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(ii) The number of leaks detected and repaired, and

(iii) A brief description of any system abnormalities found during each annual maintenance inspection that occurred in the reporting period and the repairs made.

(2) For equipment in benzene service subject to §61.135(a), information required by §61.247(b).

(3) For each exhauster subject to §61.135 for each quarter during the semiannual reporting period,

(i) The number of exhausters for which leaks were detected as described in §61.135 (d) and (e)(5),

(ii) The number of exhausters for which leaks were repaired as required in §61.135 (d) and (e)(6),

(iii) The results of performance tests to determine compliance with §61.135(g) conducted within the semiannual reporting period.

(4) A statement signed by the owner or operator stating whether all provisions of 40 CFR part 61, subpart L, have been fulfilled during the semiannual reporting period.

(5) For foundry coke by-product recovery plants, the annual coke production of both furnace and foundry coke, if determined during the reporting period.

(6) Revisions to items reported according to paragraph (e) of this section if changes have occurred since the initial report or subsequent revisions to the initial report.

NOTE: Compliance with the requirements of §61.10(c) is not required for revisions documented under this paragraph.

(g) In the first report submitted as required in §61.138(e), the report shall include a reporting schedule stating the months that semiannual reports shall be submitted. Subsequent reports shall be submitted according to that schedule unless a revised schedule has been submitted in a previous semiannual report.

(h) An owner or operator electing to comply with the provisions of §§61.243–1 and 61.243–2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(i) An application for approval of construction or modification, as required under §§61.05(a) and 61.07, will

not be required for sources subject to 61.135 if:

(1) The new source complies with §61.135, and

(2) In the next semiannual report required by §61.138(f), the information described in §61.138(e)(4) is reported.

[55 FR 38073, Sept. 14, 1990; 55 FR 14037, Apr. 13, 1990]

§61.139 Provisions for alternative means for process vessels, storage tanks, and tar-intercepting sumps.

(a) As an alternative means of emission limitation for a source subject to §61.132(a)(2) or §61.132(d), the owner or operator may route gases from the source through a closed vent system to a carbon adsorber or vapor incinerator that is at least 98 percent efficient at removing benzene from the gas stream.

(1) The provisions of §61.132(a)(1) and §61.132(a)(2)(i) and (ii) shall apply to the source.

(2) The seals on the source and closed vent system shall be designed and operated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined by the methods specified in §61.245(c).

(3) The provisions of §61.132(b) shall apply to the seals and closed vent system.

(b) For each carbon adsorber, the owner or operator shall adhere to the following practices:

(1) Benzene captured by each carbon adsorber shall be recycled or destroyed in a manner that prevents benzene from being emitted to the atmosphere.

(2) Carbon removed from each carbon adsorber shall be regenerated or destroyed in a manner that prevents benzene from being emitted to the atmosphere.

(3) For each regenerative carbon adsorber, the owner or operator shall initiate regeneration of the spent carbon bed and vent the emissions from the source to a regenerated carbon bed no later than when the benzene concentration or organic vapor concentration level in the adsorber outlet vent reaches the maximum concentration point, as determined in §61.139(h).

(4) For each non-regenerative carbon adsorber, the owner or operator shall

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replace the carbon at the scheduled replacement time, or as soon as practicable (but not later than 16 hours) after an exceedance of the maximum concentration point is detected, whichever is sooner.

(i) For each non-regenerative carbon adsorber, the scheduled replacement time means the day that is estimated to be 90 percent of the demonstrated bed life, as defined in § 61.139(h)(5).

(ii) For each non-regenerative carbon adsorber, an exceedance of the maximum concentration point shall mean any concentration greater than or equal to the maximum concentration point as determined in § 61.139(h).

(c) Compliance with the provisions of this section shall be determined as follows:

(1) For each carbon adsorber and vapor incinerator, the owner or operator shall demonstrate compliance with the efficiency limit by a compliance test as specified in § 61.13 and § 61.139(g). If a waiver of compliance has been granted under § 61.11, the deadline for conducting the initial compliance test shall be incorporated into the terms of the waiver. The benzene removal efficiency rate for each carbon adsorber and vapor incinerator shall be calculated as in the following equation:

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}} \times 100$$

Where:

E = percent removal of benzene.

C_{aj} = concentration of benzene in vents after the control device, parts per million (ppm).

C_{bi} = concentration of benzene in vents before the control device, ppm.

Q_{aj} = volumetric flow rate in vents after the control device, standard cubic meters/minute (scm/min) [standard cubic feet/minute (scf/min)].

