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For the reasons stated in the preamble, title 40, chapter I, part 60 of the Code of Federal Regulations is amended as follows:

Part 60 -- [amended]

1. The authority citation for part 60 continues to read as follows:

Authority: 42 U.S.C. 7401, 7411, 7413, 7414, 7416, 7429, 7601 and 7602.

2. Part 60 is amended by adding subpart YYY to read as follows:

Subpart YYY—Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Wastewater

Secs.

60.770 Applicability and date of compliance

60.771 Definitions

60.772 Modification and reconstruction

60.773 Process wastewater provisions - General

60.774 Wastewater tank, surface impoundment, container, individual drain system, and oil-water separator provisions

60.775 Control requirements for aqueous in-process streams

60.776 Maintenance wastewater requirements

60.777 Delay of repair

60.778 Stream-specific list of organic wastewater compound determination

60.779 Process wastewater provisions - Performance standards for treatment processes managing Group 1 wastewater streams and/or residuals removed from Group 1 wastewater streams

60.780 Standards - Control devices

60.781 Monitoring of operations

60.782 Process wastewater provisions - Test methods and procedures for determining applicability and Group 1 and Group 2 determinations (determining which process wastewater streams require control)

60.783 Process wastewater provisions - Test methods and procedures to determine compliance

60.784 Reporting requirements

60.785 Recordkeeping requirements

60.786 Leak inspection provisions

60.787 Additional requirements - Start-up, shutdown, malfunction, or non-operation; alternative means of emission limitation and permits

60.788 [Reserved]

60.789 Relationship to other regulations

Table 1 to subpart YYY--List of SOCMCI chemicals

Table 2 to subpart YYY--Applicability of 40 CFR part 60 general provisions to subpart YYY

Table 3a to subpart YYY- Reference rules for control of wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators (§60.774)

Table 3b to subpart YYY--Requirements for complying with the waste management unit provisions in §60.774

Table 4 to subpart YYY--Control requirements for wastewater tanks requiring controls

Table 5a to subpart YYY--Conforming terms for use with §60.774

Table 5b to subpart YYY--Conforming cross-references for use with §60.774

Table 6 to subpart YYY--Control requirements for items of equipment that meet the criteria of §60.775

Table 7 to subpart YYY--Monitoring requirements for treatment processes

Table 8 to subpart YYY--Monitoring requirements for control devices

Table 9 to subpart YYY--Information on process wastewater streams to be submitted with notification of compliance status

Table 10 to subpart YYY--Information for treatment processes to be submitted with Notification of Compliance Status

Table 11 to subpart YYY--Information for waste management units to be submitted with Notification of Compliance Status

Table 12 to subpart YYY--Information on residuals to be submitted with Notification of Compliance Status

Table 13 to subpart YYY--Semiannual reporting requirements for control devices [see §60.784(f)]

Table 14 to subpart YYY--Compound and default biorates used for compliance

demonstrations for enhanced biological treatment processes (see §60.783(h))
Subpart YYY - Standards of Performance for Volatile Organic Compound (VOC)
Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI)
Wastewater

§60.770 Applicability and date of compliance.

(a) Applicability overview. The provisions of this subpart apply to each Synthetic Organic Chemical Manufacturing Industry (SOCMI) chemical process unit (CPU) and affected facility and any devices or systems required by this subpart. An affected facility is a designated chemical process unit (DCPU) in the synthetic organic chemical manufacturing industry which commences or commenced construction, reconstruction, or modification after September 12, 1994. The compliance date is specified in paragraph (b) of this section. Affected facility determination is specified in paragraph ©) of this section. Requirements for an affected facility are specified in paragraph (d) of this section.

(b) Compliance dates.

(1) The owner or operator of an affected facility that generates a process wastewater, a maintenance wastewater, and/or an aqueous in-process stream shall comply with subpart A of this part as specified in Table 2 to this subpart and with this subpart no later than initial startup or [INSERT THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], whichever is later.

(2) The owner or operator of an affected facility that does not generate a process

wastewater, a maintenance wastewater, or an aqueous in-process stream shall comply with this section and with the recordkeeping requirements in §60.785(b) and (c)(8) of this subpart no later than initial startup or [INSERT THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]. If a change occurs such that the affected facility begins to generate process wastewater, maintenance wastewater, or aqueous in-process streams, the owner or operator shall comply with subpart A of this part as specified in Table 2 to this subpart and with this subpart upon making the process change.

(3) The owner or operator of SOCM I CPU that is not an affected facility shall comply with §§60.770 through 60.772 of this subpart and with the recordkeeping requirements of §60.785(b), (c)(12), and (c)(18) no later than initial startup or [INSERT THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER].

©) How to determine an affected facility. The owner or operator shall identify a SOCM I CPU and determine an affected facility as specified in paragraphs (c)(1) through (4) of this section. The owner or operator of a CPU determined not to be SOCM I as described in paragraph (c)(2) is not required to comply with (c)(3) or (c)(4) of this section.

(1) Make a CPU determination using paragraphs (e) and (l) of this section.

(2) Determine whether a CPU is part of the SOCM I using paragraph (f) of this section. A CPU that is not determined to be SOCM I is subject only to the requirements of §§60.770(f)(2) and 60.785(b) of this section.

(3) Divide a CPU into two or more designated chemical process units (DCPU) or

assign an entire CPU as a DCPU using paragraph (g) of this section.

(4) Determine whether a DCPU is constructed, reconstructed, or modified using paragraph (h) of this section.

(d) Requirements for an affected facility that generates a process wastewater, maintenance wastewater, and/or aqueous in-process stream. For an affected facility that generates a process wastewater, maintenance wastewater, and/or aqueous in-process stream, the owner or operator shall comply with the applicable requirements specified in §§60.770 through 60.789 of this subpart. Determination of process wastewater, maintenance wastewater, and aqueous in-process stream are specified in paragraphs (d)(1) through (3) of this section. Streams that are not process wastewater, maintenance wastewater, or aqueous in-process streams are specified in paragraph (d)(4) of this section.

(1) Determination of process wastewater. To determine whether a DCPU is generating a process wastewater, the owner or operator must use some key words as defined in §60.771 of this subpart, including the definitions of point of determination, process wastewater, organic wastewater compound, recovery device, and wastewater.

(2) Determination of maintenance wastewater. To determine whether a DCPU is generating a maintenance wastewater, the owner or operator must use some key words as defined in §60.771 of this subpart, including the definitions of maintenance wastewater, organic wastewater compound, and wastewater.

(3) Determination of aqueous in-process stream. To determine whether a DCPU is generating an aqueous in-process stream, the owner or operator must use both Table

6 to subpart YYY and some key definitions located in §60.771 of this subpart, including the definitions for: aqueous in-process stream; organic wastewater compound; and point of determination.

(4) The affected facility includes the water and wastewater streams listed in paragraphs (d)(4)(I) through (vi) of this section, but they are not subject to the requirements of this subpart or the provisions of subpart A of this part.

- (I) Stormwaters managed in segregated sewers.
- (ii) Water from fire-fighting and deluge systems managed in segregated sewers.
- (iii) Spills.
- (iv) Water from safety showers.
- (v) Water from testing of deluge systems.
- (vi) Water from testing of fire-fighting systems.
- (e) Determination of CPU.

(1) The owner or operator determines if a grouping of equipment is a CPU using the definition of “chemical process unit or CPU” in §60.771 of this subpart. The following words are used to define CPU and are themselves defined in §60.771 of this subpart: hard-piping, ductwork, product, unit operation, recovery device, and storage vessel.

(2) The provisions of this subpart do not apply to the processes listed in paragraphs (e)(2)(I) through (v) of this section. This subpart does not require these processes to comply with the provisions of subpart A of this part.

- (I) Research and development facilities.

(ii) Petroleum refining process units, regardless of whether the units supply feedstocks that include chemicals listed in Table 1 to this subpart to CPU that are subject to the provisions of this subpart.

(iii) CPU that are located in coke by-product recovery plants.

(iv) Solvent reclamation, recovery, or recycling operations at a hazardous waste treatment, storage, and disposal facility (TSDF) requiring a permit under 40 CFR part 270 that are not part of a SOCM I CPU.

(v) Organic chemicals extracted from natural sources or totally produced from biological synthesis, such as pinene, coconut oil acids, sodium salt, fatty acids, tall oil, tallow acids, potassium salt, and beverage alcohol. Petroleum stock is not considered a natural source for the purposes of this subpart.

(3) Storage vessels shall be assigned to the CPU using paragraph (i) of this section.

(f) Determination of SOCM I for a CPU. (1) Determination of SOCM I shall be made for each CPU. If the chemicals listed in Table 1 of this subpart account for at least 50 percent of a CPU's expected annual production, on a mass basis, the CPU is part of SOCM I. The owner or operator may use written contracts or internal production plans to predict SOCM I use of a CPU. If an owner or operator produces at least one chemical listed in Table 1 to this subpart but cannot determine at least 50 percent of a CPU's expected annual production, on a mass basis, for the 12 months following initial startup, then the CPU is part of SOCM I. A DCPU has the same determination of SOCM I as the CPU it is part of.

(2) Reevaluating a SOCMI determination. If a CPU begins manufacturing SOCMI chemicals not used in the determination of SOCMI or ceases manufacturing non-SOCMI chemicals used in the determination of SOCMI, the determination of SOCMI shall be reevaluated. The owner or operator shall not reevaluate a determination of SOCMI for a CPU more than once every 12 months. If a CPU is a SOCMI CPU the owner or operator may elect not to reevaluate the determination of SOCMI.

(g) Determination of DCPU. The owner or operator may designate each process line or combination of process lines within a CPU to be a DCPU at any time before commencing construction, reconstruction, or modification, upon redetermination where a positive SOCMI determination occurs, or before [INSERT THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], whichever is later. In addition, the owner and operator shall comply with paragraphs (g)(1) through(7) of this section.

(1) If the owner or operator makes no designation, the entire CPU shall be the DCPU.

(2) The owner or operator shall assign all equipment that is part of the CPU to one or more DCPU.

(3) Once a designation is made, it is irrevocable.

(4) Each DCPU assigned to a CPU shall have the same determination of SOCMI as the CPU.

(5) All designations shall be documented and available for inspection as required

in 60.785 (c)(8) of this subpart.

(6) Each storage vessel that is part of the CPU shall be assigned to one of the DCPU that it services.

(7) Construction, reconstruction, and modification determinations shall be based on the DCPU. For example, if an entire CPU is the DCPU, the installation of an additional process line that is part of that CPU may constitute modification or reconstruction of the existing DCPU, but shall not be considered construction of a new DCPU. Also for example, if a DCPU is not the entire CPU, the installation of an additional process line may constitute construction of a new DCPU within the existing CPU or construction of a new CPU, but shall not be considered modification or reconstruction of the existing DCPU.

(h) Determination of construction, reconstruction, or modification of a DCPU.

(1) "Commenced" and "construction" have the meaning given to them in §60.2 of this part.

(2) Reconstruction and modification shall be determined using §60.772 of this subpart.

(3) To be subject to this subpart, construction, reconstruction, or modification must have commenced after September 12, 1994.

(i) Storage vessel assignment to a CPU. The owner or operator shall follow the procedures specified in paragraphs (i)(1) through (3) of this section to determine whether a storage vessel is part of the CPU to which this subpart applies. The owner or operator may designate all storage vessels associated with the CPU as subject to this

subpart. If a storage vessel is determined to be subject to this subpart, it may be considered part of any CPU subject to this subpart.

(1) Where a storage vessel is dedicated to a CPU, the storage vessel shall be considered part of that CPU.

(2) If a storage vessel is not dedicated to a single CPU, then the applicability of this subpart shall be determined according to the provisions in paragraphs (i)(2)(i) through (iii) of this section.

(i) If a storage vessel is shared among CPU and one of the CPU has the predominant use, as determined by paragraphs (i)(2)(i)(A) and (B) of this section, then the storage vessel is part of that chemical process unit.

(A) If the greatest input into the storage vessel is from a CPU that is located on the same plant site, then that CPU has the predominant use.

(B) If the greatest input into the storage vessel is provided from a CPU that is not located on the same plant site, then the predominant use is the CPU on the same plant site that receives the greatest amount of material from the storage vessel.

(ii) If a storage vessel is shared among CPU so that there is no single predominant use, and at least one of those CPU is subject to this subpart, the storage vessel shall be considered to be part of the CPU that is subject to this subpart, in part or whole. If more than one CPU is subject to this subpart, in part or whole, the owner or operator may assign the storage vessel to any of the CPU subject to this subpart.

(iii) If the predominant use of a storage vessel varies from year to year, then the applicability of this subpart shall be determined based on the use that occurred during

the year preceding the modification or reconstruction of an existing CPU and upon commencement of construction for a new CPU.

(3) Where a storage vessel is located at a plant site that includes one or more CPU which place material into, or receive materials from the storage vessel, but the storage vessel is located in a tank farm (including a marine tank farm), the applicability of this subpart shall be determined according to the provisions in paragraphs (i)(3)(i) through (i)(3)(iv) of this section.

(i) The storage vessel may only be assigned to a CPU that utilizes the storage vessel and does not have an intervening storage vessel for that product (or raw material, as appropriate). With respect to any CPU, an intervening storage vessel means a storage vessel connected by hard-piping to the CPU and to the storage vessel in the tank farm so that product or raw material entering or leaving the CPU flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.

(ii) If there is no CPU at the plant site that meets the criteria of paragraph (i)(3)(i) of this section with respect to a storage vessel, this subpart does not apply to the storage vessel.

(iii) If there is only one CPU at the plant site that meets the criteria of paragraph (i)(3)(i) of this section with respect to a storage vessel, the storage vessel shall be assigned to that CPU.

(iv) If there are two or more CPU at the plant site that meet the criteria of paragraph (i)(3)(i) of this section with respect to a storage vessel, the storage vessel

shall be assigned to one of those CPU according to the provisions of paragraph (i)(2) of this section. The predominant use shall be determined among only those CPU that meet the criteria of paragraph (i)(3)(i) of this section.

§60.771 Definitions.

As used in this subpart, all terms not defined here shall have the meaning given them in the Clean Air Act and in subpart A of this part. The following terms shall have the specific meanings given them in this section.

Annual average concentration means the flow-weighted annual average concentration, as determined according to the procedures specified in §60.782(b) of this subpart.

Annual average flow rate means the annual average flow rate, as determined according to the procedures specified in §60.782©) of this subpart.

Aqueous in-process stream means a stream comprised of water and organic wastewater compound within a CPU and prior to the point of determination that is conveyed, or otherwise handled, in equipment controlled less stringently than required in Table 6 to this subpart. Except for a stream that is routed to a tank, an aqueous in-process stream has a concentration of at least 500 parts per million by weight (ppmw) organic wastewater compound and a flow rate of at least 1 liter per minute or a concentration of 10,000 ppmw organic wastewater compound at any flowrate, as determined using the methods described in 60.782 (b) and ©). If the item of equipment receiving a stream is a tank, an aqueous in-process stream is defined as a stream with a concentration of at least 500 ppmw organic wastewater compound and a flow rate of

at least 1 liter per minute, as determined using the methods described in §60.782 (b) and ©).

Automated monitoring and recording system means any means of measuring values of monitored parameters and creating a hard copy or computer record of the measured values that does not require manual reading of monitoring instruments and manual transcription of data values. Automated monitoring and recording systems include, but are not limited to, computerized systems and strip charts.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator. Boiler also means any industrial furnace as defined in 40 CFR 260.10.

By-product means a chemical that is produced coincidentally during the production of another chemical.

Car-seal means a seal that is placed on a device that is used to change the position of a valve (e.g., from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

Chemical process unit or CPU means the equipment assembled and connected by hard-piping or ductwork to process raw materials and to manufacture a product. A chemical process unit consists of more than one unit operation. For the purpose of this subpart, chemical process unit includes air oxidation reactors and their associated product separators and recovery devices; reactors and their associated product separators and recovery devices; distillation units and their associated distillate receivers and recovery devices; associated unit operations; associated recovery

devices; and any feed, intermediate and product storage vessels, and connected ductwork and hard-piping. A CPU includes pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, and control devices or systems. A CPU is identified by its primary product.

Closed biological treatment process means a tank or surface impoundment where biological treatment occurs and organic wastewater compound emissions from the treatment process are routed either to a control device by means of a closed-vent system or to a fuel gas system by means of hard-piping. The tank or surface impoundment has a fixed roof, as defined in this section, or a floating flexible membrane cover that meets the requirements specified in 40 CFR 63.134.

Closed-vent system means a system that is not open to the atmosphere and is composed of hard-piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device.

Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of VOC emissions.

Commodity chemicals are chemicals that are produced in large volumes to chemical composition specifications that are homogeneous in nature. That is, there is no product differentiation. Included are basic industrial chemicals (inorganic chemicals, bulk petrochemicals, organic chemical intermediates, plastic resins, synthetic rubber, man-made fibers, dyes and pigments, printing inks) and fertilizers.

Container means any portable waste management unit that has a capacity

greater than or equal to 0.1 m³ in which a material is stored, transported, treated, or otherwise handled. Examples of containers are drums, barrels, tank trucks, barges, dumpsters, tank cars, dump trucks, and ships.

Continuous record means documentation, either in hard copy or computer readable form, of data values measured at least once every 15 minutes and recorded at the frequency specified in §60.785 of this subpart.

Continuous recorder means a data recording device recording an instantaneous data value or an average data value at least once every hour.

Continuous seal means a seal that forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the floating roof. A continuous seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

Control device means any combustion device, recovery device for vapor vents, or recapture device. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. For a steam stripper, a primary condenser is not considered a control device.

Co-product means a chemical that is produced during the production of another chemical.

Cover means a device or system which is placed on or over a waste management unit containing wastewater or residuals so that the entire surface area is enclosed to minimize air organic wastewater compound emissions. A cover may have

openings necessary for operation, inspection, and maintenance of the waste management unit such as access hatches, sampling ports, and gauge wells provided that each opening is closed when not in use. Examples of covers include a fixed roof installed on a wastewater tank, a lid installed on a container, and an air-supported enclosure installed over a waste management unit.

DCPU means an individual process line within a CPU or a combination of some or all of the process lines within a CPU.

Ductwork means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Enhanced biological treatment system or enhanced biological treatment process means an aerated, thoroughly mixed treatment unit(s) that contains biomass suspended in water followed by a clarifier that removes biomass from the treated water and recycles recovered biomass to the aeration unit. The mixed liquor volatile suspended solids (biomass) is greater than 1 kilogram per cubic meter throughout each aeration unit. The biomass is suspended and aerated in the water of the aeration unit(s) by either submerged air flow or mechanical agitation. A thoroughly mixed treatment unit is a unit that is designed and operated to approach or achieve uniform biomass distribution and organic compound concentration throughout the aeration unit by quickly dispersing the recycled biomass and the wastewater entering the unit.

External floating roof means a pontoon-type or double-deck-type cover that rests on the liquid surface in a storage vessel or waste management unit with no fixed roof.

Fill or filling means the introduction of a wastewater stream or residual into a waste management unit (e.g., storage tank), but not necessarily to complete capacity.

Fixed roof means a cover that is mounted on a waste management unit or storage vessel in a stationary manner and that does not move with fluctuations in liquid level.

Flame zone means the portion of the combustion chamber in a boiler or process heater occupied by the flame envelope.

Flexible operation unit means a CPU that manufactures different chemical products periodically by alternating raw materials or operating conditions. These units are also referred to as multi-purpose units, multiple product units, campaign plants, or blocked operations.

Floating roof means a cover consisting of a double deck, pontoon single deck, internal floating cover, or covered floating roof that rests upon and is supported by the liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and waste management unit or storage vessel wall.

Flow indicator means a device which indicates whether gas flow is, or whether the valve position would allow gas flow to be, present in a line.

F_{bio} means site-specific fraction of organic wastewater compound biodegraded, unitless.

F_e means fraction emitted value, unitless.

F_m means compound-specific fraction measured factor, unitless.

F_r means fraction removed value for organic wastewater compound, unitless.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in in-process combustion equipment such as furnaces and gas turbines, either singly or in combination.

Group 1 wastewater stream is defined in §60.773 (b).

Group 2 wastewater stream is defined in §60.773 (b).

Hard-piping means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards, such as ANSI B31-3.

HON means the National Emission Standards for Hazardous Air Pollutants for Source Categories: Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry and Other Processes Subject to the Negotiated Regulation for Equipment Leaks, 40 CFR part 63, subparts F and G.

Incinerator means an enclosed combustion device that is used for destroying organic compounds. Auxiliary fuel may be used to heat waste gas to combustion temperatures. Any energy recovery section present is not physically formed into one manufactured or assembled unit with the combustion section; rather, the energy recovery section is a separate section following the combustion section and the two are joined by ducts or connections carrying flue gas. The above energy recovery section limitation does not apply to an energy recovery section used solely to preheat the incoming vent stream or combustion air.

Individual drain system means the stationary system used to convey wastewater streams or residuals to a waste management unit or to discharge or disposal. The term includes hard-piping, all process drains and junction boxes, together with their associated sewer lines and other junction boxes, manholes, sumps, and lift stations, conveying wastewater streams or residuals. A segregated storm water sewer system, which is a drain and collection system designed and operated for the sole purpose of collecting rainfall-runoff at a facility, and which is segregated from all other individual drain systems, is excluded from this definition.

Initial start-up means the first time a new or reconstructed affected facility begins production, or the first time a modified affected facility is put into production. Initial start-up does not include operation solely for testing equipment. For purposes of this subpart, initial start-up does not include subsequent start-ups (as defined in this section) of CPUs following malfunctions or shutdowns or following changes in product for flexible operation units or following recharging of equipment in batch operation.

Internal floating roof means a cover that rests or floats on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel or waste management unit that has a fixed roof.

Isolated intermediate means a chemical that is manufactured solely as a stage of manufacturing the product of the CPU. Isolated intermediates are closely coupled to the operation (i.e., do not operate independently), involve an intermediate reaction, and generally are not intermediately stored in bulk storage. Isolated intermediates may be carried out in more than one vessel. Common control does not by itself mean a unit

manufactures an isolated intermediate. Commodity chemicals are not isolated intermediates.

Junction box means a manhole or a lift station, or access point to a wastewater sewer line.

Liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel or waste management unit and the floating roof. The seal is mounted continuously around the circumference of the vessel or unit.

Maintenance wastewater means wastewater generated by the draining of process fluid from components in the CPU into an individual drain system prior to or during maintenance activities. Maintenance wastewater can be generated during planned and unplanned shutdowns and during periods not associated with a shutdown. Examples of activities that can generate maintenance wastewater include descaling of heat exchanger tubing bundles, cleaning of distillation column traps, draining of low legs and high point bleeds, draining of pumps into an individual drain system, and draining of portions of the CPU for repair.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the organics in the stored or transferred liquid at the temperature equal to the highest calendar-month average of the liquid storage or transfer temperature for liquids stored or transferred above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for liquids stored or transferred at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum Institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks;

(2) As obtained from standard reference texts;

(3) As determined by the American Society for Testing and Materials Method D2879-83; or

(4) By any other method approved by the Administrator.

Metallic shoe seal or mechanical shoe seal means metal sheets that are held vertically against the wall of the storage vessel by springs, weighted levers, or other mechanisms and connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

Modification means any physical change in, or change in the method of operation of, an existing DCPU which increases or creates emissions to the atmosphere of organic wastewater compound from process wastewater and/or aqueous in-process streams generated by the DCPU, except as provided in §60.772©) of this subpart.

Non-automated monitoring and recording system means manual reading of values measured by monitoring instruments and manual transcription of those values to create a record. Non-automated systems do not include strip charts.

Oil-water separator or organic-water separator or separator means a waste management unit used to separate oil, organics, or other materials from water. A separator consists of not only the separation unit but also the forebay and other separator basins, skimmers, weirs, grit chambers, sludge hoppers, and bar screens that

are located directly after the individual drain system or other conveyance devices and prior to additional treatment units such as an air flotation unit, clarifier, or biological treatment unit. Examples of an oil-water or organic-water separator include, but are not limited to, an American Petroleum Institute separator, parallel-plate interceptor, and corrugated-plate interceptor with the associated ancillary equipment.

On-site or onsite means, with respect to records required to be maintained by this subpart, that the records are stored at a location within a major source which encompasses the affected facility. On-site includes, but is not limited to, storage at the DCPU to which the records pertain, or storage in central files elsewhere at the major source.

Open biological treatment process means a biological treatment process that is not a closed biological treatment process as defined in this section.

Operating permit means a permit required by 40 CFR part 70 or part 71.

Organic monitoring device means a unit of equipment used to indicate the concentration level of organic compounds exiting a recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity.

Organic peroxides means organic compounds containing the bivalent -o-o- structure which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

Organic wastewater compound means substances defined as VOC in 40 CFR 51.100(s) and not excluded or exempted by that section, except that any substance with a Henry's law constant less than 0.1 y/x atmosphere per mole fraction (y/x at one

atmosphere) at 25 °C as determined according to appendix J to this part is not an organic wastewater compound for purposes of this subpart. This term is used to indicate either individual substances or the combination of such substances in a stream.

Petroleum refining process, also referred to as a petroleum refining process unit, means a process that for the purpose of producing transportation fuels (such as gasoline and diesel fuels), heating fuels (such as fuel gas, distillate, and residual fuel oils), or lubricants; separates petroleum; or separates, cracks, or reforms unfinished derivatives. Examples of such units include, but are not limited to, alkylation units, catalytic hydrotreating, catalytic hydrorefining, catalytic hydrocracking, catalytic reforming, catalytic cracking, crude distillation, and thermal processes.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Point of determination means each point where process wastewater exits the chemical process unit.

[Note: This subpart allows determination of the characteristics of a wastewater stream (1) at the point of determination, or (2) downstream of the point of determination if corrections are made for changes in flow rate and annual average concentration of organic wastewater compound as determined in §60.783 of this subpart. Such changes include losses by air organic wastewater compound emissions; reduction of annual average concentration or changes in flow rate by mixing with other water or wastewater

streams; and reduction in flow rate or annual average concentration by treating or otherwise handling the wastewater stream to remove or destroy organic wastewater compound.]

