

§ 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 (a)(1) or (a)(2). 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 (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 paragraph (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 (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) of this section, 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 (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 (a)(9)(i) or (a)(9)(ii) of the 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).

(A) The wastewater is conveyed by hard-piping from either the last previous treatment process or the point of determination to the equalization tank.

(B) The wastewater is conveyed from the equalization tank exclusively by hard-piping to the biological treatment process and no treatment processes or other waste management units are used to store, handle, or convey the wastewater between the equalization tank and the biological treatment process.

(C) The equalization tank is equipped with a fixed roof and a closed vent system that routes emissions to a control device that meets the requirements of

§63.133(a)(2)(i) and §63.133(b)(1) through (b)(4) of this subpart.

(b) Noncombustion treatment process--concentration limits. This paragraph applies to performance tests that are conducted to demonstrate compliance of a noncombustion treatment process with the parts per million by weight wastewater stream concentration limits at the outlet of the treatment process. This compliance option is specified in §63.138(b)(1) and §63.138(c)(1). Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per §63.144(b)(5)(ii). Samples shall be collected and analyzed using the procedures specified in §63.144(b)(5)(i), (b)(5)(ii), and (b)(5)(iii) of this subpart. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements based on method 305 may 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 may be adjusted by multiplying each concentration by the compound-specific Fm factor listed in table 34 of this subpart. (For wastewater streams that are Group 1 for both Table 8 and Table 9

compounds, compliance is demonstrated only if the sum of the concentrations of Table 9 compounds is less than 50 ppmw, and the concentration of each Table 8 compound is less than 10 ppmw.)

(c) Non-combustion, non-biological treatment process: percent mass removal/destruction option. This paragraph applies to performance tests that are conducted to demonstrate compliance of a noncombustion, non-biological treatment process with the percent mass removal limits specified in §63.138(e)(1) and (2) for Table 8 and/or Table 9 compounds. The owner or operator shall comply with the requirements specified in §63.145(c)(1) through (c)(6) of this subpart.

(1) Concentration. The concentration of Table 8 and/or Table 9 compounds entering and exiting the treatment process shall be determined as provided in this paragraph. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per §63.144(b)(5)(ii). The method shall be an analytical method for wastewater which has that compound as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. 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 adjust by the compound-specific Fm factor listed in table 34 of this subpart.

(2) Flow rate. The flow rate of the entering and exiting wastewater streams shall be determined using inlet and outlet flow meters, respectively. Where the outlet flow is not greater than the inlet flow, a flow meter shall be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) Calculation of mass flow rate--for noncombustion, nonbiological treatment processes. The mass flow rates of Table 8 and/or Table 9 compounds entering and exiting the treatment process are calculated as follows.

$$Q^{MW}_a = \frac{\rho}{p * 106} \left(\sum_{k=1}^p Q_{a,k} C_{T,a,k} \right) \quad (\text{Eqn WW1})$$

$$Q^{MW}_b = \frac{\rho}{p * 106} \left(\sum_{k=1}^p Q_{b,k} C_{T,b,k} \right) \quad (\text{Eqn WW2})$$

where:

QMW_a, QMW_b = Mass flow rate of Table 8 or Table 9 compounds, average of all runs, in wastewater entering (QMW_a) or exiting (QMW_b) the treatment process, kilograms per hour.

ρ = Density of the wastewater, kilograms per cubic meter.

$Q_{a,k}, Q_{b,k}$ = Volumetric flow rate of wastewater entering ($Q_{a,k}$) or exiting ($Q_{b,k}$) the treatment process during each run k , cubic meters per hour.

$C_{T,a,k}, C_{T,b,k}$ = Total concentration of Table 8 or Table 9 compounds in wastewater entering ($C_{T,a,k}$) or exiting ($C_{T,b,k}$) the treatment process during each run k , parts per million by weight.

p = Number of runs.

k = Identifier for a run.

10^6 = conversion factor, mg/kg

(4) Percent removal calculation for mass flow rate.

The percent mass removal across the treatment process shall be calculated as follows:

$$E = \frac{QMW_a - QMW_b}{QMW_a} \times 100 \quad (\text{Eqn WW3})$$

where:

E = Removal or destruction efficiency of the treatment process, percent.

QMW_a , QMW_b = Mass flow rate of Table 8 or Table 9 compounds in wastewater entering (QMW_a) and exiting (QMW_b) the treatment process, kilograms per hour (as calculated using Equations WW1 and WW2).

(5) Calculation of flow-weighted average of Fr values.

If complying with §63.138(e)(2), use Equation WW8 to calculate the flow-weighted average of the Fr values listed in table 9 of this subpart. When the term "combustion" is used in Equation WW8, the term "treatment process" shall be used for the purposes of this paragraph.

(6) Compare mass removal efficiency to required efficiency. Compare the mass removal efficiency (calculated in Equation WW 3) to the required efficiency as specified in §63.138(e) of this subpart. If complying with §63.138(e)(1), compliance is demonstrated if the mass removal efficiency is 99 percent or greater. If complying with §63.138(e)(2), compliance is demonstrated if the mass removal efficiency is greater than or equal to the flow-weighted average of the Fr values calculated in Equation WW8.

(d) Combustion treatment processes: percent mass removal/destruction option. This paragraph applies to performance tests that are conducted to demonstrate compliance of a combustion treatment process with the percent mass destruction limits specified in §63.138(e)(1) and (2) for Table 9 compounds, and/or §63.138(e)(1) for Table 8 compounds. The owner or operator shall comply with the requirements specified in §63.145(d)(1) through (d)(9) of this subpart. (Wastewater streams that are Group 1 for both Table 8 and Table 9 compounds need only do the compliance demonstration for Table 9 compounds.)

(1) Concentration in wastewater stream entering the combustion treatment process. The concentration of Table 8 and/or Table 9 compounds entering the treatment process shall be determined as provided in this paragraph. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per §63.144(b)(5)(ii). The method shall be an analytical method for wastewater which has that compound as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements based on Method 305 of appendix A of this part 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 adjust by the compound-specific Fm factor listed in table 34 of this subpart.

(2) Flow rate of wastewater entering the combustion treatment process. The flow rate of the wastewater stream entering the combustion treatment process shall be determined using an inlet flow meter. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) Calculation of mass flow rate in wastewater stream entering combustion treatment processes. The mass flow rate of Table 8 and/or Table 9 compounds entering the treatment process is calculated as follows:

$$Q_{MW_a} = \frac{\rho}{p * 10^6} \left(\sum_{k=1}^p Q_{a,k} * C_{T,a,k} \right) \quad (\text{Eqn WW4})$$

where:

Q_{MW_a} = Mass flow rate of Table 8 or Table 9 compounds entering the combustion unit, kilograms per hour.

ρ = Density of the wastewater stream, kilograms per cubic meter.

$Q_{a,k}$ = Volumetric flow rate of wastewater entering the combustion unit during run k, cubic meters per hour.

$C_{T,a,k}$ = Total concentration of Table 8 or Table 9 compounds in the wastewater stream entering the combustion unit during run k, parts per million by weight.

p = Number of runs.

k = Identifier for a run.

(4) Concentration in vented gas stream exiting the combustion treatment process. The concentration of Table 8 and/or Table 9 compounds exiting the combustion treatment process in any vented gas stream shall be determined as provided in this paragraph. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements shall be determined using Method 18 of 40 CFR part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301 of appendix A of this part may be used.

(5) Volumetric flow rate of vented gas stream exiting the combustion treatment process. The volumetric flow rate of the vented gas stream exiting the combustion treatment process shall be determined using Method 2, 2A, 2C, or 2D of

40 CFR part 60, appendix A, as appropriate. Volumetric flow rate measurements shall be taken at the same time as the concentration measurements.

(6) Calculation of mass flow rate of vented gas stream exiting combustion treatment processes. The mass flow rate of Table 8 and/or Table 9 compounds in a vented gas stream exiting the combustion treatment process shall be calculated as follows:

$$QMG_a = K_2 \left(\sum_{i=1}^n CG_{a,i} MW_i \right) QG_a \quad (\text{Eqn WW5})$$

$$QMG_b = K_2 \left(\sum_{i=1}^n CG_{b,i} MW_i \right) QG_b \quad (\text{Eqn WW6})$$

where:

$CG_{a,i}$, $CG_{b,i}$ = Concentration of total organic compounds (TOC) (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream, entering ($CG_{a,i}$) and exiting ($CG_{b,i}$) the control device, dry basis, parts per million by volume.

QMG_a , QMG_b = Mass rate of TOC (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream, entering (QMG_a) and

exiting (QMG_b) the control device,
dry basis, kilograms per hour.

- MW_i = Molecular weight of a component,
kilogram/kilogram-mole.
- QG_a, QG_b = Flow rate of gas stream entering (QG_a)
and exiting (QG_b) the control device,
dry standard cubic meters per hour.
- K_2 = Constant, 41.57×10^{-9} (parts per
million)⁻¹ (gram-mole per standard
cubic meter) (kilogram/gram), where
standard temperature (gram-mole per
standard cubic meter) is 20° Celsius.
- i = Identifier for a compound.
- n = Number of components in the sample.

(7) Destruction efficiency calculation. The
destruction efficiency of the combustion unit for Table 8
and/or Table 9 compounds shall be calculated as follows:

$$E = \frac{QMW_a - QMG_b}{QMW_a} * 100 \quad (\text{Eqn WW7})$$

where:

- E = Destruction efficiency of Table 8 or Table 9
compounds for the combustion unit, percent.
- QMW_a = Mass flow rate of Table 8 or Table 9
compounds entering the combustion unit,
kilograms per hour.

QMG_p = Mass flow rate of Table 8 or Table 9 compounds in vented gas stream exiting the combustion treatment process, kilograms per hour.

(8) Calculation of flow-weighted average of Fr values.

Use Equation WW8 to calculate the flow-weighted average of the Fr values listed in table 9 of this subpart.

$$Fr_{avg} = \left[\frac{\sum_{i=1}^n \sum_{k=1}^p Fr_i * C_{i,a,k} * Q_{a,k}}{\sum_{k=1}^p \sum_{i=1}^n C_{i,a,k} * Q_{a,k}} \right] * 100 \quad (\text{Eqn WW8})$$

where:

Fr_{avg} = Flow-weighted average of the Fr values.

$C_{i,a,k}$ = Concentration of Table 8 and/or Table 9 compounds in wastewater stream entering the combustion unit, during run k, parts per million by weight.

$Q_{a,k}$ = Volumetric flow rate of wastewater entering the combustion unit during run k, cubic meters per hour.

Fr_i = Compound-specific Fr value listed in table 9 of this subpart.

(9) Calculate flow-weighted average of Fr values and compare to mass destruction efficiency. Compare the mass destruction efficiency (calculated in Equation WW 7) to the

required efficiency as specified in §63.138(e). If complying with §63.138(e)(1), compliance is demonstrated if the mass destruction efficiency is 99 percent or greater. If complying with §63.138(e)(2), compliance is demonstrated if the mass destruction efficiency is greater than or equal to the flow-weighted average of the Fr value calculated in Equation WW8.

(e) Non-combustion treatment processes including closed biological treatment processes: RMR option. This paragraph applies to performance tests for non-combustion treatment processes other than open biological treatment processes to demonstrate compliance with the mass removal provisions for Table 8 and/or Table 9 compounds. Compliance options for noncombustion treatment processes are specified in §63.138(f) of this subpart. Compliance options for closed aerobic or anaerobic biological treatment processes are specified in §63.138(f) and §63.138(g) of this subpart. When complying with §63.138(f), the owner or operator shall comply with the requirements specified in §63.145(e)(1) through (e)(6) of this subpart. When complying with §63.138(g), the owner or operator shall comply with the requirements specified in §63.145(e)(1) through (e)(6) of this subpart. (Wastewater streams that are Group 1 for both Table 8 and Table 9 compounds need only do the compliance demonstration for Table 9 compounds.)

(1) Concentration in wastewater stream. The concentration of Table 8 and/or Table 9 compounds shall be determined as provided in this paragraph. Concentration measurements to determine RMR shall be taken at the point of determination or downstream of the point of determination with adjustment for concentration change made according to §63.144(b)(6) of this subpart. Concentration measurements to determine AMR shall be taken at the inlet and outlet to the treatment process and as provided in §63.145(a)(7) for a series of treatment processes. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per §63.144(b)(5)(ii). The method shall be an analytical method for wastewater which has that compound as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. 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 adjust by the compound-specific Fm factor listed in table 34 of this subpart.