Q_{bi} = volumetric flow rate in vents before the control device, scm/min (scf/min).

m = number of vents after the control device.

n = number of vents before the control device.

(2) Compliance with all other provisions in this section shall be determined by inspections or the review of records and reports.

(d) For each regenerative carbon adsorber, the owner or operator shall install and operate a monitoring device that continuously indicates and records either the concentration of benzene or the concentration level of organic compounds in the outlet vent of the carbon adsorber. The monitoring device shall be installed, calibrated, maintained and operated in accordance with the manufacturer's specifications.

(1) Measurement of benzene concentration shall be made according to § 61.139(g)(2).

(2) All measurements of organic compound concentration levels shall be reasonable indicators of benzene concentration.

(i) The monitoring device for measuring organic compound concentration levels shall be based on one of the following detection principles: Infrared absorption, flame ionization, catalytic oxidation, photoionization, or thermal conductivity.

(ii) The monitoring device shall meet the requirements of part 60, appendix A, Method 21, sections 2, 3, 4.1, 4.2, and 4.4. For the purpose of the application of Method 21 to this section, the words "leak definition" shall be the maximum concentration point, which would be estimated until it is established under § 61.139(h). The calibration gas shall either be benzene or methane and shall be at a concentration associated with 125 percent of the expected organic compound concentration level for the carbon adsorber outlet vent.

(e) For each non-regenerative carbon adsorber, the owner or operator shall monitor either the concentration of benzene or the concentration level of organic compounds at the outlet vent of the adsorber. The monitoring device shall be calibrated, operated and maintained in accordance with the manufacturer's specifications.

(1) Measurements of benzene concentration shall be made according to § 61.139(g)(2). The measurement shall be conducted over at least one 5-minute interval during which flow into the carbon adsorber is expected to occur.

(2) All measurements of organic compound concentration levels shall be reasonable indicators of benzene concentration.

(i) The monitoring device for measuring organic compound concentration levels shall meet the requirements of paragraphs §61.139(d)(2) (i) and (ii).

(ii) The probe inlet of the monitoring device shall be placed at approximately the center of the carbon adsorber outlet vent. The probe shall be held there for at least 5 minutes during which flow into the carbon adsorber is expected to occur. The maximum reading during that period shall be used as the measurement.

(3) Monitoring shall be performed at least once within the first 7 days after replacement of the carbon bed occurs, and monthly thereafter until 10 days before the scheduled replacement time, at which point monitoring shall be done daily, except as specified in paragraphs (e)(4) and (e)(5) of this section.

(4) If an owner or operator detects an exceedance of the maximum concentration point during the monthly monitoring or on the first day of daily monitoring as prescribed in paragraph (e)(3) of this section, then, after replacing the bed, the owner or operator shall begin the daily monitoring of the replacement carbon bed on the day after the last scheduled monthly monitoring before the exceedance was detected, or 10 days before the exceedance was detected, whichever is longer.

(5) If an owner or operator detects an exceedance of the maximum concentration point during the daily monitoring as prescribed in paragraph (e)(3) of this section, except on the first day, then, after replacing the bed, the owner or operator shall begin the daily monitoring of the replacement carbon bed 10 days before the exceedance was detected.

(6) If the owner or operator is monitoring on the schedule required in paragraph (e)(4) or paragraph (e)(5) of this section, and the scheduled replacement time is reached without exceeding the maximum concentration point, the owner or operator may return to the monitoring schedule in paragraph (e)(3) of this section for subsequent carbon beds.

NOTE: This note provides an example of the monitoring schedules in paragraphs (e)(3), (e)(4) and (e)(5) of this section. Assume that the scheduled replacement time for a non-regenerative carbon adsorber is the 105th day after installation. According to the moni-

toring schedule in paragraph (e)(3) of this section, initial monitoring would be done within 7 days after installation, monthly monitoring would be done on the 30th, 60th and 90th days, and daily monitoring would begin on the 95th day after installation. Now assume that an exceedance of the maximum concentration point is detected on the 90th day after installation. On the replacement carbon bed, the owner or operator would begin daily monitoring on the 61st day after installation (i.e., the day after the last scheduled monthly monitoring before the exceedance was detected), according to the requirements in paragraph (e)(4) of this section. If, instead, the exceedance were detected on the first day on the 95th day, the daily monitoring of the replacement bed would begin on the 85th day after installation (i.e., 10 days before the point in the cycle where the exceedance was detected); this is a second example of the requirements in paragraph (e)(4) of this section. Finally, assume that an exceedance of the maximum concentration point is detected on the 100th day after the first carbon adsorber was installed. According to paragraph (e)(5) of this section, daily monitoring of the replacement bed would begin on the 90th day after installation (i.e., 10 days earlier than when the exceedance was detected on the previous bed). In all of these examples, the initial monitoring of the replacement bed within 7 days of installation and the monthly monitoring would proceed as set out in paragraph (e)(3) of this section until daily monitoring was required.