Primary fuel means the fuel that provides the principal heat input to a control device. To be considered primary, the fuel must be able to sustain operation without the addition of other fuels.

Process heater means a device that transfers heat liberated by burning fuel directly to process streams or to heat transfer liquids other than water.

Process line means a group of unit operations and other equipment assembled and connected by hard-piping or ductwork to process raw materials and to manufacture a product, and that can operate independently of other unit operations in the CPU if supplied with sufficient raw materials and if equipped with sufficient product storage capacity. Two or more process lines may share recovery and ancillary equipment such as utilities. A process line is either an entire CPU, or one of multiple process lines which, together, are an entire CPU. All CPU have at least one process line, and some CPU have more than one process line. Process wastewater means wastewater which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product. Examples are tank drawdown or feed tank drawdown; water formed during a chemical reaction or used as a reactant; water used to wash impurities from organic products or reactants; water used to cool or quench organic vapor streams through direct contact; water used to wash equipment between batches; and condensed

STAFF DRAFT - 09/30/2005

steam from jet ejector systems pulling vacuum on vessels containing organic wastewater compound.

Process wastewater stream means a stream that contains process wastewater as defined in this section.

Product means a compound or chemical which is manufactured by the chemical process unit. Co-products and by-products are considered products. Isolated intermediates, impurities, wastes, and trace contaminants are not considered products.

Recapture device means an individual unit of equipment capable of and used for the purpose of recovering chemicals, but not normally for use, reuse, or sale. For example, a recapture device may recover chemicals primarily for disposal. Recapture devices include, but are not limited to, absorbers, carbon adsorbers, and condensers.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. For purposes of the monitoring, recordkeeping, and reporting requirements of this subpart, recapture devices are considered recovery devices.

Relief valve means a valve used only to release an unplanned, non-routine discharge. A relief valve discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires

immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

Research and development facility means laboratory and pilot plant operations whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and is not engaged in the manufacture of products for commercial sale, except in a de minimis manner.

Residual means any liquid or solid material containing organic wastewater compound that is removed from a wastewater stream by a waste management unit or treatment process that does not destroy organic compounds (nondestructive unit). Examples of residuals from nondestructive wastewater management units are: the organic layer and bottom residue removed by a decanter or organic-water separator and the overheads from a steam stripper or air stripper. Examples of materials which are not residuals are: silt; mud; leaves; bottoms from a steam stripper or air stripper; and sludges, ash, or other materials removed from wastewater being treated by destructive devices such as biological treatment units and incinerators.

Secondary fuel means a fuel fired through a burner other than the primary fuel burner that provides supplementary heat in addition to the heat provided by the primary fuel.

Sewer line means a lateral, trunk line, branch line, or other conduit including, but not limited to, grates, trenches, etc., used to convey wastewater streams or residuals to a downstream waste management unit.

Shutdown means for purposes including, but not limited to, periodic maintenance, replacement of equipment, or repair, the cessation of operation of a CPU or a reactor, air oxidation reactor, distillation unit, waste management unit, equipment required or used to comply with this subpart, or emptying and degassing of a storage vessel. Shutdown does not include the routine rinsing or washing of equipment in batch operation between batches.

Single-seal system means a floating roof having one continuous seal that completely covers the space between the wall of the storage vessel and the edge of the floating roof. This seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal.

Specific gravity monitoring device means a unit of equipment used to monitor specific gravity and having a minimum accuracy of ± 0.02 specific gravity units.

Startup means the setting into operation of a CPU or a reactor, air oxidation reactor, distillation unit, waste management unit, or equipment required or used to comply with this subpart or a storage vessel after emptying and degassing. Startup includes initial start-up, operation solely for testing equipment, the recharging of equipment in batch operation, and transitional conditions due to changes in product for flexible operation units.

Start-up, shutdown, and malfunction plan means the plan required under §60.787 of this subpart. This plan details the procedures for operation and maintenance of the affected facility during periods of start-up, shutdown, and malfunction.

Steam jet ejector means a steam nozzle which discharges a high-velocity jet across a suction chamber that is connected to the equipment to be evacuated.

Storage vessel means a tank or other vessel that is used to store organic liquids that contain one or more of organic wastewater compound and that has been assigned, according to the procedures in §60.770(f) of this subpart, to a CPU that is subject to this subpart. Storage vessel does not include:

- (1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;
- (2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without organic wastewater compound emissions to the atmosphere;
- (3) Vessels with capacities smaller than 38 cubic meters;
- (4) Vessels storing organic liquids that contain organic wastewater compound only as impurities;
- (5) Bottom receivers tanks;
- (6) Surge control vessels; or
- (7) Wastewater storage tanks.

Surface impoundment means a waste management unit which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or waste containing free liquids. A surface impoundment is used for the purpose of treating, storing, or disposing of wastewater or residuals, and is not an injection well. Examples of surface impoundments are equalization, settling, and aeration pits, ponds, and lagoons.

Tank drawdown means any material or mixture of materials discharged from a

STAFF DRAFT - 09/30/2005

product tank, feed tank, or intermediate tank for the purpose of removing water or other contaminants from the tank.

Temperature monitoring device means a unit of equipment used to monitor temperature and having a minimum accuracy of (a) ± 1 percent of the temperature being monitored expressed in degrees Celsius ($^{\circ}\text{C}$) or (b) $\pm 0.5^{\circ}\text{C}$, whichever number is greater (i.e., has the highest absolute value).

Treatment process means a specific technique that removes or destroys organics in a wastewater or residual stream such as a steam stripping unit, thin-film evaporation unit, waste incinerator, biological treatment unit, or any other process applied to wastewater streams or residuals to comply with §60.779 of this subpart. Treatment processes are a subset of waste management units.

Unit operation means one or more pieces of process equipment used to make a single change to the physical or chemical characteristics of one or more process streams. Unit operations include, but are not limited to, reactors, distillation units, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

Vapor-mounted seal means a continuous seal that completely covers the annular space between the wall of the storage vessel or waste management unit and the edge of the floating roof and is mounted such that there is a vapor space between the stored liquid and the bottom of the seal.

Waste management unit means the equipment, structure(s), or device(s) used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include: wastewater tanks, surface impoundments, individual drain

systems, and biological wastewater treatment units. Examples of equipment that may be waste management units include containers, air flotation units, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. If such equipment is used for recovery, then it is part of a CPU and is not a waste management unit.

Wastewater means water that:

(1) Contains either:

(i) An annual average concentration of organic wastewater compound of at least 50 ppmw at the point of determination and has an annual average flow rate of 0.02 liter per minute or greater; or

(ii) An annual average concentration of organic wastewater compound of at least 10,000 ppmw at the point of determination at any flow rate; and that

(2) Is discarded from a CPU as defined in this section.

Wastewater is process wastewater or maintenance wastewater.

Wastewater stream means a stream that contains wastewater as defined in this subpart.

Wastewater tank means a stationary waste management unit that is designed to contain an accumulation of wastewater or residuals and is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. Wastewater tanks used for flow equalization are included in this definition.

Water seal controls means a seal pot, p-leg trap, or other type of trap filled with water (e.g, flooded sewers that maintain water levels adequate to prevent air flow

through the system) that creates a water barrier between the sewer line and the atmosphere. The water level of the seal must be maintained in the vertical leg of a drain in order to be considered a water seal.

§60.772 Modification and reconstruction.

(a) General. The owner or operator shall follow the procedures specified in paragraphs (b), (c), (d), (f), (g), (h), and (j) of this section to determine whether a DCPU that is neither a flexible operating unit nor part of a flexible operating unit has been or will be modified. The owner or operator shall follow the procedures specified in paragraphs (b), (c), (e), (f), (g), (h), and (j) of this section to determine whether a DCPU that is a flexible operating unit or part of a flexible operating unit has been or will be modified. The owner or operator shall follow the procedures specified in paragraph (k) of this section to determine whether a DCPU has been or will be reconstructed. Reports and records are specified in §§60.784 and 60.785, respectively, of this subpart.

(b) Determining modification. Modification determinations are based on the DCPU. To determine whether a physical or operational change is considered a modification, the owner or operator shall follow the procedures in either paragraphs (b)(1) or (b)(2) or (b)(3) of this section.

(1) Designate the physical or operational change as a modification.

(2) Determine whether the physical or operational change constitutes a modification by evaluating whether organic wastewater compound emissions from process wastewater and aqueous in-process streams increased as a result of the physical or operational change. To make this determination, the owner or operator shall

follow the procedures specified in paragraph (d) or (e), and in paragraphs (f), (g), (h), and (j) of this section, as appropriate. Physical and operational changes that are not, by themselves, considered modifications under this subpart are listed in paragraph ©) of this section.

(3) Prior to [INSERT THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], if a physical or operational change was made to the DCPU that is not listed in ©) of this section, and a facility cannot document that a physical or operational change did not increase wastewater compound emissions or wastewater compound mass flow using the provisions of (f)(1) through (4) of this section, then a modification occurred.

©) Physical or operational changes that are not modifications. The changes listed in this paragraph ©) shall not, by themselves, be considered modifications under this subpart regardless of any increase in the concentration, flow rate, or total annual amount of VOC in the wastewater stream. Section 60.14(e) does not apply for the purposes of this subpart.

(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of §60.15 of this part. Replacement of spent catalyst with like catalyst is not a modification.

(2) An increase in the hours of operation.

(3) Physical or operational changes that cost less than 12.5 percent of the original cost of the existing DCPU as adjusted to reflect capital improvements, casualty losses, and defunct equipment. Neither account depreciation or deflation is an

allowable adjustment.

(4) The relocation or change in ownership of an existing facility.

(d) Determining organic wastewater compound emissions generated by a DCPU that is neither a flexible operation unit nor part of a flexible operation unit. For a DCPU that is neither a flexible operation unit nor part of a flexible operation unit, the owner or operator shall follow the procedures specified in paragraphs (d)(1) through (4) of this section to determine whether organic wastewater compound emissions from process wastewater and aqueous in-process streams have increased or will increase after a physical or operational change has occurred. The owner or operator is required to evaluate only those process wastewater and aqueous in-process streams that are affected (i.e., changed or created) by the physical or operational change. For the purposes of this section, “affected process wastewater stream” and “affected aqueous in-process stream” mean process wastewater streams and aqueous in-process streams changed or created by a physical or operational change.

(1) Identify the DCPU. Identify the DCPU that has undergone or will undergo a physical or operational change.

(2) Determine organic wastewater compound emissions before a physical or operational change. Identify each affected process wastewater stream and each affected aqueous in-process stream that is generated by the DCPU. For each affected process wastewater and aqueous in-process stream, the owner or operator shall determine organic wastewater compound emissions before a physical or operational change; i.e., baseline emissions, using organic wastewater compound emissions or

organic wastewater compound mass flow rate as a surrogate for organic wastewater compound emissions. Organic wastewater compound emissions and mass flow rate shall be determined as specified in paragraph (f) of this section. The baseline organic wastewater compound emissions or baseline organic wastewater compound mass flow rate for process wastewater and aqueous in-process streams shall be summed as specified in paragraph (j) of this section.

(3) Determine organic wastewater compound emissions after a physical or operational change. Identify each affected process wastewater stream and each aqueous in-process stream that is or will be generated by the DCPU. For each affected process wastewater or aqueous in-process stream, the owner or operator shall determine organic wastewater compound emissions after a physical or operational change, using organic wastewater compound emissions or organic wastewater compound mass flow rate as a surrogate for organic wastewater compound emissions. Organic wastewater compound emissions and mass flow rate shall be determined as specified in paragraph (f) of this section. The organic wastewater compound emissions or organic wastewater compound mass flow rate for process wastewater and aqueous in-process streams shall be summed as specified in paragraph (j) of this section.

(4) Compare the sum of baseline organic wastewater compound emissions and the sum of organic wastewater compound emissions after a physical or operational change. (i) Organic wastewater compound emissions. The owner or operator shall compare the sum of baseline organic wastewater compound emissions to the sum of organic wastewater compound emissions after the physical or operational change. If

the sum of organic wastewater compound emissions from process wastewater and aqueous in-process streams after the physical or operational change is greater than the sum of baseline organic wastewater compound emissions from process wastewater and aqueous in-process streams, the organic wastewater compound emissions from process wastewater and aqueous in-process streams have increased for the DCPU.

(ii) Organic wastewater compound mass flow rate as a surrogate for organic wastewater compound emissions. For process wastewater streams, the owner or operator shall compare the sum of baseline organic wastewater compound mass flow rate at the point of determination to the sum of organic wastewater compound mass flow rate at the point of determination after the physical or operational change. The owner or operator shall compare the sum of baseline organic wastewater compound mass flow rate for aqueous in-process streams to the sum of organic wastewater compound mass flow rate for aqueous in-process streams after the physical or operational change. If the sum of organic wastewater compound mass flow rate at the point of determination after the physical or operational change is greater than the sum of baseline organic wastewater compound mass flow rate at the point of determination, the organic wastewater compound mass flow rate has increased and the organic wastewater compound emissions have increased for the DCPU. If the sum of organic wastewater compound mass flow rate for aqueous in-process streams after the physical or operational change is greater than the sum of baseline organic wastewater compound mass flow rate of aqueous in-process streams, the organic wastewater compound mass flow rate has increased and the organic wastewater compound

emissions increased for the DCPU. Once a determination has been made that organic wastewater compound mass flow rate has increased, either at the point of determination or for aqueous in-process streams, the owner or operator may elect not to make the other comparison.

(e) Determining organic wastewater compound emissions generated by a DCPU that is a flexible operation unit or part of a flexible operation unit. For a DCPU that is a flexible operation unit or part of a flexible operation unit, the owner or operator shall follow the procedures specified in paragraphs (e)(1) through (5) of this section to determine whether organic wastewater compound emissions from process wastewater and aqueous in-process streams have increased or will increase after a physical or operational change has occurred. The owner or operator is required to evaluate only those process wastewater and aqueous in-process streams that are affected (i.e., changed or created) by the physical or operational change.

(1) Identify the DCPU. Identify the DCPU that has undergone or will undergo a physical or operational change.

(2) Select the baseline product. The owner or operator shall select a baseline product from those products that the DCPU is capable of producing without a change in physical or operational design. The owner or operator shall use best engineering judgment and consider the information specified in paragraphs (e)(2)(i)(A) through (D) of this section in identifying these products. Products the owner or operator shall not consider are specified in paragraphs (e)(2)(ii)(A) through (C) of this section.

(i) Products that could be produced by the DCPU.

(A) Products the DCPU currently produces.

(B) Products that the DCPU has produced in the past, provided that a change in physical or operational design has not occurred since the product was last produced.

©) Products that the DCPU reasonably can produce without having to change the physical or operational design.

(D) Products that similar DCPU have produced.

(ii) Products that could not be produced by the CPU.

(A) Products that would require a change in the physical or operational design of the DCPU.

(B) Products which cannot reasonably be produced, including products which cannot be reasonably produced in commercially viable quantities, products which are not sold in commerce, and products for which no commercial market is reasonably foreseeable or for which there is no known use in commerce.

©) Products for which the DCPU may have the theoretical physical capacity to produce, but for which the owner or operator does not have the technical knowledge necessary to produce that product and cannot, through exercise of reasonable due diligence, obtain the requisite technical knowledge.

(3) Determine organic wastewater compound emissions before a physical or operational change. For each affected process wastewater and aqueous in-process stream, the owner or operator shall determine organic wastewater compound emissions before a physical or operational change, i.e., baseline emissions, using organic wastewater compound emissions or organic wastewater compound mass flow rate as a

surrogate for organic wastewater compound emissions. Organic wastewater compound emissions and mass flow rate shall be determined as specified in paragraph (f) of this section. Baseline organic wastewater compound emissions shall be based on production of the baseline product. The organic wastewater compound emissions or organic wastewater compound mass flow rate for each process wastewater or aqueous in-process stream shall be summed as specified in paragraph (j) of this section.

(4) Determine organic wastewater compound emissions after a physical or operational change. For each process wastewater and aqueous in-process stream, the owner or operator shall determine the sum of organic wastewater compound emissions after a physical or operational change using organic wastewater compound emissions or organic wastewater compound mass flow rate as a surrogate for organic wastewater compound emissions. Organic wastewater compound emissions and mass flow rate shall be determined as specified in paragraph (f) of this section. The organic wastewater compound emissions or organic wastewater compound mass flow rate for each process wastewater or aqueous in-process stream shall be summed as specified in paragraph (j) of this section. Organic wastewater compound emissions after the physical or operational change shall be based on the production of the product or products that are produced after the physical or operational change. The owner or operator may consider only the new product(s). For flexible batch operations, when baseline annual wastewater volume is based on the maximum number of batches produced per year, as in §60.782(c)(1), annual wastewater volume after the change must also be based on the maximum number of batches produced per year.

(5) Compare baseline organic wastewater compound emissions and organic wastewater compound emissions after a physical or operational change.

(i) Organic wastewater compound emissions. The owner or operator shall compare the sum of baseline organic wastewater compound emissions to the sum of organic wastewater compound emissions after the physical or operational change. If the sum of organic wastewater compound emissions from process wastewater and aqueous in-process streams after the physical or operational change are greater than the sum of baseline organic wastewater compound emissions from process wastewater and aqueous in-process streams, the organic wastewater compound emissions from process wastewater and aqueous in-process streams have increased for the DCPU.

(ii) Organic wastewater compound mass flow rate as a surrogate for organic wastewater compound emissions. The owner or operator shall compare baseline organic wastewater compound mass flow rate for process wastewater at the point of determination to organic wastewater compound mass flow rate for process wastewater at the point of determination after the physical or operational change. The owner or operator shall compare baseline organic wastewater compound mass flow rate for aqueous in-process streams to organic wastewater compound mass flow rate for aqueous in-process streams after the physical or operational change. If the organic wastewater compound mass flow rate for process wastewater at the point of determination after the physical or operational change is greater than the baseline organic wastewater compound mass flow rate for process wastewater at the point of determination, the organic wastewater compound mass flow rate has increased and the

organic wastewater compound emissions have increased for the DCPU. If the organic wastewater compound mass flow rate for aqueous in-process streams after the physical or operational change is greater than the baseline organic wastewater compound mass flow rate of aqueous in-process streams, the organic wastewater compound mass flow rate has increased and the organic wastewater compound emissions have increased for the DCPU. Once a determination has been made that organic wastewater compound mass flow rate has increased, either at the point of determination or for aqueous in-process streams, the owner or operator may elect not to make the other comparison.

(f) Determining organic wastewater compound emissions. Organic wastewater compound emissions shall be determined using either organic wastewater compound emissions or mass flow rate as a surrogate for organic wastewater compound emissions. Organic wastewater compound emissions and mass flow rate shall be determined on an annual average basis. The determination shall include all process wastewater streams and all aqueous in-process streams that are generated by the existing DCPU or that will be generated by the DCPU after a change has occurred. The owner or operator shall use the procedures specified in paragraph (f)(1), (2), (3), or (4) of this section, and in paragraph (f)(5) of this section.

(1) Calculate organic wastewater compound emissions using the default fraction emitted Fe for the individual drain system and the treatment process. Using Equation 1 in this paragraph, the owner or operator shall calculate organic wastewater compound emissions using the default Fe values for the individual drain system and the treatment process as specified in section 2.5.1 of appendix J to this part.

$$WW\ emissions = (5.26 \times 10^{-4}) * \rho * AQ * \sum_{i=1}^n (AC_i * Fe_i) \quad [\text{Equation 1}]$$

Where:

WW

emissions = Annual average emissions of organic wastewater compound for a process wastewater or aqueous in-process stream, megagrams per year.

AQ = Annual average flow rate of the process wastewater stream or aqueous in-process stream, liters per minute.

AC_i = Annual average concentration of organic wastewater compound i in the process wastewater stream or aqueous in-process stream, ppmw.

Fe_i = Fraction emitted of organic wastewater compound i for the individual drain system and the treatment process, unitless. Fe values for the individual drain system and the treatment process are listed in Tables 2 and 3 of appendix J to this part. Section 2.5.1 of appendix J explains which values shall be used.

i = Identifier for a compound.

n = Total number of organic wastewater compounds in process wastewater stream or aqueous in-process stream.

ρ = Density of the process wastewater stream or aqueous in-process stream, kilograms per liter.

5.26×10^{-4} = Conversion factor, 60 minutes per hour, 8,760 hours per year, 10^{-3} megagrams per kilogram, and 10^{-6} from the ppmw factor (i.e., AC_i).

(2) Calculate organic wastewater compound emissions using site-specific modeling for the individual drain system and default values (F_{et}) for the biological treatment process.

(i) Using Equation 2 in this paragraph, the owner or operator shall calculate organic wastewater compound emissions using site-specific modeling for the individual drain system and using default values (F_{et}) for the biological treatment process as specified in §§ 2.5.2 and 2.5.3 of appendix J to this part.

(ii) Equation 2.

$$WW\ emissions = IDS + [(5.26 * 10^{-4}) * \rho * AQ * (AC_i * F_{et})] \quad \text{[Equation 2]}$$

Where:

WW

emissions = Annual average emissions of organic wastewater compound for a

process wastewater or aqueous in-process stream, megagrams per year.

- IDS = Organic wastewater compound emissions from the individual drain system determined as specified in § 2.5.2 of appendix J to this part, megagrams per year.
- AQ = Annual average flow rate of the process wastewater stream or aqueous in-process stream, liters per minute.
- AC_i = Annual average concentration of organic wastewater compound i in the process wastewater stream or aqueous in-process stream, ppmw.
- Fet_i = Fraction emitted of organic wastewater compound i for the biological treatment process, unitless. Fet values shall be determined as specified in § 2.5.3 of appendix J to this part.
- i = Identifier for a compound.
- n = Total number of organic wastewater compound in process wastewater stream or aqueous in-process stream.
- ρ = Density of the process wastewater stream or aqueous in-process stream, kilograms per liter.
- 5.26×10^{-4} = Conversion factor, 60 minutes per hour, 8,760 hours per year, 10^{-3} megagrams per kilogram, and 10^{-6} from the ppmw factor (i.e., AC_i).

(3) Calculate organic wastewater compound emissions using site-specific

modeling for the individual drain system and site-specific determination for the non-biological treatment process.

(i) Using Equation 3 in this paragraph, the owner or operator shall calculate organic wastewater compound emissions using site-specific modeling for the individual drain system and the non-biological treatment process specified in section 2.5.2 of appendix J to this part and in §60.779(j)(1) of this subpart.

(ii) Equation 3.

$$WW \text{ emissions} = IDS + TP \quad \text{[Equation 3]}$$

Where:

WW

emissions = Annual average emissions of organic wastewater compound for a process wastewater or aqueous in-process stream, megagrams per year.

IDS = Organic wastewater compound emissions from the individual drain system determined as specified in § 2.5.2 of appendix J to this part, megagrams per year.

TP = Organic wastewater compound emissions from the treatment process determined as specified in §60.779(j)(1) of this subpart, megagrams per year.

(4) Determining annual average organic wastewater compound mass flow rate as a surrogate for organic wastewater compound emissions.

(i) Using Equation 4 in this paragraph, the owner or operator shall calculate the organic wastewater compound mass flow rate.

$$QMW = (5.26 * 10^{-4}) * \rho * AQ * \sum_{i=1}^n AC_i \quad \text{[Equation 4]}$$

Where:

- QMW = Mass flow rate of organic wastewater compound for a process wastewater or aqueous in-process stream, megagrams per year.
- AQ = Annual average flow rate of the process wastewater stream or aqueous in-process stream, liters per minute.
- AC_i = Annual average concentration of organic wastewater compound i in the process wastewater stream or aqueous in-process stream, ppmw.
- i = Identifier for a compound.
- n = Total number of organic wastewater compounds in the process wastewater stream or aqueous in-process stream.
- ρ = Density of the process wastewater stream or aqueous in-

process stream, kilograms per liter.

5.26×10^{-4} = Conversion factor, 60 minutes per hour, 8,760 hours per year, 10^{-3} megagrams per kilogram, and 10^{-6} from the ppmw factor (i.e., AC_i).

(5) General. The owner or operator shall comply with paragraphs (f)(5)(i) through (iii) of this section.

(i) Determine annual average concentration as specified in paragraph (g) of this section.

(ii) Determine annual average flow rate as specified in paragraph (h) of this section.

(iii) Determine a stream-specific list of organic wastewater compound as specified in §60.778©) and (e) of this subpart when making determinations based on individual compounds.

(g) Determining annual average concentration for a process wastewater stream or aqueous in-process stream. The annual average concentration shall be a flow-weighted average representative of actual or anticipated operation of the DCPU generating the process wastewater or aqueous in-process stream generated by the DCPU over the designated 12-month period. Flow-weighted annual average concentration for organic wastewater compound shall be calculated as the total mass of organic wastewater compound occurring in the process wastewater stream or aqueous in-process stream during the 12-month period divided by the total mass of the process wastewater stream or aqueous in-process stream during the same 12-month period.

The owner or operator shall determine the annual average concentration as specified in either paragraph (g)(1) or (2) of this section. The owner or operator is required to consider only organic wastewater compounds included on the stream-specific list of organic wastewater compounds when measuring organic wastewater compound concentrations.

(1) Organic wastewater compound emissions. When an owner or operator is determining concentration as part of determining annual average organic wastewater compound emissions under paragraph (f)(1), (2), or (3) of this section, use the procedures in paragraphs (g)(1)(i) through (iii) of this section.

(i) For process wastewater streams, the annual average concentration shall be determined either at the point of determination or downstream of the point of determination, with adjustment for concentration changes made according to §60.782(b)(6) of this subpart if a point downstream of the point of determination is used. For aqueous in-process streams, the annual average concentration shall be determined before the point of determination and shall be adjusted for any losses of organic wastewater compound to the atmosphere and for dilution.

(ii) The procedures specified in §60.782(b), except for paragraph (b)(5)(i)(A), of this subpart shall be used for determining the annual average concentration. The procedures specified in §60.782(b) of this subpart may be used in combination, and no one procedure shall take precedence over another.

