or operator shall record that the vent stream has been diverted. The car-seal or lock-and-key combination shall be returned to the secured position as

soon as practicable but not later than 15 calendar days after the change in position is detected.

(e) The owner or operator shall establish a range that indicates proper operation of the control device for each parameter monitored under paragraphs (a), (b), and (c) of this section. In order to establish the range, the information required in §63.152(b)(2) of this subpart shall be submitted in the Notification of Compliance Status or the operating permit application or amendment.

[59 FR 19468, Apr. 22, 1994, as amended at 62 FR 2749, Jan. 17, 1997]

§ 63.128 Transfer operations provisions—test methods and procedures.

(a) A performance test is required for determining compliance with the reduction of total organic HAP emissions in §63.126(b) of this subpart for all control devices except as specified in paragraph (c) of this section. Performance test procedures are as follows:

(1) For control devices shared between transfer racks and process vents, the performance test procedures in §63.116(c) of this subpart shall be followed.

(2) A performance test shall consist of three runs.

(3) All testing equipment shall be prepared and installed as specified in the appropriate test methods.

(4) For control devices shared between multiple arms that load simultaneously, 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.

(5) For control devices that are capable of continuous vapor processing but do not meet the conditions in (a)(7)(i)(B) of this section.

(A) Sampling sites shall be located at the inlet and outlet of the control device, except as provided in paragraph (a)(7)(i)(B) of this section.

(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, selection of paragraph