

§ 63.485 Continuous front-end process vent provisions.

(a) For each continuous front-end process vent located at an affected source, the owner or operator shall comply with the requirements of §§ 63.113 through 63.118, except as provided for in paragraphs (b) through (v) of this section. The owner or operator of continuous front-end process vents that are combined with one or more batch front-end process vents shall comply with paragraph (o) or (p) of this section.

(b) When the term “process vent” is used in §§ 63.113 through 63.118, the term “continuous front-end process vent,” and the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(c) When the term “halogenated process vent” is used in §§ 63.113 through 63.118, the term “halogenated continuous front-end process vent,” and the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(d) When the term “Group 1 process vent” is used in §§ 63.113 through 63.118, the term “Group 1 continuous front-end process vent,” and the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(e) When the term “Group 2 process vent” is used in §§ 63.113 through 63.118, the term “Group 2 continuous front-end process vent,” and the definition of this term in § 63.482 shall apply for the purposes of this subpart.

(f) When December 31, 1992 (i.e., the proposal date for subpart G of this part) is referred to in § 63.113, June 12, 1995 shall instead apply, for the purposes of this subpart.

(g) When §§ 63.151(f), alternative monitoring parameters, and 63.152(e), submission of an operating permit, are referred to in §§ 63.114(c) and 63.117(e), 63.506(f), alternative monitoring parameters, and § 63.506(e)(8), submission of an operating permit, respectively, shall apply for the purposes of this subpart.

(h) When the Notification of Compliance Status requirements contained in § 63.152(b) are referred to in §§ 63.114, 63.117, and 63.118, the Notification of Compliance Status requirements contained in § 63.506(e)(5) shall apply for the purposes of this subpart.

(i) When the Periodic Report requirements contained in § 63.152(c) are referred to in §§ 63.117 and 63.118, the Periodic Report requirements contained in § 63.506(e)(6) shall apply for the purposes of this subpart.

(j) When the definition of excursion in § 63.152(c)(2)(ii)(A) is referred to in § 63.118(f)(2), the definition of excursion in § 63.505(g) and (h) shall apply for the purposes of this subpart.

(k) When § 63.114(e) or § 63.117(f) specifies that an owner or operator shall submit the information required in § 63.152(b) in order to establish the parameter monitoring range, the owner or operator of an affected source shall comply with the provisions of § 63.505 for establishing the parameter monitoring level and shall comply with § 63.506(e)(5) for the purposes of reporting information related to the establishment of the parameter monitoring level, for the purposes of this subpart. Further, the term “level” shall apply whenever the term “range” is used in §§ 63.114, 63.117, and 63.118.

(l) When reports of process changes are required under § 63.118(g), (h), (i), or (j), paragraphs (l)(1) through (l)(4) of this section shall apply for the purposes of this subpart. In addition, for the purposes of this subpart paragraph (l)(5) of this section applies, and § 63.118(k) does not apply to owners or operators of affected sources.

(1) For the purposes of this subpart, whenever a process change, as defined in § 63.115(e), is made that causes a Group 2 continuous front-end process vent to become a Group 1 continuous front-end process vent, the owner or operator shall submit a report within 180 days after the process change is made or with the next Periodic Report, whichever is later. A description of the process change shall be submitted with the report of the process change, and the owner or operator of the affected source shall comply with the Group 1 provisions in §§ 63.113 through 63.118 in accordance with § 63.480(i)(2)(ii) or (i)(2)(iii), as applicable.

(2) Whenever a process change, as defined in § 63.115(e), is made that causes a Group 2 continuous front-end process vent with a TRE greater than 4.0 to become a Group 2 continuous front-end process vent with a TRE less than 4.0,

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the owner or operator shall submit a report within 180 days after the process change is made or with the next Periodic Report, whichever is later. A description of the process change shall be submitted with the report of the process change, and the owner or operator shall comply with the provisions in § 63.113(d) by the dates specified in § 63.481.