(2) Flow rate. Flow rate measurements to determine RMR shall be taken at the point of determination or downstream of the point of determination with adjustment for flow rate change made according to §63.144(c)(4) of this subpart. Flow rate measurements to determine AMR shall be taken at the inlet and outlet to the treatment process and as provided in §63.145(a)(7) for a series of treatment processes. Flow rate shall be determined using inlet and outlet flow measurement devices. Where the outlet flow is not greater than the inlet flow, a flow measurement device shall be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) Calculation of RMR for non-combustion treatment processes including closed biological treatment processes. When using §63.138 (f) to comply, the required mass removal of Table 8 and/or Table 9 compounds for each Group 1 wastewater stream shall be calculated as specified in paragraph (e)(3)(i) of this section. When using §63.138(g) to comply, the required mass removal shall be calculated as specified in paragraph (e)(3)(ii) of this section.

(i) When using §63.138(f) to comply, the required mass removal of Table 8 and/or Table 9 compounds for each Group 1 wastewater stream shall be calculated using Equation WW9.

$$\text{RMR} = \frac{\rho}{10^9} Q \sum_{i=1}^n (C_i * Fr_i) \quad (\text{Eqn WW9})$$

where:

- RMR = Required mass removal for treatment process or series of treatment processes, kilograms per hour.
- ρ = Density of the Group 1 wastewater stream, kilograms per cubic meter.
- Q = Volumetric flow rate of wastewater stream at the point of determination, liters per hour.
- i = Identifier for a compound.
- n = Number of Table 8 or Table 9 compounds in stream.
- C_i = Concentration of Table 8 or Table 9 compounds at the point of determination, parts per million by weight.
- Fr_i = Fraction removal value of a Table 8 or Table 9 compound. Fr values are listed in table 9 of this subpart.
- 10^9 = Conversion factor, mg/kg * l/m³.

(ii) When using §63.138(g) to comply, the required mass removal is 95 percent of the mass flow rate for all Group 1 and Group 2 wastewater streams combined for treatment. The required mass removal of Table 8 and/or Table 9 compounds for all Group 1 and Group 2 wastewater streams combined for treatment when complying with

§63.138(g) shall be calculated using the following equation:

$$\text{RMR} = \frac{0.95\rho}{10^9} Q \sum_{i=1}^n (C_i) \quad (\text{Eqn WW 9a})$$

where:

- RMR = Required mass removal for treatment process or series of treatment processes, kilograms per hour.
- ρ = Density of the Group 1 wastewater stream, kilograms per cubic meter.
- Q = Volumetric flow rate of wastewater stream at the point of determination, liters per hour.
- i = Identifier for a compound.
- n = Number of Table 8 or Table 9 compounds in stream.
- C_i = Concentration of Table 8 or Table 9 compounds at the point of determination, parts per million by weight.
- 10^9 = Conversion factor, $\text{mg/kg} * \text{l/m}^3$

(4)(i) The required mass removal is calculated by summing the required mass removal for each Group 1 wastewater stream to be combined for treatment when complying with §63.138(f).

(ii) The required mass removal is calculated by summing the required mass removal for all Group 1 and Group 2 wastewater streams combined for treatment when complying with §63.138(g).

(5) The AMR calculation procedure for non-combustion treatment processes including closed biological treatment processes. The AMR shall be calculated as follows:

$$\text{AMR} = (\text{QMW}_a - \text{QMW}_b) \quad (\text{Eqn WW10})$$

where:

AMR = Actual mass removal of Table 8 or Table 9 compounds achieved by treatment process or series of treatment processes, kilograms per hour.

QMW_a = Mass flow rate of Table 8 or Table 9 compounds in wastewater entering the treatment process or first treatment process in a series of treatment processes, kilograms per hour.

QMW_b = Mass flow rate of Table 8 or Table 9 compounds in wastewater exiting the last treatment process in a series of treatment processes, kilograms per hour.

(6) Compare RMR to AMR. When complying with §63.138(f), compare the RMR calculated in Equation WW9 to the AMR calculated in Equation WW10. Compliance is demonstrated if the AMR is greater than or equal to the RMR. When complying with §63.138(g), compare the RMR calculated in Equation WW-9a to the AMR calculated in Equation WW10. Compliance is demonstrated if the AMR is greater than or equal to 95-percent mass removal.

(f) Open or closed aerobic biological treatment processes: Required mass removal (RMR) option. This paragraph applies to the use of performance tests that are conducted for open or closed aerobic biological treatment processes to demonstrate compliance with the mass removal provisions for Table 8 and/or Table 9 compounds. These compliance options are specified in §63.138(f) of this subpart. The owner or operator shall comply with the requirements specified in §63.145(f)(1) through (f)(6) of this subpart. Some compounds may not require a performance test. Refer to §63.145(h) and table 36 of this subpart to determine which compounds may be exempt from the requirements of this paragraph.

(1) Concentration in wastewater stream. The concentration of Table 8 and/or Table 9 compounds shall be determined as provided in this paragraph. Concentration measurements to determine RMR shall be taken at the point of determination or downstream of the point of determination with adjustment for concentration change made according to §63.144(b)(6) of this subpart. Concentration measurements to determine AMR shall be taken at the inlet and outlet to the treatment process and as provided in §63.145(a)(7) for a series of treatment processes. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per §63.144(b)(5)(ii). The method

shall be an analytical method for wastewater which has that compound as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. 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 adjust by the compound-specific Fm factor listed in table 34 of this subpart.

(2) Flow rate. Flow rate measurements to determine RMR shall be taken at the point of determination or downstream of the point of determination with adjustment for flow rate change made according to §63.144(c)(4) of this subpart. Flow rate measurements to determine AMR shall be taken at the inlet and outlet to the treatment process and as provided in §63.145(a)(7) for a series of treatment processes. Flow rate shall be determined using inlet and outlet flow measurement devices. Where the outlet flow is not greater than the inlet flow, a flow measurement device shall be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) Calculation of RMR for open or closed aerobic biological treatment processes. The required mass removal of Table 8 and/or Table 9 compounds for each Group 1 wastewater stream shall be calculated using the following equation:

$$\text{RMR} = \frac{\rho}{10^9} Q \sum_{i=1}^n (C_i * Fr_i) \quad (\text{Eqn WW11})$$

where:

- RMR = Required mass removal for treatment process or series of treatment processes, kilograms per hour.
- ρ = Density of the Group 1 wastewater stream, kilograms per cubic meter.
- Q = Volumetric flow rate of wastewater stream at the point of determination, liters per hour.
- i = Identifier for a compound.
- n = Number of Table 8 or Table 9 compounds in stream.
- C_i = Concentration of Table 8 or Table 9 compounds at the point of determination, parts per million by weight.
- Fr_i = Fraction removal value of a Table 8 or Table 9 compound. Fr values are listed in table 9 of this subpart.
- 10^9 = Conversion factor, mg/kg * l/m³.

(4) The required mass removal is calculated by adding together the required mass removal for each Group 1 wastewater stream to be combined for treatment.

(5) Actual mass removal calculation procedure for open or closed aerobic biological treatment processes. The actual mass removal (AMR) shall be calculated using Equation WW12 as specified in paragraph (f)(5)(i) of this section when the performance test is performed across the open or closed aerobic biological treatment process only. If compliance is being demonstrated in accordance with §63.145 (a)(7)(i), the AMR for the series shall be calculated using Equation WW13 in §63.145 (f)(5)(ii). (This equation is for situations where treatment is performed in a series of treatment processes connected by hard-piping.) If compliance is being demonstrated in accordance with §63.145 (a)(7)(ii), the AMR for the biological treatment process shall be calculated using Equation WW12 in §63.145 (f)(5)(i). The AMR for the biological treatment process used in a series of treatment processes calculated using Equation WW12 shall be added to the AMR determined for each of the other individual treatment processes in the series of treatment processes.

(i) Calculate AMR for the open or closed aerobic biological treatment process as follows:

$$\text{AMR} = \text{QMW}_a * F_{\text{bio}} \quad (\text{Eqn WW12})$$

where:

AMR = Actual mass removal of Table 8 or Table 9 compounds achieved by open or closed biological treatment process, kilograms per hour.

QMW_a = Mass flow rate of Table 8 or Table 9 compounds in wastewater entering the treatment process, kilograms per hour.

F_{bio} = Site-specific fraction of Table 8 or Table 9 compounds biodegraded. F_{bio} shall be determined as specified in §63.145(h) and appendix C of this subpart.

(ii) Calculate AMR across a series of treatment units where the last treatment unit is an open or closed aerobic biological treatment process as follows:

$$AMR = QMW_a - (QMW_b)(1 - F_{bio}) \quad (\text{Eqn WW13})$$

where:

AMR = Actual mass removal of Table 8 or Table 9 compounds achieved by a series of treatment processes, kilograms per hour.

QMW_a = Mass flow rate of Table 8 or Table 9 compounds in wastewater entering the first treatment process in a series of treatment processes, kilograms per hour.

QMW_b = Mass flow rate of Table 8 or Table 9 compounds in wastewater exiting the last treatment process in a series of treatment processes prior to the biological treatment process, kilograms per hour.

F_{bio} = Site-specific fraction of Table 8 or Table 9 compounds biodegraded. F_{bio} shall be determined as specified in §63.145(h) and appendix C of this subpart.

(6) Compare RMR to AMR. Compare the RMR calculated in Equation WW11 to the AMR calculated in either Equation WW12 or WW13, as applicable. Compliance is demonstrated if the AMR is greater than or equal to the RMR.

(g) Open or closed aerobic biological treatment processes: 95-percent mass removal option. This paragraph applies to performance tests that are conducted for open or closed aerobic biological treatment processes to demonstrate compliance with the 95-percent mass removal provisions for Table 8 and/or Table 9 compounds. This compliance option is specified in §63.138(g) of this subpart. The RMR for this option is 95-percent mass removal. The owner or operator shall comply with the requirements specified in §63.145(g)(1) to determine AMR, §63.145(e)(3)(ii) and (e)(4)(ii) to determine RMR, and (g)(2) of this subpart to determine whether compliance has been demonstrated. Some compounds may not require a performance test. Refer to §63.145(h) and table 36 of this subpart to determine which

compounds may be exempt from the requirements of this paragraph. (Wastewater streams that are Group 1 for both Table 8 and Table 9 compounds need only do the compliance demonstration for Table 9 compounds.)

(1) The owner or operator shall comply with the requirements specified in paragraphs (f)(1), (f)(2), and (f)(5) of this section to determine AMR. References to Group 1 wastewater streams shall be deemed Group 1 and Group 2 wastewater streams for the purposes of this paragraph.

(2) Compare RMR to AMR. Compliance is demonstrated if the AMR is greater than or equal to RMR.

(h) Site-specific fraction biodegraded (F_{bio}). The compounds listed in table 9 of this subpart are divided into three sets for the purpose of determining whether F_{bio} must be determined, and if F_{bio} must be determined, which procedures may be used to determine compound-specific kinetic parameters. These sets are designated as lists 1, 2, and 3 in table 36 of this subpart.

(1) Performance test exemption. If a biological treatment process meets the requirements specified in paragraphs (h)(1)(i) and (h)(1)(ii) of this section, the owner or operator is not required to determine F_{bio} and is exempt from the applicable performance test requirements specified in §63.138 of this subpart.

(i) The biological treatment process meets the definition of "enhanced biological treatment process" in §63.111 of this subpart.

(ii) At least 99 percent by weight of all compounds on table 36 of this subpart that are present in the aggregate of all wastewater streams using the biological treatment process to comply with §63.138 of this subpart are compounds on list 1 of table 36 of this subpart.

(2) F_{bio} determination. For wastewater streams that include one or more compounds on lists 2 and/or 3 of table 36 of this subpart that do not meet criteria in paragraph (h)(1)(ii) of this section, the owner or operator shall determine F_{bio} for the biological treatment process using the procedures in appendix C to part 63, and paragraph (h)(2)(i) or (h)(2)(ii) of this section. For biological treatment processes that do not meet the definition for enhanced biological treatment in §63.111 of this subpart, the owner or operator shall determine the F_{bio} for the biological treatment process using any of the procedures in appendix C to part 63, except the batch tests procedure.