(f) For each vapor incinerator, the owner or operator shall comply with the monitoring requirements specified below:

(1) Install, calibrate, maintain, and operate according to the manufacturer's specifications a temperature monitoring device equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being monitored expressed in degrees Celsius or ± 0.5 °C, whichever is greater.

(i) Where a vapor incinerator other than a catalytic incinerator is used, the temperature monitoring device shall be installed in the firebox.

(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) Comply with paragraph (f)(2)(i), paragraph (f)(2)(ii), or paragraph (f)(3)(iii) of this section.

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(i) Install, calibrate, maintain and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow to the incinerator at least once every hour for each source. The flow indicator shall be installed in the vent stream from each source at a point closest to the inlet of each vapor incinerator and before being joined with any other vent stream.

(ii) Install, calibrate, maintain and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow away from the vapor incinerator at least once every 15 minutes. The flow indicator shall be installed in each bypass line, immediately downstream of the valve that, if opened, would divert the vent stream away from the vapor incinerator.

(iii) Where a valve that opens a bypass line is secured in the closed position with a car seal or a lock-and-key configuration, a flow indicator is not required. The owner or operator shall perform a visual inspection at least once every month to check the position of the valve and the condition of the car seal or lock-and-key configuration. The owner or operator shall also record the date and duration of each time that the valve was opened and the vent stream diverted away from the vapor incinerator.

(g) In conducting the compliance tests required in § 61.139(c), and measurements specified in § 61.139(d)(1), (e)(1) and (h)(3)(ii), the owner or operator shall use as reference methods the test methods and procedures in appendix A to 40 CFR part 60, or other methods as specified in this paragraph, except as specified in § 61.13.

(1) For compliance tests, as described in § 61.139(c)(1), the following provisions apply.

(i) All tests shall be run under representative emission concentration and vent flow rate conditions. For sources with intermittent flow rates, representative conditions shall include typical emission surges (for example, during the loading of a storage tank).

(ii) Each test shall consist of three separate runs. These runs will be averaged to yield the volumetric flow rates and benzene concentrations in the

equation in § 61.139(c)(1). Each run shall be a minimum of 1 hour.

(A) For each regenerative carbon adsorber, each run shall take place in one adsorption cycle, to include a minimum of 1 hour of sampling immediately preceding the initiation of carbon bed regeneration.

(B) For each non-regenerative carbon adsorber, all runs can occur during one adsorption cycle.

(iii) The measurements during the runs shall be paired so that the inlet and outlet to the control device are measured simultaneously.

(iv) Method 1 or 1A shall be used as applicable for locating measurement sites.

(v) Method 2, 2A, or 2D shall be used as applicable for measuring vent flow rates.

(vi) Method 18 shall be used for determining the benzene concentrations (C_{aj} and C_{bi}). Either the integrated bag sampling and analysis procedure or the direct interface procedure may be used. A separation column constructed of stainless steel, 1.83 m by 3.2 mm, containing 10 percent 1,2,3-tris (2-cyanoethoxy) propane (TECP) on 80/100 mesh Chromosorb P AW, with a column temperature of 80 °C, a detector temperature of 225 °C, and a flow rate of approximately 20 ml/min, may produce adequate separations. The analyst can use other columns, provided that the precision and accuracy of the analysis of benzene standards is not impaired. The analyst shall have available for review information confirming that there is adequate resolution of the benzene peak.

(A) If the integrated bag sampling and analysis procedure is used, the sample rate shall be adjusted to maintain a constant proportion to vent flow rate.

(B) If the direct interface sampling and analysis procedure is used, then each performance test run shall be conducted in intervals of 5 minutes. For each interval "t," readings from each measurement shall be recorded, and the flow rate (Q_{aj} or Q_{bi}) and the corresponding benzene concentration (C_{aj} or C_{bi}) shall be determined. The sampling system shall be constructed to include a mixing chamber of a volume equal to 5 times the sampling flow rate

per minute. Each analysis performed by the chromatograph will then represent an averaged emission value for a 5-minute time period. The vent flow rate readings shall be timed to account for the total sample system residence time. A dual column, dual detector chromatograph can be used to achieve an analysis interval of 5 minutes. The individual benzene concentrations shall be vent flow rate weighted to determine sample run average concentrations. The individual vent flow rates shall be time averaged to determine sample run average flow rates.