(3) Whenever a process change, as defined in § 63.115(e), is made that causes a Group 2 continuous front-end process vent with a flow rate less than 0.005 standard cubic meter per minute (scmm) to become a Group 2 continuous front-end process vent with a flow rate of 0.005 scmm or greater and a TRE index value less than or equal to 4.0, the owner or operator shall submit a report within 180 days after the process change is made or with the next Periodic Report, whichever is later. A description of the process change shall be submitted with the report of the process change, and the owner or operator shall comply with the provisions in § 63.113(d) by the dates specified in § 63.481.

(4) Whenever a process change, as defined in § 63.115(e), is made that causes a Group 2 continuous front-end process vent with an organic HAP concentration less than 50 parts per million by volume (ppmv) to become a Group 2 continuous front-end process vent with an organic HAP concentration of 50 ppmv or greater and a TRE index value less than or equal to 4.0, the owner or operator shall submit a report within 180 days after the process change is made or with the next Periodic Report, whichever is later. A description of the process change shall be submitted with the report of the process change, and the owner or operator shall comply with the provisions in § 63.113(d) by the dates specified in § 63.481.

(5) The owner or operator is not required to submit a report of a process change if one of the conditions listed in paragraphs (1)(5)(i), (1)(5)(ii), (1)(5)(iii), or (1)(5)(iv) of this section is met.

(i) The change does not meet the description of a process change in § 63.115(e);

(ii) The vent stream flow rate is recalculated according to § 63.115(e) and

the recalculated value is less than 0.005 standard cubic meter per minute;

(iii) The organic HAP concentration of the vent stream is recalculated according to § 63.115(e) and the recalculated value is less than 50 parts per million by volume; or

(iv) The TRE index value is recalculated according to § 63.115(e) and the recalculated value is greater than 4.0.

(m) When § 63.118 (periodic reporting and recordkeeping requirements) refers to § 63.152(f), the recordkeeping requirements in § 63.506(d) shall apply for the purposes of this subpart.

(n) When §§ 63.115 and 63.116 refer to Table 2 of subpart F of this part, the owner or operator is only required to consider organic HAP listed on Table 5 of this subpart, for the purposes of this subpart.

(o) If a batch front-end process vent or aggregate batch vent stream is combined with a continuous front-end process vent, the owner or operator of the affected source containing the combined vent stream shall comply with paragraph (o)(1); with paragraph (o)(2) and with paragraph (o)(3) or (o)(4); or with paragraph (o)(5) of this section, as appropriate.

(1) If a batch front-end process vent or aggregate batch vent stream is combined with a Group 1 continuous front-end process vent prior to the combined vent stream being routed to a control device, the owner or operator of the affected source containing the combined vent stream shall comply with the requirements in paragraph (o)(1)(i) or (o)(1)(ii) of this section.

(i) All requirements for a Group 1 process vent stream in §§ 63.113 through 63.118, except as otherwise provided in this section. As specified in § 63.504(a)(1), performance tests shall be conducted at maximum representative operating conditions. For the purpose of conducting a performance test on a combined vent stream, maximum representative operating conditions shall be when batch emission episodes are occurring that result in the highest organic HAP emission rate (for the combined vent stream) that is achievable during one of the periods listed in § 63.504(a)(1)(i) or § 63.504(a)(1)(ii), without causing any of the situations described in paragraphs (o)(1)(i)(A)

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through (o)(1)(i)(C) of this section to occur.

(A) Causing damage to equipment;

(B) Necessitating that the owner or operator make product that does not meet an existing specification for sale to a customer; or

(C) Necessitating that the owner or operator make product in excess of demand.

(ii) Comply with the provisions in § 63.483(b)(1), as allowed under § 63.483(b).

(2) If a batch front-end process vent or aggregate batch vent stream is combined with a continuous front-end process vent prior to the combined vent stream being routed to a recovery device, the TRE index value for the combined vent stream shall be calculated at the exit of the last recovery device. The TRE shall be calculated during periods when one or more batch emission episodes are occurring that result in the highest organic HAP emission rate (in the combined vent stream that is being routed to the recovery device) that is achievable during the 6-month period that begins 3 months before and ends 3 months after the TRE calculation, without causing any of the situations described in paragraphs (o)(2)(i) through (o)(2)(iii) of this section to occur.

(i) Causing damage to equipment;

(ii) Necessitating that the owner or operator make product that does not meet an existing specification for sale to a customer; or

(iii) Necessitating that the owner or operator make product in excess of demand.