(i) Wastewater streams without list 3 compounds that are treated in enhanced biological treatment processes. For wastewater streams that include no compounds on list 3 of table 36 of this subpart and the biological treatment process meets the definition of enhanced biological treatment process in §63.111 of this subpart, the owner or

operator shall determine f_{bio} for the list 2 compounds using any of the procedures specified in appendix C of 40 CFR part 63. (The symbol " f_{bio} " represents the site specific fraction of an individual Table 8 or Table 9 compound that is biodegraded.) The owner or operator shall calculate f_{bio} for the list 1 compounds using the defaults for first order biodegradation rate constants (K_1) in table 37 of subpart G and follow the procedure explained in Form III of appendix C, 40 CFR part 63, or any of the procedures specified in appendix C, 40 CFR part 63.

(ii) Wastewater streams with list 3 compounds that are treated in enhanced biological treatment processes. For wastewater streams that include one or more compounds on list 3 of table 36 of this subpart, the owner or operator shall determine f_{bio} for the list 3 compounds using any of the procedures specified in appendix C, 40 CFR part 63, except the batch tests procedure. The owner or operator shall determine f_{bio} for the list 2 compounds using any of the procedures specified in appendix C 40 CFR part 63. The owner or operator shall calculate f_{bio} for the list 1 compounds using the defaults for first order biodegradation rate constants (K_1) in table 37 of subpart G and follow the procedure explained in Form III of appendix C 40 CFR part 63, or any of the procedures specified in appendix C of 40 CFR part 63.

(i) Performance tests for control devices other than flares. This paragraph applies to performance tests that are conducted to demonstrate compliance of a control device with the efficiency limits specified in §63.139(c). If complying with the 95-percent reduction efficiency requirement, comply with the requirements specified in paragraphs (i)(1) through (i)(9) of this section. If complying with the 20 ppm by volume requirement, comply with the requirements specified in paragraphs (i)(1) through (i)(6) and (i)(9) of this section. The 20 ppm by volume limit or 95 percent reduction efficiency requirement shall be measured as either total organic hazardous air pollutants or as TOC minus methane and ethane.

(1) Sampling sites. Sampling sites shall be selected using Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate. For determination of compliance with the 95 percent reduction requirement, sampling sites shall be located at the inlet and the outlet of the control device. For determination of compliance with the 20 parts per million by volume limit, the sampling site shall be located at the outlet of the control device.

(2) Concentration in gas stream entering or exiting the control device. The concentration of total organic hazardous air pollutants or TOC in a gas stream shall be determined as provided in this paragraph. Samples may be grab samples or composite samples (i.e., integrated

samples). Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements shall be determined using Method 18 of 40 CFR part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301 of appendix A of this part may be used.

(3) Volumetric flow rate of gas stream entering or exiting the control device. The volumetric flow rate of the gas stream shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate. Volumetric flow rate measurements shall be taken at the same time as the concentration measurements.

(4) Calculation of TOC concentration. The TOC concentration (CG_T) is the sum of the concentrations of the individual components. If compliance is being determined based on TOC, the owner or operator shall compute TOC for each run using the following equation:

$$CG_T = \frac{1}{m} \sum_{j=1}^m \left(\sum_{i=1}^n CGS_{i,j} \right) \quad (\text{Eqn WW14})$$

where:

CG_T = Total concentration of TOC (minus methane and ethane) in vented gas stream, average of samples, dry basis, parts per million by volume.

$CGS_{i,j}$ = Concentration of sample components in vented gas stream for sample j , dry basis, parts per million by volume.

i = Identifier for a compound.

n = Number of components in the sample.

j = Identifier for a sample.

m = Number of samples in the sample run.

(5) Calculation of total organic hazardous air pollutants concentration. The owner or operator determining compliance based on total organic hazardous air pollutants concentration (C_{HAP}) shall compute C_{HAP} according to the Equation WW14, except that only Table 9 compounds shall be summed.

(6) Percent oxygen correction for combustion control devices. If the control device is a combustion device, comply with the requirements specified in paragraph (i)(6)(i) to determine oxygen concentration, and in paragraph (i)(6)(ii) to calculate the percent oxygen correction.

(i) Oxygen concentration. The concentration of TOC or total organic hazardous air pollutants shall be corrected to 3 percent oxygen if the control device is a combustion device. The emission rate correction factor for excess air, composite sampling (i.e., integrated sampling) and analysis procedures of Method 3B of 40 CFR part 60, appendix A shall be used to determine the actual oxygen concentration (% O_{2d}).

The samples shall be taken during the same time that the TOC (minus methane or ethane) or total organic hazardous air pollutants samples are taken.

(ii) 3 percent oxygen calculation. The concentration corrected to 3 percent oxygen (CG_C), when required, shall be computed using the following equation:

$$CG_C = CG_T \left(\frac{17.9}{20.9 - \%O_{2d}} \right) \quad (\text{Eqn WW15})$$

where:

CG_C = Concentration of TOC or organic hazardous air pollutants corrected to 3 percent oxygen, dry basis, parts per million by volume.

CG_T = Total concentration of TOC (minus methane and ethane) in vented gas stream, average of samples, dry basis, parts per million by volume.

$\%O_{2d}$ = Concentration of oxygen measured in vented gas stream, dry basis, percent by volume.

(7) Mass rate calculation. The mass rate of either TOC (minus methane and ethane) or total organic hazardous air pollutants shall be calculated using the following equations. Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by methods specified in (i)(2) of this section are summed using

Equations WW16 and WW17. Where the mass rate of total organic hazardous air pollutants is being calculated, only Table 9 compounds shall be summed using Equations WW16 and WW17.

$$QMG_a = K_2 \left(\sum_{i=1}^n CG_{a,i} MW_i \right) QG_a \quad (\text{Eqn WW16})$$

$$QMG_b = K_2 \left(\sum_{i=1}^n CG_{b,i} MW_i \right) QG_b \quad (\text{Eqn WW17})$$

where:

$CG_{a,i}$, $CG_{b,i}$ = Concentration of TOC (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream, entering ($CG_{a,i}$) and exiting ($CG_{b,i}$) the control device, dry basis, parts per million by volume.

QMG_a , QMG_b = Mass rate of TOC (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream, entering (QMG_a) and exiting (QMG_b) the control device, dry basis, kilograms per hour.

MW_i = Molecular weight of a component, kilogram/kilogram-mole.

QG_a, QG_b = Flow rate of gas stream entering (QG_a) and exiting (QG_b) the control device, dry standard cubic meters per hour.

K_2 = Constant, 41.57×10^{-9} (parts per million)⁻¹ (gram-mole per standard cubic meter) (kilogram/gram), where standard temperature (gram-mole per standard cubic meter) is 20° Celsius.

i = Identifier for a compound.

n = Number of components in the sample.

(8) Percent reduction calculation. The percent reduction in TOC (minus methane and ethane) or total organic hazardous air pollutants shall be calculated as follows:

$$E = \frac{QMG_a - QMG_b}{QMG_a} (100\%) \quad (\text{Eqn WW18})$$

where:

E = Destruction efficiency of control device, percent.

QMG_a, QMG_b = Mass rate of TOC (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream entering and exiting (QMG_b) the control device, dry basis, kilograms per hour.

(9) Compare mass destruction efficiency to required efficiency. If complying with the 95 percent reduction efficiency requirement, compliance is demonstrated if the

mass destruction efficiency (calculated in Equation WW18) is 95 percent or greater. If complying with the 20 parts per million by volume limit in §63.139 (c)(1)(ii) of this subpart, compliance is demonstrated if the outlet total organic compound concentration, less methane and ethane, or total organic hazardous air pollutants concentration is 20 parts per million by volume, or less. For combustion control devices, the concentration shall be calculated on a dry basis, corrected to 3 percent oxygen.

(j) Compliance demonstration for flares. When a flare is used to comply with §63.139 (c) of this subpart, the owner or operator shall comply with the flare provisions in §63.11(b) of subpart A.

(1) The compliance determination shall be conducted using Method 22 of 40 CFR part 60, appendix A, to determine visible emissions.

(2) An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic hazardous air pollutants or TOC concentration when a flare is used.

§63.146 Process wastewater provisions - reporting.

(a) For each waste management unit, treatment process, or control device used to comply with §§63.138(b)(1), (c)(1), (d), (e), (f), or (g) of this subpart for which the owner or operator seeks to monitor a parameter other than those specified in table 11, table 12, or table 13 of this

subpart, the owner or operator shall submit a request for approval to monitor alternative parameters according to the procedures specified in §63.151(f) or (g) of this subpart.

(b) The owner or operator shall submit the information specified in paragraphs (b)(1) through (b)(9) of this section as part of the Notification of Compliance Status required by §63.152(b) of this subpart.

(1) Reserved.

(2) For each new and existing source, the owner or operator shall submit the information specified in table 15 of this subpart for Table 8 and/or Table 9 compounds.

(3) Reserved.

(4) For each treatment process identified in table 15 of this subpart that receives, manages, or treats a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream, the owner or operator shall submit the information specified in table 17 of this subpart.

(5) For each waste management unit identified in table 15 of this subpart that receives or manages a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream, the owner or operator shall submit the information specified in table 18 of this subpart.

(6) For each residual removed from a Group 1 wastewater stream, the owner or operator shall report the information specified in table 19 of this subpart.

(7) For each control device used to comply with §§63.133 through 63.139 of this subpart, the owner or operator shall report the information specified in paragraphs (b)(7)(i) and (b)(7)(ii) of this section.

(i) For each flare, the owner or operator shall submit the information specified in paragraphs (b)(7)(i)(A) through (b)(7)(i)(C) of this section.

(A) Flare design (i.e., steam-assisted, air-assisted, or non-assisted);

(B) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by §63.139(c)(3) of this subpart; and

(C) Reports of the times and durations of all periods during the compliance determination when the pilot flame is absent or the monitor is not operating.

(ii) For each control device other than a flare, the owner or operator shall submit the information specified in paragraph (b)(7)(ii)(A) of this section and in either paragraph (b)(7)(ii)(B) or (b)(7)(ii)(C) of this section.

(A) The information on parameter ranges specified in §63.152(b)(2) of this subpart for the applicable parameters specified in table 13 of this subpart, unless the parameter range has already been established in the operating permit; and either

(B) The design evaluation specified in §63.139(d)(2) of this subpart; or

(C) Results of the performance test specified in §63.139(d)(1) of this subpart. Performance test results shall include operating ranges of key process and control parameters during the performance test; the value of each parameter being monitored in accordance with §63.143 of this subpart; and applicable supporting calculations.

(8) For each treatment process used to comply with §63.138(b)(1)(iii)(C), (c)(1)(iii)(D), (d), or (e) of this subpart, the owner or operator shall submit the information specified in paragraphs (b)(8)(i) and (b)(8)(ii) of this section.

(i) For Items 1 and 2 in table 12 of this subpart, the owner or operator shall submit the information specified in paragraphs (b)(8)(i)(A) and (b)(8)(i)(B) of this section.

(A) The information on parameter ranges specified in §63.152(b)(2) of this subpart for the parameters approved by the Administrator, unless the parameter range has already been established in the operating permit.

(B) Results of the initial measurements of the parameters approved by the Administrator and any applicable supporting calculations.

(ii) For Item 3 in table 12 of this subpart, the owner or operator shall submit the information on parameter ranges specified in §63.152(b)(2) of this subpart for the

parameters specified in Item 3 of table 12 of this subpart, unless the parameter range has already been established in the operating permit.

(9) Except as provided in paragraph (b)(9)(iii) of this section, for each waste management unit or treatment process used to comply with §63.138(b)(1), (c)(1), (d), (e), (f), (g), or (h)(3) of this subpart, the owner or operator shall submit the information specified in either paragraph (b)(9)(i) or (b)(9)(ii) of this section.

(i) The design evaluation and supporting documentation specified in §63.138(j)(1) of this subpart.

(ii) Results of the performance test specified in §63.138(j)(2) of this subpart. Performance test results shall include operating ranges of key process and control parameters during the performance test; the value of each parameter being monitored in accordance with §63.143 of this subpart; and applicable supporting calculations.