(iii) If sampling, a minimum of three wastewater samples from each process wastewater stream or aqueous in-process stream shall be taken. Samples may be grab

samples or composite samples.

(iv) Concentration values that are not determined using Method 25D may be adjusted with the chemical's Fm value. Chemical-specific Fm factors shall be determined as specified in Appendix J to this part. When Fm adjustments are made, they shall be used for all compounds and in all instances for the purpose of this section.

(2) Organic wastewater compound mass flow rate. When an owner or operator is determining concentration as part of determining annual average organic wastewater compound mass flow rate under paragraph (f)(4) of this section, the procedures specified in paragraph (g)(2)(i) through (iii) of this section shall be used. Measurements shall be taken at the point of determination.

(i) Method 25D of 40 CFR part 60, appendix A shall be used to determine annual average concentration.

(ii) A minimum of three wastewater samples from each process wastewater stream or aqueous in-process stream shall be taken. Samples may be grab samples or composite samples.

(iii) The owner or operator may use bench scale or pilot scale data as described in §60.782 (b)(4) if it results from sampling and analysis according to (g)(2)(i) and (ii), above.

(h) Determining annual average flow rate for a process wastewater stream or aqueous in-process stream. The annual average flow rate shall be representative of the process wastewater stream or aqueous in-process stream generated by the DCPU over the designated 12-month period. The owner or operator shall consider the total annual

average wastewater volume generated by the DCPU. The owner or operator shall determine the annual average flow rate using the procedures specified in paragraphs (h)(1) and (2) of this section.

(1) For process wastewater streams, the annual average flow rate shall be determined either at the point of determination or downstream of the point of determination, with adjustment for flow rate changes made according to §60.782(c)(4) of this subpart if a point downstream of the point of determination is used. For aqueous in-process streams, the annual average flow rate shall be determined before the point of determination, and the owner or operator shall make corrections if streams are mixed or treated before being measured.

(2) The procedures in §60.782(c)(1) through (3) of this subpart are considered acceptable procedures for determining flow rate. The procedures in §60.782(c)(1) through (3) of this subpart may be used in combination, and no one procedure shall take precedence over another.

(i) [Reserved]

(j) Sum organic wastewater compound emissions generated by the DCPU.

(1) Organic wastewater compound emissions. Sum the annual average organic wastewater compound emissions, as calculated in paragraph (f)(1) through(3) of this section, for each process wastewater stream and each aqueous in-process stream affected by the physical or operational change to determine the annual average organic wastewater compound emissions for the DCPU.

(2) Organic wastewater compound mass flow rate. Sum the annual average organic wastewater compound mass flow rate, as calculated in paragraph (f)(4) of this section, for each process wastewater stream affected by the physical or operational change to determine the annual average organic wastewater compound mass flow rate for the DCPU. Sum the annual average organic wastewater compound mass flow rate, as calculated in paragraph (f)(4) of this section, for each aqueous in-process stream affected by the physical or operational change to determine the annual average organic wastewater compound mass flow rate for the DCPU. Once a determination has been made that organic wastewater compound emissions have increased, the owner or operator may elect not to make the other comparison.

(k) Reconstruction. For the purposes of this subpart, "fixed capital cost of the new components," as used in §60.15 of this part, includes the fixed capital cost of all depreciable components which are replaced within any 2-year rolling period following September 12, 1994. Replacement costs shall be charged to the first day the owner or operator incurred any expenses involving the actual work of replacement; i.e., the DCPU has had either components removed in preparation for the replacements or components added as replacements. When replacement of components, e.g., replacing a distillation column, is reasonably viewed as a project, the cost of the entire project shall be charged to the first day the owner or operator incurred any expenses involving the actual work of replacement.

§60.773 Process wastewater provisions - General.

(a) Process wastewater - general. This paragraph (a) specifies the requirements

applicable to process wastewater streams located at affected facilities. The owner or operator shall comply with the requirements in paragraphs (a)(1) through (3) of this section, no later than the applicable dates specified in §60.770 of this subpart.

(1) Determine wastewater streams to be controlled. Determine whether each wastewater stream requires control for organic wastewater compound by following the requirements in either paragraph (b) of this section, determining Group 1 or Group 2, or paragraph ©) of this section, designating Group 1, and comply with the requirements in paragraph (d) of this section.

(2) Requirements for Group 1 wastewater streams. For wastewater streams that are Group 1, comply with paragraphs (a)(2)(i) through (v) of this section.

(i) Comply with the applicable requirements for wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators as specified in §60.774 of this subpart.

(ii) Comply with the applicable requirements for control of organic wastewater compound for treatment processes and the test methods and procedures to determine compliance as specified in §§60.779 and 60.783 of this subpart. Alternatively, the owner or operator may elect to comply with the treatment provisions specified in paragraph (e) of this section.

(iii) Comply with the applicable control device, leak inspection, and delay of repair provisions as specified in §§60.780, 60.786, and 60.777 of this subpart, unless otherwise specified in this subpart.

(iv) Comply with the applicable monitoring requirements specified in §60.781 of

this subpart, unless otherwise specified in this subpart.

(v) Comply with the applicable reporting and recordkeeping requirements specified in §§60.784 and 60.785 of this subpart, unless otherwise specified in this subpart.

(3) Requirements for Group 2 wastewater streams. For wastewater streams that are Group 2, comply with the applicable reporting and recordkeeping requirements specified in §§60.784(c)(15) and 60.785(c)(9) of this subpart.

(b) How to determine Group 1 or Group 2 status. This paragraph (b) provides instructions for determining whether a process wastewater stream is Group 1 or Group 2. Annual average concentration shall be determined according to the procedures specified in §60.782(b) of this subpart. Annual average flow rate shall be determined according to the procedures specified in §60.782©) of this subpart.

(1) A wastewater stream is a Group 1 wastewater stream if:

(i) The annual average concentration of organic wastewater compound is greater than or equal to 10,000 ppmw at any flow rate; or

(ii) The annual average concentration of organic wastewater compound is greater than or equal to 500 ppmw and the annual average flow rate is greater than or equal to 1 liter per minute.

(2) A wastewater stream is a Group 2 wastewater stream if it is not a Group 1 wastewater stream by the criteria in paragraph (b)(1) of this section.

©) How to designate a Group 1 wastewater stream. The owner or operator may elect to designate a wastewater stream as a Group 1 wastewater stream in order to

comply with paragraph (a)(1) of this section. To designate a wastewater stream or a mixture of wastewater streams as a Group 1 wastewater stream, the procedures specified in paragraphs (c)(1) and (2) of this section and §60.782(a)(2) of this subpart shall be followed.

(1) From the point of determination for each wastewater stream that is included in the Group 1 designation to the location where the owner or operator elects to designate such wastewater stream(s) as a Group 1 wastewater stream, the owner or operator shall comply with all applicable emission suppression requirements specified in §60.774 of this subpart.

(2) From the location where the owner or operator designates a wastewater stream or mixture of wastewater streams to be a Group 1 wastewater stream, such Group 1 wastewater stream shall be managed in accordance with all applicable emission suppression requirements specified in §60.774 of this subpart and with the treatment requirements in §60.779 of this subpart.

(d) Owners or operators shall not discard liquid or solid organic materials containing greater than 10,000 parts per million of organic wastewater compound (as determined by analysis of the stream composition, engineering calculations, or process knowledge) from a CPU to water or wastewater, unless the receiving stream is managed and treated in accordance with the waste management provisions in §60.774 and the treatment process provisions in §60.779(a) through (k). This prohibition does not apply to materials from the activities listed in paragraphs (d)(1) through (d)(4) of this section.

- (1) Equipment leaks;
- (2) Activities included in maintenance or startup, shutdown, and malfunction plans;
- (3) Spills; or
- (4) Samples of a size not greater than reasonably necessary for the method of analysis that is used.

(e) Off-site or third-party treatment. The owner or operator may elect to transfer a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream to an on-site treatment operation not owned or operated by the owner or operator of the affected facility generating the wastewater stream or residual, or to an off-site treatment operation.

(1) The owner or operator transferring the wastewater stream or residual shall:

(i) Comply with the provisions specified in §60.774 of this subpart for each waste management unit that receives or manages a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream prior to shipment or transport.

(ii) Include a notice, as specified in §60.784(h)(3) of this subpart, with the shipment or transport of each Group 1 wastewater stream or residual removed from a Group 1 wastewater stream. The notice shall be retained by the owner or operator as specified in §60.785(d) of this subpart.

(2) The owner or operator may not transfer the wastewater stream or residual unless the transferee has submitted to EPA a written certification, as specified in

§60.784(h)(4) of this subpart, that the transferee will manage and treat any Group 1 wastewater stream or residual removed from a Group 1 wastewater stream received from an affected facility subject to the requirements of this subpart, in accordance with the requirements of either §§60.774 through 60.786 of this subpart, or §60.787(b) of this subpart if alternative emission limitations have been granted the transferor in accordance with those provisions. The certification shall be retained by the owner or operator as specified in §60.785(d) of this subpart. The certifying entity may revoke the written certification by sending a written statement to EPA and the owner or operator giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the regulatory provisions listed in this paragraph. Upon expiration of the notice period, the owner or operator may not transfer the wastewater stream or residual to the treatment operation.

(i) By providing this written certification to EPA, the certifying entity accepts responsibility for compliance with the regulatory provisions listed in paragraph (e)(2) of this section with respect to any shipment of wastewater or residual covered by the written certification. Failure to abide by any of those provisions with respect to such shipments may result in enforcement action by EPA against the certifying entity in accordance with the enforcement provisions applicable to violations of these provisions by owners or operators of affected facilities.

(ii) Written certifications and revocation statements, to EPA from the transferees of wastewater or residuals, shall be signed by a responsible official of the certifying entity, provide the name and address of the certifying entity, and be sent to the

appropriate EPA Regional Office. Such written certifications are not transferable by the treater.

§60.774 Wastewater tank, surface impoundment, container, individual drain system, and oil-water separator provisions.

(a) General requirements. For each waste management unit that receives, manages, treats, or otherwise handles one or more of the wastewater streams or residuals listed in paragraphs (a)(1) through (4) of this section, the owner or operator shall comply with one of the reference rules listed in Table 3a to this subpart; shall comply with paragraphs (b) through (k) of this section; and shall comply with Tables 3b, 4, 5a, and 5b to this subpart. Different compliance control requirements may be used for each waste management unit.

(1) Group 1 wastewater stream;

(2) Residual taken from a Group 1 wastewater stream;

(3) Group 1 and Group 2 wastewater stream, when complying with the 95 percent required mass removal (RMR) option for biological treatment processes in §60.779(g) of this subpart; and

(4) Group 1 wastewater streams controlled or partially controlled, and not counted toward the 5 Mg exemption, when complying with §60.779(m) of this subpart.

(b) Reference rules. The reference rules are listed in Table 3a to this subpart and in paragraphs (b)(1) through (5) of this section. Table 3b to this subpart lists provisions in the reference rules and provisions of this subpart that shall be used to achieve compliance with this subpart.

(1) HON. “National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry,” also known as the “HON,” is located in 40 CFR part 63, subparts F and G. The HON may be used to comply for all five types of waste management units: wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators.

(2) Standard-standards. The four subparts in 40 CFR part 63 known as the standard-standards are referenced by this subpart and are listed in paragraphs (b)(2)(i) through (iv) of this section. The standard-standards may be used for four types of waste management units: surface impoundments, containers, individual drain systems, and oil-water separators.

(i) “National Emission Standards for Containers” is located in 40 CFR part 63, subpart PP;

(ii) “National Emission Standards for Surface Impoundments” is located in 40 CFR part 63, subpart QQ;

(iii) “National Emission Standards for Individual Drain Systems” is located in 40 CFR part 63, subpart RR; and

(iv) “National Emission Standards for Oil-Water Separators and Organic-Water Separators” is located in 40 CFR part 63, subpart VV.

(3) [Reserved]

(4) Resource Conservation and Recovery Act (RCRA), subpart CC. “Air Emission Standards for Tanks, Surface Impoundments, and Containers” are located in 40 CFR part 264, subpart CC and 40 CFR, part 265, subpart CC. The RCRA, subpart

CC rules may be used to comply for three types of waste management units: wastewater tanks, surface impoundments, and containers.

(5) Benzene Waste NESHAP. “National Emission Standard for Benzene Waste Operations” is located in 40 CFR part 61, subpart FF. The Benzene Waste rule may be used to comply for all five types of waste management units: wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators.

©) Control criteria for wastewater tanks. The owner or operator shall comply with the appropriate control requirement for wastewater tanks, as specified in Table 4 of this subpart, based on maximum true vapor pressure as defined in §60.771, and tank capacity.

(d) Definitions. When definitions differ between this subpart and a reference rule, the definitions in this subpart shall apply. If a term in the reference rule is not defined in this subpart, the definition from the applicable reference rule shall apply.

(e) Conforming terms and conforming references. Tables 5a and 5b to this subpart list terms and references that must be substituted for those used in the reference rule.

(f) Exceptions to the HON. The exceptions in paragraphs (f)(1) through (4) of this section apply to the HON for the purposes of complying with this subpart.

(1) Pressure relief devices. The following exceptions apply to the provisions of 40 CFR 63.133 through 63.137.

(i) Waste management units may be equipped with pressure relief devices that vent directly to the atmosphere, provided the pressure relief device is not used for

planned or routine venting of organic wastewater compound emissions.

(ii) All pressure relief devices shall remain in a closed position at all times except when it is necessary for the pressure relief device to open for the purpose of preventing physical damage or permanent deformation of the waste management unit in accordance with good engineering and safety practices.

(2) Individual drain systems. The following exceptions apply to the provisions of 40 CFR 63.136.

(i) Lift stations otherwise compliant with the junction box standards found in 40 CFR 63.136 (e)(2)(ii) are not required to comply with 40 CFR 63.136 (e)(2)(ii)(A), but may have openings necessary for proper venting of the lift station, such as a pressure/vacuum vent or a j-pipe vent.

(ii) The provisions of 40 CFR 63.136 (e)(3) apply except that a sewer line connected to drains that are in compliance with 40 CFR 63.136 (e)(1) may be vented to the atmosphere, provided that the sewer line entrance to the first downstream junction box is water sealed and the sewer line vent pipe is designated as specified in 40 CFR 63.136 (e)(2)(ii)(A).

(3) Reports - Notification of Compliance Status. When information is required to be reported according to 40 CFR 63.152(b) in the Notification of Compliance Status, the information shall be reported in the Notification of Compliance Status required by §60.784©) of this subpart.

(4) Reports - periodic reports. When information is required to be reported according to 40 CFR 63.152©) in the Periodic Report, the information shall be reported

in the semiannual report required by §60.784(d) of this subpart.

(g) Exceptions to the Standard-standards. The exceptions in paragraphs (g)(1) through (7) of this section apply to the standard-standards for the purposes of complying with this subpart.

(1) Containers. Containers with a design capacity greater than 0.42 m³ shall be Level 2 containers. Containers with a design capacity greater than or equal to 0.1 m³ and less than or equal to 0.42 m³ shall be Level 1 containers. Storage units with capacities less than 0.1 m³ are not containers for the purposes of this subpart. The requirements for Level 3 containers do not apply.

(2) Surface impoundments that use a floating membrane cover - inspection and monitoring provisions. When the inspection provisions specified in 40 CFR 63.946(a) are referenced in 40 CFR 63.942, the requirements of 40 CFR 63.946(a)(3) and (4) do not apply. Instead, the requirements of 60.786 (d) of this subpart apply.

(3) Surface impoundments equipped with a cover and vented through a closed-vent system - inspection and monitoring provisions. When the inspection provisions specified in 40 CFR 63.946(b) are referenced in 40 CFR 63.943, the requirements of 40 CFR 63.946(b)(1)(iii), (b)(1)(iv), and (b)(2) do not apply. Instead, the requirements of 60.786 (d) of this subpart apply.

(4) Oil-water separators. For portions of the separator where it is infeasible to install and operate a floating roof, such as over a weir mechanism, the owner or operator shall comply with 40 CFR 63.1044.

(5) Oil-water separators equipped with a fixed roof - inspection provisions.

When the inspection provisions specified in 40 CFR 63.1047(a) are referenced in 40 CFR 63.1042(d), the requirements of 40 CFR 63.1047(a)(3) and (4) do not apply. Instead, the requirements of 60.786 (d) of this subpart apply.

(6) Oil-water separators equipped with a floating roof - inspection provisions.

When the inspection provisions specified in 40 CFR 63.1047(b) are referenced in 40 CFR 63.1043(d), the requirements of 40 CFR 63.1047(b)(1)(iv), (b)(1)(v), (b)(2)(iii), and (b)(2)(iv) do not apply. Instead, the requirements of 60.786 (d) of this subpart apply.

(7) Oil-water separators equipped with a fixed roof and vented through a closed-vent system to a control device - inspection provisions. When the inspection provisions specified in 40 CFR 63.1047(c) are referenced in 40 CFR 63.1044(d), the requirements of 40 CFR 63.1047(c)(1)(iii), (c)(1)(iv), and (c)(2) do not apply. Instead, the requirements of 60.786 (d) of this subpart apply.

(h) [Reserved]

(i) Exceptions to RCRA 40 CFR part 264, subpart CC. The exceptions in paragraphs (i)(1) through (4) of this section apply to RCRA 40 CFR part 264, subpart CC for the purposes of complying with this subpart.

(1) 40 CFR 264.1084(a) and (j), 264.1085(a) and (e), and 264.1086(a) and (d)(2) do not apply.

(2) Inspection and monitoring. When 40 CFR 264.1088(b) requires that “the owner or operator shall incorporate this plan and schedule into the facility inspection plan required under 40 CFR 264.15,” the written plan and schedule required by paragraph 40 CFR 264.1088(b) shall be submitted as part of the Notification of

Compliance Status required by §60.784©).

(3) Recordkeeping. When complying with the recordkeeping provisions specified in 40 CFR 264.1089, the provisions of paragraphs (a), (e)(1)(iii), (f), (h), (i), and (j) of 40 CFR 264.1089 shall not apply because the provisions of these paragraphs are not related to waste management units or closed-vent systems and control devices.

(4) Reporting. When complying with the reporting provisions specified in 40 CFR 264.1090, the provisions of paragraph (a) of 40 CFR 264.1090 shall not apply because the provisions of this paragraph are not related to waste management units or closed-vent systems and control devices.

(j) Exceptions to RCRA 40 CFR part 265, subpart CC. The exceptions in paragraphs (j)(1) through (4) of this section apply to RCRA 40 CFR part 265, subpart CC for the purposes of complying with this subpart.

(1) 40 CFR 265.1085(a) and (j), 265.1086(a) and (e), and 265.1087(a) and (d)(2) do not apply.

(2) Inspection and monitoring. When 40 CFR 265.1089(b) requires that “the owner or operator shall incorporate this plan and schedule into the facility inspection plan required under 40 CFR 265.15,” the written plan and schedule required by paragraph 40 CFR 265.1089(b) shall be submitted as part of the Notification of Compliance Status required by §60.784©).

(3) Recordkeeping. When complying with the recordkeeping provisions specified in 40 CFR 265.1090, the provisions of paragraphs (a), (e)(1)(iii), (f), (h), (i), and (j) of 40 CFR 265.1090 shall not apply because the provisions of these paragraphs

are not related to waste management units or closed-vent systems and control devices.

(4) Reporting. When complying with the reporting provisions specified in 40 CFR 264.1090, the provisions of paragraph (a) of 40 CFR 264.1090 shall not apply because the provisions of this paragraph are not related to waste management units or closed-vent systems and control devices.

(k) Exceptions to Benzene Waste NESHAP. The exceptions in paragraphs (k)(1) through (5) of this section apply to Benzene Waste, 40 CFR part 61, subpart FF for the purposes of complying with this subpart.

(1) The provisions of 40 CFR 61.342(c)(1)(ii), as cited in the phrase “in which the waste stream is placed in accordance with 40 CFR 61.342(c)(1)(ii)” in 40 CFR 61.343 through 61.347, shall not apply.

(2) When cited in 40 CFR 61.349(a)(2)(iv)(A), the phrase “or shall recover or control the benzene emissions vented to it with an efficiency of 98 weight percent or greater” shall not apply.

(3) When cited in 40 CFR 61.349(a)(iv)(B), the phrase “or 98 percent or greater for benzene” shall not apply.

(4) Recordkeeping. When complying with the recordkeeping provisions specified in 40 CFR 61.356, the provisions of paragraphs (a), (b), (c), (e), (f), (i), (k), and (l) of 40 CFR 61.356 shall not apply. The provisions of these paragraphs do not apply because they are not related to waste management units or closed-vent systems and control devices.

(5) Reporting. When complying with the reporting provisions specified in 40

CFR 61.357, the provisions of paragraphs (a), (b), ©), (d)(1) through (5), (d)(7)(i) through (iii), (e), (f), and (g) of 40 CFR 61.357 shall not apply. The provisions of these paragraphs do not apply because they are not related to waste management units or closed-vent systems and control devices.

§60.775 Control requirements for aqueous in-process streams.

(a) The owner or operator shall comply with the provisions of Table 6 to this subpart, for each item of equipment meeting all the criteria specified in paragraphs (b) through (d) of this section and either paragraph (e)(1) or (2) of this section.

(b) The item of equipment is of a type identified in Table 6 to this subpart;

©) The item of equipment is part of an affected facility subject to this subpart;

(d) The item of equipment is controlled less stringently than in Table 6 to this subpart and is not listed in §60.770 (d)(4) of this subpart, and the item of equipment is not otherwise exempt from controls by the provisions of this subpart or subpart A 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 an annual average concentration greater than or equal to 10,000 of organic wastewater compound at any flow rate; or an annual average concentration greater than or equal to 500 ppmw of organic wastewater compound at an annual average flow rate greater than or equal to 1 liter per minute where the aqueous in-process stream characteristics shall be determined according to the procedures in § 60.782 (b) and ©) of this subpart; or

(2) Is a tank that receives one or more streams that contain water with an annual average concentration greater than or equal to 500 parts per million by weight of organic wastewater compound at an annual average flow rate greater than or equal to 1 liter per minute. The owner or operator of the affected facility 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 §60.782(b) and ©) of this subpart.

§60.776 Maintenance wastewater requirements.

(a) Each owner or operator of an affected facility subject to this subpart shall comply with the requirements of paragraphs (b) through (d) of this section for maintenance wastewater containing organic wastewater compound.

(b) The owner or operator shall prepare a description of maintenance procedures for management of maintenance wastewater generated from the clearing and cleaning of equipment in the process during temporary shutdowns for inspections, maintenance, and repair (i.e., a maintenance-turnaround) and during periods which are not shutdowns (i.e., routine maintenance). The descriptions shall be as follows:

(1) Specify the process equipment, type of process equipment, or maintenance task(s) that are anticipated to create wastewater during maintenance activities.

(2) Specify the procedures that will be followed to properly manage the wastewater to limit organic wastewater compound emissions to the atmosphere; and

(3) Specify the procedures to be followed when emptying and purging and any other activities to remove materials from process equipment.

©) The owner or operator shall modify and update the information required by paragraph (b) of this section as needed to reflect new or revised equipment or procedures.

(d) The owner or operator shall maintain a record of the information required by paragraphs (b) and ©) of this section, as required by §60.785(c)(16) of this subpart.

§60.777 Delay of repair.

(a) Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, is allowed if the repair is technically infeasible without a shutdown, as defined in §60.771 of this subpart, or if the owner or operator determines that organic wastewater compound emissions of purged material from immediate repair would be greater than the organic wastewater compound emissions likely to result from delay of repair. Repair of this equipment shall occur by the end of the next shutdown.

(b) Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, is allowed if the equipment is emptied or is no longer used to treat or manage Group 1 wastewater streams or residuals removed from Group 1 wastewater streams.

©) Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified is also allowed if additional time is necessary due to the unavailability of parts beyond the control of the owner or operator. Repair

shall be completed as soon as practical. The owner or operator who uses this provision shall comply with the requirements of §60.785(c)(7) of this subpart to document the reasons that the delay of repair was necessary.

§60.778 Stream-specific list of organic wastewater compound determination.

(a) General. This section specifies how to determine a stream-specific list of organic wastewater compound for a process wastewater stream or in-process aqueous stream. A stream-specific list of organic wastewater compound is required when speciation is used for compliance demonstration (i.e., performance tests, design evaluations, and ranges of parameters set for monitoring) and for determining if an organic wastewater compound emissions increase has occurred for modification determinations. A stream-specific list may also be used for Group 1 and Group 2 determinations.

(b) Test methods for determining organic wastewater compound concentration.

The owner or operator shall use one of the test methods that speciates compounds and is specified in §60.782(b)(5) of this subpart to determine concentration. For process wastewater streams, the annual average concentration shall be determined either at the point of determination or downstream of the point of determination, with adjustment for concentration changes made according to §60.782(b)(6) of this subpart if a point downstream of the point of determination is used. For aqueous in-process streams, the annual average concentration shall be determined before the point of determination and shall be adjusted for any losses of organic wastewater compound to the atmosphere and for dilution.

©) Compounds that may be excluded from the stream-specific list of organic wastewater compound. Compounds that meet the requirements specified in paragraph (c)(1), (2), or (3) of this section are not required to be included in the stream-specific list of organic wastewater compound. The owner or operator shall use one of the methods specified in §60.782(b)(5) of this subpart to determine concentration.

(1) Compounds not used or produced by the CPU.

(2) Compounds with concentrations at the point of determination that are below 1 ppmw.

(3) Compounds with concentrations at the point of determination that are below the lower detection limit, where the lower detection limit is greater than 1 ppmw. The method used for determining concentration shall be an analytical method for wastewater which has the compound of interest as a target analyte.

(d) Create stream-specific list of organic wastewater compound for Group 1 and Group 2 determinations and modifications. The owner or operator shall include those individual organic wastewater compounds with the greatest mass on the stream-specific list of organic wastewater compound until at least 90 percent of the total mass of organic wastewater compound in the process wastewater stream is accounted for, or until the 75 compounds with the greatest mass are accounted for, except as provided by paragraph ©) of this section. If the compounds on the stream-specific list of organic wastewater compound do not represent at least 90 percent of total organic wastewater compound or the 75 compounds with the greatest mass, Method 25D in appendix A to this part shall be used to determine annual average organic wastewater compound

concentration.

