
40 C.F.R. § 63.145

Process wastewater provisions—test methods and procedures to determine compliance.

(a) *General.* This section specifies the procedures for performance tests that are conducted to demonstrate compliance of a treatment process or a control device with the control requirements specified in § 63.138 of this subpart. Owners or operators conducting a design evaluation shall comply with the requirements of paragraph (a)(1) or (a)(2) of this section. Owners or operators conducting a performance test shall comply with the applicable requirements in paragraphs (a) through (i) of this section.

(1) *Performance tests and design evaluations for treatment processes.* If design steam stripper option (§ 63.138(d)) or RCRA option (§ 63.138(h)) is selected to comply with § 63.138, neither a design evaluation nor a performance test is required. For any other non-biological treatment process, the owner or operator shall conduct either a design evaluation as specified in § 63.138(j), or a performance test as specified in this section. For closed biological treatment processes, the owner or operator shall conduct either a design evaluation as specified in § 63.138(j), or a performance test as specified in this section. For each open biological treatment process, the owner or operator shall conduct a performance test as specified in this section.

Note:

Some open biological treatment processes may not require a performance test. Refer to § 63.145(h) and table 36 of this subpart to determine whether the biological treatment process meets the criteria that exempt the owner or operator from conducting a performance test.

(2) *Performance tests and design evaluations for control devices.* The owner or operator shall conduct either a design evaluation as specified in § 63.139(d), or a performance test as specified in paragraph (i) of this section for control devices other than flares and paragraph (j) of this section for flares.

(3) *Representative process unit operating conditions.* Compliance shall be demonstrated for representative operating conditions. Operations during periods of startup, shutdown, or malfunction and periods of nonoperation shall not constitute representative conditions. The owner or operator shall record the process information that is necessary to document operating conditions during the test.

(4) *Representative treatment process or control device operating conditions.* Performance tests shall be conducted when the treatment process or control device is operating at a representative inlet flow rate and concentration. If the treatment process or control device will be operating at several different sets of representative operating conditions, the owner or operator shall comply with paragraphs (a)(4)(i) and (a)(4)(ii) of this section. The owner or operator shall record information that is necessary to document treatment process or control device operating conditions during the test.

(i) *Range of operating conditions.* If the treatment process or control device will be operated at several different sets of representative operating conditions, performance testing over the entire range is not required. In such

cases, the performance test results shall be supplemented with modeling and/or engineering assessments to demonstrate performance over the operating range.

(ii) *Consideration of residence time.* If concentration and/or flow rate to the treatment process or control device are not relatively constant (i.e., comparison of inlet and outlet data will not be representative of performance), the owner or operator shall consider residence time, when determining concentration and flow rate.

(5) *Testing equipment.* All testing equipment shall be prepared and installed as specified in the applicable test methods, or as approved by the Administrator.

(6) *Compounds not required to be considered in performance tests or design evaluations.* Compounds that meet the requirements specified in paragraph (a)(6)(i), (a)(6)(ii), or (a)(6)(iii) of this section are not required to be included in the performance test. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in table 34 of this subpart. Concentration measurements based on methods other than Method 305 shall not be adjusted by the compound-specific Fm factor listed in table 34 of this subpart.

(i) Compounds not used or produced by the chemical manufacturing process unit; or

(ii) Compounds with concentrations at the point of determination that are below 1 part per million by weight; or

(iii) Compounds with concentrations at the point of determination that are below the lower detection limit where the lower detection limit is greater than 1 part per million by weight. The method shall be an analytical method for wastewater which has that compound as a target analyte.

(7) *Treatment using a series of treatment processes.* In all cases where the wastewater provisions in this subpart allow or require the use of a treatment process to comply with emissions limitations, the owner or operator may use multiple treatment processes. The owner or operator complying with the requirements of § 63.138(a)(7)(i), when wastewater is conveyed by hard-piping, shall comply with either §§ 63.145(a)(7)(i) or 63.145(a)(7)(ii) of this subpart. The owner or operator complying with the requirements of § 63.138(a)(7)(ii) of this subpart shall comply with the requirements of § 63.145(a)(7)(ii) of this subpart.