(iii) If the owner or operator elects to use one of the technologies specified in §63.138(h) of this subpart, the owner or operator is exempt from the requirements specified in paragraphs (b)(9)(i) and (b)(9)(ii) of this section.

(c) For each waste management unit that receives, manages, or treats a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream, the owner or operator shall submit as part of the next Periodic Report

required by §63.152(c) of this subpart the results of each inspection required by §63.143(a) of this subpart in which a control equipment failure was identified. Control equipment failure is defined for each waste management unit in §§63.133 through 63.137 of this subpart. Each Periodic Report shall include the date of the inspection, identification of each waste management unit in which a control equipment failure was detected, description of the failure, and description of the nature of and date the repair was made.

(d) Except as provided in paragraph (f) of this section, for each treatment process used to comply with §63.138(b)(1), (c)(1), or (e) of this subpart, the owner or operator shall submit as part of the next Periodic Report required by §63.152(c) the information specified in paragraphs (d)(1), (d)(2), and (d)(3) of this section for the monitoring required by §63.143(b) of this subpart.

(1) For Item 1 in table 12, the owner or operator shall submit the results of measurements that indicate that the biological treatment unit is outside the range established in the Notification of Compliance Status or operating permit.

(2) For Item 2 in table 12, the owner or operator shall submit the monitoring results for each operating day during which the daily average value of a continuously

monitored parameter is outside the range established in the Notification of Compliance Status or operating permit.

(3) For Item 3 in table 12 of this subpart, the owner or operator shall submit the monitoring results for each operating day during which the daily average value of any monitored parameter approved in accordance with §63.151 (f) was outside the range established in the Notification of Compliance Status or operating permit.

(e) Except as provided in paragraph (f) of this section, for each control device used to comply with §§63.133 through 63.139 of this subpart, the owner or operator shall submit as part of the next Periodic Report required by §63.152(c) of this subpart the information specified in either paragraph (e)(1) or (e)(2) of this section.

(1) The information specified in table 20 of this subpart, or

(2) If the owner or operator elects to comply with §63.143(e)(2) of this subpart, i.e., an organic monitoring device installed at the outlet of the control device, the owner or operator shall submit the monitoring results for each operating day during which the daily average concentration level or reading is outside the range established in the Notification of Compliance Status or operating permit.

(f) Where the owner or operator obtains approval to use a treatment process or control device other than one for which monitoring requirements are specified in §63.143 of this subpart, or to monitor parameters other than those specified in table 12 or 13 of this subpart, the Administrator will specify appropriate reporting requirements.

(g) If an extension is utilized in accordance with §63.133(e)(2) or §63.133(h) of this subpart, the owner or operator shall include in the next periodic report the information specified in §63.133 (e)(2) or §63.133(h).
§63.147 Process wastewater provisions - recordkeeping.

(a) The owner or operator transferring a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream in accordance with §63.132(g) of this subpart shall keep a record of the notice sent to the treatment operator stating that the wastewater stream or residual contains organic hazardous air pollutants which are required to be managed and treated in accordance with the provisions of this subpart.

(b) The owner or operator shall keep in a readily accessible location the records specified in paragraphs (b)(1) through (b)(7) of this section.

(1) A record that each waste management unit inspection required by §§63.133 through 63.137 of this subpart was performed.

(2) A record that each inspection for control devices required by §63.139 of this subpart was performed.

(3) A record of the results of each seal gap measurement required by §§63.133(d) and 63.137(c) of this subpart. The records shall include the date of the measurement, the raw data obtained in the measurement, and the calculations described in §63.120(b)(2), (3), and (4) of this subpart.

(4) For Item 1 and Item 2 of table 12 of this subpart, the owner or operator shall keep the records approved by the Administrator.

(5) Except as provided in paragraphs (e) and (g) of this section, continuous records of the monitored parameters specified in Item 3 of tables 12 and table 13 of this subpart, and in §63.143(e)(2) of this subpart.

(6) Documentation of a decision to use an extension, as specified in §63.133(e)(2) or (h) of this subpart, which shall include a description of the failure, documentation that alternate storage capacity is unavailable, and specification of a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as practical.

(7) Documentation of a decision to use a delay of repair due to unavailability of parts, as specified in §63.140(c), shall include a description of the failure, the reason additional time was necessary (including a statement

of why replacement parts were not kept on site and when the manufacturer promised delivery), and the date when repair was completed.

(c) For each boiler or process heater used to comply with §§63.133 through 63.139 of this subpart, the owner or operator shall keep a record of any changes in the location at which the vent stream is introduced into the flame zone as required in §63.139(c)(1) of this subpart.

(d) The owner or operator shall keep records of the daily average value of each continuously monitored parameter for each operating day as specified in §63.152(f), except as provided in paragraphs (d)(1) and (d)(2) of this section.

(1) For flares, records of the times and duration of all periods during which the pilot flame is absent shall be kept rather than daily averages.

(2) For carbon adsorbers, the owner or operator shall keep the records specified in paragraphs (d)(2)(i) and (d)(2)(ii) of this section instead of daily averages.

(i) Records of the total regeneration stream mass flow for each carbon bed regeneration cycle.

(ii) Records of the temperature of the carbon bed after each regeneration cycle.

(e) Where the owner or operator obtains approval to use a control device other than one for which monitoring requirements are specified in §63.143 of this subpart, or to monitor parameters other than those specified in table 12 or

table 13 of this subpart, the Administrator will specify appropriate recordkeeping requirements.

(f) If the owner or operator uses process knowledge to determine the annual average concentration of a wastewater stream as specified in §63.144(b)(3) of this subpart and/or uses process knowledge to determine the annual average flow rate as specified in §63.144(c)(1) of this subpart, and determines that the wastewater stream is not a Group 1 wastewater stream, the owner or operator shall keep in a readily accessible location the documentation of how process knowledge was used to determine the annual average concentration and/or the annual average flow rate of the wastewater stream.

27. Section 63.148 is amended by revising paragraphs (c)(2), (c)(4)(ii), (c)(5), (i)(3)(i), (i)(3)(ii), and (j)(2) to read as follows:

§63.148 Leak inspection provisions.

* * * * *

(c) * * *

(2)(i) Except as provided in paragraph (c)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual volatile organic compound in the stream. For process

streams that contain nitrogen, air, or other inerts which are not organic hazardous air pollutants or volatile organic compounds, the average stream response factor shall be calculated on an inert-free basis.

(ii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (c)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (c)(2)(i) of this section.

* * * * *

(4) * * *

(ii) Mixtures of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(5) An owner or operator may elect to adjust or not adjust instrument readings for background. If an owner or operator elects to not adjust readings for background, all such instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument

readings for background, the owner or operator shall measure background concentration using the procedures in §§63.180(b) and (c) of subpart H. The owner or operator shall subtract background reading from the maximum concentration indicated by the instrument.

* * * * *

(i) * * *

(3) * * *

(i) Hourly records of whether the flow indicator specified under paragraph (f)(1) of this section was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(ii) Where a seal mechanism is used to comply with paragraph (f)(2) of this section, hourly records of flow are not required. In such cases, the owner or operator shall record whether the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type configuration has been checked out, and records of any car-seal that has broken.

* * * * *

(j) * * *

(2) Reports of the times of all periods recorded under paragraph (i)(3)(i) of this section when the vent stream is diverted from the control device through a bypass line; and

* * * * *

28. Section 63.149 is added to read as follows:

§63.149 Control requirements for certain liquid streams in open systems within a chemical manufacturing process unit.

(a) The owner or operator shall comply with the provisions of table 35 of this subpart, for each item of equipment meeting all the criteria specified in paragraphs (b) through (d) and either (e)(1) or (e)(2) of this section.

(b) The item of equipment is of a type identified in table 35 of this subpart;

(c) The item of equipment is part of a chemical manufacturing process unit that meets the criteria of §63.100(b) of subpart F of this part;

(d) The item of equipment is controlled less stringently than in table 35 and is not listed in §63.100(f) of subpart F of this part, and the item of equipment is not otherwise exempt from controls by the provisions of subparts A, F, G, or H of this part; and

(e) The item of equipment:

(1) is a drain, drain hub, manhole, lift station, trench, pipe, or oil/water separator that conveys water with a total annual average concentration greater than or equal to 10,000 parts per million by weight of Table 9 compounds

at any flowrate; or a total annual average concentration greater than or equal to 1,000 parts per million by weight of Table 9 compounds at an annual average flow rate greater than or equal to 10 liters per minute. At a chemical manufacturing process unit subject to the new source requirements of 40 CFR §63.100(1)(1) or 40 CFR §63.100(1)(2), the criteria of this paragraph are also met if the item of equipment conveys water with an annual average concentration greater than or equal to 10 parts per million by weight of any Table 8 compound at an annual average flow rate greater than or equal to 0.02 liter per minute, or

(2) Is a tank that receives one or more streams that contain water with a total annual average concentration greater than or equal to 1,000 ppm (by weight) of Table 9 compounds at an annual average flowrate greater than or equal to 10 liters per minute. At a chemical manufacturing process unit subject to the new source requirements of 40 CFR §63.100(1)(1) or 40 CFR §63.100 (1)(2), the criteria of this paragraph are also met if the tank receives one or more streams that contain water with an annual average concentration greater than or equal to 10 parts per million by weight of any Table 8 compound at an annual average flow rate greater than or equal to 0.02 liter per minute. The owner or operator of the source shall determine the

characteristics of the stream as specified in paragraphs (e)(2)(i) and (ii) of this section.

(i) The characteristics of the stream being received shall be determined at the inlet to the tank.

(ii) The characteristics shall be determined according to the procedures in §63.144(b) and (c).

29. Section 63.152 is amended by revising the introductory text in paragraph (b)(1); revising paragraph (b)(2) introductory text and paragraphs (b)(2)(ii)(A) and (b)(2)(ii)(B); adding paragraph (b)(5); revising the introductory text in paragraphs (c)(2), (c)(2)(ii), and (c)(2)(ii)(A); revising paragraphs (c)(2)(ii)(A)(2) and (c)(2)(ii)(A)(3); revising the introductory text in paragraph (c)(2)(ii)(B); revising paragraphs (c)(2)(ii)(C) and (c)(2)(ii)(E); adding paragraph (c)(2)(iv); revising the introductory text in paragraph (c)(4); revising paragraph (c)(4)(iii) and adding paragraph (c)(4)(iv); adding a sentence to the end of paragraphs (c)(5)(iii) and (c)(6)(v); revising the introductory text in paragraph (f), revising paragraph (f)(2)(ii), revising the introductory text in paragraph (f)(5), revising paragraph (f)(7); and adding paragraph (g) to read as follows:

§63.152 General reporting and continuous records.

* * * * *

(b) * * *

(1) The notification shall include the results of any emission point group determinations, performance tests, inspections, continuous monitoring system performance evaluations, values of monitored parameters established during performance tests, and any other information used to demonstrate compliance or required to be included in the Notification of Compliance Status under §63.110 (h) for regulatory overlaps, under §63.117 for process vents, §63.122 for storage vessels, §63.129 for transfer operations, §63.146 for process wastewater, and §63.150 for emission points included in an emissions average.

* * * * *

(2) For each monitored parameter for which a range is required to be established under §63.114 for process vents, §63.127 for transfer, §63.143 for process wastewater, §63.150(m) for emission points in emissions averages, or §63.151(f), or §63.152(e), the Notification of Compliance Status shall include the information in paragraphs (b)(2)(i), (b)(2)(ii), and (b)(2)(iii) of this section, unless the range and the operating day definition have been established in the operating permit. The recordkeeping and reporting requirements applicable to storage vessels are located in §§63.122 and 63.123.

* * * * *

(ii) * * *

(A) If a performance test is required by this subpart for a control device, the range shall be based on the parameter values measured during the performance test and may be supplemented by engineering assessments and/or manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of permitted parameter values.

(B) If a performance test is not required by this subpart for a control device, the range may be based solely on engineering assessments and/or manufacturer's recommendations.

* * * * *

(5) An owner or operator who transfers a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream for treatment pursuant to §63.132 (g) shall include in the Notification of Compliance Status the name and location of the transferee and a description of the Group 1 wastewater stream or residual sent to the treatment facility.