(2) For testing the benzene concentration at the outlet vent of the carbon adsorber as specified under §§61.139(d)(1), (e)(1) and (h)(3)(ii), the following provisions apply.

(i) The measurement shall be conducted over one 5-minute period.

(ii) The requirements in §61.139(g)(1)(i) shall apply to the extent practicable.

(iii) The requirements in §61.139(g)(1)(vi) shall apply. Section 7.2 of method 18 shall be used as described in §61.139(g)(1)(vi)(B) for benzene concentration measurements.

(h) For each carbon adsorber, the maximum concentration point shall be expressed either as a benzene concentration or organic compound concentration level, whichever is to be indicated by the monitoring device chosen under §61.139 (d) or (e).

(1) For each regenerative carbon adsorber, the owner or operator shall determine the maximum concentration point at the following times:

(i) No later than the deadline for the initial compliance test as specified in §61.139(c)(1);

(ii) At the request of the Administrator; and

(iii) At any time chosen by the owner or operator.

(2) For each non-regenerative carbon adsorber, the owner or operator shall determine the maximum concentration point at the following times:

(i) On the first carbon bed to be installed in the adsorber;

(ii) At the request of the Administrator;

(iii) On the next carbon bed after the maximum concentration point has been exceeded (before the scheduled re-

placement time) for each of three previous carbon beds in the adsorber since the most recent determination; and

(iv) At any other time chosen by the owner or operator.

(3) The maximum concentration point for each carbon adsorber shall be determined through the simultaneous measurement of the outlet of the carbon adsorber with the monitoring device and Method 18, except as allowed in paragraph (h)(4) of this section.

(i) Several data points shall be collected according to a schedule determined by the owner or operator. The schedule shall be designed to take frequent samples near the expected maximum concentration point.

(ii) Each data point shall consist of one 5-minute benzene concentration measurement using Method 18 as specified in §61.139(g)(2), and of a simultaneous measurement by the monitoring device. The monitoring device measurement shall be conducted according to §61.139 (d) or (e), whichever is applicable.

(iii) The maximum concentration point shall be the concentration level, as indicated by the monitoring device, for the last data point at which the benzene concentration is less than 2 percent of the average value of the benzene concentration at the inlet to the carbon adsorber during the most recent compliance test.

(4) If the maximum concentration point is expressed as a benzene concentration, the owner or operator may determine it by calibrating the monitoring device with benzene at a concentration that is 2 percent of the average benzene concentration measured at the inlet to the carbon adsorber during the most recent compliance test. The reading on the monitoring device corresponding to the calibration concentration shall be the maximum concentration point. This method of determination would affect the owner or operator as follows:

(i) For a regenerative carbon adsorber, the owner or operator is exempt from the provisions in paragraph (h)(3) of this section.

(ii) For a non-regenerative carbon adsorber, the owner or operator is required to collect the data points in paragraph (h)(3) of this section with

only the monitoring device, and is exempt from the simultaneous Method 18 measurement.

(5) For each non-regenerative carbon adsorber, the demonstrated bed life shall be the carbon bed life, measured in days from the time the bed is installed until the maximum concentration point is reached, for the carbon bed that is used to determine the maximum concentration point.

(i) The following recordkeeping requirements are applicable to owners and operators of control devices subject to § 61.139. All records shall be kept updated and in a readily accessible location.

(1) The following information shall be recorded for each control device for the life of the control device:

(i) The design characteristics of the control device and a list of the source or sources vented to it.

(ii) For each carbon absorber, a plan for the method for handling captured benzene and removed carbon to comply with paragraphs (b)(1) and (2) of this section.

(iii) The dates and descriptions of any changes in the design specifications or plan.

(iv) For each carbon adsorber for which organic compounds are monitored as provided under § 61.139 (d) and (e), documentation to show that the measurements of organic compound concentrations are reasonable indicators of benzene concentrations.

(2) For each compliance test as specified in § 61.139(c)(1), the date of the test, the results of the test, and other data needed to determine emissions shall be recorded as specified in § 61.13(g) for at least 2 years or until the next compliance test on the control device, whichever is longer.