(i) The owner or operator shall conduct the performance test across each series of treatment processes. For each series of treatment processes, inlet concentration and flow rate shall be measured either where the wastewater stream enters the first treatment process in a series of treatment processes, or prior to the first treatment process as specified in § 63.145(a)(9) of this subpart. For each series of treatment processes, outlet concentration and flow rate shall be measured where the wastewater stream exits the last treatment process in the series of treatment processes, except when the last treatment process is an open or a closed aerobic biological treatment process demonstrating compliance by using the procedures in § 63.145 (f) or (g) of this subpart. When the last treatment process is either an open or a closed aerobic biological treatment process demonstrating compliance by using the procedures in § 63.145 (f) or (g) of this subpart, inlet and outlet concentrations and flow rates shall be measured as provided in paragraphs (a)(7)(i)(A) and (a)(7)(i)(B) of this section. The mass flow rates removed or destroyed by the series of treatment processes and by the biological treatment process are all used to calculate actual mass removal (AMR) as specified in § 63.145(f)(5)(ii) of this subpart.

(A) The inlet and outlet to the series of treatment processes prior to the biological treatment process are the points at which the wastewater enters the first treatment process and exits the last treatment process in the series, respectively, except as provided in paragraph (a)(9)(ii) of this section.

(B) The inlet to the biological treatment process shall be the point at which the wastewater enters the biological treatment process or the outlet from the series of treatment processes identified in paragraph (a)(7)(i)(A) of this

section, except as provided in paragraph (a)(9)(ii) of this section.

(ii) The owner or operator shall conduct the performance test across each treatment process in the series of treatment processes. The mass flow rate removed or destroyed by each treatment process shall be added together to determine whether compliance has been demonstrated using § 63.145 (c), (d), (e), (f), and (g), as applicable. If a biological treatment process is one of the treatment processes in the series of treatment processes, the inlet to the biological treatment process shall be the point at which the wastewater enters the biological treatment process, or the inlet to the equalization tank if all the criteria of paragraph (a)(9)(ii) of this section are met.

(8) When using a biological treatment process to comply with § 63.138 of this subpart, the owner or operator may elect to calculate the AMR using a subset of Table 8 and/or Table 9 compounds determined at the point of determination or downstream of the point of determination with adjustment for concentration and flowrate changes made according to § 63.144(b)(6) and § 63.144(c)(4) of this subpart, respectively. All Table 8 and/or Table 9 compounds measured to determine the RMR, except as provided by § 63.145(a)(6), shall be included in the RMR calculation.

(9) The owner or operator determining the inlet for purposes of demonstrating compliance with § 63.145 (e), (f), or (g) of this subpart may elect to comply with paragraph (a)(9)(i) or (a)(9)(ii) of this section.

(i) When wastewater is conveyed exclusively by hard-piping from the point of determination to a treatment process that is either the only treatment process or the first in a series of treatment processes (i.e., no treatment processes or other waste management units are used upstream of this treatment process to store, handle, or convey the wastewater), the inlet to the treatment process shall be at any location from the point of determination to where the wastewater stream enters the treatment process. When samples are taken upstream of the treatment process and before wastewater streams have converged, the owner or operator shall ensure that the mass flow rate of all Group 1 wastewater streams is accounted for when using § 63.138 (e) or (f) to comply and that the mass flow rate of all Group 1 and Group 2 wastewater streams is accounted for when using § 63.138(g) to comply, except as provided in § 63.145(a)(6).

(ii) The owner or operator may consider the inlet to the equalization tank as the inlet to the biological treatment process if all the criteria in paragraphs (a)(9)(ii)(A) through (a)(9)(ii)(C) of this section are met. The outlet from the series of treatment processes prior to the biological treatment process is the point at which the wastewater exits the last treatment process in the series prior to the equalization tank, if the equalization tank and biological treatment process are part of a series of treatment processes. The owner or operator shall ensure that the mass flow rate of all Group 1 wastewater streams is accounted for when using § 63.138 (e) or (f) to comply and that the mass flow rate of all Group 1 and Group 2 wastewater streams is accounted for when using § 63.138(g) to comply, except as provided in § 63.145(a)(6).

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