(3) If the combined vent stream described in paragraph (o)(2) of this section meets the requirements in paragraphs (o)(3)(i), (o)(3)(ii), and (o)(3)(iii) of this section, the combined vent stream shall be subject to the requirements for Group 1 process vents in §§ 63.113 through 63.118, except as otherwise provided in this section, as applicable. Performance tests for the combined vent stream shall be conducted at maximum representative operating conditions, as described in paragraph (o)(1) of this section.

(i) The TRE index value of the combined stream is less than or equal to 1.0;

(ii) The flow rate of the combined vent stream is greater than or equal to 0.005 standard cubic meter per minute; and

(iii) The total organic HAP concentration is greater than or equal to 50 parts per million by volume for the combined vent stream.

(4) If the combined vent stream described in paragraph (o)(2) of this section meets the requirements in paragraph (o)(4)(i), (ii), or (iii) of this section, the combined vent stream shall be subject to the requirements for Group 2 process vents in §§ 63.113 through 63.118, except as otherwise provided in this section, as applicable.

(i) The TRE index value of the combined vent stream is greater than 1.0;

(ii) The flow rate of the combined vent stream is less than 0.005 standard cubic meter per minute; or

(iii) The total organic HAP concentration is less than 50 parts per million by volume for the combined vent stream.

(5) If a batch front-end process vent or aggregate batch vent stream is combined with a Group 2 continuous front-end process vent, the owner or operator shall comply with the requirements in either paragraph (o)(5)(i) or (o)(5)(ii) of this section.

(i) The owner or operator shall comply with the requirements in §§ 63.113 through 63.118 for Group 1 process vents; or

(ii) The owner or operator shall comply with § 63.487(e)(2) for batch front-end process vents and aggregate batch vent streams.

(p) If any gas stream that originates outside of an affected source that is subject to this subpart is normally conducted through the same final recovery device as any continuous front-end process vent stream subject to this subpart, the combined vent stream shall comply with all requirements in §§ 63.113 through 63.118, except as otherwise provided in this section, as applicable.

(1) Instead of measuring the vent stream flow rate at the sampling site specified in § 63.115(b)(1), the sampling site for vent stream flow rate shall be prior to the final recovery device and prior to the point at which the gas stream that is not controlled under

this subpart is introduced into the combined vent stream.

(2) Instead of measuring total organic HAP or TOC concentrations at the sampling site specified in § 63.115(c)(1), the sampling site for total organic HAP or TOC concentration shall be prior to the final recovery device and prior to the point at which the gas stream that is not controlled under this subpart is introduced into the combined vent stream.

(3) The efficiency of the final recovery device (determined according to paragraph (p)(4) of this section) shall be applied to the total organic HAP or TOC concentration measured at the sampling site described in paragraph (p)(2) of this section to determine the exit concentration. This exit concentration of total organic HAP or TOC shall then be used to perform the calculations outlined in § 63.115(d)(2)(iii) and § 63.115(d)(2)(iv), for the combined vent stream exiting the final recovery device.

(4) The efficiency of the final recovery device is determined by measuring the total organic HAP or TOC concentration using Method 18 or 25A, 40 CFR part 60, appendix A, at the inlet to the final recovery device after the introduction of any gas stream that is not controlled under this subpart, and at the outlet of the final recovery device.

(q) Group 1 halogenated continuous front-end process vents must comply with the provisions of § 63.113(a)(1)(ii) and § 63.113(c), with the exceptions noted in paragraphs (q)(1) and (2) of this section.

(1) Group I halogenated continuous front-end process vents at existing affected sources producing butyl rubber or ethylene propylene rubber using a

solution process are exempt from the provisions of § 63.113(a)(1)(ii) and § 63.113(c) if the conditions in paragraphs (q)(1)(i) and (ii) of this section are met, and shall comply with the requirements in paragraphs (q)(1)(iii) through (vi) of this section. Group I halogenated continuous front-end process vents at new affected sources producing butyl rubber or ethylene propylene rubber using a solution process are not exempt from § 63.113(a)(1)(ii) and § 63.113(c).