(c) * * *

(2) Except as provided in paragraph (c)(2)(iv) of this section, for an owner or operator of a source complying with the provisions of §§63.113 through 63.147 for any emission points, Periodic Reports shall include all information specified in §§63.117 and 63.118 for process vents, §63.122 for storage vessels, §§63.129 and 63.130 for transfer

operations, and §63.146 for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

* * * * *

(ii) The parameter monitoring data for Group 1 emission points and emission points included in emissions averages that are required to perform continuous monitoring shall be used to determine compliance with the required operating conditions for the monitored control devices or recovery devices. For each excursion, except for excused excursions, the owner or operator shall be deemed to have failed to have applied the control in a manner that achieves the required operating conditions.

(A) An excursion means any of the three cases listed in paragraphs (c)(2)(ii)(A)(1), (c)(2)(ii)(A)(2), or (c)(2)(ii)(A)(3) of this section. For a control device or recovery device where multiple parameters are monitored, if one or more of the parameters meets the excursion criteria in paragraphs (c)(2)(ii)(A)(1), (c)(2)(ii)(A)(2), or (c)(2)(ii)(A)(3), this is considered a single excursion for the control device or recovery device.

* * * * *

(2) When the period of control device or recovery device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours.

(3) When the period of control device or recovery device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data.

* * * * *

(B) The number of excused excursions for each control device or recovery device for each semiannual period is specified in paragraphs (c)(2)(ii)(B)(1) through (c)(2)(ii)(B)(6) of this section. This paragraph applies to sources required to submit Periodic Reports semiannually or quarterly. The first semiannual period is the 6-month period starting the date the Notification of Compliance Status is due.

* * * * *

(C) If a monitored parameter is outside its established range or monitoring data are not collected during periods of start-up, shutdown, or malfunction (and the source is operated during such periods in accordance with the source's start-up, shutdown, and malfunction plan as required by §63.6(e)(3) of subpart A) or during periods of nonoperation of the chemical manufacturing process unit or portion thereof (resulting in cessation of the emissions to which the monitoring applies), then the excursion is not a violation and, in cases where continuous monitoring is

required, the excursion does not count toward the number of excused excursions for determining compliance.

* * * * *

(E) Paragraph (c)(2)(ii) of this section, except paragraph (c)(2)(ii)(C) of this section, shall apply only to emission points and control devices or recovery devices for which continuous monitoring is required by §§63.113 through 63.150.

* * * * *

(iv) The provisions of paragraphs (c)(2), (c)(2)(i), (c)(2)(ii), and (c)(2)(iii) of this section do not apply to any storage vessel for which the owner or operator is not required, by the applicable monitoring plan established under §63.120(d)(2), to keep continuous records. If continuous records are required, the owner or operator shall specify, in the monitoring plan, whether the provisions of paragraphs (c)(2), (c)(2)(i), (c)(2)(ii), and (c)(2)(iii) of this section apply.

* * * * *

(4) Periodic Reports shall include the information in paragraphs (c)(4)(i) through (c)(4)(iv) of this section, as applicable:

* * * * *

(iii) Notification if any Group 2 emission point becomes a Group 1 emission point, including a compliance schedule as required in §63.100 of subpart F, and

(iv) For process wastewater streams sent for treatment pursuant to §63.132 (g), reports of changes in the identity of the treatment facility or transferee.

* * * * *

(5) * * *

(iii) * * * For storage vessels to which the provisions of paragraphs (c)(2)(i) through (c)(2)(iii) of this section do not apply (as specified in paragraph (c)(2)(iv) of this section), the owner or operator is required to comply with the provisions of the applicable monitoring plan, and monitoring records may be used to determine compliance.

* * * * *

(6) * * *

(v) Paragraphs (c)(2)(i) through (c)(2)(iii) of this section shall govern the use of monitoring data to determine compliance for Group 1 emission points. For storage vessels to which the provisions of paragraphs (c)(2)(i) through (c)(2)(iii) of this section do not apply (as specified in paragraph (c)(2)(iv) of this section), the owner or operator is required to comply with the provisions of the applicable monitoring plan, and monitoring records may be used to determine compliance.

* * * * *

(f) Owners or operators required to keep continuous records by §§63.118, 63.130, 63.147, 63.150, or other

sections of this subpart shall keep records as specified in paragraphs (f)(1) through (f)(7) of this section, unless an alternative recordkeeping system has been requested and approved under §63.151(f) or (g) or §63.152(e) or under §63.8(f) of subpart A of this part, and except as provided in paragraph (c)(2)(ii)(C) of this section or in paragraph (g) of this section. If a monitoring plan for storage vessels pursuant to §63.120(d)(2)(i) of this section requires continuous records, the monitoring plan shall specify which provisions, if any, of paragraphs (f)(1) through (f)(7) of this section apply.

* * * * *

(2) * * *

(ii) Block average values for 15-minute or shorter periods calculated from all measured data values during each period or at least one measured data value per minute if measured more frequently than once per minute.

* * * * *

(5) Daily average values of each continuously monitored parameter shall be calculated for each operating day, and retained for 5 years, except as specified in paragraphs (f)(6) and (f)(7) of this section.

* * * * *

(7) Monitoring data recorded during periods identified in paragraphs (f)(7)(i) through (f)(7)(v) of this section shall not be included in any average computed under this

subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control device operation when monitors are not operating.

(i) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments;

(ii) Start-ups;

(iii) Shutdowns;

(iv) Malfunctions;

(v) Periods of non-operation of the chemical manufacturing process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies.

(g) For any parameter with respect to any item of equipment, the owner or operator may implement the recordkeeping requirements in paragraphs (g)(1) or (g)(2) of this section as alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in §§63.114, 63.117, and 63.118 for process vents, §§63.127, 63.129, and 63.130 for transfer operations, §§63.143, 63.146, and 63.147 for wastewater, and/or §63.152(f), except that §63.152(f)(7) shall apply. The owner or operator shall retain each record required by paragraphs (g)(1) or (g)(2) as provided in §63.103(c) of subpart F, except as provided otherwise in (g)(1) or (g)(2) of this paragraph.

(1) The owner or operator may retain only the daily average value, and is not required to retain more frequent

monitored operating parameter values, for a monitored parameter with respect to an item of equipment, if the requirements of paragraphs (g)(1)(i) through (g)(1)(vi) of this section are met. An owner or operator electing to comply with the requirements of (g)(1) of this section shall notify the Administrator in the Notification of Compliance status or, if the Notification of Compliance Status has already been submitted, in the periodic report immediately preceding implementation of the requirements of (g)(1) of this section.

(i) The monitoring system is capable of detecting unrealistic or impossible data during periods of operation other than startups, shutdowns, or malfunctions (e.g., a temperature reading of -200° C on a boiler), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(ii) The monitoring system generates, updated at least hourly throughout each operating day, a running average of the monitoring values that have been obtained during that operating day, and the capability to observe this average is readily available to the Administrator on-site during the operating day. The owner or operator shall record the occurrence of any period meeting the criteria in paragraphs (g)(1)(ii)(A) through (g)(1)(iii)(C) of this section. All

instances in an operating day constitute a single occurrence.

(A) The running average is above the maximum or below the minimum established limits;

(B) The running average is based on at least 6 1-hour average values; and

(C) The running average reflects a period of operation other than a startup, shutdown, or malfunction.

(iii) The monitoring system is capable of detecting unchanging data during periods of operation other than startups, shutdowns, or malfunctions, except in circumstances where the presence of unchanging data is the expected operating condition based on past experience (e.g., pH in some scrubbers), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(iv) The monitoring system will alert the owner or operator by an alarm or other means, if the running average parameter value calculated under paragraph (g)(1)(ii) of this section reaches a set point that is appropriately related to the established limit for the parameter that is being monitored.

(v) The owner or operator shall verify the proper functioning of the monitoring system, including its ability to comply with the requirements of paragraph (g)(1) of this

section, at the times specified in paragraphs (g)(1)(v)(A) through (g)(1)(v)(C). The owner or operator shall document that the required verifications occurred.

(A) Upon initial installation.

(B) Annually after initial installation.

(C) After any change to the programming or equipment constituting the monitoring system, which might reasonably be expected to alter the monitoring system's ability to comply with the requirements of this section.

(vi) The owner or operator shall retain the records identified in (g)(1)(vi)(A) through (C) of this section.

(A) Identification of each parameter, for each item of equipment, for which the owner or operator has elected to comply with the requirements of paragraph (g) of this section.

(B) A description of the applicable monitoring system(s), and of how compliance will be achieved with each requirement of paragraph (g)(1)(i) through (g)(1)(v) of this section. The description shall identify the location and format (e.g., on-line storage; log entries) for each required record. If the description changes, the owner or operator shall retain both the current and the most recent superseded description. The description, and the most recent superseded description, shall be retained as provided in §63.103(c) of subpart F, except as provided in paragraph (g)(1)(vi)(D) of this section.

(C) A description, and the date, of any change to the monitoring system that would reasonably be expected to affect its ability to comply with the requirements of paragraph (g)(1) of this section.

(D) Owners and operators subject to paragraph (g)(1)(vi)(B) of this section shall retain the current description of the monitoring system as long as the description is current, but not less than 5 years from the date of its creation. The current description shall, at all times, be retained on-site or be accessible from a central location by computer or other means that provides access within 2 hours after a request. The owner or operator shall retain the most recent superseded description at least until 5 years from the date of its creation. The superseded description shall be retained on-site (or accessible from a central location by computer that provides access within 2 hours after a request) at least 6 months after its creation. Thereafter, the superseded description may be stored off-site.

(2) If an owner or operator has elected to implement the requirements of (g)(1) of this section, and a period of 6 consecutive months has passed without an excursion as defined in paragraph (g)(2)(iv) of this section, the owner or operator is no longer required to record the daily average value for that parameter for that unit of equipment, for any operating day when the daily average value is less

than the maximum, or greater than the minimum established limit. With approval by the Administrator, monitoring data generated prior to the compliance date of this subpart shall be credited toward the period of 6 consecutive months, if the parameter limit and the monitoring was required and/or approved by the Administrator.

(i) If the owner or operator elects not to retain the daily average values, the owner or operator shall notify the Administrator in the next periodic report. The notification shall identify the parameter and unit of equipment.

(ii) If, on any operating day after the owner or operator has ceased recording daily averages as provided in paragraph (g)(2) of this section, there is an excursion as defined in paragraph (g)(2)(iv) of this section, the owner or operator shall immediately resume retaining the daily average value for each day, and shall notify the Administrator in the next periodic report. The owner or operator shall continue to retain each daily average value until another period of 6 consecutive months has passed without an excursion as defined in paragraph (g)(2)(iv) of this section.

(iii) The owner or operator shall retain the records specified in paragraphs (g)(1)(i), (ii), (iii), (iv), (v), and (vi). For any calendar week, if compliance with paragraphs (g)(1)(i), (ii), (iii), and (iv) does not result in retention of a record of at least one occurrence or

measured parameter value, the owner or operator shall record and retain at least one parameter value during a period of operation other than a startup, shutdown, or malfunction.

(iv) For purposes of paragraph (g) of this section, an excursion means that the daily average value of monitoring data for a parameter is greater than the maximum, or less than the minimum established value, except as provided in paragraphs (g)(2)(iv)(A) and (g)(2)(iv)(B) of this section.

(A) The daily average value during any start-up, shutdown, or malfunction shall not be considered an excursion for purposes of this paragraph (g)(2), if the owner or operator follows the applicable provisions of the startup, shutdown, and malfunction plan required by §63.6(e)(3) of subpart A.

(B) An excused excursion, as described in §63.152(c)(2)(ii)(B) and (C), shall not be considered an excursion for purposes of this paragraph (g)(2).