(e) Create stream-specific list of organic wastewater compound for compliance demonstrations. The owner or operator shall develop a stream specific list of organic wastewater compounds according to paragraphs (1),(2), or (3) below.

(1) For the owner or operator that can identify at least 90 percent, by mass, of the organic wastewater compound in the wastewater stream or aqueous in-process stream, the individual organic wastewater compounds that are 5 percent, by mass, or greater are required to be included on the list. If less than half of the total organic wastewater compounds in the wastewater are represented by the compounds with a mass of 5 percent or greater, the owner or operator shall include those individual organic wastewater compounds with the greatest mass on the stream-specific list of organic wastewater compounds until 75 compounds or every compound, whichever is fewer, are included on the list, except as provided by paragraph ©) of this section. The owner or operator shall document that the site-specific list of VOC is representative of the process wastewater stream and forms the basis of a good compliance determination.

(2) For the owner or operator that cannot identify at least 90 percent but can identify at least 50 percent, by mass, of the organic wastewater compound in the wastewater stream, the individual organic compounds with the greatest mass on a stream-specific list of organic wastewater compound up to 75 compounds or every compound, whichever is fewer, are to be included on the list, except as provided by paragraph ©) of this section. The owner or operator shall document that the site-

specific list of VOC is representative of the process wastewater stream and forms the basis of a good compliance determination.

(3) For the owner or operator that cannot identify at least 50 percent, by mass, of the organic wastewater compound in the process wastewater stream, one of the following compliance options shall be used to treat the process wastewater stream:

- (i) The design steam stripper option in §60.779(d) of this subpart; or
- (ii) The 95 percent mass removal with outlet concentration of 50 ppmw option in §60.779(e)(2) of this subpart; or
- (iii) The steam stripper option in §60.779(e)(3) of this subpart.
- (iv) The percent mass removal/destruction option in §60.779 (e)(1) using combustion compliance demonstration described in §60.783 (d)(10).
- (v) The RMR option in 60.779 (g) for biological treatment using the nonspecified bio method in Appendix C of Part 63.

§60.779 Process wastewater provisions - Performance standards for treatment processes managing Group 1 wastewater streams and/or residuals removed from Group 1 wastewater streams.

(a) This section specifies the performance standards for treating process wastewater streams that are Group 1 wastewater streams. The owner or operator shall comply with the requirements as specified in paragraphs (a)(1) through (8) of this section. Where multiple compliance options are provided, the options may be used in combination for different wastewater streams and/or for different compounds in the same wastewater streams, except where otherwise provided in this section. Once a

Group 1 wastewater stream or residual removed from a Group 1 wastewater stream has been treated in accordance with this subpart, it is no longer subject to the requirements of this subpart.

(1) Control options: Group 1 wastewater streams. The owner or operator shall comply with the requirements specified in any one of paragraphs (d), (e), (f), (g), (h), or (m) of this section, except as provided in §60.789 of this subpart for relationship with other rules.

(2) [Reserved]

(3) Biological treatment processes. Biological treatment processes in compliance with this section may be either open or closed biological treatment processes as defined in §60.771 of this subpart. An open biological treatment process in compliance with this section need not be covered and vented to a control device as required in §60.774 of this subpart. An open or a closed biological treatment process in compliance with this section and using §60.783(f) or (g) of this subpart to demonstrate compliance is not subject to the requirements of §60.774 of this subpart. A closed biological treatment process in compliance with this section and using §60.783(e) of this subpart to demonstrate compliance shall comply with the requirements of §60.774 of this subpart. Waste management units upstream of an open or closed biological treatment process shall meet the requirements of §60.774 of this subpart, as applicable.

(4) Performance tests and design evaluations. If the design steam stripper option (paragraph (d) of this section) or the RCRA option (paragraph (h) of this section) is selected to comply with this section, neither a design evaluation nor a performance

test is required. If §60.789(e) of this subpart (overlap with the HON and MON) is selected to comply with this section, the performance test or design evaluation used to demonstrate compliance for the HON or MON also demonstrates compliance with this section for those Group 1 streams that are also subject to and controlled according to the provisions of the HON and the MON. For any other non-biological treatment process, and for closed biological treatment processes as defined in §60.771 of this subpart, the owner or operator shall conduct either a design evaluation as specified in paragraph (j) of this section, or a performance test as specified in §60.783 of this subpart. For each open biological treatment process as defined in §60.771 of this subpart, the owner or operator shall conduct a performance test as specified in §60.783 of this subpart. (Note to paragraph (a)(4) of this section: Some open biological treatment processes may not require a performance test. Refer to §60.783(h) of this subpart and Table 36 to the appendix to subpart G of 40 CFR part 63 to determine whether the biological treatment process meets the criteria that exempt the owner or operator from conducting a performance test.)

(5) Control device requirements. When gases are vented from the treatment process, the owner or operator shall comply with the applicable control device requirements specified in §§60.780 and 60.783(i) and (j) of this subpart, and the applicable leak inspection provisions specified in §60.786 of this subpart. This requirement does not apply to any open biological treatment process that meets the mass removal requirements. Vents from anaerobic biological treatment processes may be routed through hard-piping to a fuel gas system.

(6) Residuals: general. When residuals result from treating Group 1 wastewater streams, the owner or operator shall comply with the requirements for residuals specified in paragraph (k) of this section.

(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 or control device to comply with emissions limitations, the owner or operator may use multiple treatment processes or control devices, respectively. For combinations of treatment processes where the wastewater stream is conveyed by hard-piping, the owner or operator shall comply with the requirements of either paragraph (a)(7)(i) or (ii) of this section. For combinations of treatment processes where the wastewater stream is not conveyed by hard-piping, the owner or operator shall comply with the requirements of paragraph (a)(7)(ii) of this section. For combinations of control devices, the owner or operator shall comply with the requirements of paragraph (a)(7)(i) of this section.

(i)(A) For combinations of treatment processes, the wastewater stream shall be conveyed by hard-piping between the treatment processes. For combinations of control devices, the vented gas stream shall be conveyed by hard-piping between the control devices.

(B) For combinations of treatment processes, each treatment process shall meet the applicable requirements of §60.774 of this subpart except as provided in paragraph (a)(3) of this section.

©) The performance test or design evaluation shall determine compliance

across the combination of treatment processes or control devices. If a performance test is conducted, the "inlet" shall be the point at which the wastewater stream or residual enters the first treatment process, or the vented gas stream enters the first control device. The "outlet" shall be the point at which the treated wastewater stream exits the last treatment process, or the vented gas stream exits the last control device.

(ii)(A) For combinations of treatment processes, each treatment process shall meet the applicable requirements of §60.774 of this subpart except as provided in paragraph (a)(3) of this section.

(B) The owner or operator shall determine the mass removed or destroyed by each treatment process. The performance test or design evaluation shall determine compliance for the combination of treatment processes by adding together the mass removed or destroyed by each treatment process.

(8) Prohibition against double counting. The removal of organic wastewater compound must be in addition to the reduction and destruction required by other rules, unless the removal of organic wastewater compound is from the same stream.

(a) [Reserved]

(b) [Reserved]

© [Reserved]

(d) Design steam stripper option. The owner or operator shall operate and maintain a steam stripper that meets the requirements of paragraphs (d)(1) through (6) of this section.

(1) Minimum active column height of 5 meters;

- (2) Countercurrent flow configuration with a minimum of 10 actual trays;
 - (3) Minimum steam flow rate of 0.04 kilogram of steam per liter of wastewater feed within the column;
 - (4) Minimum wastewater feed temperature to the steam stripper of 95°C, or minimum column operating temperature of 95°C;
 - (5) Maximum liquid loading of 67,100 liters per hour per square meter; and
 - (6) Operate at nominal atmospheric pressure.
- (e) Percent mass removal/destruction option, for non-biological treatment process. For wastewater streams that are Group 1 and treated in a non-biological treatment process, the owner or operator shall comply with either paragraph (e)(1) or (2) of this section for a non-combustion treatment process and paragraph (e)(1) of this section for a combustion treatment process. For wastewater streams that are Group 1 and treated in a steam stripper, the owner or operator shall comply with either paragraph (e)(1), (2), or (3) of this section. This paragraph (e) shall not be used for biological treatment processes.

(1) Reduce mass flow rate of organic wastewater compound by the appropriate Fr values. For wastewater streams that are Group 1, the owner or operator shall reduce, by removal or destruction, the mass flow rate of organic wastewater compound by the required removal or destruction efficiency; i.e, the flow-weighted average Fr value. To use this compliance option for treatment devices other than combustion devices, the owner or operator shall develop a stream-specific list of organic wastewater compound upon which to base the compliance destruction and shall calculate a flow-

weighted average Fr. Follow the procedures in §60.778 of this subpart to develop a stream-specific list of organic wastewater compound. Follow the procedures in appendix J to this part to determine Fr values for individual compounds. The owner or operator shall conduct either a design evaluation or a performance test. Design evaluation requirements are specified in paragraph (j) of this section. Performance test requirements are specified in §60.783(c) of this subpart for non-combustion treatment processes, and in §60.783(d) of this subpart for combustion treatment processes.

(2) Reduce mass flow rate of organic wastewater compound by 95 percent and reduce outlet concentration of organic wastewater compound to less than 50 ppmw, for non-combustion treatment process. For wastewater streams that are Group 1, the owner or operator shall reduce, by removal or destruction, the mass flow rate of organic wastewater compound by 95 percent and reduce the outlet concentration of organic wastewater compound to less than 50 ppmw. The owner or operator shall conduct either a design evaluation or a performance test. Design evaluation requirements are specified in paragraph (j) of this section. Performance test requirements are specified in §60.783(c) of this subpart.

(3) Demonstrate that a steam stripper reduces the mass flow rate of methanol, 1-butanol, and methyl ethyl ketone by the appropriate Fr value. For wastewater streams that are Group 1 and treated in a steam stripper, the owner or operator shall demonstrate that the mass flow rate of methanol, butanol, and methyl ethyl ketone is reduced by the compound's Fr value, taken as a percentage, contained in Table 2 to Appendix J; These three compounds are target analytes and do not need to be present

in the wastewater as a result of manufacturing operations. The owner or operator shall conduct either a design evaluation or a performance test. Design evaluation requirements are specified in paragraph (j) of this section. Performance test requirements are specified in §60.783(c) of this subpart. When design evaluations are used to demonstrate compliance, the Henry's law constant at 25°C (expressed as y/x atmosphere per mole fraction) used in the evaluation shall be based on the values contained in Table 4 to Appendix J.

(f) RMR option, for non-combustion treatment process. For wastewater streams that are Group 1, the owner or operator shall reduce, by removal or destruction, the mass flow rate of organic wastewater compound by the RMR; i.e, the flow-weighted average Fr. Follow the procedures in appendix J to this part to determine Fr values. The owner or operator shall conduct a compliance demonstration as specified in paragraphs (f)(1), (2), and (3) of this section.

(1) Non-biological, non-combustion treatment process. The owner or operator shall conduct either a design evaluation or a performance test. Design evaluation requirements are specified in paragraph (j) of this section. Performance test requirements are specified in §60.783(e) of this subpart.

(2) Aerobic biological treatment process -- open and closed biological treatment processes. Closed biological treatment process means a tank or surface impoundment where biological treatment occurs and air organic wastewater compound emissions from the treatment process are routed to either a control device by means of a closed-vent system or to a fuel gas system by means of hard-piping. The tank or surface

impoundment has a fixed roof, as defined in §60.771 of this subpart, or a floating flexible membrane cover that meets the requirements specified in 40 CFR §63.134. An open biological treatment process is not a closed biological treatment process. Open biological treatment processes have additional requirements for compliance demonstration because they have more potential for organic wastewater compound emissions.

(i) Closed biological treatment process. The owner or operator shall conduct either a design evaluation or a performance test. Design evaluation requirements are specified in paragraph (j) of this section. Performance test requirements are specified in both §60.783(e) and (f) of this subpart.

(ii) Open biological treatment process. The owner or operator shall conduct a performance test as specified in §60.783(f) of this subpart, except as provided in §60.783(h) of this subpart.

(3) Anaerobic biological treatment process. An anaerobic biological treatment process shall also be a closed biological treatment process. The owner or operator shall conduct either a design evaluation or a performance test. Design evaluation requirements are specified in paragraph (j) of this section. Performance test requirements are specified in §60.783(e) of this subpart.

(g) 95 percent RMR option, for biological treatment processes. The owner or operator shall reduce, by removal or destruction, the mass flow rate of organic wastewater compound by 95 percent for all wastewater entering the biological treatment process. The owner or operator shall conduct a compliance demonstration as specified

in paragraphs (g)(1) and (2) of this section. The owner or operator shall also comply with paragraphs (g)(3) and (4) of this section.

(1) Aerobic biological treatment process -- open and closed biological treatment processes.

(i) Closed biological treatment process. The owner or operator shall conduct either a design evaluation or a performance test. Design evaluation requirements are specified in paragraph (j) of this section. Performance test requirements are specified in both §60.783(e) and (g) of this subpart.

(ii) Open biological treatment process. The owner or operator shall conduct a performance test as specified in §60.783(g) of this subpart, except as provided in §60.783(h) of this subpart.

(2) Anaerobic biological treatment process. An anaerobic biological treatment process shall also be a closed biological treatment process. The owner or operator shall conduct either a design evaluation or a performance test. Design evaluation requirements are specified in paragraph (j) of this section. Performance test requirements are specified in §60.783(e) of this subpart.

(3) For each treatment process or waste management unit that receives, manages, or treats wastewater streams subject to this paragraph (g)(3), from the point of determination of each Group 1 or Group 2 wastewater stream to the biological treatment unit, the owner or operator shall comply with §60.774 of this subpart for control of air organic wastewater compound emissions.

(4) If a wastewater stream is in compliance with the requirements in paragraph

(d), (e), (f), (h), or (m) of this section before entering the biological treatment unit, the organic wastewater compound mass of that wastewater is not required to be included in the total mass flow rate entering the biological treatment unit for the purpose of demonstrating compliance.

(h) Treatment in a RCRA unit option. The owner or operator shall treat the wastewater stream or residual in a unit identified in, and complying with, paragraph (h)(1), (2), or (3) of this section. These units are exempt from the design evaluation or performance test requirements specified in paragraphs (a)(4) and (j) of this section, and from the monitoring requirements specified in §60.781 of this subpart, as well as recordkeeping and reporting requirements associated with monitoring and performance tests.

(1) The wastewater stream or residual is discharged to a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

(2) The wastewater stream or residual is discharged to a process heater or boiler burning hazardous waste for which the owner or operator:

(i) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H; or

(ii) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(3) The wastewater stream or residual is discharged to an underground injection well for which the owner or operator has been issued a final permit under 40 CFR part 270 or 40 CFR part 144 and complies with the requirements of 40 CFR part 122. The owner or operator shall comply with all applicable requirements of this subpart prior to the point where the wastewater enters the underground portion of the injection well.

(i) Alternative Requirements for Biological Treatment. For any wastewater streams that are Group 1, you may elect to comply with the requirements specified in paragraph (b)(1) of this section as an alternative to the otherwise applicable requirements specified in paragraph (a) of this section. You must include in this calculation all OWC detected in the inlet to the first primary treatment unit.

(1) If the wastewater stream is discharged to open biological treatment, §60.774 does not apply for any equalization unit, neutralization unit, or clarifier prior to the activated sludge unit, the control options specified in §60.779(g) do not apply, and the performance testing requirements specified in §60.783(g) do not apply, provided you comply with all of the conditions specified in paragraphs (b)(1)(i) through (vii).

(i) Wastewater must be hard-piped between the equalization unit, neutralization unit, clarifier, and activated sludge unit.

(ii) Calculate the destruction efficiency of the biological treatment unit using Equation 5 of this section. You have

demonstrated compliance if E is greater than or equal to 90 percent.

$$E = \frac{(QMW_a - QMG_e - QMG_n - QMG_c)(F_{bio})}{QMW_a} \times 100 \quad \text{[Equation 5]}$$

Where:

- E = Destruction efficiency of total OWC for the biological treatment unit including the equalization unit, neutralization unit, and/or clarifier, percent
- QMW_a = mass flow rate of total OWC compounds entering the equalization unit, kg/hr
- QMG_e = mass flow rate of total OWC compounds emitted from the equalization units, kg/hr
- QMG_n = mass flow rate of total OWC compounds emitted from the neutralization units, kg/hr
- QMG_c = mass flow rate of total OWC compounds emitted from the clarifier, kg/hr
- F_{bio} = Site-specific fraction of OWC compounds biodegraded in the biological treatment unit

(iii) Determine the value of the terms in Equation 5 of this section under representative conditions in accordance with §60.783(a)(8) and (9).

(iv) Determine OWC concentrations and the total wastewater flow rate at the inlet to the equalization unit or clarifier, whichever comes first, to calculate Q_{Ma} .

(v) Determine QMG_e , QMG_n and QMG_c using WATER9 or the most recent update to this model, and conduct testing or use other procedures to validate the modeling results.

(vi) Determine F_{bio} for the activated sludge unit as specified in §60.783(h)(2)(ii). For units that are not required to conduct performance testing to determine F_{bio} as described in §60.783(h)(1), replace the F_{bio} term in equation 5 of this section with the numeral "1".

(vii) Comply with the monitoring requirements specified in §60.781(b) for the biological treatment unit.

(viii) Submit the data and results of your demonstration, including both a description of and the results of your WATER9 modeling validation procedures in your notification of compliance status report as specified in §60.784(c).

(j) Design evaluations or performance tests for treatment processes. Except as provided in paragraph (j)(3), (h), or (m) of this section, the owner or operator shall demonstrate by the procedures in either paragraph (j)(1) or (2) of this section that each non-biological treatment process used to comply with paragraphs (e) and/or (f) of this section achieves the conditions

specified for compliance. The owner or operator shall demonstrate by the procedures in either paragraph (j)(1) or (2) of this section that each closed biological treatment process used to comply with paragraph (f) or (g) of this section achieves the conditions specified for compliance. If an open biological treatment unit is used to comply with paragraph (f) or (g) of this section, the owner or operator shall comply with §60.783(f) or §60.783(g), respectively, of this subpart. Some open biological treatment processes may not require a performance test. Refer to §60.783(h) of this subpart to determine whether the open biological treatment process meets the criteria that exempt the owner or operator from conducting a performance test.

(1) This paragraph (j)(1) may be used to demonstrate compliance with paragraph (e), (f), or (g) of this section, except when the treatment process is an open biological treatment process. Prepare a design evaluation and supporting documentation that addresses the operating characteristics of the treatment process and that is based on operation at a representative wastewater stream flow rate and a representative concentration under which it would be most difficult to demonstrate compliance. For closed biological treatment processes, the actual mass removal shall be determined by a mass balance over the unit. The mass flow rate of organic wastewater

compound exiting the treatment process shall be the sum of the mass flow rate of organic wastewater compound in the wastewater stream exiting the biological treatment process and the mass flow rate of the vented gas stream exiting the control device. The mass flow rate entering the treatment process minus the mass flow rate exiting the process determines the actual mass removal.

(2) This paragraph (j)(2) may be used to demonstrate compliance with paragraph (e), (f), or (g) of this section. Performance tests shall be conducted using test methods and procedures that meet the applicable requirements specified in §60.783 of this subpart.

(3) The provisions of paragraphs (j)(1) and (2) of this section do not apply to design steam strippers that meet the requirements of paragraph (d) of this section.

(k) Residuals. For each residual removed from a Group 1 wastewater stream, the owner or operator shall control air organic wastewater compound emissions by complying with §60.774 of this subpart and by complying with one of the provisions in paragraphs (k)(1) through (4) of this section.

(1) Recycle the residual to a production process or sell the residual for the purpose of recycling. Once a residual is returned to a production process, the residual is no longer subject to this section.

(2) Return the residual to the treatment process.

(3) Treat the residual to destroy the total combined mass flow rate of organic wastewater compound by 99 percent or more, as determined by the procedures specified in §60.783(c) or (d) of this subpart.

(4) Comply with the requirements for RCRA treatment options specified in paragraph (h) of this section.

(1) [Reserved]

(m) 5 Mg exemption. For each plant site, up to 5 Mg of organic wastewater compound per year may be excluded from control. The 5 Mg shall be based on an annual average and calculated according to procedures in paragraphs (m)(1) and (2) of this section.

(1) Annual average concentration. The annual average concentration shall be a flow-weighted average representative of actual or anticipated operation of the CPU generating the process wastewater over a designated 12-month period. For flexible operation units, the owner or operator shall consider the anticipated production over the designated 12-month period and include all process wastewater streams generated by the process equipment during this period. The owner or operator is not required to determine the concentration of organic wastewater compounds that are not reasonably expected to be in the process.

Flow-weighted annual average concentrations for organic wastewater compound means the total mass of organic wastewater compound occurring in the wastewater stream during the designated 12-month period divided by the total mass of the wastewater stream during the same designated 12-month period. The annual average concentration shall be determined for each process wastewater stream either at the point of determination, or downstream of the point of determination with adjustment for concentration changes made according to §60.782 (b)(6) of this subpart. The procedures specified in §60.782(b) of this subpart are considered acceptable for determining the annual average concentration. They may be used in combination, and no one procedure shall take precedence over another. If sampling, a minimum of three wastewater samples from each process wastewater stream shall be taken. Samples may be grab samples or composite samples.

(2) Annual average flow rate. The owner or operator shall determine the annual average flow rate by measuring flow rate either at the point of determination for each process wastewater stream, or downstream of the point of determination with adjustment for flow rate changes made according to §60.782(c)(4) of this subpart. The annual average flow rate for the process wastewater stream shall be representative of the actual or

anticipated operation of the CPU generating the wastewater over the designated 12-month period.

§60.780 Standards - Control devices.

(a) For each control device used to comply with the provisions in §§60.774, 60.775, and 60.779 of this subpart, the owner or operator shall operate and maintain the control device or combination of control devices in accordance with the requirements of paragraphs (b) through (g) of this section, unless otherwise specified in this subpart.

(b) Whenever organic wastewater compound emissions are vented to a control device used to comply with the provisions of this subpart, such control device shall be operating.

(c) The control device shall be designed and operated in accordance with paragraph (c)(1), (2), (3), (4), or (5) of this section.

(1) An enclosed combustion device (including but not limited to a vapor incinerator, boiler, or process heater) shall meet the conditions in paragraph (c)(1)(i), (ii), or (iii) of this section, alone or in combination with other control devices. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(i) Reduce the total organic compound emissions, less

methane and ethane, or total organic wastewater compound emissions vented to the control device by 95 percent by weight or greater;

(ii) Achieve an outlet total organic compound concentration, less methane and ethane, or total organic wastewater compound concentration of 20 parts per million by volume or less on a dry basis corrected to 3 percent oxygen. The owner or operator shall use either Method 18 or 25A, 40 CFR part 60, appendix A, or any other method or data that has been validated according to the applicable procedures in Method 301, 40 CFR part 63, appendix A; or

(iii) Provide a minimum residence time of 0.5 seconds at a minimum temperature of 760° C.

(2) A vapor recovery system (including but not limited to a carbon adsorption system or condenser), alone or in combination with other control devices, shall reduce the total organic compound emissions, less methane and ethane, or total organic wastewater compound emissions vented to the control device by 95 percent by weight, or greater, or achieve an outlet total organic compound concentration, less methane and ethane, or total organic wastewater compound concentration of 20 parts per million by volume or less.

(3) A flare shall comply with the requirements of §60.18 of

this part and §60.783(j) of this subpart.

(4) A scrubber, alone or in combination with other control devices, shall reduce the total organic compound emissions, less methane and ethane, or total organic wastewater compound emissions in such a manner that 95 weight percent is either removed or destroyed by chemical reaction with the scrubbing liquid, or achieve an outlet total organic compound concentration, less methane and ethane, or total organic wastewater compound concentration of 20 parts per million by volume or less, whichever is less stringent.

(5) Any other control device used, alone or in combination with other control devices, shall reduce the total organic compound emissions, less methane and ethane, or total organic wastewater compound emissions vented to the control device by 95 percent by weight, or greater, or achieve an outlet total organic compound concentration of 20 parts per million by volume or less.

(d) Except as provided in paragraph (d)(4) of this section, an owner or operator shall demonstrate that each control device or combination of control devices achieves the appropriate conditions specified in paragraph (c) of this section by using one or more of the methods specified in paragraphs (d)(1),(2),(3)and(4) of this section.

(1) Performance tests conducted using the test methods and procedures specified in §60.783(i) of this subpart for control devices other than flares; or

(2) A design analysis that addresses the vent stream characteristics and control device operating parameters specified in paragraphs (d)(2)(i) through (vii) of this section.

(i) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate and shall establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(ii) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate and shall establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(iii) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate; shall establish the design minimum and average flame zone temperatures and combustion zone residence time; and shall describe the method and location where the vent stream is introduced into the flame zone.

(iv) For a condenser, the design analysis shall consider

the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature and shall establish the design outlet organic wastewater compound concentration level, design average temperature of the condenser exhaust vent stream, and the design average temperatures of the coolant fluid at the condenser inlet and outlet.

(v) For a carbon adsorption system that regenerates the carbon bed directly on-site in the control device such as a fixed-bed absorber, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature and shall establish the design exhaust vent stream organic wastewater compound concentration level, adsorption cycle time, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total regeneration stream mass or volumetric flow over the period of each complete carbon bed regeneration cycle, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(vi) For a carbon adsorption system that does not regenerate the carbon bed directly on-site in the control device such as a carbon canister, the design analysis shall consider the vent stream composition, constituent concentrations, mass or volumetric flow rate, relative humidity, and temperature and

shall establish the design exhaust vent stream organic wastewater compound concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and affected facility operating schedule.