(i) If the halogenated continuous front-end process vent stream was controlled by a combustion device prior to June 12, 1995; and

(ii) If the requirements of § 63.113(a)(2); § 63.113(a)(3); § 63.113(b) and the associated testing requirements in § 63.116; or §§ 63.11(b) and 63.504(c) are met.

(iii) The average HCl emissions from all front-end process operations at affected sources producing butyl rubber and ethylene propylene rubber using a solution process shall not exceed the limits determined in accordance with paragraphs (q)(1)(iii)(A) and (B) of this section for any consecutive 12-month period. The specific limitation for each elastomer type shall be determined based on the calculation or the emissions level provided in paragraphs (q)(1)(iii)(A) and (B) of this section divided by the base year elastomer product that leaves the stripping operation (or the reactor(s), if the plant has no stripper(s)). The limitation shall be calculated and submitted in accordance with paragraph (q)(1)(iv) of this section.

(A) For butyl rubber, the HCl emission limitation shall be calculated using the following equation:

$$BRHClEL = \frac{HCl_{2010}}{P_{2010}} * 1.74$$

Where:

HCl₂₀₁₀ = HCl emissions in 2010, megagrams per year (Mg/yr)

BRHClEL = Butyl rubber HCl emission limit, Mg HCl emissions/Mg butyl rubber produced

P₂₀₁₀ = Total elastomer product leaving the stripper in 2010, Mg/yr

1.74 = variability factor, unitless

(B) For ethylene propylene rubber using a solution process, the HCl emission limitation, in units of Mg HCl emissions per Mg of ethylene propylene rubber produced, shall be calculated by dividing 27 Mg/yr by the mass of ethylene propylene rubber produced in 2010, in Mg.

(iv) If the front-end process operation is subject to a HCl emission limitation in paragraph (q)(1)(iii) of this section, the owner and operator must submit the information specified in paragraphs (q)(1)(iv)(A) and (B) of this section.

(A) The applicable HCl emission limitation determined in accordance with paragraphs (q)(1)(iii)(A) and (B) of this section shall be submitted no later than 180 days from the date of publication of the final rule amendments in the FEDERAL REGISTER.

(B) Beginning with the first periodic report required to be submitted by § 63.506(e)(6) that is at least 13 months after the compliance date, the total mass of HCl emitted for each of the rolling 12-month periods in the reporting period divided by the total mass of elastomer produced during the corresponding 12-month period, determined in accordance with paragraph (q)(1)(v) of this section.

(v) Compliance with the HCl emission limitations determined in accordance with paragraph (q)(1)(iii) of this section shall be demonstrated in accordance with paragraphs (q)(1)(v)(A) through (E) of this section.

(A) Calculate your HCl emission limitation in accordance with paragraphs (q)(1)(iii)(A) and (B) of this section, as applicable, record it, and submit it in accordance with paragraph (q)(1)(iv) of this section.

(B) Each month, calculate and record the HCl emissions from all front-end process operations using engineering assessment. Engineering assessment includes, but is not limited to, the following:

- (1) Use of material balances;
- (2) Estimation of flow rate based on physical equipment design, such as pump or blower capacities;
- (3) Estimation of HCl concentrations based on saturation conditions; and
- (4) Estimation of HCl concentrations based on grab samples of the liquid or vapor.

(C) Each month, record the mass of elastomer product produced.

(D) Each month, calculate and record the sum of the HCl emissions and the mass of elastomer produced for the previous calendar 12-month period.

(E) Each month, divide the total mass of HCl emitted for the previous calendar 12-month period by the total mass of elastomer produced during this 12-month period. This value must be recorded in accordance with paragraph (q)(1)(vi) of this section and reported in accordance with paragraph (q)(1)(iv) of this section.

(vi) If the front-end process operation is subject to an HCl emission limitation in paragraph (q)(1)(iii) of this section, the owner or operator shall maintain the records specified in paragraphs (q)(1)(vi)(A) through (D) of this section.

(A) The applicable HCl emission limitation determined in accordance with paragraphs (q)(1)(iii)(A) and (B) of this section.

(B) The HCl emissions from all front-end process operations for each month, along with documentation of all calculations, and other information used in the engineering assessment to estimate these emissions.

(C) The mass of elastomer product produced each month.