30. The tables in the appendix to subpart G are amended by revising tables 3, 4, 7, 11, 12, and 13; removing and reserving tables 14a and 14b; removing tables 15a and 15b, and adding table 15; removing and reserving table 16; revising tables 17, 18, and 20; table 34 is amended by revising the F_m entry for chlorobenzene from "0.96" to "1.00", the F_m entry for isophorone from "0.47" to "0.51," the F_m entry for trichloroethane (1,1,2-) (Vinyl trichloride) from "0.98" to "1.00," and the F_m entry for

trichlorophenol (2,4,5-) from "1.00" to "0.11"; and adding tables 35, 36, and 37 and figure 1 to read as follows:

TABLE 3. PROCESS VENTS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME

Control Device	Parameters to be Monitored ^a	Recordkeeping and Reporting Requirements for Monitored Parameters
Thermal incinerator	Firebox temperature ^b [63.114(a)(1)(i)]	<ol style="list-style-type: none"> 1. Continuous records^c 2. Record and report the firebox temperature averaged over the full period of the performance test - NCS^d 3. Record the daily average firebox temperature for each operating day^e 4. Report all daily average temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR^g
Catalytic incinerator	Temperature upstream and downstream of the catalyst bed [63.114(a)(1)(ii)]	<ol style="list-style-type: none"> 1. Continuous records 2. Record and report the upstream and downstream temperatures and the temperature difference across the catalyst bed averaged over the full period of the performance test - NCS 3. Record the daily average upstream temperature and temperature difference across catalyst bed for each operating day^e 4. Report all daily average upstream temperatures that are outside the range established in the NCS or operating permit - PR 5. Report all daily average temperature differences across the catalyst bed that are outside the range established in the NCS or operating permit - PR 6. Report all operating days when insufficient monitoring data are collected^f

TABLE 3. PROCESS VENTS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (CONTINUED)

Control Device	Parameters to be Monitored ^a	Recordkeeping and Reporting Requirements for Monitored Parameters
Boiler or heater with a design heat input capacity less than 44 megawatts and vent stream is <u>not</u> introduced with or as the primary fuel	Firebox temperature ^b [63.114(a)(3)]	<ol style="list-style-type: none"> 1. Continuous records 2. Record and report the firebox temperature averaged over the full period of the performance test - NCS 3. Record the daily average firebox temperature for each operating day^e 4. Report all daily average firebox temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR
Flare	Presence of a flame at the pilot light [63.114(a)(2)]	<ol style="list-style-type: none"> 1. Hourly records of whether the monitor was continuously operating and whether the pilot flame was continuously present during each hour 2. Record and report the presence of a flame at the pilot light over the full period of the compliance determination - NCS 3. Record the times and durations of all periods when all pilot flames are absent or the monitor is not operating 4. Report the times and durations of all periods when all pilot flames of a flare are absent - PR

TABLE 3. PROCESS VENTS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (CONTINUED)

Control Device	Parameters to be Monitored ^a	Recordkeeping and Reporting Requirements for Monitored Parameters
Recapture devices	The appropriate monitoring device identified in table 4 when, in the table, the term "recapture" is substituted for "recovery." [63.114(a)(5)]	1. The recordkeeping and reporting requirements for monitored parameters identified for the appropriate monitoring device in table 4 of this subpart
Scrubber for halogenated vent streams (Note: Controlled by a combustion device other than a flare)	pH of scrubber effluent [63.114(a)(4)(i)], and	<ol style="list-style-type: none"> 1. Continuous records 2. Record and report the pH of the scrubber effluent averaged over the full period of the performance test - NCS 3. Record the daily average pH of the scrubber effluent for each operating day^e 4. Report all daily average pH values of the scrubber effluent that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR

TABLE 3. PROCESS VENTS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (CONTINUED)

Control Device	Parameters to be Monitored ^a	Recordkeeping and Reporting Requirements for Monitored Parameters
<p>Scrubber for halogenated vent streams (Note: Controlled by a combustion device other than a flare) (Continued)</p>	<p>Scrubber liquid and gas flow rates [63.114(a)(4)(ii)]</p>	<ol style="list-style-type: none"> 1. Continuous records of scrubber liquid flow rate 2. Record and report the scrubber liquid/gas ratio averaged over the full period of the performance test - NCS 3. Record the daily average scrubber liquid/gas ratio for each operating day^e 4. Report all daily average scrubber liquid/gas ratios that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR

TABLE 3. PROCESS VENTS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (CONCLUDED)

Control Device	Parameters to be Monitored ^a	Recordkeeping and Reporting Requirements for Monitored Parameters
All control devices	Presence of flow diverted to the atmosphere from the control device [63.114(d)(1)] <u>or</u>	<ol style="list-style-type: none"> Hourly records of whether the flow indicator was operating and whether diversion was detected at any time during each hour Record and report the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating - PR
	Monthly inspections of sealed valves [63.114(d)(2)]	<ol style="list-style-type: none"> Records that monthly inspections were performed Record and report all monthly inspections that show the valves are moved to the diverting position or the seal has been changed - PR

^aRegulatory citations are listed in brackets.

^bMonitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.

^c"Continuous records" is defined in §63.111 of this subpart.

^dNCS = Notification of Compliance Status described in §63.152 of this subpart.

^eThe daily average is the average of all recorded parameter values for the operating day. If all recorded values during an operating day are within the range established in the NCS or operating permit, a statement to this effect can be recorded instead of the daily average.

^fThe periodic reports shall include the duration of periods when monitoring data is not collected for each excursion as defined in §63.152(c)(2)(ii)(A) of this subpart.

^gPR = Periodic Reports described in §63.152 of this subpart.

TABLE 4. PROCESS VENTS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS
FOR MAINTAINING A TRE INDEX VALUE >1.0 AND ≤4.0

Final Recovery Device	Parameters to be Monitored ^a	Recordkeeping and Reporting Requirements for Monitored Parameters
Absorber ^b	Exit temperature of the absorbing liquid [63.114(b)(1)], and	<ol style="list-style-type: none"> 1. Continuous records^c 2. Record and report the exit temperature of the absorbing liquid averaged over the full period of the TRE determination - NCS^d 3. Record the daily average exit temperature of the absorbing liquid for each operating day^e 4. Report all the daily average exit temperatures of the absorbing liquid that are outside the range established in the NCS or operating permit - PR^f
	Exit specific gravity [63.114(b)(1)]	<ol style="list-style-type: none"> 1. Continuous records 2. Record and report the exit specific gravity averaged over the full period of the TRE determination - NCS 3. Record the daily average exit specific gravity for each operating day^e 4. Report all daily average exit specific gravity values that are outside the range established in the NCS or operating permit - PR
Condenser ^d	Exit (product side) temperature [63.114(b)(2)]	<ol style="list-style-type: none"> 1. Continuous records 2. Record and report the exit temperature averaged over the full period of the TRE determination - NCS 3. Record the daily average exit temperature for each operating day^e 4. Report all daily average exit temperatures that are outside the range established in the NCS or operating permit - PR

TABLE 4. PROCESS VENTS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR MAINTAINING A TRE INDEX VALUE >1.0 AND ≤4.0 (CONTINUED)

Final Recovery Device	Parameters to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Carbon adsorber	Total regeneration stream mass or volumetric flow during carbon bed regeneration cycle(s) [63.114(b)(3)], and	<ol style="list-style-type: none"> Record of total regeneration stream mass flow for each carbon bed regeneration cycle Record and report the total regeneration stream mass flow during each carbon bed regeneration cycle during the period of the TRE determination - NCS Report all carbon bed regeneration cycles when the total regeneration stream mass flow is outside the range established in the NCS or operating permit - PR
	Temperature of the carbon bed after regeneration [and within 15 minutes of completing any cooling cycle(s)] [63.114(b)(3)]	<ol style="list-style-type: none"> Records of the temperature of the carbon bed after each regeneration Record and report the temperature of the carbon bed after each regeneration during the period of the TRE determination - NCS Report all carbon bed regeneration cycles during which temperature of the carbon bed after regeneration is outside the range established in the NCS or operating permit - PR
All recovery devices (as an alternative to the above)	Concentration level or reading indicated by an organic monitoring device at the outlet of the recovery device [63.114 (b)]	<ol style="list-style-type: none"> Continuous records Record and report the concentration level or reading averaged over the full period of the TRE determination - NCS Record the daily average concentration level or reading for each operating day Report all daily average concentration levels or readings that are outside the range established in the NCS or operating permit - PR

TABLE 4. PROCESS VENTS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS
FOR MAINTAINING A TRE INDEX VALUE >1.0 AND ≤4.0 (CONCLUDED)

aRegulatory citations are listed in brackets.

bAlternatively, these devices may comply with the organic monitoring device provisions listed at the end of this table under "All Recovery Devices."

c"Continuous records" is defined in §63.111 of this subpart.

dNCS = Notification of Compliance Status described in §63.152 of this subpart.

eThe daily average is the average of all values recorded during the operating day. If all recorded values during an operating day are within the range established in the NCS or operating permit, a statement to this effect can be recorded instead of the daily average.

fPR = Periodic Reports described in §63.152 of this subpart.

TABLE 7. TRANSFER OPERATIONS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME

Control Device	Parameters to be Monitored ^a	Recordkeeping and Reporting Requirements for Monitored Parameters
Thermal incinerator	Firebox temperature ^b [63.127(a)(1)(i)]	<ol style="list-style-type: none"> 1. Continuous records^c during loading 2. Record and report the firebox temperature averaged over the full period of the performance test - NCS^d 3. Record the daily average firebox temperature for each operating day^e 4. Report daily average temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PRG
Catalytic incinerator	Temperature upstream and downstream of the catalyst bed [63.127(a)(1)(ii)]	<ol style="list-style-type: none"> 1. Continuous records during loading 2. Record and report the upstream and downstream temperatures and the temperature difference across the catalyst bed averaged over the full period of the performance test - NCS 3. Record the daily average upstream temperature and temperature difference across catalyst bed for each operating day^e 4. Report all daily average upstream temperatures that are outside the range established in the NCS or operating permit - PR 5. Report all daily average temperature differences across the catalyst bed that are outside the range established in the NCS or operating permit - PR 6. Report all operating days when insufficient monitoring data are collected^f

TABLE 7. TRANSFER OPERATIONS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (CONTINUED)

Control Device	Parameters to be Monitored ^a	Recordkeeping and Reporting Requirements for Monitored Parameters
Boiler or heater with a design heat input capacity less than 44 megawatts and vent stream is <u>not</u> introduced with or as the primary fuel	Firebox temperature ^b [63.127(a)(3)]	<ol style="list-style-type: none"> 1. Continuous records during loading 2. Record and report the firebox temperature averaged over the full period of the performance test - NCS 3. Record the daily average firebox temperature for each operating day^e 4. Report all daily average firebox temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient data are collected^f - PR
Flare	Presence of a flame at the pilot light [63.127(a)(2)]	<ol style="list-style-type: none"> 1. Hourly records of whether the monitor was continuously operating and whether the pilot flame was continuously present during each hour 2. Record and report the presence of a flame at the pilot light over the full period of the compliance determination - NCS 3. Record the times and durations of all periods when all pilot flames are absent or the monitor is not operating 4. Report the duration of all periods when all pilot flames of a flare are absent - PR

TABLE 7. TRANSFER OPERATIONS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (CONTINUED)

Control Device	Parameters to be Monitored ^a	Recordkeeping and Reporting Requirements for Monitored Parameters
<p>Scrubber for halogenated vent streams (Note: Controlled by a combustion device other than a flare)</p>	<p>pH of scrubber effluent [63.127(a)(4)(i)], and</p>	<ol style="list-style-type: none"> 1. Continuous records during loading 2. Record and report the pH of the scrubber effluent averaged over the full period of the performance test - NCS 3. Record the daily average pH of the scrubber effluent for each operating day^e 4. Report all daily average pH values of the scrubber effluent that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR
<p>Scrubber for halogenated vent streams (Note: Controlled by a combustion device other than a flare) (Continued)</p>	<p>Scrubber liquid and gas flow rates [63.127(a)(4)(ii)]</p>	<ol style="list-style-type: none"> 1. Continuous records during loading of scrubber liquid flow rate 2. Record and report the scrubber liquid/gas ratio averaged over the full period of the performance test - NCS 3. Record the daily average scrubber liquid/gas ratio for each operating day^e 4. Report all daily average scrubber liquid/gas ratios that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR

TABLE 7. TRANSFER OPERATIONS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (CONTINUED)

Control Device	Parameters to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Absorber ^h	Exit temperature of the absorbing liquid [63.127(b)(1)], and	<ol style="list-style-type: none"> 1. Continuous records during loading 2. Record and report the exit temperature of the absorbing liquid averaged over the full period of the performance test - NCS 3. Record the daily average exit temperature of the absorbing liquid for each operating day^e 4. Report all daily average exit temperatures of the absorbing liquid that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR
	Exit specific gravity [63.127(b)(1)]	<ol style="list-style-type: none"> 1. Continuous records during loading 2. Record and report the exit specific gravity averaged over the full period of the performance test - NCS 3. Record the daily average exit specific gravity for each operating day^e 4. Report all daily average exit specific gravity values that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR

TABLE 7. TRANSFER OPERATIONS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (CONTINUED)

Control Device	Parameters to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Condenser ^h	Exit (product side) temperature [63.127(b)(2)]	<ol style="list-style-type: none"> 1. Continuous records during loading 2. Record and report the exit temperature averaged over the full period of the performance test - NCS 3. Record the daily average exit temperature for each operating day^e 4. Report all daily average exit temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR
Carbon adsorber ^h	Total regeneration stream mass or volumetric flow during carbon bed regeneration cycle(s) [63.127(b)(3)], and	<ol style="list-style-type: none"> 1. Record of total regeneration stream mass flow for each carbon bed regeneration cycle 2. Record and report the total regeneration stream mass flow during each carbon bed regeneration cycle during the period of the performance test - NCS 3. Report all carbon bed regeneration cycles when the total regeneration stream mass flow is outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected^f - PR

TABLE 7. TRANSFER OPERATIONS--MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (CONTINUED)

Control Device	Parameters to be Monitored	Recordkeeping and Reporting Requirements for Monitored Parameters
Carbon adsorber ^h (Continued)	Temperature of the carbon bed after regeneration [and within 15 minutes of completing any cooling cycle(s)] [63.127(b)(3)]	<ol style="list-style-type: none"> 1. Records of the temperature of the carbon bed after each regeneration 2. Record and report the temperature of the carbon bed after each regeneration during the period of the performance test - NCS 3. Report all the carbon bed regeneration cycles during which the temperature of the carbon bed after regeneration is outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected - PR
All recovery devices (as an alternative to the above)	Concentration level or reading indicated by an organic monitoring device at the outlet of the recovery device [63.127(b)]	<ol style="list-style-type: none"> 1. Continuous records during loading 2. Record and report the concentration level or reading averaged over the full period of the performance test - NCS 3. Record the daily average concentration level or reading for each operating day 4. Report all daily average concentration levels or readings that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected - PR
All control devices and vapor balancing systems	Presence of flow diverted to the atmosphere from the control device [63.127(d)(1)] <u>or</u>	<ol style="list-style-type: none"> 1. Hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during each hour 2. Record and report the duration of all periods when the vent stream is diverted through a bypass line or the monitor is not operating - PR

TABLE 7. TRANSFER OPERATIONS -- MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAZARDOUS AIR POLLUTANTS EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (CONCLUDED)

Control Device	Parameters to be Monitored ^a	Recordkeeping and Reporting Requirements for Monitored Parameters
All control devices and vapor balancing systems (Continued)	Monthly inspections of sealed valves [63.127(d)(2)]	<ol style="list-style-type: none"> 1. Records that monthly inspections were performed 2. Record and report all monthly inspections that show the valves are moved to the diverting position or the seal has been changed

^aRegulatory citations are listed in brackets.

^bMonitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.

^c"Continuous records" is defined in §63.111 of this subpart.

^dNCS = Notification of Compliance Status described in §63.152 of this subpart.

^eThe daily average is the average of all recorded parameter values for the operating day. If all recorded values during an operating day are within the range established in the NCS or operating permit, a statement to this effect can be recorded instead of the daily average.

^fThe periodic reports shall include the duration of periods when monitoring data are not collected for each excursion as defined in §63.152(c)(2)(ii)(A) of this subpart.

^gPR = Periodic Reports described in §63.152 of this subpart.

^hAlternatively, these devices may comply with the organic monitoring device provisions listed at the end of this table under "All Recovery Devices."

TABLE 11. WASTEWATER--INSPECTION AND MONITORING REQUIREMENTS
FOR WASTE MANAGEMENT UNITS

To Comply With	Inspection or Monitoring Requirement	Frequency of Inspection or Monitoring	Method
TANKS:			
63.133(b)(1)	Inspect fixed roof and all openings for leaks	Initially Semi-annually	Visual
63.133(c)	Inspect floating roof in accordance with §§63.120(a)(2) and (a)(3)	See §63.120(a)(2) and (a)(3)	Visual
63.133(d)	Measure floating roof seal gaps in accordance with §§63.120(b)(2)(i) through (b)(4) - Primary seal gaps - Secondary seal gaps	Once every 5 years Initially Annually	See §63.120(b)(2)(i) through (b)(4)
63.133(f)	Inspect wastewater tank for control equipment failures and improper work practices	Initially Semi-annually	Visual
63.133(g)			
SURFACE IMPOUNDMENTS:			
63.134(b)(1)	Inspect cover and all openings for leaks	Initially Semi-annually	Visual
63.134(c)	Inspect surface impoundment for control equipment failures and improper work practices	Initially Semi-annually	Visual

TABLE 11. WASTEWATER--INSPECTION AND MONITORING REQUIREMENTS
FOR WASTE MANAGEMENT UNITS (CONTINUED)

To Comply With	Inspection or Monitoring Requirement	Frequency of Inspection or Monitoring	Method
CONTAINERS:			
63.135(b)(1)	Inspect cover and all openings for leaks	Initially	Visual
63.135(b)(2)(ii)		Semi-annually	
63.135(d)(1)	Inspect enclosure and all openings for leaks	Initially Semi-annually	Visual
63.135(e)	Inspect container for control equipment failures and improper work practices	Initially Semi-annually	Visual
INDIVIDUAL DRAIN SYSTEMS^a:			
63.136(b)(1)	Inspect cover and all openings to ensure there are no gaps, cracks, or holes	Initially Semi-annually	Visual
63.136(c)	Inspect individual drain system for control equipment failures and improper work practices	Initially Semi-annually	Visual
63.136(e)(1)	Verify that sufficient water is present to properly maintain integrity of water seals	Initially Semi-annually	Visual
63.136(e)(2)	Inspect all drains using tightly-fitted caps or plugs to ensure caps and plugs are in place and properly installed	Initially	Visual
63.136(f)(1)		Semi-annually	
63.136(f)(2)	Inspect all junction boxes to ensure covers are in place and have no visible gaps, cracks, or holes	Initially Semi-annually	Visual or smoke test or other means as specified
63.136(f)(3)	Inspect unburied portion of all sewer lines for cracks and gaps	Initially Semi-annually	Visual

TABLE 11. WASTEWATER--INSPECTION AND MONITORING REQUIREMENTS
FOR WASTE MANAGEMENT UNITS (CONCLUDED)

To Comply With	Inspection or Monitoring Requirement	Frequency of Inspection or Monitoring	Method
OIL-WATER SEPARATORS:			
63.137(b)(1)	Inspect fixed roof and all openings for leaks	Initially Semi-annually	Visual
63.137(c)	Measure floating roof seal gaps in accordance with 40 CFR 60.696(d)(1) - Primary seal gaps	Initially ^b Once every 5 years	See 40 CFR 60.696(d)(1)
63.137(c)	- Secondary seal gaps	Initially ^b Annually	
63.137(d)	Inspect oil-water separator for control equipment failures and improper work practices	Initially Semi-annually	Visual

^aAs specified in §63.136(a), the owner or operator shall comply with either the requirements of §63.136(b) and (c) or §63.136(e) and (f).

^bwithin 60 days of installation as specified in §63.137(c).

TABLE 12. MONITORING REQUIREMENTS FOR TREATMENT PROCESSES

To Comply With	Parameters to be Monitored	Frequency	Methods
1. Required mass removal of Table 8 and/or Table 9 compound(s) from wastewater treated in a properly operated biological treatment unit 63.138(f) 63.138(g)	Appropriate parameters as specified in §63.143(c) and approved by permitting authority	Appropriate frequency as specified in §63.143 and as approved by permitting authority	Appropriate methods as specified in §63.143 and as approved by permitting authority
2. Design steam stripper 63.138(d)	Steam flow rate Wastewater feed mass flow rate Wastewater feed temperature	Continuously Continuously Continuously	Integrating steam flow monitoring device equipped with a continuous recorder Liquid flow meter installed at stripper influent and equipped with a continuous recorder Liquid temperature monitoring device installed at stripper influent and equipped with a continuous recorder
3. Alternative monitoring parameters	Other parameters may be monitored upon approval from the Administrator in accordance with the requirements specified in §63.151(f)		

TABLE 13. WASTEWATER--MONITORING REQUIREMENTS
FOR CONTROL DEVICES

Control Device	Monitoring Equipment Required	Parameters to be Monitored	Frequency
All control devices	1. Flow indicator installed at all bypass lines to the atmosphere and equipped with continuous recorder ^b or	1. Presence of flow diverted from the control device to the atmosphere <u>or</u>	Hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during each hour
	2. Valves sealed closed with car-seal or lock-and-key configuration	2. Monthly inspections of sealed valves	Monthly
Thermal Incinerator	Temperature monitoring device installed in firebox or in ductwork immediately downstream of firebox ^a and equipped with a continuous recorder ^b	Firebox temperature	Continuous
Catalytic Incinerator	Temperature monitoring device installed in gas stream immediately before and after catalyst bed and equipped with a continuous recorder ^b	1. Temperature upstream of catalyst bed <u>or</u> 2. Temperature difference across catalyst bed	Continuous
Flare	Heat sensing device installed at the pilot light and equipped with a continuous recorder ^b	Presence of a flame at the pilot light	Hourly records of whether the monitor was continuously operating and whether the pilot flame was continuously present during each hour

TABLE 13. WASTEWATER--MONITORING REQUIREMENTS
FOR CONTROL DEVICES (CONTINUED)

Control Device	Monitoring Equipment Required	Parameters to be Monitored	Frequency
Boiler or process heater <44 megawatts and vent stream is not mixed with the primary fuel	Temperature monitoring device installed in firebox ^a and equipped with continuous recorder ^b	Combustion temperature	Continuous
Condenser	Temperature monitoring device installed at condenser exit and equipped with continuous recorder ^b	Condenser exit (product side) temperature	Continuous
Carbon adsorber (regenerative)	Integrating regeneration stream flow monitoring device having an accuracy of ± 10 percent, and Carbon bed temperature monitoring device	Total regeneration stream mass or volumetric flow during carbon bed regeneration cycle(s) Temperature of carbon bed after regeneration [and within 15 minutes of completing any cooling cycle(s)]	For each regeneration cycle, record the total regeneration stream mass or volumetric flow For each regeneration cycle and within 15 minutes of completing any cooling cycle, record the carbon bed temperature
Carbon adsorber (Non-regenerative)	Organic compound concentration monitoring device ^c	Organic compound concentration of adsorber exhaust	Daily or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater
Alternative monitoring parameters	Other parameters may be monitored upon approval from the Administrator in accordance with the requirements in §63.143(e)(3)		

TABLE 13. WASTEWATER--MONITORING REQUIREMENTS
FOR CONTROL DEVICES (CONCLUDED)

aMonitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.

b"Continuous recorder" is defined in §63.111 of this subpart.

cAs an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system.

Table 14a [Reserved]

Table 14b [Reserved]

TABLE 15. WASTEWATER--INFORMATION ON TABLE 8 AND/OR TABLE 9 COMPOUNDS TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS FOR PROCESS UNITS AT NEW AND/OR EXISTING SOURCES^{a,b}

Process Unit Identification Code	Concentration of Table 8 and/or Table 9 Compound(s) (ppmw) ^{d,e}	Flow Rate (lpm) ^{e,f} Group 1 or Group 2 ^g	Treatment Process(es) Identification ^h	Waste Management Unit(s) Identification ⁱ	Intended Control Device
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^aThe information specified in this table must be submitted; however, it may be submitted in any format. This table presents an example format.

^bOther requirements for the NCS are specified in §63.152(b) of this subpart.

^cAlso include a description of the process unit (e.g., benzene process unit).

^dExcept when §63.132(e) is used, annual average concentration as specified in §63.132(c) or (d) and §63.144.

^eWhen §63.132(e) is used, indicate the wastewater stream is a designated Group 1 wastewater stream.

^fExcept when §63.132(e) is used, annual average flow rate as specified in §63.132(c) or (d) and in §63.144.

^gIndicate whether stream is Group 1 or Group 2. If Group 1, indicate whether it is Group 1 for Table 8 or Table 9 compounds or for both Table 8 and Table 9 compounds.