(vii) For a scrubber, the design analysis shall consider the vent stream composition; constituent concentrations; liquid-to-vapor ratio; scrubbing liquid flow rate and concentrations; temperature; and the reaction kinetics of the constituents with the scrubbing liquid. The design analysis shall establish the design exhaust vent stream organic wastewater compound concentration level and will include the additional information in paragraphs (A) and (B) of this section for trays and a packed column scrubber.

(A) Type and total number of theoretical and actual trays;

(B) Type and total surface area of packing for entire column, and for individual packed sections if column contains more than one packed section.

(3) For flares, the compliance determination is specified in §60.783(j) of this subpart.

(4) An owner or operator using any control device specified in paragraphs (d)(4)(i) through (iv) of this section is exempt

from the requirements in paragraphs (d)(1) through (3) and (e) of this section.

(i) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(ii) A boiler or process heater into which the emission stream is introduced with the primary fuel.

(iii) A boiler or process heater burning hazardous waste for which the owner or operator:

(A) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266 subpart H, or

(B) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(iv) A hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

(e) The owner or operator of a control device that is used to comply with the provisions of this section shall monitor the control device in accordance with §60.781 of this subpart.

(f) Each control device shall be visually inspected initially and annually thereafter, and at other times as

requested by the Administrator. Except as provided in §60.777 of this subpart, if gaps, cracks, tears, or holes are observed in ductwork, piping, or connections to covers and control devices during an inspection, a first effort to repair shall be made as soon as practical but no later than 5 calendar days after identification. Repair shall be completed no later than 15 calendar days after identification or discovery of the defect.

(g) The owner or operator using a carbon adsorption system shall operate and maintain the control device in accordance with the following requirements:

(1) Following the initial startup of the control device, all carbon in the control device shall be replaced in accordance with one of the following:

(i) At a predetermined time interval established by the control device design; or

(ii) According to a written procedure for testing carbon capacity on a regular basis and replacing the carbon at a frequency that assures that the removal performance required by the regulation is continuously achieved.

(2) All carbon removed from the control device shall be managed in accordance with one of the following:

(i) Regenerated or reactivated in a thermal treatment unit that is permitted under 40 CFR part 265, subpart P of this

chapter;

(ii) Incinerated by a process that is permitted under subpart 0 of this part; or

(iii) Burned in a boiler or industrial furnace that is permitted under 40 CFR part 266, subpart H of this chapter.

(iv) Managed and treated as a residual according to the provisions of § 60.779 (k).

§60.781 Monitoring of operations.

(a) For each steam stripper used to comply with §60.779 of this subpart, the owner or operator shall comply with the monitoring requirements specified in Table 7 to this subpart.

(b) For the owner or operator using a biological treatment unit to comply with §60.779 of this subpart and who is complying with Table 7 to this subpart, the owner or operator shall request approval to monitor appropriate parameters that demonstrate proper operation of the biological treatment unit. The request shall be submitted according to the procedures specified in §60.784(b) of this subpart.

(c) If the owner or operator elects to comply with Item 3 in Table 7 of this subpart, alternative monitoring parameters for treatment processes, the owner or operator shall request approval to monitor appropriate alternative parameters that demonstrate proper operation of the selected treatment process. The request

shall be submitted according to the procedures specified in §60.784(b) of this subpart.

(d) Except as provided in paragraphs (d)(4) and (5) of this section, for each control device used to comply with the requirements of §§60.774, 60.775, 60.779, and 60.780 of this subpart, the owner or operator shall comply with the requirements in §60.780(d) of this subpart, and with the requirements specified in paragraph (d)(1), (2), or (3) of this section, unless otherwise specified in this subpart.

(1) The owner or operator shall comply with the monitoring requirements for control devices specified in Table 8 of this subpart; or

(2) The owner or operator shall use an organic monitoring device installed at the outlet of the control device and equipped with a continuous recorder. Continuous recorder is defined in §60.771 of this subpart; or

(3) The owner or operator may request approval to monitor parameters other than those specified in paragraphs (d)(1) and (2) of this section. The request shall be submitted according to the procedures specified in §60.784(b) of this subpart.

(4) For a boiler or process heater in which all vent streams are introduced with primary fuel, the owner or operator shall comply with the requirements in §60.780(d) of this subpart,

but the owner or operator is exempt from the monitoring requirements specified in paragraphs (d)(1) through (3) of this section.

(5) For a boiler or process heater with a design heat input capacity of 44 megawatts or greater, the owner or operator shall comply with the requirements in §60.780(d) of this subpart, but the owner or operator is exempt from the monitoring requirements specified in paragraphs (d)(1) through (3) of this section.

(e) For each parameter monitored in accordance with paragraph (b), (c), or (d) of this section, the owner or operator shall establish a value that indicates proper operation of the treatment process or control device. In order to establish the value, the owner or operator shall comply with the requirements specified in §§60.784(c)(7)(ii)(A) and (c)(8)(ii) of this subpart.

(f) Monitoring equipment shall be installed, calibrated, and maintained according to the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(g) Each owner or operator of a treatment process or control device subject to the monitoring provisions of this subpart shall operate the treatment process or control device such that monitored parameters are below the maximum or above the

minimum established value required to be monitored under paragraphs (b), (c), and (d) of this section and established under paragraph (e) of this section.

(h) Monitoring data under this subpart are directly enforceable when determining compliance with the required operating limits for the monitored control devices. For each excursion, except for excused excursions as defined in §60.784(d)(4), the owner or operator shall be deemed to have failed to have applied the control in a manner that achieves the required operating limits. Failure to achieve the required operating limits is a violation of this standard.

§60.782 Process wastewater provisions - Test methods and procedures for determining applicability and Group 1 and Group 2 determinations (determining which process wastewater streams require control).

(a) Procedures to determine applicability. An owner or operator shall comply with paragraph (a)(1) or (2) of this section for each wastewater stream to determine which wastewater streams require control for organic wastewater compound. The owner or operator may use a combination of the approaches in paragraphs (a)(1) and (2) of this section for different wastewater streams generated at the affected facility.

(1) Determine Group 1 or Group 2 status. Determine whether

a wastewater stream is a Group 1 or Group 2 wastewater stream in accordance with paragraphs (b) and (c) of this section.

(2) Designate as Group 1. An owner or operator may designate as a Group 1 wastewater stream a single wastewater stream or a mixture of wastewater streams. The owner or operator is not required to determine the concentration or flow rate for each designated Group 1 wastewater stream for the purposes of this section.

(b) Procedures to establish concentrations, when determining Group status under paragraph (a)(1) of this section. An owner or operator who elects to comply with the requirements of paragraph (a)(1) of this section shall determine the annual average concentration for organic wastewater compound according to paragraph (b)(1) of this section. The annual average concentration shall be a flow-weighted average representative of actual or anticipated operation of the DCPU generating the wastewater over a designated 12-month period. For flexible operation units, the owner or operator shall consider the anticipated production over the designated 12-month period and include all wastewater streams generated by the process equipment during this period. The owner or operator is not required to determine the concentration of organic wastewater compound that are not reasonably expected to be in the process or in the

resulting wastewater stream.

(1) General. An owner or operator who elects to comply with the requirements of paragraph (a)(1) of this section shall determine the flow-weighted annual average concentration for organic wastewater compound and the range of concentrations represented by the flow-weighted annual average concentration. For the purposes of this section, the term concentration, whether concentration is used alone or with other terms, may be adjusted by the compound-specific Fm factors. Compound-specific Fm factors shall be determined as specified in appendix J to this part. Flow-weighted annual average concentration for organic wastewater compound means the total mass of organic wastewater compound occurring in the wastewater stream during the designated 12-month period divided by the total mass of the wastewater stream during the same designated 12-month period. The annual average concentration shall be determined for each wastewater stream either at the point of determination, or downstream of the point of determination with adjustment for concentration changes made according to paragraph (b)(6) of this section. The procedures specified in paragraphs (b)(3), (4), and (5) of this section are considered acceptable procedures for determining the annual average concentration. They may be used in combination, and no one procedure shall take precedence over another.

(2) [Reserved]

(3) Process knowledge of the wastewater. Where process knowledge is used to determine the annual average concentration, the owner or operator shall provide sufficient information to document the annual average concentration for wastewater streams determined to be Group 2 wastewater streams as specified in §60.785(g) of this subpart. Documentation to determine the annual average concentration is not required for Group 1 streams. Examples of acceptable documentation include material balances, records of chemical purchases, process stoichiometry, or previous test results. If test data are used, the owner or operator shall provide documentation describing the testing protocol and the means by which any losses of volatile compounds during sampling, and the bias and accuracy of the analytical method, were accounted for in the determination.

(4) Bench-scale or pilot-scale test data. Where bench-scale or pilot-scale test data are used to determine the annual average concentration, the owner or operator shall provide sufficient information to document that the data are representative of the actual annual average concentration, or are reliably indicative of another relevant characteristic of the wastewater stream that could be used to predict the annual average concentration. For concentration data, the owner or

operator shall also provide documentation describing the testing protocol, and the means by which any losses of volatile compounds during sampling, and the bias and accuracy of the analytical method, were accounted for in the determination of annual average concentration.

(5) Test data from sampling at the point of determination or at a location downstream of the point of determination. Where an owner or operator elects to comply with paragraph (a)(1) of this section by measuring the concentration for organic wastewater compound, the owner or operator shall comply with the requirements of this paragraph (b)(5). For each wastewater stream, measurements shall be made either at the point of determination, or downstream of the point of determination with adjustment for concentration changes made according to paragraph (b)(6) of this section. A minimum of three samples from each wastewater stream shall be taken. Samples may be grab samples or composite samples.

(i) Methods. The owner or operator shall use any of the methods specified in paragraphs (b)(5)(i)(A) through (G) of this section.

(A) Method 25D. Use procedures specified in Method 25D, 40 CFR part 60, appendix A.

(B) Method 305. Use procedures specified in

Method 305, 40 CFR part 63, appendix A.

(C) Methods 624 and 625. Use procedures specified in Methods 624 and 625, 40 CFR part 136, appendix A and comply with the sampling protocol requirements specified in paragraph (b)(5)(ii) of this section. If these methods are used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR part 136.4 and 136.5 shall be followed. For Method 625, make corrections to the compounds for which the analysis is being conducted. The corrections shall be based on the accuracy as recovery factors in Table 7 of the method.

(D) Method 1624 and Method 1625. Use procedures specified in Method 1624 and Method 1625, 40 CFR part 136, appendix A and comply with the requirements specified in paragraph (b)(5)(ii) of this section. If these methods are used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR part 136.4 and 136.5 shall be followed.

(E) Method 8260 and Method 8270. Use procedures specified in Method 8260 and Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, Third Edition, September 1986, as amended by Update I, November 15, 1992. As an alternative, an owner or operator

may use any more recent, updated versions of Method 8260 and Method 8270 approved by EPA. When using Method 8260 or Method 8270, the owner or operator must maintain a formal quality assurance program consistent with Section 8 of Method 8260 or with Method 8270, respectively. The quality assurance program must include the following elements related to measuring the concentrations of organic wastewater compounds:

(1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, and preparation steps.

(2) Documentation of specific quality assurance procedures followed during sampling, sample preparation, sample introduction, and analysis.

(3) Measurement of the average accuracy and precision of the specific procedures, including field duplicates and field spiking of the off-site material source before or during sampling with compounds having similar chemical characteristics to the target analytes.

(F) Other EPA method(s). Use procedures specified in the method and comply with the requirements specified in paragraph (b)(5)(ii) and either paragraph (b)(5)(iii)(A) or (B) of this section.

(G) Method(s) other than EPA method. Use procedures specified in the method and comply with the requirements specified in paragraphs (b)(5)(ii) and (iii)(A) of this section.

(ii) Sampling plan. The owner or operator who is expressly referred to this paragraph (b)(5)(ii) by provisions of this subpart shall prepare a sampling plan, as specified in §60.785(g)(3) of this subpart. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity.

(iii) Validation of methods. The owner or operator shall validate EPA methods other than Methods 25D, 305, 624, 625, 1624, 1625, 8260, and 8270 using the procedures specified in paragraph (b)(5)(iii)(A) or (B) of this section. The owner or operator shall validate other methods as specified in paragraph (b)(5)(iii)(A) of this section.

(A) Validation of EPA methods and other methods. The method used to measure organic wastewater compound concentrations in the wastewater shall be validated according to section 5.1 or 5.3, and the corresponding calculations in section 6.1 or 6.3, of Method 301 of appendix A to this part. The data are acceptable if they meet the criteria specified in section 6.1.5 or 6.3.3 of Method 301 of appendix A to this part. If correction is required

under section 6.3.3 of Method 301 of appendix A to 40 CFR part 63, the data are acceptable if the correction factor is within the range of 0.7 to 1.30. Other sections of Method 301 of appendix A to 40 CFR part 63 are not required. The concentrations of the individual organic wastewater compounds measured in the water may be corrected to the concentrations if they had been measured by Method 25D of appendix A to this part, by multiplying each concentration by the compound-specific Fm factor. Compound-specific Fm factors shall be determined as specified in appendix J to this part.

(B) Validation for EPA methods. Follow the procedures as specified in "Alternative Validation Procedure for EPA Waste and Wastewater Methods" 40 CFR part 63, appendix D.

(iv) Calculations of average concentration. For methods that speciate, the average concentration of organic wastewater compound shall be calculated by first summing the concentration of the individual compounds to obtain a total organic wastewater compound concentration for the sample, adding the sample totals, and then dividing by the number of samples in the run to obtain the sample average for the run. If the method used does not speciate the compounds, the sample results should be added and this total divided by the number of samples in the run to obtain the sample average for the run.

(6) Adjustment for concentrations determined downstream of the point of determination. The owner or operator shall make corrections to the annual average concentration when the concentration is determined downstream of the point of determination at a location where: two or more wastewater streams have been mixed; one or more wastewater streams have been treated; or losses to the atmosphere have occurred. The owner or operator shall make the adjustments either to the individual data points or to the final annual average concentration.

(c) Procedures to determine flow rate, when evaluating Group status under paragraph (a)(1) of this section. An owner or operator who elects to comply with paragraph (a)(1) of this section shall determine the annual average flow rate of the wastewater stream and the range of flow rates represented by the annual average flow rate. The annual average flow rate shall be determined either at the point of determination for each wastewater stream, or downstream of the point of determination with adjustment for flow rate changes made according to paragraph (c)(4) of this section. These procedures may be used in combination for different wastewater streams at the affected facility. The annual average flow rate for the wastewater stream shall be representative of actual or anticipated operation of the DCPU generating the wastewater over a designated 12-month period.

The owner or operator shall consider the annual wastewater volume generated by the DCPU. If the DCPU is a flexible operation unit, the owner or operator shall consider all anticipated production in the process equipment over the designated 12-month period. The procedures specified in paragraphs (c)(1), (2), and (3) of this section are considered acceptable procedures for determining the flow rate. They may be used in combination, and no one procedure shall take precedence over another.

(1) Process knowledge of the wastewater. The owner or operator may use process knowledge of the wastewater stream and/or the process to determine the annual average flow rate. The owner or operator shall use the maximum expected annual average production capacity of the process unit, knowledge of the process, and/or mass balance information to either estimate the annual average wastewater flow rate directly or estimate the total annual wastewater volume and then divide total volume by 525,600 minutes in a year. For flexible batch operations, annual wastewater volume may be determined based on the maximum number of batches per year, estimated by dividing 8760 hours per year by the time required in hours for the piece of equipment in the batch train that is used the longest for the batch cycle. Where process knowledge is used to determine the annual average flow rate, the owner or operator shall provide sufficient information

to document the flow rate for wastewater streams determined to be Group 2 wastewater streams as specified in §60.785(g) of this subpart. Documentation to determine the annual average flow rate is not required for Group 1 streams.

(2) Historical records. The owner or operator may use historical records to determine the annual average flow rate. Derive the highest annual average flow rate of wastewater from historical records representing the most recent 5 years of operation or, if the process unit has been in service for less than 5 years but at least 1 year, from historical records representing the total operating life of the process unit. Where historical records are used to determine the annual average flow rate, the owner or operator shall provide sufficient information to document the flow rate for wastewater streams determined to be Group 2 wastewater streams. Documentation to determine the annual average flow rate is not required for Group 1 streams.

(3) Measurements of flow rate. Where an owner or operator elects to comply with paragraph (a)(1) of this section by measuring the flow rate, the owner or operator shall comply with the requirements of this paragraph (c)(3). Measurements shall be made at the point of determination, or at a location downstream of the point of determination with adjustments for flow rate changes made according to paragraph (c)(4) of this section.

Where measurement data are used to determine the annual average flow rate, the owner or operator shall provide sufficient information to document the flow rate for wastewater streams determined to be Group 2 wastewater streams. Documentation to determine the annual average flow rate is not required for Group 1 streams.

(4) Adjustment for flow rates determined downstream of the point of determination. The owner or operator shall make corrections to the annual average flow rate of a wastewater stream when it is determined downstream of the point of determination at a location where two or more wastewater streams have been mixed or one or more wastewater streams have been treated. The owner or operator shall make corrections for such changes in the annual average flow rate.

§60.783 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 §60.779 of this subpart. Owners or operators conducting a design evaluation shall comply with the requirements of either paragraph (a)(1) or (2) of this section. Owners or operators conducting a performance test shall comply

with the applicable requirements in paragraphs (a) through (i) of this section.

(1) Performance tests and design evaluations for treatment processes. If the design steam stripper option (§60.779(d) of this subpart) or RCRA option (§60.779(h) of this subpart) is selected to comply with §60.779 of this subpart, 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 §60.779(j) of this subpart, 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 §60.779(j) of this subpart, 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 paragraph (h) of this section 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 §60.780(d)(2) of this subpart, 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) Performance tests and compliance determinations shall be conducted according to the applicable sections of this subpart.

(4) The owner or operator shall notify the Administrator of the intention to conduct a performance test as specified in §60.784(h)(1) of this subpart.

(5) Performance tests shall be conducted according to the provisions of paragraphs (a)(5)(i) and (ii) of this section.

(i) The owner or operator shall conduct tests and reduce data in accordance with the test methods and procedures set forth in this subpart, unless the Administrator:

(A) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology;

(B) Approves the use of an alternative test method, the results of which the Administrator has determined to be adequate for indicating whether the facility is in compliance;

(C) Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors;
or

(D) Waives the requirements for performance tests because

the owner or operator has demonstrated by other means to the Administrator's satisfaction that the facility is in compliance.

(ii) The Administrator may require the owner or operator to conduct performance tests at any time when the action is authorized by section 114 of the Act. Nothing in this subpart shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(6) Data shall be reduced in accordance with EPA approved methods specified in this subpart or, if other test methods are used, the data and methods shall be validated according to the protocol in Method 301 of appendix A of 40 CFR part 63.

(7) Performance tests may be waived with approval of the Administrator as specified in §60.784(h)(2) of this subpart.

(8) Representative process unit operating conditions. Compliance shall be demonstrated under representative operating conditions. Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected facility. Operations during periods of startup, shutdown, or malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the standards in this subpart during periods of startup, shutdown, or

malfunction be considered a violation of the standards. The owner or operator shall record the process information that is necessary to document operating conditions during the test, as specified in §60.784(c)(10) and (d)(6) of this subpart. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(9) Representative treatment process or control device operating conditions. During the performance test, the owner or operator shall operate the process or control device such that the monitored control or recovery device parameters are at their maximum or minimum values, whichever results in better emission reduction. 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)(9)(i) and (ii) of this section.

(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.

(10) Testing equipment and facilities. All testing equipment shall be prepared and installed as specified in the applicable test methods, or as approved by the Administrator. The owner or operator of each new facility and, at the request of the Administrator, the owner or operator of an existing facility, shall provide performance testing facilities as follows:

(i) Sampling ports adequate for test methods applicable to the source, including:

(A) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(B) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and

procedures;

- (ii) Safe sampling platform(s);
- (iii) Safe access to sampling platform(s);
- (iv) Utilities for sampling and testing equipment; and
- (v) Any other facilities that the Administrator deems

necessary for safe and adequate testing of the facility.

(11) Compounds not required to be considered in performance tests or design evaluations. This paragraph (a)(11) applies only when test methods that speciate compounds are used. Compounds that meet the requirements specified in paragraph (a)(11)(i), (ii), or (iii) of this section are not required to be included in the performance test.

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

(ii) Compounds with concentrations at the point of determination that are below 1 ppmw; 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 ppmw. The method shall be an analytical method for wastewater which has that compound as a target analyte.

(12) 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 emission limitations, the owner or operator may use multiple treatment processes. The owner or operator complying with the requirements of §60.779(a)(7)(i) of this subpart, when wastewater is conveyed by hard-piping, shall comply with either paragraph (a)(12)(i) or (ii) of this section. The owner or operator complying with the requirements of §60.779(a)(7)(ii) of this subpart shall comply with the requirements of paragraph (a)(12)(ii) of this section.

(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 paragraph (a)(14) of this section. 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 paragraph (f) or (g) of this section. When the last treatment process is either an open or a closed aerobic biological treatment process demonstrating compliance by using the procedures in paragraph (f)

or (g) of this section, inlet and outlet concentrations and flow rates shall be measured as provided in paragraphs (a)(12)(i)(A) and (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 paragraph (f)(5)(ii) of this section.

(A) The inlet and outlet to the series of treatment processes prior to the biological treatment process are the points at which the wastewater enters the first treatment process and exits the last treatment process in the series, respectively, except as provided in paragraph (a)(14)(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)(12)(i)(A) of this section, except as provided in paragraph (a)(14)(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 paragraphs (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 paragraph (a)(14)(ii) of this section are met.

(13) When using a biological treatment process to comply with §60.779 of this subpart, the owner or operator may elect to calculate the AMR using a subset of organic wastewater compounds determined at the point of determination or downstream of the point of determination with adjustment for concentration and flow rate changes made according to §60.782(b)(6) and (c)(4), respectively, of this subpart. All organic wastewater compounds measured to determine the RMR, except as provided by paragraph (a)(11) of this section, shall be included in the RMR calculation.

(14) The owner or operator determining the inlet for purposes of demonstrating compliance using paragraph (e), (f), or (g) of this section may elect to comply with paragraph (a)(14)(i) or (ii) of this section.

(i) When wastewater is conveyed exclusively by hard-piping from the point of determination to a treatment process that is either the only treatment process or the first in a series of

treatment processes (i.e., no treatment processes or other waste management units are used upstream of this treatment process to store, handle, or convey the wastewater), the inlet to the treatment process shall be at any location from the point of determination to where the wastewater stream enters the treatment process. When samples are taken upstream of the treatment process and before wastewater streams have converged, the owner or operator shall ensure that the mass flow rate of all Group 1 wastewater streams is accounted for when using §60.779(e) or (f) of this subpart to comply and that the mass flow rate of all Group 1 and Group 2 wastewater streams is accounted for when using §60.779(g) of this subpart to comply, except as provided in paragraph (a)(11) of this section.

(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)(14)(ii)(A) through (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 §60.779(e) or (f) of this subpart to comply and that the mass flow rate of all Group 1 and Group 2 wastewater streams is accounted for when using §60.779(g) of this subpart to comply, except as provided in paragraph (a)(11) of this section.

(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 organic wastewater compound emissions to a control device that meets the requirements of 40 CFR 63.133(a)(2)(i) and (b)(1) through (4).

(b) [Reserved]

(c) Non-combustion, non-biological treatment process: percent mass removal/destruction option. This paragraph (c) applies to performance tests that are conducted to demonstrate compliance of a non-combustion, non-biological treatment process with the percent mass removal limits specified in §60.779(e)(1),

(2), and (3) of this subpart for organic wastewater compound. This paragraph can also apply to the residual treatment requirements specified in §60.779 (k)(3). When demonstrating compliance with §60.779(e)(1) or §60.779 (k)(3) of this subpart, the owner or operator shall comply with the requirements specified in paragraphs (c)(1) through (6) of this section. When demonstrating compliance with §60.779(e)(2) of this subpart, the owner or operator shall comply with the requirements specified in paragraphs (c)(1), (2), (3), and (6) of this section. When demonstrating compliance with §60.779(e)(3) of this subpart, the owner or operator shall comply with the requirements specified in paragraphs (c)(1), (2), (3), (4), and (6) of this section for each of the following organic wastewater compounds: methanol, 1-butanol, and methyl ethyl ketone.

(1) Concentration. The concentration of organic wastewater compound entering and exiting the treatment process shall be determined as provided in this paragraph (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 §60.782(b)(5)(ii) of this subpart. 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 three runs.

(2) Flow rate. The flow rate of the entering and exiting wastewater streams shall be determined using inlet and outlet flow measurement devices, respectively. Where the outlet flow is not greater than the inlet flow, a single 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 mass flow rate for non-combustion, non-biological treatment processes.

(i) When complying with either §60.779(e)(1) or (2) of this subpart, use Equations 6 and 7, respectively, in this paragraph to calculate the mass flow rate of organic wastewater compound entering and exiting the treatment process.

$$QMW_a = \frac{\rho}{p * 10^6} \left(\sum_{k=1}^p Q_{a,k} * C_{T,a,k} \right) \quad \text{[Equation 6]}$$

$$QMW_b = \frac{\rho}{p * 10^6} \left(\sum_{k=1}^p Q_{b,k} * C_{T,b,k} \right) \quad \text{[Equation 7]}$$

Where:

QMW_a, QMW_b = Mass flow rate of organic wastewater compound, average of all runs, in wastewater entering (QMW_a) or exiting (QMW_b) the treatment process, kg/hr.

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 organic wastewater compound in wastewater entering ($C_{T,a,k}$) or exiting ($C_{T,b,k}$) the treatment process during each run k , ppmw. Total concentration shall be based on speciated method(s) if using §60.779(e)(1) of this subpart to comply and shall be based on either speciated or non-speciated methods if using §60.779(e)(2) of this subpart to comply.

p = Number of runs.

k = Identifier for a run.

10^6 = Conversion factor, mg/kg.