(D) The total mass of HCl emitted for each 12-month period divided by the total mass of elastomer produced during the 12-month period, determined in accordance with paragraph (q)(1)(v) of this section.

(2) Group 1 halogenated continuous front-end process vents at new and existing affected sources producing an elastomer using a gas-phased reaction process, provided that the requirements of § 63.113(a)(2); § 63.113(a)(3); § 63.113(b) and the associated testing requirements in § 63.116; or § 63.11(b) and § 63.504(c) are met.

(r) The compliance date for continuous front-end process vents subject to the provisions of this section is specified in § 63.481.

(s) *Internal combustion engines.* In addition to the three options for the control of a Group 1 continuous front-end process vent listed in § 63.113(a)(1) through (3), an owner or operator will be permitted to route emissions of organic HAP to an internal combustion

engine, provided the conditions listed in paragraphs (s)(1) through (s)(5) of this section are met.

(1) The vent stream routed to the internal combustion engine shall not be a halogenated continuous front-end process vent stream.

(2) The organic HAP is introduced with the primary fuel.

(3) The internal combustion engine is operating at all times that organic HAP emissions are being routed to it. The owner or operator shall demonstrate that the internal combustion engine is operating by continuously monitoring the on/off status of the internal combustion engine.

(4) The owner or operator shall maintain hourly records verifying that the internal combustion engine was operating at all times that emissions were routed to it.

(5) The owner or operator shall include in the Periodic Report a report of all times that the internal combustion engine was not operating while emissions were being routed to it.

(6) If an internal combustion engine meeting the requirements of paragraphs (s)(1) through (5) of this section is used to comply with the provisions of §63.113(a), the internal combustion engine is exempt from the source testing requirements of §63.116.

(t) When the provisions of §63.116(c)(3) and (c)(4) specify that Method 18, 40 CFR part 60, appendix A shall be used, Method 18 or Method 25A, 40 CFR part 60, appendix A may be used for the purposes of this subpart. The use of Method 25A, 40 CFR part 60, appendix A shall conform with the requirements in paragraphs (t)(1) and (t)(2) of this section.

(1) The organic HAP used as the calibration gas for Method 25A, 40 CFR part 60, appendix A shall be the single organic HAP representing the largest percent by volume of the emissions.

(2) The use of Method 25A, 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.

(u) In §63.116(a), instead of the reference to §63.11(b), the requirements in §63.504(c) shall apply.

(v) When a combustion device is used to comply with the 20 parts per million by volume outlet concentration standard specified in §63.113(a)(2), the correction to 3 percent oxygen is only required when supplemental combustion air is used to combust the emissions, for the purposes of this subpart. In addition, the correction to 3 percent oxygen specified in §63.116(c)(3) and (c)(3)(iii) is only required when supplemental combustion air is used to combust the emissions, for the purposes of this subpart. Finally, when a combustion device is used to comply with the 20 parts per million by volume outlet concentration standard specified in §63.113(a)(2), an owner or operator shall record and report the outlet concentration required in §63.117(a)(4)(ii) and (a)(4)(iv) corrected to 3 percent oxygen when supplemental combustion air is used to combust the emissions, for the purposes of this subpart. When supplemental combustion air is not used to combust the emissions, an owner or operator may record and report the outlet concentration required in §63.117(a)(4)(ii) and (a)(4)(iv) on an uncorrected basis or corrected to 3 percent oxygen, for the purposes of this subpart.

(w) *Shutdown.* (1) During periods of shutdown, a Group 1 continuous front-end process vent at an existing affected source producing butyl rubber or ethylene propylene rubber using a solution process must be routed to a flare until either the organic HAP concentration in the vent is less than 50 ppmv, or the vent pressure is below 103.421 kPa.

[65 FR 38049, June 19, 2000, as amended at 66 FR 36928, July 16, 2001; 76 FR 22588, Apr. 21, 2011]

§ 63.486 Batch front-end process vent provisions.

(a) *Batch front-end process vents.* Except as specified in paragraph (b) of this section, owners and operators of new and existing affected sources with batch front-end process vents shall comply with the requirements in §§63.487 through 63.492. The batch front-end process vent group status shall be determined in accordance with §63.488.