^hCite §63.138 compliance option used.

Table 16 [Reserved]

TABLE 17. INFORMATION FOR TREATMENT PROCESSES TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS^{a,b}

Treatment Process Identification ^c	Description ^d	Wastewater Stream(s) Treated ^e	Monitoring Parameters ^f
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* * * * *

* * * * *

^cIdentification codes should correspond to those listed in Table 15.

* * * * *

^eStream identification code for each wastewater stream treated by each treatment unit. Identification codes should correspond to entries listed in Table 15.

^fParameter(s) to be monitored or measured in accordance with Table 12 and §63.143 of this Subpart.

TABLE 18. INFORMATION FOR WASTE MANAGEMENT UNITS TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS^{a,b}

Waste Management Unit Identification ^c	Description ^d	Wastewater Stream(s) Received or Managed ^e
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^cIdentification codes should correspond to those listed in Table 15.

^eStream identification code for each wastewater stream received or managed by each waste management unit. Identification codes should correspond to entries listed in Table 15.

TABLE 20. WASTEWATER--PERIODIC REPORTING REQUIREMENTS
FOR CONTROL DEVICES USED TO COMPLY WITH §§63.133 - 63.138

Control Device	Reporting Requirements
Thermal incinerator	<ol style="list-style-type: none"> Report all daily average^a temperatures that are outside the range established in the NCS^a or operating permit and all operating days when insufficient monitoring data are collected^c
Catalytic incinerator	<ol style="list-style-type: none"> Report all daily average^a upstream temperatures that are outside the range established in the NCS^b or operating permit Report all daily average^a temperature differences across the catalyst bed that are outside the range established in the NCS^b or operating permit Report all operating days when insufficient monitoring data are collected^c
Boiler or process heater with a design heat input capacity less than 44 megawatts and vent stream is not mixed with the primary fuel	<ol style="list-style-type: none"> Report all daily average^a firebox temperatures that are outside the range established in the NCS^b or operating permit and all operating days when insufficient monitoring data are collected^c
Flare	<ol style="list-style-type: none"> Report the duration of all periods when all pilot flames are absent
Condenser	<ol style="list-style-type: none"> Report all daily average^a exit temperatures that are outside the range established in the NCS^b or operating permit and all operating days when insufficient monitoring data are collected^c
Carbon adsorber	<ol style="list-style-type: none"> Report all carbon bed regeneration cycles when the total regeneration stream mass or volumetric flow is outside the range established in the NCS^b or operating permit Report all carbon bed regeneration cycles during which the temperature of the carbon bed after regeneration is outside the range established in the NCS^b or operating permit Report all operating days when insufficient monitoring data are collected^c

TABLE 20. WASTEWATER--PERIODIC REPORTING REQUIREMENTS
 FOR CONTROL DEVICES USED TO COMPLY WITH §§63.133 - 63.138 (CONCLUDED)

Control Device	Reporting Requirements
All control devices	<ol style="list-style-type: none"> <li data-bbox="269 300 363 1486">1. Report the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating, or <li data-bbox="396 260 456 1486">2. Report all monthly inspections that show the valves are moved to the diverting position or the seal has been changed

aThe daily average is the average of all values recorded during the operating day, as specified in §63.147(d) of this subpart.

bNCS = Notification of Compliance Status described in §63.152 of this subpart.

cThe periodic reports shall include the duration of periods when monitoring data are not collected for each excursion as defined in §63.152(c)(2)(ii)(A) of this subpart.

TABLE 35. CONTROL REQUIREMENTS FOR ITEMS OF EQUIPMENT THAT MEET THE CRITERIA OF §63.149 OF SUBPART G

Item of Equipment	Control Requirement ^a
Drain or drain hub	<p>(a) Tightly fitting solid cover (TFSC); or</p> <p>(b) TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the requirements of §63.139(c); or</p> <p>(c) Water seal with submerged discharge or barrier to protect discharge from wind.</p>
Manhole ^b	<p>(a) TFSC; or</p> <p>(b) TSFC with a vent to either a process, or to a fuel gas system, or to a control device meeting the requirements of §63.139 (c); or</p> <p>(c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.</p>
Lift station	<p>(a) TFSC; or</p> <p>(b) TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the requirements of §63.139 (c); or</p> <p>(c) If the lift station is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter. The lift station shall be level controlled to minimize changes in the liquid level.</p>
Trench	<p>(a) TFSC; or</p> <p>(b) TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the requirements of §63.139 (c); or</p> <p>(c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.</p>

TABLE 35. CONTROL REQUIREMENTS FOR ITEMS OF EQUIPMENT THAT MEET THE CRITERIA OF §63.149 OF SUBPART G (CONCLUDED)

Item of Equipment	Control Requirement ^a
Pipe	Each pipe shall have no visible gaps in joints, seals, or other emission interfaces.
Oil/Water separator	(a) Equip with a fixed roof and route vapors to a process or to a fuel gas system, or equip with a closed vent system that routes vapors to a control device meeting the requirements of §63.139 (c); or (b) Equip with a floating roof that meets the equipment specifications of §60.693 (a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4).
Tank ^c	Maintain a fixed roof ^d . If the tank is sparged ^e or used for heating or treating by means of an exothermic reaction, a fixed roof and a system shall be maintained that routes the organic hazardous air pollutants vapors to other process equipment or a fuel gas system, or a closed vent system that routes vapors to a control device that meets the requirements of 40 CFR §63.119(e)(1) or (e)(2).

^a Where a tightly fitting solid cover is required, it shall be maintained with no visible gaps or openings, except during periods of sampling, inspection, or maintenance.

^b Manhole includes sumps and other points of access to a conveyance system.

^c Applies to tanks with capacities of 38 m³ or greater.

^d A fixed roof may have openings necessary for proper venting of the tank, such as pressure/vacuum vent, j-pipe vent.

^e The liquid in the tank is agitated by injecting compressed air or gas.

TABLE 36. COMPOUND LISTS USED FOR COMPLIANCE DEMONSTRATIONS FOR ENHANCED BIOLOGICAL TREATMENT PROCESSES (SEE §63.145(b))

List 1	List 2	List 3
Acetonitrile	Acetaldehyde	Allyl Chloride
Acetophenone	Acrolein	Bromomethane
Acrylonitrile	Benzene	Butadiene 1,3
Biphenyl	Benzyl Chloride	Carbon Disulfide
Chlorobenzene	Bromoform	Carbon Tetrachloride
Dichloroethyl Ether	Cumene (isopropylbenzene)	Chloroethane (ethyl chloride)
Diethyl Sulfate	Dichlorobenzene 1,4	Chloroform
Dimethyl Sulfate	Dichloroethane 1,2	Chloroprene
Dimethyl Hydrazine 1,1	Dichloroethane 1,1 (ethylidenedichloride)	Dibromoethane 1,2
Dinitrophenol 2,4	Dichloropropane 1,2	Dichloroethene 1,1 (vinylidene chloride)
Dinitrotoluene 2,4	Dimethylaniline N,N	Dichloropropene 1,3
Dioxane 1,4	Epichlorohydrin	Hexane-n
Ethylene Glycol Monobutyl Ether Acetate	Ethyl Acrylate	Methyl Chloride
Ethylene Glycol Monomethyl Ether Acetate	Ethylbenzene	Methylene Chloride (dichloromethane)
Ethylene Glycol Dimethyl Ether	Ethylene Dibromide	Phosgene
Hexachlorobenzene	Ethylene Oxide	Propylene Oxide
Isophorone	Hexachlorobutadiene	Trichloroethane 1,1,2
Methanol	Hexachloroethane	Trichloroethylene
Methyl Methacrylate	Methyl Ethyl Ketone, (2 butanone)	Trimethylpentane 2,2,4
Nitrobenzene	Methyl Isobutyl Ketone	Vinyl Chloride
Toluidine	Methyl Tertiary Butyl Ether	
Trichlorobenzene 1,2,4	Naphthalene	

TABLE 36. COMPOUND LISTS USED FOR COMPLIANCE DEMONSTRATIONS FOR
 ENHANCED BIOLOGICAL TREATMENT PROCESSES (SEE §63.145(b))
 (CONCLUDED)

Trichlorophenol 2,4,6	Nitropropane 2	
Triethylamine	Propionaldehyde	
	Styrene	
	Tetrachloroethane 1,1,2,2	
	Toluene	
	Trichloroethane 1,1,1 (methyl chloroform)	
	Vinyl Acetate	
	Xylene-m	
	Xylene-o	
	Xylene-p	

TABLE 37. DEFAULT BIORATES FOR LIST 1 COMPOUNDS

COMPOUND NAME	BIORATE, K1 L/g MLVSS-hr
ACETONITRILE	0.100
ACETOPHENONE	0.538
ACRYLONITRILE	0.750
BIPHENYL	5.643
CHLOROBENZENE	10.000
DICHLOROETHYL ETHER	0.246
DIETHYL SULFATE	0.105
DIMETHYL HYDRAZINE(1,1)	0.227
DIMETHYL SULFATE	0.178
DINITROPHENOL 2,4	0.620
DINITROTOLUENE(2,4)	0.784
DIOXANE(1,4)	0.393
ETHYLENE GLYCOL DIMETHYL ETHER	0.364
ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE	0.159
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	0.496
HEXACHLOROBENZENE	16.179
ISOPHORONE	0.598
METHANOL	0.200
METHYL METHACRYLATE	4.300
NITROBENZENE	2.300
TOLUIDINE (-0)	0.859
TRICHLOROBENZENE 1,2,4	4.393
TRICHLOROPHENOL 2,4,5	4.477
TRIETHYLAMINE	1.064

FIGURE 1. DEFINITIONS OF TERMS USED IN WASTEWATER EQUATIONS

MAIN TERMS

AMR	=	Actual mass removal of Table 8 and/or Table 9 compounds achieved by treatment process or a series of treatment processes, kg/hr.
C	=	Concentration of Table 8 and/or Table 9 compounds in wastewater, ppmw.
CG	=	Concentration of TOC (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream, dry basis, ppmv.
CG _c	=	Concentration of TOC or organic hazardous air pollutants corrected to 3-percent oxygen, in vented gas stream, dry basis, ppmv.
CGS	=	Concentration of sample compounds in vented gas stream, dry basis, ppmv.
E	=	Removal or destruction efficiency, percent.
F _{bio}	=	Site-specific fraction of Table 8 and/or Table 9 compounds biodegraded, unitless.
f _{bio}	=	Site-specific fraction of an individual Table 8 or Table 9 compound biodegraded, unitless.
F _m	=	Compound-specific fraction measured factor, unitless (listed in table 34).
F _r	=	Fraction removal value for Table 8 and/or Table 9 compounds, unitless (listed in Table 9).
F _{ravg}	=	Flow-weighted average of the F _r values.
i	=	Identifier for a compound.
j	=	Identifier for a sample.
k	=	Identifier for a run.
K ₂	=	Constant, $41.57 * 10^{-9}$, (ppm) ⁻¹ (gram-mole per standard m ³)(kg/g), where standard temperature (gram-mole per standard m ³) is 20 °C.
m	=	Number of samples.
M	=	Mass, kg.
MW	=	Molecular weight, kg/kg-mole.
n	=	Number of compounds.
p	=	Number of runs.
%O _{2d}	=	Concentration of oxygen, dry basis, percent by volume

FIGURE 1. DEFINITIONS OF TERMS USED IN WASTEWATER EQUATIONS (CONCLUDED)

MAIN TERMS

Q	=	Volumetric flowrate of wastewater, m ³ /hr.
QG	=	Volumetric flow rate of vented gas stream, dry standard, m ³ /min.
QMG	=	Mass flowrate of TOC (minus methane and ethane) or organic hazardous air pollutants, in vented gas stream, kg/hr.
QMW	=	Mass flowrate of Table 8 and/or Table 9 compounds in wastewater, kg/hr.
ρ	=	Density, kg/m ³ .
RMR	=	Required mass removal achieved by treatment process or a series of treatment processes, kg/hr.
t_T	=	Total time of all runs, hr.

SUBSCRIPTS

a	=	Entering.
b	=	Exiting.
i	=	Identifier for a compound.
j	=	Identifier for a sample.
k	=	Identifier for a run.
m	=	Number of samples.
n	=	Number of compounds.
p	=	Number of runs.
T	=	Total; sum of individual.