(ii) When complying with §60.779(e)(3) of this subpart, use Equations 8 and 9, respectively, in this paragraph to calculate the mass flow rate of each compound, i.e., methanol, 1-butanol, and methyl ethyl ketone, entering and exiting the treatment process.

$$QMW_a = \frac{\rho}{p * 10^6} (Q_{a,k} * C_{T,a,k}) \quad \text{[Equation 8]}$$

$$QMW_b = \frac{\rho}{p * 10^6} (Q_{b,k} * C_{T,b,k}) \quad \text{[Equation 9]}$$

Where:

QMW_a, QMW_b = Mass flow rate of a compound, average of all runs, in wastewater entering (QMW_a) or exiting (QMW_b) the treatment process, kg/hr.

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.

$C_{T,a,k}, C_{T,b,k}$ = Concentration of a compound in wastewater entering ($C_{T,a,k}$) or exiting ($C_{T,b,k}$) the treatment process during each run k, ppmw.

Concentration shall be based on speciated method(s).

- 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 using Equation 10 of this section if complying with §60.779(e)(1) of this subpart.

$$E = \frac{QMW_a - QMW_b}{QMW_a} * 100 \quad \text{[Equation 10]}$$

Where:

- E = Removal or destruction efficiency of the treatment process, percent.
- QMW_a, QMW_b = Mass flow rate of organic wastewater compound in wastewater entering (QMW_a) and exiting (QMW_b) the treatment process, kg/hr (as calculated using Equations 6 and 8, or Equations 8 and 9).

(5) Calculation of flow-weighted average of Fr values. If complying with §60.779(e)(1) of this subpart, use Equation 15 in paragraph (d)(8) of this section to calculate the flow-weighted average of the Fr values. When the term "combustion" is used in Equation 15, the term "treatment process" shall be used for the purposes of this paragraph. Follow the procedures in §60.778 of this subpart to develop a stream-specific list of organic wastewater compound. Follow the procedures in appendix J to this part to determine Fr values.

(6) Compare mass removal efficiency to required efficiency. Compare the mass removal efficiency (calculated in Equation 10) to the required efficiency as specified in §60.779(e) of this subpart. If complying with §60.779(e)(1) of this subpart, 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 15. If complying with §60.779(e)(2) of this subpart, compliance is demonstrated if the mass removal efficiency is 95 percent or greater and outlet concentration is less than 50 ppmw. If complying with §60.779(e)(3) of this subpart, compliance is demonstrated if the mass removal for methanol is greater than or equal to 31 percent, the mass removal for 1-butanol is greater than or equal to 82 percent, and the mass removal for methyl ethyl ketone is greater

than or equal to 95 percent.

(d) Combustion treatment processes: percent mass removal/destruction option. This paragraph (d) applies to performance tests that are conducted to demonstrate compliance of a combustion treatment process with the percent mass destruction limits specified in §60.779(e)(1) of this subpart for organic wastewater compound. The owner or operator shall comply with the requirements specified in paragraphs (d)(1) through (10) of this section.

(1) Concentration in wastewater stream entering the combustion treatment process. The concentration of organic wastewater compound entering the treatment process shall be determined as provided in this paragraph (d)(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 §60.782(b)(5)(ii) 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 three runs. If Method 25D is used to determine concentration of organic wastewater compound, only the total carbon concentration and not the chloride concentration shall be reported.

(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 organic wastewater compound entering the combustion treatment process is calculated using Equation 11 of this section.

$$QMW_a = \frac{\rho}{p * 10^6} \left(\sum_{k=1}^p Q_{a,k} * C_{T,a,k} \right) \quad \text{[Equation 11]}$$

Where:

- QMW_a = Mass flow rate of organic wastewater compound entering the combustion unit, kg/hr.
- 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 organic wastewater compound in the wastewater stream entering the combustion unit during run k, ppmw.

p = Number of runs.
k = Identifier for a run.

(4) Concentration in vented gas stream exiting the combustion treatment process. The concentration of organic wastewater compound exiting the combustion treatment process in any vented gas stream shall be determined as provided in this paragraph (d)(4). 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 three runs. Concentration measurements shall be determined using the following methods:

- (i) Method 18, 40 CFR part 60, appendix A.
- (ii) Method 25, 40 CFR part 60, appendix A.
- (iii) Method 25A, 40 CFR part 60, appendix A.
- (iv) Alternatively, any other test method validated according to the procedures in Method 301, 40 CFR part 60, appendix A 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, CFR part 60,

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

[Reserved]

[Equation 12]

(6) Calculation of mass flow rate of vented gas stream exiting combustion treatment processes. The mass flow rate of organic wastewater compound in a vented gas stream exiting the combustion treatment process shall be calculated using Equation 13 of this section.

$$QMG_b = K_2 \left(\sum_{i=1}^n CG_{b,i} * MW_i \right) QG_b \quad \text{[Equation 13]}$$

Where:

QMG_b = Mass rate of TOC (minus methane and ethane) or total organic wastewater compound in vented gas stream exiting the control device, dry basis, kg/hr.

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

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

- QG_b = Flow rate of gas stream exiting 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 is 20°C.
- i = Identifier for a compound.
- n = Number of components in the stream.

(7) Destruction efficiency calculation. The destruction efficiency of the combustion unit for organic wastewater compound shall be calculated using Equation 14 of this section.

$$E = \frac{QMW_a - QMG_b}{QMW_a} * 100 \quad \text{[Equation 14]}$$

Where:

- E = Destruction efficiency of organic wastewater compound for the combustion unit, percent.
- QMW_a = Mass flow rate of organic wastewater compound entering the combustion unit, kg/hr.
- QMG_b = Mass flow rate of organic wastewater compound in vented gas stream exiting the combustion treatment process, kg/hr.

(8) Calculation of flow-weighted average of Fr values. Use Equation 15 in this paragraph (d)(8) to calculate the flow-weighted average of the Fr values. Follow the procedures in §60.778 of this subpart to develop a stream-specific list of organic wastewater compound. Follow the procedures in appendix J to this part to determine the Fr values.

$$Fr_{avg} = \left(\frac{\sum_{i=1}^n \sum_{k=1}^p Fr_i * C_{i,a,k} * Q_{a,k}}{\sum_{k=1}^p \sum_{i=1}^n C_{i,a,k} * Q_{a,k}} \right) * 100 \quad \text{[Equation 15]}$$

Where:

- Fr_{avg} = Flow-weighted average of the Fr values.
- $C_{i,a,k}$ = Concentration of organic wastewater compound i in wastewater stream entering the combustion unit during run k, ppmw.
- $Q_{a,k}$ = Volumetric flow rate of wastewater entering the combustion unit during run k, cubic meters per hour.
- Fr_i = Fr value of component i as determined by the procedures in appendix J to this part.
- i = Identifier for a compound.
- n = Number of components in the stream.
- k = Identifier for a run.

p = Number of runs.

(9) Calculate flow-weighted average of Fr values and compare to mass destruction efficiency. Compare the mass destruction efficiency (calculated in Equation 14) to the required efficiency as specified in §60.779(e)(1) of this subpart. Compliance is demonstrated if the mass destruction efficiency is greater than or equal to the flow-weighted average of the Fr values calculated in Equation 15.

(10) Non-speciated compliance demonstration. As an alternative, compliance with the percent mass destruction limits specified in §60.779 (e)(1) is demonstrated if the mass destruction efficiency of total organic compounds, (calculated in Equation 14), is greater than or equal to ninety nine percent.

(e) Non-combustion treatment processes including closed biological treatment processes: RMR option. This paragraph (e) applies to performance tests for non-combustion treatment processes other than open biological treatment processes to demonstrate compliance with the mass removal provisions for organic wastewater compound. Compliance options for non-combustion, non-biological treatment processes are specified in §60.779(f)(1) of this subpart. Compliance options for closed

aerobic and anaerobic biological treatment processes are specified in §60.779(f)(2)(i) and (g)(1)(i), and §60.779(f)(3) and (g)(2), respectively, of this subpart. When complying with any of these compliance options, the owner or operator shall also comply with the requirements specified in paragraphs (e)(1) through (6) of this section.

(1) Concentration in wastewater stream. The concentration of organic wastewater compound shall be determined as provided in this paragraph (e)(1). 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 §60.782(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 paragraphs (a)(12) through (14) of this section 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 §60.782(b)(5)(ii) of this subpart. 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 three runs.

(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 §60.782(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 paragraphs (a)(12) through (14) of this section 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 §60.779(f)(2)(i) or (3) of this subpart to comply, the RMR of organic wastewater compound for each Group 1 wastewater stream shall be calculated as specified in paragraph (e)(3)(i) of this section. When using §60.779(g)(1)(i) or (2) of this subpart to comply, the RMR shall be calculated as specified in paragraph (e)(3)(ii) of this section.

(i) When using §60.779(f)(2)(i) or (3) of this subpart to comply, the required mass removal of organic wastewater compound for each Group 1 wastewater stream shall be calculated using Equation 16 in this paragraph.

$$RMR = \frac{\rho}{10^9} * Q \sum_{i=1}^n (C_i * Fr_i) \quad [\text{Equation 16}]$$

Where:

- RMR = Required mass removal for treatment process or series of treatment processes, kg/hr.
- 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 organic wastewater compounds in the stream.
- C_i = Concentration of organic wastewater compound i at the point of determination, ppmw.
- Fr_i = Fractional removal value of organic wastewater compound i. Follow the procedures in §60.778 of this subpart to develop a stream-specific list of organic wastewater

compounds. Follow the procedures in appendix J to this part to determine Fr values.

10^9 = Conversion factor, mg/kg * l/m³.

(ii) When using §60.779(g)(1)(i) or (2) of this subpart to comply, the RMR is 95 percent of the mass flow rate for all wastewater streams combined for treatment. The RMR of organic wastewater compound for wastewater streams combined for treatment when complying with §60.779(g) of this subpart shall be calculated using Equation 17 in this

$$RMR = \frac{0.95\rho}{10^9} * Q \sum_{i=1}^n C_i \quad \text{[Equation 17]}$$

Where:

RMR = Required mass removal for treatment process or series of treatment processes, kg/hr.

ρ = Density of the 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 organic wastewater compounds in the stream.

C_i = Concentration of organic wastewater compound
i at the point of determination, ppmw.

10^9 = Conversion factor, mg/kg * l/m³.

(4)(i) The required mass removal is calculated by summing the RMR for each Group 1 wastewater stream to be combined for treatment when complying with §60.779(f)(2)(i) or (3) of this subpart.

(ii) The RMR is calculated by summing the RMR for all wastewater streams combined for treatment when complying with §60.779(g)(1)(i) or (2) of this subpart.

(5) The AMR calculation procedure for non-combustion treatment processes including closed biological treatment processes. The AMR shall be calculated using Equation 18 in this paragraph.

$$AMR = (QMW_a - QMW_b) \quad \text{[Equation 18]}$$

Where:

AMR = Actual mass removal of organic wastewater compound achieved by treatment process or series of treatment processes, kg/hr.

QMW_a = Mass flow rate of organic wastewater compound in wastewater entering the treatment process or the first treatment process in a series of

treatment processes, kg/hr.

QMW_b = Mass flow rate of organic wastewater compound in wastewater exiting the last treatment process in a series of treatment processes, kg/hr.

(6) Compare RMR to AMR. When complying with §60.779(f)(2)(i) or (3) of this subpart, compare the RMR calculated in Equation 16 to the AMR calculated in Equation 18. When complying with §60.779(g)(1)(i) or (2) of this subpart, compare the RMR calculated in Equation 17 to the AMR calculated in Equation 18. Compliance is demonstrated if the AMR is greater than or equal to the RMR.

(f) Open or closed aerobic biological treatment processes: RMR option. This paragraph (f) 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 organic wastewater compound. These compliance options are specified in §60.779(f)(2)(i) and (ii) of this subpart. The owner or operator shall comply with the requirements specified in paragraphs (f)(1) through (6) of this section. Some compounds may not require a performance test. Refer to paragraph (h) of this section and Table 14 to this

subpart to determine which compounds may be exempt from the requirements of this paragraph (f).

(1) Concentration in wastewater stream. The concentration of organic wastewater compound shall be determined as provided in this paragraph (f)(1). 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 §60.782(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 paragraph (a)(12) of this section for a series of treatment processes. Wastewater samples shall be collected using sampling procedures that minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per §60.782(b)(5)(ii) of this subpart. 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.

(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 §60.782(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 paragraph (a)(7) of this section 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 RMR of organic wastewater compound for each Group 1 wastewater stream shall be calculated using Equation 19 in this paragraph.

$$RMR = \frac{\rho}{10^9} * Q \sum_{i=1}^n (C_i * Fr_i) \quad \text{[Equation 19]}$$

Where:

- RMR = Required mass removal for treatment process or series of treatment processes, kg/hr.
- 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 organic wastewater compounds in the stream.
- C_i = Concentration of organic wastewater compound i at the point of determination, ppmw.
- Fr_i = Fractional removal value of organic wastewater compound i . Follow the procedures in §60.778 of this subpart to develop a stream-specific list of organic wastewater compounds. Follow the procedures in appendix J to this part to determine Fr values.
- 10^9 = Conversion factor, $\text{mg/kg} * \text{l/m}^3$.

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

(5) AMR calculation procedure for open or closed aerobic biological treatment processes. The AMR shall be calculated using Equation 20 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 paragraph (a)(12)(i) of this section, the AMR for the series shall be calculated using Equation 21 in paragraph (f)(5)(ii) of this section. (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 paragraph (a)(12)(ii) of this section, the AMR for the biological treatment process shall be calculated using Equation 20. The AMR for the biological treatment process used in a series of treatment processes calculated using Equation 20 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:

$$AMR = QMW_a * F_{bio} \quad \text{[Equation 20]}$$

Where:

AMR = Actual mass removal of organic wastewater compound achieved by open or closed biological treatment process, kg/hr.

QMW_a = Mass flow rate of organic wastewater compound in wastewater entering the treatment process, kg/hr.

F_{bio} = Site-specific fraction of organic wastewater

compound biodegraded. F_{bio} shall be determined as specified in paragraph (h) of this section and 40 CFR part 63, appendix C. Follow the procedures in §60.778 of this subpart to develop a stream-specific list of organic wastewater compounds.

(ii) Calculate AMR across a series of treatment units where the last treatment unit is an open or closed aerobic biological treatment process using Equation 21 in this paragraph.

$$AMR = QMW_a - (QMW_b)(1 - F_{bio}) \quad \text{[Equation 21]}$$

Where:

AMR = Actual mass removal of organic wastewater compound achieved by a series of treatment processes, kg/hr.

QMW_a = Mass flow rate of organic wastewater compound in wastewater entering the first treatment process in a series of treatment processes, kg/hr.

QMW_b = Mass flow rate of organic wastewater compound in wastewater exiting the last treatment process in a series of treatment processes prior to the biological treatment process,

kg/hr.

F_{bio} = Site-specific fraction of organic wastewater compound biodegraded. F_{bio} shall be determined as specified in paragraph (h) of this section and 40 CFR part 63, appendix C. Follow the procedures in §60.778 of this subpart to develop a stream-specific list of organic wastewater compounds.

(6) Compare RMR to AMR. Compare the RMR calculated in Equation 19 to the AMR calculated in either Equation 20 or 21, 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 (g) 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 organic wastewater compound. This compliance option is specified in §60.779(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 paragraph (g)(1) of this section to determine AMR, paragraphs (e)(3)(ii) and (4)(ii) of this section

to determine RMR, and paragraph (g)(2) of this section to determine whether compliance has been demonstrated. Some compounds may not require a performance test. Refer to paragraph (h) of this section and Table 14 of this subpart to determine which compounds may be exempt from the requirements of this paragraph (g).

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

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

(h) Site-specific fraction biodegraded (F_{bio}). The organic wastewater compounds are divided into two sets for the purposes 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 organic wastewater compounds in Table 14 of this subpart, and all other organic wastewater compound. (1) Performance test

exemption. If a biological treatment process meets the requirements specified in paragraphs (h)(1)(i) and (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 §60.779 of this subpart.

(i) The biological treatment process meets the definition of "enhanced biological treatment process" in §60.771 of this subpart.

(ii) At least 99 percent by weight of all organic wastewater compounds that are present in the aggregate of all wastewater streams using the biological treatment process to comply with §60.779 of this subpart are compounds in Table 14 of this subpart.

(2) F_{bio} determination. If a biological treatment process does not meet the requirement specified in paragraph (h)(1)(i) of this section, the owner or operator shall determine F_{bio} for the biological treatment process using the procedures in 40 CFR part 63, appendix C, and paragraph (h)(2)(ii) of this section. If a biological treatment process meets the requirements of paragraph (h)(1)(i) of this section but does not meet the requirement specified 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 40 CFR part 63, appendix C, and paragraph (h)(2)(i) of this section.

(i) Enhanced biological treatment processes. If the biological treatment process meets the definition of "enhanced

biological treatment process" in §60.771 of this subpart and the wastewater streams include one or more compounds not in Table 14 of this subpart that do not meet the criteria in paragraph (h)(1)(ii) of this section, the owner or operator shall determine F_{bio} for organic wastewater compound not in Table 14 of this subpart using any of the procedures specified in 40 CFR part 63, appendix C (stream-specific list). (The symbol F_{bio} represents the site-specific fraction of an individual organic wastewater compound that is biodegraded.) The owner or operator shall calculate F_{bio} for the organic wastewater compounds in Table 14 of this subpart using the defaults provided for first order biodegradation rate constants (K_1) of this subpart and follow the procedure explained in Form III of 40 CFR part 63, appendix C, or any of the procedures specified in 40 CFR part 63, appendix C.

(ii) Biological treatment processes that are not enhanced biological treatment processes. For biological treatment processes that do not meet the definition for "enhanced biological treatment process" in §60.771 of this subpart, the owner or operator shall determine F_{bio} for organic wastewater compounds in Table 14 of this subpart and all other organic wastewater compound using any of the procedures in 40 CFR part 63, appendix C, except procedures 3 (Inlet and Outlet Concentration Measurements) and 5 (Multiple Zone Concentration

Measurements).

(i) Performance tests for control devices other than flares. This paragraph (i) applies to performance tests that are conducted to demonstrate compliance of a control device with the efficiency limits specified in §60.780(c) of this subpart. If complying with the 95 percent reduction efficiency requirement, comply with the requirements specified in paragraphs (i)(1) through (9) of this section. If complying with the 20 parts per million by volume (ppmv) requirement, comply with the requirements specified in paragraphs (i)(1) through (6) and (i)(9) of this section. The 20 ppmv limit or 95 percent reduction efficiency requirement shall be measured either as total organic wastewater compound or as TOC minus methane and ethane.

(1) Sampling sites. Sampling sites shall be selected using Method 1 or 1A of appendix A to this part, as appropriate. For determination of compliance with the 95-percent reduction requirement, sampling sites shall be located at the inlet and outlet of the control device. For determination of compliance with the 20 ppm 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 wastewater

compound or TOC in a gas stream shall be determined as provided in this paragraph (i)(2). 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 the following methods:

(i) Method 18, 40 CFR part 60, appendix A.

(ii) Method 25 of appendix A of part 60 may be used to determine total gaseous nonmethane organic concentration for control efficiency determinations in combustion devices.

(iii) Method 25A of appendix A of part 60 may be used to determine the TOC concentration for control device efficiency determinations under the conditions specified in Method 25 of appendix A for direct measurement with a flame ionization detector, or in demonstrating compliance with the 20 ppmv TOC outlet standard.

(iv) Alternatively, any other test method validated according to the procedures in Method 301, 40 CFR part 60, appendix A 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, 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 Equation 22 in this paragraph.

$$CG_T = \frac{1}{m} \sum_{j=1}^m \left(\sum_{i=1}^n CGS_{i,j} \right) \quad \text{[Equation 22]}$$

Where:

CG_T = Total concentration of TOC (minus methane and ethane) in vented gas stream, average of samples, dry basis, ppmv, if calculating TOC in accordance with paragraph (i)(4) of this section, or total organic wastewater compound concentration, ppmv, if calculating TOC in accordance with paragraph (i)(5) of this section.

$CGS_{i,j}$ = Concentration of sample component i in

vented gas stream for sample j , dry basis, ppmv.

- 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 wastewater compound concentration. The owner or operator determining compliance based on total organic wastewater compound concentration (CG_T) shall compute CG_T according to Equation 22.

(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) of this section to determine oxygen concentration, and in paragraph (i)(6)(ii) of this section to calculate the percent oxygen correction.

(i) Oxygen concentration. The concentration of TOC or total organic wastewater compound 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, 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 and ethane) or total organic wastewater compound samples are taken.

(ii) Three percent oxygen calculation. The concentration corrected to 3 percent oxygen (CG_c), when required, shall be computed using Equation 23 in this paragraph.

$$CG_c = CG_T \left(\frac{17.9}{20.9 - \%O_{2d}} \right) \quad \text{[Equation 23]}$$

Where:

- CG_c = Concentration of TOC or organic wastewater compound corrected to 3 percent oxygen, dry basis, ppmv.
- CG_T = Total concentration of TOC (minus methane and ethane) in vented gas stream, average of samples, dry basis, ppmv.
- %O_{2d} = Concentration of oxygen measured in vented gas stream, dry basis, ppmv.

(7) Mass rate calculation. The mass rate of either

TOC (minus methane and ethane) or total organic wastewater compound shall be calculated using Equations 24 and 25 in this paragraph. Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by methods specified in paragraph (i)(2) of this section are summed using Equations 24 and 25.

$$QMG_a = K_2 \left(\sum_{i=1}^n CG_{a,i} * MW_i \right) QG_a \quad \text{[Equation 24]}$$

$$QMG_b = K_2 \left(\sum_{i=1}^n CG_{b,i} * MW_i \right) QG_b \quad \text{[Equation 25]}$$

Where:

$CG_{a,i}$, $CG_{b,i}$ = Concentration of TOC (minus methane and ethane) or organic wastewater compound *i* in vented gas stream entering ($CG_{a,i}$) and exiting ($CG_{b,i}$) the control device, dry basis, ppmv.

QMG_a , QMG_b = Mass rate of TOC (minus methane and ethane) or total organic wastewater compound in vented gas stream entering (QMG_a) and exiting (QMG_b) the control device, dry basis, kg/hr.

- MW_i = Molecular weight of component i , kilograms/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 is 20°C.
- 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 wastewater compound shall be calculated using Equation 26 in this paragraph.

$$E = \frac{QMG_a - QMG_b}{QMG_a} (100\%) \quad [\text{Equation 26}]$$

Where:

- E = Destruction efficiency of control device, percent.
- QMG_a, QMG_b = Mass rate of TOC (minus methane and

ethane) or total organic wastewater compound in vented gas stream entering (QMG_a) and exiting (QMG_b) the control device, dry basis, kg/hr.

(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 26) is 95 percent or greater. If complying with the 20 ppmv limit in §60.780(c) of this subpart, compliance is demonstrated if the outlet TOC concentration, less methane and ethane, or total organic wastewater compound concentration is 20 ppmv 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 §60.780(c) of this subpart, the owner or operator shall comply with the flare provisions in §60.18 of this part and with paragraphs (j)(1) through(3) of this section. The owner or operator is not required to conduct a performance test to determine percent emission reduction, or outlet organic wastewater compound or TOC

concentration, when a flare is used.

(1) Conduct a visible emission test using the techniques specified in §60.18(c)(1) and (f)(1) of this part.

(2) Determine the net heating value of the gas being combusted, using the techniques specified in §60.18 (c) and (f)(3) of this part; and

(3) Determine the exit velocity using the techniques specified in §60.18(c)(4) and (5) and (f)(4) through (6) of this part, as appropriate.

§60.784 Reporting requirements.

(a) Owners or operators requesting approval to use alternative monitoring, recordkeeping, or reporting shall comply with the provisions in paragraph (b) of this section. Each owner or operator shall submit the reports specified in paragraphs (a)(1) through (3) of this section, as applicable:

(1) Reports required by subpart A of part 60 of this part, as specified in Table 2 to this subpart;

(2) Reports required in paragraphs (c) through (h) of this section; and

(3) Startup, shutdown, and malfunction reports specified in §60.787(b)(4) of this subpart.

(b) Requests for alternative monitoring and recordkeeping. An owner or operator may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions of this subpart, as specified in this paragraph (b).

(1) Requests for approval to use alternatives to the continuous monitoring and recordkeeping provisions shall be submitted to the Administrator. Affected facilities shall submit the request for approval to use alternative monitoring and recordkeeping prior to the implementation of the alternative monitoring system for which approval is being requested if not already included in the operating permit application. The request shall contain the information specified in paragraphs (b)(2) through (4) of this section, as applicable.

(2) Request for non-automated monitoring and recording system. An owner or operator of an affected facility that does not have an automated monitoring and recording system capable of measuring parameter values at least once every 15 minutes and generating continuous records may request approval to use a non-automated system with less frequent monitoring.

(i) The requested system shall include manual reading

and recording of the value of the relevant operating parameter no less frequently than once per hour. Daily average values shall be calculated from these hourly values and recorded.

(ii) The request shall contain:

(A) A description of the planned monitoring and recordkeeping system;

(B) Documentation that the affected facility does not have an automated monitoring and recording system;

(C) Justification for requesting an alternative monitoring and recordkeeping system; and

(D) Demonstration to the Administrator's satisfaction that the proposed monitoring frequency is sufficient to represent control device operating conditions considering typical variability of the specific process and control device operating parameter being monitored.

(3) Request for automated data compression recording system. An owner or operator may request approval to use an automated data compression recording system that does not record monitored operating parameter values at a set frequency (for example, once every 15 minutes), but records all values that meet set criteria for variation from previously recorded values.

(i) The requested system shall be designed to:

(A) Measure the operating parameter value at least once every 15 minutes.

(B) Record at least four values each hour during periods of operation.

(C) Record the date and time when monitors are turned off or on.

(D) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident.

(E) Compute daily average values of the monitored operating parameter based on recorded data.

(F) If the daily average is not an excursion, as defined in paragraphs (d)(3)(i) through (iii) of this section, the data for that operating day may be converted to hourly average values and the four or more individual records for each hour in the operating day may be discarded.

(ii) The request shall contain a description of the monitoring system and data compression recording system, including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets all criteria in paragraph (b)(3)(i) of this section.