(3) For each vapor incinerator, the average firebox temperature of the incinerator (or the average temperature upstream and downstream of the catalyst bed for a catalytic incinerator), measured and averaged over the most recent compliance test shall be recorded for at least 2 years or until the next compliance test on the incinerator, whichever is longer.

(4) For each carbon adsorber, for each determination of a maximum concentration point as specified in

§ 61.139(h), the date of the determination, the maximum concentration point, and data needed to make the determination shall be recorded for at least 2 years or until the next maximum concentration point determination on the carbon adsorber, whichever is longer.

(5) For each carbon absorber, the dates of and data from the monitoring required in § 61.139(d) and (e), the date and time of replacement of each carbon bed, the date of each exceedance of the maximum concentration point, and a brief description of the corrective action taken shall be recorded for at least 2 years. Also, the occurrences when the captured benzene or spent carbon are not handled as required in § 61.139(b)(1) and (2) shall be recorded for at least 2 years.

(6) For each vapor incinerator, the data from the monitoring required in § 61.139(f)(1), the dates of all periods of operation during which the parameter boundaries established during the most recent compliance test are exceeded, and a brief description of the corrective action taken shall be recorded for at least 2 years. A period of operation during which the parameter boundaries are exceeded is a 3-hour period of operation during which:

(i) For each vapor incinerator other than a catalytic incinerator, the average combustion temperature is more than 28 °C (50 °F) below the average combustion temperature during the most recent performance test.

(ii) For each catalytic incinerator, the average temperature of the vent stream immediately before the catalyst bed is more than 28 °C (50 °F) below the average temperature of the vent stream during the most recent performance test, or the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference across the catalyst bed during the most recent performance test.

(7) For each vapor incinerator, the following shall be recorded for at least 2 years:

(i) If subject to § 61.139(f)(2)(i), records of the flow indication, and of all periods when the vent stream is diverted from the vapor incinerator or has no flow rate.

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(ii) If subject to § 61.139(f)(2)(ii), records of the flow indication, and of all periods when the vent stream is diverted from the vapor incinerator.

(iii) If subject to § 61.139(f)(2)(iii), records of the conditions found during each monthly inspection, and of each period when the car seal is broken, when the valve position is changed, or when maintenance on the bypass line valve is performed.

(j) The following reporting requirements are applicable to owners or operators of control devices subject to § 61.139:

(1) Compliance tests shall be reported as specified in § 61.13(f).

(2) The following information shall be reported as part of the semiannual reports required in § 61.138(f).

(i) For each carbon adsorber:

(A) The date and time of detection of each exceedance of the maximum concentration point and a brief description of the time and nature of the corrective action taken.

(B) The date of each time that the captured benzene or removed carbon was not handled as required in § 61.139(b)(1) and (2), and a brief description of the corrective action taken.

(C) The date of each determination of the maximum concentration point, as described in § 61.139(h), and a brief reason for the determination.

(ii) For each vapor incinerator, the date and duration of each exceedance of the boundary parameters recorded under § 61.139(i)(6) and a brief description of the corrective action taken.

(iii) For each vapor incinerator, the date and duration of each period specified as follows:

(A) Each period recorded under § 61.139(i)(7)(i) when the vent stream is diverted from the control device or has no flow rate;

(B) Each period recorded under § 61.139(i)(7)(ii) when the vent stream is diverted from the control device; and

(C) Each period recorded under § 61.139(i)(7)(iii) when the vent stream is diverted from the control device, when the car seal is broken, when the valve is unlocked, or when the valve position has changed.

(iv) For each vapor incinerator, the owner or operator shall specify the method of monitoring chosen under

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paragraph (f)(2) of this section in the first semiannual report. Any time the owner or operator changes that choice, he shall specify the change in the first semiannual report following the change.

[56 FR 47407, Sept. 19, 1991, as amended at 64 FR 7467, Feb. 12, 1999; 65 FR 62157, Oct. 17, 2000]

Subpart M—National Emission Standard for Asbestos

AUTHORITY: 42 U.S.C. 7401, 7412, 7414, 7416, 7601.

SOURCE: 49 FR 13661, Apr. 5, 1984, unless otherwise noted.

§ 61.140 Applicability.

The provisions of this subpart are applicable to those sources specified in §§ 61.142 through 61.151, 61.154, and 61.155.

[55 FR 48414, Nov. 20, 1990]

§ 61.141 Definitions.

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in subpart A of this part.

Active waste disposal site means any disposal site other than an inactive site.

Adequately wet means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

Asbestos means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

Asbestos-containing waste materials means mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags or other similar packaging contaminated with commercial asbestos.