(4) For each waste management unit, treatment process, or control device used to comply with §§60.774 and 60.775 of this subpart for which the owner or operator seeks to monitor a parameter other than those specified in Tables 5, 7, and 8 of this subpart, the owner or operator shall submit a request for approval to monitor alternative parameters. The owner or operator who requests approval to monitor a different parameter than those listed in Tables 5, 7, and 8 of this subpart shall submit the information specified in paragraphs (b)(4)(i) through (iii) of this section.

(i) A description of the parameter(s) to be monitored to ensure the waste management unit, treatment process, or control device monitor is operated in conformance with its design and achieves the specified emission limit, percent reduction, or nominal efficiency, and an explanation of the criteria used to select the parameter(s).

(ii) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the waste management unit, treatment process, or control device, the schedule for this demonstration, and a statement that the owner or operator will establish, as part of the demonstration, an operating parameter value or range for the monitored parameter that

indicates proper operation and maintenance of the unit, process, or device.

(iii) The frequency and content of monitoring, recording, and reporting if monitoring and recording is not continuous, or if semiannual reports required under paragraph (d) of this section will not include reports of daily average values when the monitored operating parameter is not above or below (as appropriate) the operating parameter value established in paragraph (c)(7)(ii) of this section. The rationale for the proposed monitoring, recording, and reporting system shall be included.

(c) Notification of Compliance Status. Each owner or operator subject to this subpart shall submit a Notification of Compliance Status within 150 days after the compliance dates specified in §60.770(b)(1) of this subpart. The Notification of Compliance Status shall include the results of group determinations, performance tests, inspections, continuous monitoring system performance evaluations, values of monitored parameters established during performance tests, and any other information specified in paragraphs (c)(1) through (18) of this section used to demonstrate compliance or required to be included in the Notification of Compliance Status.

(1) The owner or operator shall identify each affected facility and describe the process wastewater streams, and maintenance wastewater streams generated by the affected facility. For each designated CPU, the owner or operator shall identify the major equipment in the designated CPU. Major equipment includes reactors, distillation columns, and other large unit operations. Smaller items such as pumps and auxiliary equipment need not be specifically identified; however, the information provided must be sufficient to demonstrate that all components of a CPU were assigned to a designated CPU. This may be done by showing CPU and designated CPU boundaries on a flow diagram or by providing an equipment list or other appropriate documentation.

(2) For each affected facility, the owner or operator shall submit the information specified in Table 9 of this subpart for each wastewater stream generated.

(3) For each treatment process identified in Table 9 to this subpart that receives, manages, or treats a wastewater stream (i.e., Group 1 wastewater stream or Group 2 wastewater stream selected by the owner or operator for control) or residual removed from a wastewater stream, the owner or operator shall submit the information specified in Table 10 to this subpart.

(4) For each waste management unit identified in Table 9 to this subpart that receives or manages a wastewater stream (i.e., Group 1 wastewater stream or Group 2 wastewater stream selected by the owner or operator for control) or residual removed from a wastewater stream, the owner or operator shall submit the information specified in Table 11 to this subpart.

(5) For each waste management unit identified in Table 9 to this subpart, the owner or operator shall include in the Notification of Compliance Status the compliance option that will be used to comply with §60.774 of this subpart, and the applicable provisions of other subparts that the owner or operator will use to comply with the compliance option, as allowed in §60.774 of this subpart. In addition, submit any other types of information required to be submitted in the Notification of Compliance Status, as specified in §60.774(f)(2) of this subpart.

(6) For each residual removed from a wastewater stream (i.e., Group 1 wastewater stream or Group 2 wastewater stream selected by the owner or operator for control), the owner or operator shall submit the information specified in Table 12 to this subpart.

(7) For each control device used to comply with

§§60.774, 60.775, and 60.779 of this subpart, the owner or operator shall submit the information specified in paragraphs (c)(7)(i) and (ii) of this section.

(i) For each flare, the owner or operator shall submit the information specified in paragraphs (c)(7)(i)(A) through (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 as specified by §60.780(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 (c)(7)(ii)(A) of this section and in either paragraph (c)(7)(ii)(B) or (C) of this section.

(A) The information in paragraphs (c)(7)(ii)(A)(1) through (3) of this section on operating parameter values required to be established under §60.781(e) of this subpart for the applicable parameters specified in Table 8 to this

subpart, unless the operating parameter value has already been established in the operating permit.

(1) The specific operating parameter value(s) of the monitored parameter(s);

(2) The rationale for the specific operating parameter value for each parameter, including any data and calculations used to develop the value and a description of why the value indicates proper operation of the control device.

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

(ii) If a performance test is not conducted for a control device, the operating parameter value may be based solely on engineering analyses and/or manufacturer's recommendations.

(3) A definition of the affected facility's operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the

times at which an operating day begins and ends.

(B) The design analysis specified in §60.780(d)(2) of this subpart; or

(C) Results of the performance test specified in §60.780(d)(1) of this subpart. Performance test results shall include operating ranges of key process and control parameters during the performance test; the value, averaged over the period of the performance test, of each parameter identified in the operating permit as being monitored in accordance with §60.781 of this subpart; and applicable supporting calculations.

(8) For each treatment process used to comply with §60.779(d), (e), (f), or (g) of this subpart, the owner or operator shall submit the information specified in paragraphs (c)(8)(i) and (ii) of this section.

(i) For Items 1 and 3 in Table 7 to this subpart, the owner or operator shall submit the information specified in paragraphs (c)(8)(i)(A) and (B) of this section.

(A) The information specified in paragraph (c)(7)(ii)(A) of this section for the operating parameter value required to be established under §60.781(e) of this subpart for the monitoring parameters approved by the Administrator, unless the operating parameter value has

already been established in the operating permit. An owner or operator using the design steam stripper compliance option specified in §60.779(d) of this subpart does not have to submit the information specified in paragraph (c)(8)(i)(A) or (B) of this section. However, the monitoring requirements specified in Item 2 of Table 7 to this subpart still apply.

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

(ii) For Item 2 in Table 7 to this subpart, the owner or operator shall submit the information specified in paragraph (c)(7)(ii)(A) of this section for the monitored operating parameter values required to be established under §60.781(e) of this subpart, unless the operating parameter value has already been established in the operating permit.

(9) Except as provided in paragraph (c)(9)(iii) of this section, for each waste management unit or treatment process used to comply with this subpart, the owner or operator shall submit the information specified in either paragraph (c)(9)(i) or (ii) of this section.

(i) The design evaluation and supporting documentation specified in §60.779(j)(1) of this subpart.

(ii) Results of the performance test specified in §60.779(j)(2) of this subpart. Performance test results shall include operating ranges of key process and control parameters during the performance test; the value, averaged over the period of the performance test, of each parameter identified in the operating permit as being monitored in accordance with §60.781(e) of this subpart; and applicable supporting calculations.

(iii) If the owner or operator elects to use one of the options for treatment in a RCRA unit specified in §60.779(h) of this subpart, the owner or operator is exempt from the requirements specified in paragraphs (c)(9)(i) and (ii) of this section.

(10) For performance tests and group determinations that are based on measurements, and for estimates of organic wastewater compound emissions, the Notification of Compliance Status shall include one complete test report for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other information required shall be submitted, but a complete test report is not required. A complete test report shall include a brief process description, sampling

site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(11) An owner or operator who transfers a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream for treatment pursuant to §60.773(e) of this subpart 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 removed from a Group 1 wastewater stream sent to the treatment facility.

(12) The owner or operator who chooses to comply with the provisions in §60.789 of this subpart shall include in the Notification of Compliance Status a statement specifying which regulation(s) is (are) being used to comply with this subpart.

(13) Notification that the owner or operator has elected to comply with the reduced recordkeeping program in

§60.785(j) of this subpart.

(14) Notification of the waste management unit compliance option used to comply with the provisions of this subpart, as specified in §60.774 of this subpart, shall be submitted in the Notification of Compliance Status. If the owner or operator is complying with the recordkeeping and reporting provisions of a rule other than this subpart, as specified in §60.774 of this subpart, a statement containing this information shall be submitted.

(15) Requirements for Group 2 wastewater streams.

This paragraph does not apply to Group 2 wastewater streams that are used to comply with §60.779(g) of this subpart. For Group 2 wastewater streams, the owner or operator shall include the information specified in paragraphs (c)(15)(i) through (iv) of this section in the Notification of Compliance Status report. This information may be submitted in any form. Table 9 to this subpart is an example.

(i) Identification and description of the CPU;

(ii) Stream identification code;

(iii) Concentration of compound(s) in ppmw. Include documentation of the methodology used to determine concentration; and

(iv) Flow rate in liters per minute.

(16) The owner or operator who opts to exclude up to 5 Mg of organic wastewater compound per year from control, as specified in §60.779(m) of this subpart, shall identify in the Notification of Compliance Status each Group 1 wastewater stream that will not be controlled and the calculations used to determine the annual average concentration and the annual flow rate, as specified in §60.779(m)(1) and (2) of this subpart.

(17) If a stream-specific list of organic wastewater compound is required, as specified in §60.778 of this subpart, the owner or operator shall include the following information, as applicable, in the Notification of Compliance Status.

(i) When creating a stream-specific list of organic wastewater compound for Group 1 and Group 2 determinations, as specified in §60.778(d) of this subpart, document how the percent of organic wastewater compound in the process wastewater stream was determined.

(ii) When creating a stream-specific list of organic wastewater compound for estimating VOC emission changes for modification determinations, as specified in §60.778(e) of this subpart, document how the percentage of organic wastewater compound in the process wastewater stream or

aqueous in-process stream was determined.

(18) The owner or operator subject to §60.779(a)(7) of this subpart, using a series of treatment processes or control devices, shall identify in the Notification of Compliance Status the combination of treatment processes or of control devices, including identification of the first and last treatment process or control device.

(19) The owner or operator electing to comply with the alternative compliance procedure specified in § 60.779(i) shall submit data and results of the compliance demonstration, including both a description of and the results of the WATER9 modeling validation procedures.

(d) Semiannual reports. Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator. The reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The first report shall be submitted no later than 8 months after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

(1) The semiannual report shall include updates to information submitted in the Notification of Compliance

Status, including the results of group determinations, performance tests, inspections, continuous monitoring system performance evaluations, values of monitored parameters established during performance tests, and any other information specified in paragraphs (c)(1) through (18) of this section used to demonstrate compliance or required to be included in the Notification of Compliance Status.

(2) The semiannual report shall include reports of all excursions and all periods when daily average values of monitored parameters are above the maximum or below the minimum established value.

(3) The semiannual report shall include the daily average values of monitored parameters for all excursions, as defined by paragraphs (d)(3)(i) through (iii) of this section. For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be reported. For a control device where multiple parameters are monitored, if one or more of the parameters meets any of the excursion criteria in paragraph (d)(3)(i), (ii), or (iii) of this section, this is considered a single excursion for the control device.

(i) When the daily average value of one or more monitored parameters is above the maximum or below the

minimum (as appropriate) established operating parameter value.

(ii) When the period of control 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.

(iii) When the period of control 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.

(iv) Monitoring data are insufficient to constitute a valid hour of data, as used in paragraphs (d)(3)(ii) and (iii) of this section, if measured values are unavailable for any of the 15-minute periods within the hour. For data compression systems approved under paragraph (b)(3) of this section, monitoring data are insufficient to calculate a valid hour of data if there are fewer than four data values recorded during the hour.

(4) Each control device is allowed one excused excursion per semiannual period. The first semiannual period is the 6-month period covered by the first semiannual report.

(5)(i) Paragraphs (d)(5)(i)(A) through (D) of this

section specify when an excursion is not a violation. In cases where continuous monitoring is required, the excursion does not count toward the number of excused excursions for determining compliance.

(A) If a monitored parameter is below the minimum established value and the affected facility is operated during such period in accordance with the facility's startup, shutdown, and malfunction plan;

(B) If a monitored parameter is above the maximum established value and the affected facility is operated during such period in accordance with the facility's startup, shutdown, and malfunction plan;

(C) If monitoring data are not collected during periods of startup, shutdown, or malfunction and the affected facility is operated during such periods in accordance with the facility's startup, shutdown, and malfunction plan; or

(D) If cessation of the emissions to which the monitoring applies occurs during periods of non-operation of the CPU or portion thereof.

(ii) Nothing in paragraphs (d)(3) through (5) of this section shall be construed as allowing or excusing a monitoring parameter excursion caused by any activity that

violates other applicable provisions of this subpart.

(iii) Paragraphs (d)(3) through (5) of this section, except paragraph (d)(5)(i) of this section, shall apply only to emission points and control devices for which continuous monitoring is required by this subpart.

(6) The semiannual report shall include results of any performance tests conducted during the reporting period, including one complete report for each test method used. For additional tests performed using the same method, results and any other information required shall be submitted, but a complete test report is not required. A complete test report shall contain a brief process description, sampling site data, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(7) The semiannual report shall include notification that the owner or operator has elected to comply with the reduced recordkeeping program in §60.785(j) of this subpart,

if such information was not included in the Notification of Compliance Status under paragraph (c)(13) of this section.

(8) The semiannual report shall include notification that the owner or operator has elected not to retain the daily average values, as specified in §60.785(j)(2)(i) of this subpart.

(9) The semiannual report shall include periods recorded under §60.785(i)(4)(i) of this subpart when the vent is diverted from the control device through a bypass line or the flow indicator is not operating.

(10) The semiannual report shall include all occurrences recorded under §60.785(i)(4)(ii) of this subpart in which the seal mechanism is broken, the bypass line damper or valve position has changed, or the key to unlock the bypass line damper or valve was checked out.

(11) The semiannual report shall include notification that semiannual report information for waste management units will be submitted with semiannual reports required by another rule that is one of the compliance options for waste management units as specified in §60.774 of this subpart.

(12) If a stream-specific list of organic wastewater compound is required, as specified in §60.778 of this subpart, the owner or operator shall include the following

information, as applicable, in the semiannual report.

(i) When creating a stream-specific list of organic wastewater compound for Group 1 and Group 2 determinations, as specified in §60.778(d) of this subpart, document how the percentage of organic wastewater compound in the process wastewater stream was determined.

(ii) When creating a stream-specific list of organic wastewater compound for estimating VOC emission changes for modification determinations, as specified in §60.778(e) of this subpart, document how the percentage of organic wastewater compound in the process wastewater stream or aqueous in-process stream was determined.

(e) Semiannual reporting for treatment processes.
Except as provided in paragraph (g) of this section, for each treatment process used to comply with this subpart, the owner or operator shall submit as part of the next semiannual report required by paragraph (d) of this section the information specified in paragraphs (e)(1)through (3) of this section.

(1) For a biological treatment unit, Item 1 in Table 7 to this subpart, the owner or operator shall submit the results of measurements that indicate that the biological treatment unit is outside the parameters established in the

Notification of Compliance Status or operating permit.

(2) For a steam stripper, Item 2 in Table 7 to 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 specified in Item 2 of Table 7 to this subpart was above the maximum or below the minimum (as appropriate) operating parameter value established in the Notification of Compliance Status or operating permit.

(3) For Item 3 in Table 7 to 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 was above the maximum or below the minimum operating parameter value established in the Notification of Compliance Status or operating permit.

(f) Semiannual reporting for control devices. Except as provided in paragraph (g) of this section, for each control device used to comply with §§60.774 through 60.780 of this subpart, the owner or operator shall submit as part of the next semiannual report required by paragraph (d) of this section the information specified in either paragraph (f)(1) or (2) of this section.

(1) The information specified in Table 13 to this

subpart, or

(2) If the owner or operator elects to comply with §60.781(d)(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 above the maximum or below the minimum (as appropriate) operating parameter value established as a requirement of §60.781(e) of this subpart or established in the facility's operating permit.

(g) 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 §60.781 of this subpart, or to monitor parameters other than those specified in Table 7 or 8 to this subpart, the owner or operator shall comply with the appropriate reporting requirements established by the Administrator.

(h) Notifications. Comply with the notification requirements specified in this paragraph (h), as applicable.

(1) Notification of performance test. The owner or operator shall notify the Administrator of the intention to conduct a performance test, as specified in §60.783 of this subpart, at least 30 calendar days before the performance

test is scheduled to allow the Administrator the opportunity to have an observer present during the test.

(2) Application for performance test waiver.

Performance tests, as specified in §60.783 of this subpart, may be waived upon written application to the Administrator if, in the Administrator's judgment, the facility is meeting the standards on a continuous basis, or the facility is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request. Owners or operators who apply for a waiver of a performance test shall submit the application by the dates specified in paragraph (h)(2)(i) of this section.

(i) The application for a waiver of an initial performance test shall be submitted not later than 90 calendar days before the Notification of Compliance Status required in paragraph (c) of this section is due to be submitted.

(ii) Any application for a waiver of a performance test shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected facility performing the required test.

(iii) Approval of a waiver granted under paragraph (h)(2) of this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. Any cancellation will be made only after notice is given to the owner or operator.

(3) Notice of off-site or third-party treatment. The owner or operator who elects to transfer a Group 1 wastewater stream or residual to an on-site treatment operation not owned or operated by the owner or operator of the affected facility generating the wastewater stream or residual, or to an off-site treatment operation, as specified in §60.773(e)(1)(ii) of this subpart, shall include a notice with the shipment. The notice shall state that the wastewater stream or residual contains organic wastewater compounds that are to be treated in accordance with the provisions of this subpart. When the transport is continuous or ongoing (for example, discharge to a publicly-owned treatment works), the notice shall be submitted to the treatment operator initially and whenever there is a change in the required treatment. The notice shall be retained by the owner or operator as specified in §60.785(d) of this subpart.

(4) Certification of off-site or third-party treatment. The owner or operator transferring a wastewater stream or residual, as specified in §60.773(e)(2) of this subpart, shall submit to EPA a written certification, that the transferee will manage and treat any Group 1 wastewater stream or residual removed from a Group 1 wastewater stream received from an affected facility subject to the requirements of this subpart in accordance with the requirements of either §§60.774 through 60.786 of this subpart, or §60.787(c) of this subpart if alternative emission limitations have been granted the transferor in accordance with those provisions.

(4) [Reserved]

(5) Organic Peroxides. Control requirements for emission sources containing organic peroxides may be waived upon written application to the Administrator if, in the Administrator's judgment, the owner or operator cannot meet an applicable requirement for safety reasons. Written documentation must include reasons why an undue safety hazard would be created if air emission controls were installed, and procedures that will be implemented to minimize OWC emissions from these sources. The request shall be submitted no later than 90 calendar days before the

Notification of Compliance Status required in paragraph (c) of this section is due to be submitted. The Administrator shall have the right to disapprove of the request to not control these emission sources as otherwise required by the standards.

(6) Recipients of notifications.

(i) Before a State has been delegated the authority to implement and enforce notification requirements established under this paragraph (h), the owner or operator shall submit notifications to the appropriate Regional Office of EPA (to the attention of the Director of the Division indicated in the list of EPA Regional Offices in 40 CFR 63.13).

(ii) After a State has been delegated the authority to implement and enforce notification requirements established under this paragraph (h), the owner or operator shall submit notifications to the delegated State authority. In addition, if the delegated authority is the State, the owner or operator shall send a copy of each notification submitted to the State to the appropriate Regional Office of EPA, as specified in paragraph (h)(5)(i) of this section. The Regional Office may waive this requirement for any specific notifications at its discretion.

§60.785 Recordkeeping requirements.

(a) Overview. Data retention requirements are specified in paragraph (b) of this section. Each owner or operator shall keep the records specified in paragraphs (a)(1) through (3) of this section, as applicable:

(1) Records required by subpart A of part 60 of this part, as specified in Table 2 of this subpart;

(2) Records required in paragraphs (c) through (j) of this section; and

(3) Startup, shutdown, and malfunction records specified in §60.787(b) of this subpart.

(b) Data retention. Unless otherwise specified in this subpart, each owner or operator shall keep copies of all applicable records and reports required by this subpart for at least 5 years. All applicable records shall be maintained in such a manner that they can be readily accessed. Records of the most recent 2 years shall be retained onsite or shall be accessible to an inspector while onsite. The records of the remaining 3 years may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

(c) Miscellaneous records. The owner or operator

shall keep the applicable records specified in paragraphs (c)(1) through (18) of this section.

(1) A record that each waste management unit inspection required by §60.774 of this subpart was performed.

(2) A record that each inspection for control devices required by §60.780(f) of this subpart was performed. If gaps, tears, or holes are observed during the inspection in ductwork, piping, or connections to covers and control devices, the owner or operator shall include this in the record. A record shall be kept to document when attempts at repair were made and when final repairs were completed.

(3) For Items 1 and 3 of Table 7 to this subpart, the owner or operator shall keep the records approved by the Administrator.

(4) Except as provided in paragraph (c)(5) of this section, continuous records of the monitored parameters specified in Item 2 of Table 7, in Table 8, or in §60.781(d)(2) to this subpart, as appropriate.

(5) 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 §60.781 of this subpart, or to monitor parameters other than those

specified in Table 7 or 8 to this subpart, the owner or operator shall comply with the recordkeeping requirements established by the Administrator as part of the review of the permit application or other appropriate means.

(6) The owner or operator who is complying with the provisions in §60.789(c)(1) or (d)(2) of this subpart shall keep a record of the information used to determine which control, testing, monitoring, recordkeeping, and reporting requirements are the most stringent, or will ensure compliance, respectively.

(7) Documentation of a decision to use a delay of repair due to unavailability of parts, as specified in §60.777(c) of this subpart, 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), the date when repair would have been completed if parts had been available, and the date when repair was completed.

(8) The owner or operator shall keep a record of each affected facility that does not generate at least one process wastewater stream, maintenance wastewater stream, or aqueous in-process stream. The owner or operator of each affected facility for which a DCPU determination was made

according to 60.770 (c)(3) shall keep a record identifying major equipment in each DCPU.

(9) Requirements for Group 2 wastewater streams. This paragraph does not apply to Group 2 wastewater streams that are used to comply with §60.779(g) of this subpart. For all other Group 2 wastewater streams, the owner or operator shall keep in a readily available location the records specified in paragraphs (b)(9)(i) through (iv) of this section.

(i) Identification and description of the CPU.

(ii) Stream identification code.

(iii) Concentration of compound(s) in ppmw. Include documentation of the methodology used to determine concentration.

(iv) Flow rate in liters per minute.

(10) The owner or operator shall keep a record or provide documentation on demand documenting that the cost of a physical or operational change as specified in §60.772(c)(3) was less than 12.5 percent.

(11) The owner or operator shall keep a record or provide documentation on demand showing how it was determined that a process wastewater or aqueous in-process stream was not affected by a physical or operational change

as specified in §60.772(d). At a minimum, this documentation shall include the concentration and flow rate of affected process wastewater and aqueous in-process streams both before and after a physical or operational change.

(12) The owner or operator shall keep a record or provide on demand documentation kept for financial or tax purposes that documents when costs for replacements were first incurred and the costs of the replacements, as specified in §60.772(k) of this subpart.

(13) The owner or operator who opts to exclude up to 5 Mg of organic wastewater compound per year from control, as specified in §60.779(m) of this subpart, shall keep a record of the CPUs that will not be controlled and the calculations used to determine the annual average concentration and the annual flow rate, as specified in §60.779(m)(1) and (2) of this subpart.

(14) If a stream-specific list of organic wastewater compound is required, as specified in §60.778 of this subpart, the owner or operator shall keep a record of the following information, as applicable.

(i) When creating a stream-specific list of organic wastewater compound for Group 1 and Group 2 determination,

as specified in §60.778(d) of this subpart, document how the percentage of organic wastewater compound in the process wastewater stream was determined.

(ii) When creating a stream-specific list of organic wastewater compound for estimating VOC emission changes for modification determinations, as specified in §60.778(e) of this subpart, document how the percentage of organic wastewater compound in the process wastewater stream or aqueous in-process stream was determined.

(15) The owner or operator subject to §60.779(a)(7) of this subpart shall identify, and keep a record of, the combination of treatment processes or control devices, including identification of the first and last treatment process or control device.

(16) The owner or operator subject to the maintenance wastewater requirements in §60.776 of this subpart shall maintain a record of the information required by §60.776(b) through (d) of this subpart.

(17) The owner or operator shall keep the written startup, shutdown, and malfunction plan required in §60.787(b) of this subpart on record after it is developed to be made available for inspection, upon request, by the Administrator for the life of the affected facility or until

the affected facility is no longer subject to the provisions of this subpart. In addition, if the startup, shutdown, and malfunction plan is revised, the owner or operator shall keep previous (i.e., superceded) versions of the plan on record, to be made available for inspection, upon request by the Administrator, for a period of 5 years after each revision to the plan.

(18) Recordkeeping for non-affected facilities. The owner or operator of a non-affected facility shall keep records sufficient to demonstrate the information used to determine the affected facility in 60.770 (c). In addition, a non-affected facility that is part of a SOCFI CPU for which a DCFU determination was made according to 60.770 (c)(4) shall keep a record identifying major equipment in each DCFU.

(d) Records of transfer of Group 1 wastewater streams or residuals. The owner or operator transferring a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream in accordance with §60.773(e) of this subpart shall keep records as specified in paragraphs (d)(1) and (2) of this section.

(1) Keep a record of the notice sent to the treatment operator, as specified in §60.784(h)(3) of this subpart,

stating that the wastewater stream or residual contains organic wastewater compound which are required to be managed and treated in accordance with the provisions of this subpart.

(2) Keep a record of the certification sent to EPA, as specified in §60.784(h)(4) of this subpart, stating that the transferee will manage and treat any Group 1 wastewater stream or residual in accordance with the provisions of this subpart.

(e) Control device records. For each boiler or process heater used to comply with 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.

(f) Continuous records. Owners or operators required to keep continuous records by any section of this subpart shall keep records as specified in paragraphs (f)(1) through (10) of this section, unless an alternative recordkeeping system has been requested and approved under §60.784(b) of this subpart, except as provided in §60.784(d)(5)(i) of this subpart.

(1) The monitoring system shall measure data values at least once every 15 minutes.

(2) The owner or operator shall record either:

(i) Each measured data value; or

(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.

(3) If the daily average value of a monitored parameter for a given operating day is below the maximum or above the minimum established value in the Notification of Compliance Status required by §60.784(c) of this subpart or the operating permit, the owner or operator shall either:

(i) Retain block hourly average values for that operating day for 5 years and discard, at or after the end of that operating day, the 15-minute or more frequent average values and readings recorded under paragraph (f)(2) of this section; or

(ii) Retain the data recorded under paragraph (f)(2) of this section for 5 years.

(4) If the daily average value of a monitored parameter for a given operating day is above the maximum or below the minimum established value in the report required by §60.784(c) of this subpart or by the operating permit, the owner or operator shall retain the data recorded that

operating day under paragraph (f)(2) of this section for 5 years.

(5) Daily average values of each continuously monitored parameter shall be calculated for each operating day, and retained for 5 years, unless otherwise specified in this section.

(i) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per operating day if operation is not continuous.

(ii) The operating day shall be the period defined in the operating permit or the report required by §60.784(c) of this subpart. It may be from midnight to midnight or another daily period.

(6) If all recorded values for a monitored parameter during an operating day are below the maximum or above the minimum established value in the report required by §60.784(c) of this subpart or by the operating permit, the owner or operator may record this fact and retain this record for 5 years rather than calculating and recording a daily average for that operating day. For these operating days, the records required in paragraph (f)(3) of this

section shall also be retained for 5 years.

(7) Monitoring data recorded during periods identified in paragraphs (f)(7)(i) through (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) Startups;

(iii) Shutdowns;

(iv) Malfunctions;

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

(8) Flares. For flares, records of the times and duration of all periods during which all pilot flames are simultaneously absent shall be kept rather than daily averages.

(9) Regenerative carbon adsorbers. For regenerative carbon adsorbers, the owner or operator shall keep the records specified in paragraphs (e)(9)(i) and (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.

(10) Non-regenerative carbon adsorbers. For non-regenerative carbon adsorbers using organic monitoring equipment, the owner or operator shall keep the records specified in paragraph (f)(10)(i) of this section instead of daily averages. For non-regenerative carbon adsorbers in which the carbon is replaced with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system, the owner or operator shall keep the records specified in paragraph (f)(10)(ii) of this section instead of daily averages.

(i)(A) Records of how the monitoring frequency, as specified in Table 8 of this subpart, was determined.

(B) Records of when the organic compound concentration of the adsorber exhaust was monitored.

(C) Records of when the carbon was replaced.

(ii)(A) Record of how the carbon replacement interval, as specified in Table 8 of this subpart, was determined.

(B) Records of when the carbon was replaced.

(g) Determining Group status records. Annual average concentration records. The owner or operator who determines Group status by determining the annual average concentration and annual average flow rate of the wastewater stream shall keep the following records, as applicable.

(1) Process knowledge records. If the owner or operator determines that a wastewater stream is not a Group 1 wastewater stream by using process knowledge to determine the annual average concentration of a wastewater stream as specified in §60.782(b)(3) of this subpart, or uses process knowledge to determine the annual average flow rate as specified in §60.782(c)(1) of this subpart, the owner or operator shall keep the documentation of this determination.

(2) Bench-scale or pilot-scale test data. If the owner or operator determines that a wastewater stream is a Group 1 or Group 2 wastewater stream by using bench-scale or pilot-scale test data to determine the annual average concentration of a wastewater stream as specified in §60.782(b)(4) of this subpart, the owner or operator shall keep documentation of the data specified in §60.782(b)(4) of this subpart.

(3) Sampling Plan. If the owner or operator elects to

comply with §60.782(a)(1) of this subpart and will comply with §60.782(b)(5) of this subpart by measuring the annual average concentration of organic wastewater compound, the owner or operator shall keep a copy of the sampling plan, as specified in §60.782(b)(5)(ii) of this subpart. The sampling plan shall include procedures for determining recovery efficiency of the relevant organic wastewater compound. An example of an acceptable sampling plan would be one that incorporates similar sampling and sample handling requirements to those of Method 25D, 40 CFR part 60, appendix A. The sampling plan shall be maintained at the facility.

(4) Historical records. If the owner or operator determines that a wastewater stream is a Group 2 wastewater stream by using historical records to determine the annual average flow rate of a wastewater stream as specified in §60.782(c)(2) of this subpart, the owner or operator shall keep documentation as specified in §60.782(c)(2) of this subpart.

(5) Measurement records. If the owner or operator determines that a wastewater stream is a Group 2 wastewater stream by using measurements to determine the annual average flow rate of a wastewater stream as specified in

§60.782(c)(3) of this subpart, the owner or operator shall keep documentation of the measurements specified in §60.782(c)(3) of this subpart.

(h) Continuous monitoring system records. For continuous monitoring systems used to comply with this subpart, keep records documenting the completion of calibration checks, and records documenting the maintenance of continuous monitoring systems that are specified in the manufacturer's instructions or that are specified in other written procedures, that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(i) Records for leak inspections. The owner or operator required to comply with the leak inspection provisions of §60.786 of this subpart shall keep a record of the information specified in paragraphs (i)(1) through (7) of this section.

(1) Identification of all parts of the control device that are designated as unsafe to inspect, as specified in §60.786(g) of this subpart, an explanation stating why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the control device

that are designated as difficult to inspect, as specified in §60.786(h) of this subpart, an explanation stating why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) Identification of all parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(4) For each vapor collection system or closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either paragraph (i)(4)(i) or (ii) of this section.

(i) Hourly records of whether the flow indicator specified under §60.786(f)(1) of this subpart 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 or closure mechanism is used to comply with §60.786(f)(2) of this subpart, hourly records of

whether a diversion was detected are not required. 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 damper or 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.

(5) For each inspection during which a leak is detected, a record of the information specified in paragraphs (i)(5)(i) through (viii) of this section.

(i) The instrument identification numbers, the name or initials of the person conducting the inspection, and identification of the equipment.

(ii) The date the leak was detected and the date of the first attempt to repair the leak.

(iii) Maximum instrument reading measured by the method specified in §60.786(f)(1) of this subpart after the leak is successfully repaired or determined to be non-repairable.

(iv) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(v) The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown.

(vi) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(vii) Dates of shutdowns that occur while the equipment is unrepaired.

(viii) The date of successful repair of the leak.

(6) For each inspection conducted in accordance with §60.786(c) of this subpart during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(7) For each visual inspection conducted in accordance §60.786(b)(1)(ii) or (3)(ii) of this subpart during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(j) Reduced recordkeeping program. For any parameter with respect to any item of equipment, the owner or operator may implement the recordkeeping requirements specified in paragraph (j)(1) or (2) of this section as alternatives to

the continuous operating parameter monitoring and recordkeeping provisions specified in this subpart. The owner or operator shall retain for a period of 5 years each record required by paragraphs (j)(1) and (2) of this section.

(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 (j)(1)(i) through (vi) of this section are met. An owner or operator electing to comply with the requirements of this paragraph (j)(1) shall notify the Administrator in the Notification of Compliance Status as specified in §60.784(c)(13) of this subpart or, if the Notification of Compliance Status has already been submitted, in the semiannual report immediately preceding implementation of the requirements of this paragraph (j)(1) as specified in §60.784(d)(7) of this subpart.

(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 running 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 (j)(1)(ii)(A) through (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 six 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 (j)(1)(ii) of this section reaches a setpoint 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 this paragraph (j)(1), at the times specified in paragraphs (j)(1)(v)(A) through (C) of this section. The owner or operator shall document that the required verifications occurred:

(A) Upon initial installation;

(B) Annually after initial installation; and

(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 paragraphs (j)(1)(vi)(A) through (D) 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 this paragraph (j).

(B) A description of the applicable monitoring system(s), and of how compliance will be achieved with each requirement of paragraphs (j)(1)(i) through (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, as provided in paragraph (a) of this section, except as provided in paragraph (j)(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 impair its ability to comply with the requirements of this paragraph (j)(1).

(D) Owners and operators subject to paragraph (j)(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 all superseded descriptions for at least 5 years after the date of their creation. Superseded descriptions shall be retained on-site (or accessible from a central location by computer or other means that provides access within 2 hours after a request) for at least 6 months after their creation. Thereafter, superseded descriptions may be stored off-site.

(2) If an owner or operator has elected to implement the requirements of paragraph (j)(1) of this section for a monitored parameter with respect to an item of equipment and a period of 6 consecutive months has passed without an excursion as defined in paragraph (j)(2)(iv) of this section, the owner or operator is no longer required to record the daily average value 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 accomplished during the period prior to the compliance date 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 semiannual report as specified in §60.784(d)(8) of this subpart. 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 average values as provided in this paragraph (j)(2) , there is an excursion as defined in paragraph (j)(2)(iv) of this section, the owner or operator shall immediately resume retaining the daily average value for each operating day and shall notify the Administrator in the next semiannual 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 (j)(2)(iv) of this section.

(iii) The owner or operator shall retain the records specified in paragraphs (j)(1)(i) through (iv) of this section, for the duration specified in this paragraph (j).

For any calendar week, if compliance with paragraphs (j)(1)(i) through (iv) of this section 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 this paragraph (j), 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 that the daily average value during any startup, shutdown, or malfunction shall not be considered an excursion for purposes of this paragraph (j)(2), if the owner or operator follows the applicable provisions of the startup, shutdown, and malfunction plan required by §60.787 of this subpart. An excused excursion, as described in §60.784(d)(4) of this subpart, shall not be considered an excursion for purposes of this paragraph (j)(2).

§60.786 Leak inspection provisions.

(a) For each vapor collection system, closed-vent system, fixed roof, cover, or enclosure required to comply with this section, except for enclosures operated under negative pressure as specified in paragraph (j) of this

section, the owner or operator shall comply with the requirements of paragraphs (b) through (i) of this section, unless otherwise specified in this subpart.

(b) Except as provided in paragraphs (g) and (h) of this section, each vapor collection system and closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (b)(1) and (2) of this section and each fixed roof, cover, and enclosure shall be inspected according to the procedures and schedule specified in paragraph (b)(3) of this section.

(1) If the vapor collection system or closed-vent system is constructed of hard-piping, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (c) of this section; and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed-vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (c) of this section;

(ii) Conduct annual inspections according to the

procedures in paragraph (c) of this section; and

(iii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(3) For each fixed roof, cover, and enclosure, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (c) of this section; and

(ii) Conduct semiannual visual inspections for visible, audible, or olfactory indications of leaks.

(c) Each vapor collection system, closed-vent system, fixed roof, cover, and enclosure shall be inspected according to the procedures specified in paragraphs (c)(1) through (6) of this section.

(1) Inspections shall be conducted in accordance with Method 21, 40 CFR part 60, appendix A, and with the exceptions and modifications specified in this subpart.

(2) The detection instrument shall meet the performance criteria of Method 21, 40 CFR part 60, appendix A except the instrument response factor criteria in section 8.1.1 of Method 21 shall be for the average composition of the process fluid and not each individual organic wastewater compound in the stream.

(i) Except as provided in paragraph (c)(2)(ii) of this

section, the detection instrument shall meet the performance criteria of Method 21, 40 CFR part 60, appendix A, except the instrument response factor criteria in section 8.1.1 of Method 21 shall be for the average composition of the process fluid and not each individual organic wastewater compound in the stream. For process streams that contain nitrogen, air, or other inerts which are not organic hazardous air pollutants or organic wastewater 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.

(3) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21, 40 CFR part 60, appendix A.

(4) Calibration gases shall be as follows:

(i) Zero air (less than 10 ppmv hydrocarbon in air);

and

(ii) Mixtures of methane in air at a concentration

less than 10,000 ppmv. 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 (c)(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 the 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 40 CFR 63.148(b) and (c). The owner or operator shall subtract the background reading from the maximum concentration indicated by the instrument.

(6) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared with 500 ppmv for determining compliance.

(d) Leaks, as indicated by an instrument reading greater than 500 ppmv above background or by visual

inspections, shall be repaired as soon as practical, except as provided in paragraph (e) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(e) Delay of repair of a vapor collection system, closed-vent system, fixed roof, cover, or enclosure for which leaks have been detected is allowed if the repair is technically infeasible without a shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next shutdown.

(f) For each vapor collection system or closed-vent system that contains bypass lines that could divert emissions away from a control device, the owner or operator shall comply with the provisions of either paragraph (f)(1) or (2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph (f).

(1) Properly install, maintain, and operate a flow

indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in §60.785(i)(4)(i) of this subpart. The flow indicator shall be installed at the entrance to any bypass line that could divert emissions away from the control device and to the atmosphere; or

(2) Secure the bypass line damper or valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the damper or valve is maintained in the non-diverting position and emissions are not diverted through the bypass line. Records shall be generated as specified in §60.785(i)(4)(ii) of this subpart.

(g) Any parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated, as described in paragraph (g)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (b)(1), (2), and (3)(i) of this section if:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a

consequence of complying with paragraph (b)(1), (2), or (3)(i) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(h) Any parts of the vapor collection system, closed-vent system, fixed roof, cover, or enclosure that are designated, as described in paragraph (h)(1) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (b)(1), (2), and (3)(i) of this section if:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(i) Records required by this section are specified in §60.785(i) of this subpart.

(j) [incorporate text from §63.457(e), Negative pressure procedures.]

§60.787 Additional requirements - Startup, shutdown,

malfunction, or non-operation; alternative means of emission limitation; and permits

(a) Applicability of this subpart during periods of startup, shutdown, malfunction, or non-operation.

Paragraphs (a)(1) through (3) of this section shall be followed during periods of startup, shutdown, malfunction, or non-operation of the affected facility or any devices or systems required by this subpart.

(1) The emission limitations set forth in this subpart and the emission limitations referred to in this subpart shall apply at all times except during periods of non-operation of the affected facility (or specific portion thereof) that generates a process wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream resulting in cessation of the emissions to which this subpart applies. The emission limitations of this subpart and the emission limitations referred to in this subpart shall not apply during periods of startup, shutdown, or malfunction. During periods of startup, shutdown, or malfunction, the owner or operator shall operate and maintain the facility (including air pollution control equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under

paragraph (b) of this section. However, if a startup, shutdown, malfunction, or period of non-operation of one portion of an affected facility that generates a process wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream does not affect the ability of a particular emission point to comply with the emission limitations to which it is subject, then that emission point shall still be required to comply with the applicable provisions of this subpart during the startup, shutdown, malfunction, or period of non-operation.

(2) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with this subpart during periods of startup, shutdown, or malfunction during times when emissions, wastewater streams, or residuals are being routed to such items of equipment, if the shutdown would contravene requirements of this subpart applicable to such items of equipment. This paragraph (a)(2) does not apply if the item of equipment is malfunctioning. This paragraph (a)(2) also does not apply if the owner or operator shuts down the compliance equipment (other than monitoring systems) to avoid damage due to a contemporaneous start-up, shutdown, or malfunction of the affected facility or portion thereof that generates a

process wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream. If the owner or operator has reason to believe that monitoring equipment would be damaged due to a contemporaneous startup, shutdown, or malfunction of the affected facility or portion thereof that generates a process wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream, the owner or operator shall provide documentation to the Administrator, as soon as possible, supporting such a claim. Once approved by the Administrator, the provision for ceasing to collect, during a startup, shutdown, or malfunction, monitoring data that would otherwise be required by the provisions of this subpart must be incorporated into the startup, shutdown, malfunction plan as required in paragraph (b)(1)(iii) of this section.

(3) During startups, shutdowns, and malfunctions when the emission limitations of this subpart do not apply pursuant to paragraphs (a)(1) and (2) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions. For purposes of this paragraph (a)(3), the term "excess emissions" means emissions in excess of those that would have occurred if there were no startup, shutdown, or

malfunction and the owner or operator complied with the relevant provisions of this subpart. The measures to be taken shall be identified in the applicable startup, shutdown, and malfunction plan, and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, or changes in the manner of operation of the affected facility that generates a process wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream. Back-up control devices are not required, but may be used if available.

(b) Startup, shutdown, and malfunction plan. The owner or operator of an affected facility that generates a Group 1 process wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream shall develop and implement a written start-up, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the affected facility during periods of start-up, shutdown, or malfunction and provide a program of corrective action for malfunctioning process and air pollution control equipment used to comply with this subpart. This plan shall be developed by the owner or operator by the affected facility's compliance date.

(1) Contents of plan. The startup, shutdown, and malfunction plan shall include the provisions described in paragraphs (b)(1)(i) through (v) of this section.

(i) The plan shall ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of OWC.

(ii) The plan shall have the effect of reducing the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(iii) The plan shall include a provision for ceasing to collect, during a startup, shutdown, or malfunction, monitoring data that would otherwise be required by the provisions of this subpart in the startup, shutdown, and malfunction plan only if the owner or operator has demonstrated to the Administrator that the monitoring system would be damaged or destroyed if it were not shut down during the startup, shutdown, or malfunction.

(iv) The owner or operator may use the affected facility's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or

other plan such as a startup, shutdown and malfunction plan developed for compliance with another standard, provided the alternative plan meets all the requirements of this subpart and is made available for inspection when requested by the Administrator.

(2) Changes to plan.

(i) If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the plan at the time the owner or operator developed the plan, the owner or operator shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the facility during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control equipment.

(ii) The Administrator may require that an owner or operator of an affected facility make changes to the startup, shutdown, and malfunction plan for that facility. Reasonable revisions may be required if the Administrator finds that the plan:

(A) Does not address a startup, shutdown, or malfunction event that has occurred;

(B) Fails to provide for the operation of the facility (including associated air pollution control equipment) during a startup, shutdown, or malfunction event in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this subpart; or

(C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable.

(3) Records of startup, shutdown, and malfunction.

The owner or operator shall keep the records specified in paragraphs (b)(3)(i) through (iii) of this section.

(i) Records of the occurrence and duration of each startup, shutdown, or malfunction of operation of process equipment or control devices or recovery devices or continuous monitoring systems used to comply with this subpart during which excess emissions (as defined in paragraph (a)(3) of this section) occur.

(ii) For each startup, shutdown, or malfunction during which excess emissions (as defined in paragraph (a)(3) of this section) occur, records reflecting whether the procedures specified in the startup, shutdown, and malfunction plan were followed, and documentation of actions

taken that were not consistent with the plan. For example, if a startup, shutdown, and malfunction plan includes procedures for routing a control device to a backup control device, records shall be kept of whether the plan was followed. These records may take the form of a "checklist" or other form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for the event.

(iii) For continuous monitoring systems used to comply with this subpart, records documenting the completion of calibration checks and maintenance of continuous monitoring systems that are specified in the manufacturer's instructions or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(4) Reports of startup, shutdown, and malfunction.

For the purposes of this subpart, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the semiannual reports required under §60.784(d) of this subpart. These reports shall include the information specified in paragraphs (b)(3)(i) and (ii) of this section and shall contain the name, title, and signature of the owner or operator or other responsible official who is

certifying its accuracy.

(c) Alternative means of emission limitation. If, in the judgment of the Administrator, an alternative means of emission limitation will achieve a reduction in organic wastewater compound emissions at least equivalent to the reduction in organic wastewater compound achieved under any design, equipment, work practice, or operational standards in this subpart, the Administrator will publish a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(1) The notice may condition the permission on requirements related to the operation and maintenance of the alternative means.

(2) Any notice under this paragraph (c) will be published only after public notice and an opportunity for a hearing.

(3) Any person seeking permission to use an alternative means of compliance under this paragraph (c) shall collect, verify, and submit to the Administrator information showing that the alternative means achieves equivalent emission reductions.

(d) Permits. Each owner or operator of an affected facility subject to this subpart shall obtain a permit as

specified in paragraphs(d)(1) through (3) of this section.

(1) Located at a major source. The owner or operator of an affected source located at a major facility shall obtain a permit under 40 CFR part 70 or 71 from the appropriate permitting authority.

(2) Located at a non-major source and generates no Group 1 wastewater streams, no maintenance wastewater streams, and no aqueous in-process streams. The owner or operator of an affected facility, located at a non-major source, that does not generate a Group 1 wastewater stream, a maintenance wastewater stream, or a aqueous in-process stream is not required to obtain a permit.

(3) Located at other non-major facilities. The owner or operator of an affected facility, located at a non-major source, that generates a Group 1 wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream shall obtain either: a permit under 40 CFR part 70 or 71 from the appropriate permitting authority; or a State permit that incorporates the applicable requirements of this subpart.

§60.788 [Reserved]

§60.789 Relationship to other regulations.

(a) The owner or operator who elects to comply with

the provisions of this section shall comply with the Notification of Compliance Status reporting provisions specified in §60.784(c)(12) of this subpart.

(b) Relationship to Benzene Waste NESHAP. After the compliance dates specified in §60.770 of this subpart, the owner or operator of a Group 1 or Group 2 wastewater stream that is also subject to the provisions of 40 CFR part 61, subpart FF is required to comply with the provisions of both this subpart and 40 CFR part 61, subpart FF. Alternatively, the owner or operator may elect to comply with the provisions of paragraphs (b)(1) and (2) of this section, which shall constitute compliance with the provisions of 40 CFR part 61, subpart FF.

(1) Comply with the provisions of this subpart; and

(2) For any Group 2 wastewater stream or organic stream whose benzene emissions are subject to control through the use of one or more treatment processes or waste management units under the provisions of 40 CFR part 61, subpart FF on or after September 12, 1994, comply with the requirements of this subpart for Group 1 wastewater streams.

(c) Relationship to RCRA. After the compliance dates specified in §60.770 of this subpart, the owner or operator of any Group 1 or Group 2 wastewater stream that is also

subject to provisions in 40 CFR parts 260 and 272 shall comply with the requirements of either paragraph (c)(1) or (2) of this section.

(1) For each Group 1 or Group 2 wastewater stream, the owner or operator shall comply with the most stringent control requirements (e.g., waste management units, numerical treatment standards, etc.) and the most stringent testing, monitoring, recordkeeping, and reporting requirements that overlap between the provisions of this subpart and the provisions of 40 CFR parts 260 through 272. The owner or operator shall keep a record of the information used to determine which requirements were the most stringent, as specified in §60.785(c)(6) of this subpart, and shall submit this information if requested by the Administrator; or

(2) The owner or operator shall submit, no later than 2 months after the applicable compliance date specified in §60.770 of this subpart, a request for a case-by-case determination of requirements. The request shall include the information specified in paragraphs (c)(2)(i) and (ii) of this section.

(i) Identification of the wastewater streams that are subject to this subpart and to the provisions in 40 CFR parts 260 through 272, determination of the Group 1/Group 2 status of those streams using the provisions specified in this subpart, determination of whether or not those streams are listed or exhibit a characteristic as specified in 40 CFR part 261, and determination of whether the waste management unit is subject to permitting under 40 CFR part 270.

(ii) Identification of the specific control requirements (e.g., waste management units, numerical treatment standards, etc.) and testing, monitoring, recordkeeping, and reporting requirements that overlap between the provisions of this subpart and the provisions of 40 CFR parts 260 through 272.

(d) Overlap with the Vinyl Chloride NESHAP. After the compliance dates specified in §60.770 of this subpart, the owner or operator of a Group 1 or Group 2 wastewater stream that is also subject to the provisions of 40 CFR part 61, subpart F shall comply with the provisions of either paragraph (d)(1) or (2) of this section.

(1) The owner or operator shall comply with the provisions of both this subpart and 40 CFR part 61, subpart

F; or

(2) The owner or operator shall comply with 40 CFR part 61, subpart F. The owner or operator shall submit, no later than 2 months after the applicable compliance date specified in §60.770 of this subpart, information demonstrating how compliance with 40 CFR part 61, subpart F will ensure compliance with this subpart. The information shall include a description of the testing, monitoring, reporting, and recordkeeping that will be performed. The owner or operator shall keep a record of the information used to ensure compliance, as specified in §60.785(c)(6) of this subpart.

(e) Overlap with the HON and MON. After the compliance dates specified in §60.770 of this subpart, the owner or operator of any Group 1 or Group 2 process wastewater stream that is also subject to and controlled according to the provisions in 40 CFR part 63, subparts G or FFFF shall comply with either 40 CFR part 63, subpart G or FFFF, or this subpart.

(f) Overlap with other regulations for monitoring, recordkeeping, or reporting with respect to combustion devices, recovery devices, or recapture devices. After the compliance dates specified in §60.770 of this subpart, if

any combustion device, recovery device, or recapture device subject to this subpart is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart AA or CC, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart AA or CC and the owner or operator complies with the periodic reporting requirements under 40 CFR part 264, subpart AA or CC that would apply to the device if the facility had final-permitted status, the owner or operator may elect to comply with the monitoring, recordkeeping, and reporting requirements of this subpart, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this paragraph (f), which shall constitute compliance with the monitoring, recordkeeping, and reporting requirements of this subpart.

Table 1 to subpart YYY--List of SOCFI chemicals

Table 2 to subpart YYY--Applicability of 40 CFR part 60 general provisions to subpart YYY

Table 3a to subpart YYY- Reference rules for control of wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators

Table 3b to subpart YYY--Requirements for complying with the waste management unit provisions in §60.774

Table 4 to subpart YYY--Control requirements for wastewater tanks requiring controls

Table 5a to subpart YYY-- Conforming terms for use with §60.774

Table 5b to subpart YYY--Conforming cross-references for use with §60.774

Table 6 to subpart YYY--Control requirements for items of equipment that meet the criteria of §60.775

Table 7 to subpart YYY--Monitoring requirements for treatment processes

Table 8 to subpart YYY--Monitoring requirements for control devices

Table 9 to subpart YYY--Information on process wastewater streams to be submitted with Notification of Compliance Status

Table 10 to subpart YYY--Information for treatment processes to be submitted with Notification of Compliance Status

Table 11 to subpart YYY--Information for waste management units to be submitted with Notification of Compliance Status

Table 12 to subpart YYY--Information on residuals to be submitted with Notification of Compliance Status

Table 13 to subpart YYY--Semiannual reporting requirements for control devices [see §60.784(f)]

Table 14 to subpart YYY--Compound and default biorates used for compliance demonstrations for enhanced biological treatment processes [see §60.783(h)]