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Wednesday  
December 9, 1998

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**Part II**

**Environmental  
Protection Agency**

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**40 CFR Part 60**

**Standards of Performance for New  
Stationary Sources: Volatile Organic  
Compound Emissions From the Synthetic  
Organic Chemical Manufacturing Industry  
Wastewater; Supplement; Proposed Rule**

**ENVIRONMENTAL PROTECTION  
AGENCY**
**40 CFR Part 60**

[AD-FRL-6172-9]

RIN 2060-AE94

**Standards of Performance for New  
Stationary Sources: Volatile Organic  
Compound Emissions From the  
Synthetic Organic Chemical  
Manufacturing Industry Wastewater;  
Supplement to Proposed Rule**
**AGENCY:** Environmental Protection  
Agency (EPA).

**ACTION:** Supplemental to proposed rule  
and notice of public hearing.

**SUMMARY:** On September 12, 1994, the EPA proposed Standards of Performance for New Stationary Sources: Volatile Organic Compound Emissions from the Synthetic Organic Chemical Manufacturing Industry Wastewater. On October 11, 1995, the EPA issued a supplement to the proposal. The action proposed today clarifies and revises the previously proposed rule and proposes to add Appendix J to part 60.

Volatile organic compounds (VOC), when emitted into the ambient air, are precursors to the formation of tropospheric ozone. A wide variety of acute and chronic respiratory health effects and welfare (e.g., agricultural, ecosystem) effects have been attributed to concentrations of ozone commonly measured in the ambient air throughout the U.S.

Appendix J to part 60, How to Determine Henry's Law Constants, Fm Values, Fr Values, and Fe Values for Organic Compounds, is being proposed today. This appendix provides the methodology for determining Henry's law constants, fraction measured (Fm) values, fraction removed values (Fr), and fraction emitted (Fe) values.

**DATES: Comments.** Comments must be received on or before February 8, 1999. Requests for a hearing must be received on or before December 24, 1998.

**Public Hearing.** Anyone requesting a public hearing must contact the EPA no later than December 24, 1998. If a hearing is held, it will take place on January 8, 1999, beginning at 10:00 a.m.

**ADDRESSES: Comments.** Comments should be submitted (in duplicate, if possible) to: Air and Radiation Docket and Information Center (6102), Attention Docket Number A-94-32 (see docket section below), Room M-1500, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

**Public Hearing.** If a public hearing is held, it will be held at the EPA's Office of Administration Auditorium, Research Triangle Park, North Carolina. Persons interested in attending the hearing or wishing to present oral testimony should notify Ms. JoLynn Collins, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone (919) 541-5671 or by electronic mail (e-mail) to collins.jolynn@epamail.epa.gov.

**Docket.** Docket No. A-94-32, containing the supporting information for the proposed NSPS, are available for public inspection and copying between 8:00 a.m. and 5:30 p.m., Monday through Friday, at the EPA's Air and Radiation Docket and Information Center, Waterside Mall, Room M-1500, first floor, 401 M Street SW, Washington, DC 20460, or by calling (202) 260-7548 or 260-7549. A reasonable fee may be charged for copying.

Portions of the HON wastewater docket, Docket No. A-90-23, specifically sections II-A, II-B, II-I, III-B, IV-A, IV-B, IV-J, and VII-B, are incorporated by reference into Docket No. A-94-32 and are available at the Air and Radiation Docket and Information Center as well.

**FOR FURTHER INFORMATION CONTACT:** For questions about this proposed rule, contact Ms. Mary Tom Kissell, Waste and Chemical Processes Group, telephone (919) 541-4516 or e-mail to kissell.mary@epamail.epa.gov. Her mailing address is Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711. For questions about Fm, Fr, Fe, Henry's law constants, or WATER8, contact the Air Emissions Models Hotline, telephone (919) 541-5610. For questions about applicability, contact the appropriate EPA regional office or Ms. Marcia Mia, Office of Enforcement and Compliance Assurance, telephone (202) 564-7042.

**SUPPLEMENTARY INFORMATION:** Comments on the revisions to the proposal may also be submitted electronically by sending e-mail to: a-and-r-docket@epamail.epa.gov. Electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption. Comments will also be accepted on diskette in WordPerfect 6.1 or ASCII file format. All comments in electronic form must be identified by the docket number A-94-32. No Confidential Business Information (CBI) should be submitted through e-mail. Electronic comments may be filed online at many Federal Depository Libraries.

**I. Regulated Entities and Background Information**
**A. Regulated Entities**

The regulated category and entities affected by this action are included in Table 1 of this preamble.

TABLE 1.—EXAMPLES OF REGULATED ENTITIES

Category	Examples of regulated entities
Industry	Synthetic organic chemical manufacturing industry (SOCMI) units, e.g., producers of benzene, toluene, or any other chemical listed in Table 1 of 40 CFR part 60, subpart YYY.

Table 1 is not intended to be exhaustive but, rather, provides a guide for readers regarding entities likely to be interested in the revisions to the regulation affected by this action. Entities potentially regulated by the SOCMI wastewater NSPS are those which produce as primary products any of the chemicals listed in table 1 of 40 CFR part 60, subpart YYY. To determine whether your facility is regulated by this action, you should carefully examine all of the applicability criteria in § 60.770. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

**B. Health and Welfare Effects of VOC**

VOC, when emitted into the ambient air, are precursors to the formation of ozone at ground-level, where it can be harmful to breathe. It is the prime component of smog in cities. Exposure to ozone is associated with health effects and damage to vegetation. Ozone impairs normal functioning of the lungs and reduces the ability to perform physical exercise; the effects are more severe in individuals with sensitive respiratory systems. Symptoms associated with ozone exposure include cough, chest pain, and throat irritation. Emerging health effects information suggests some healthy adults engaged in moderate exercise for 6 to 8 hours may experience symptoms and reduction in lung function even at exposure levels below the current ozone health standard. Of perhaps greater concern are the potential chronic health effects that may result from repeated exposure to ozone over many seasons or a lifetime, such as inflammation of lung tissue, which precedes permanent scarring of lung tissue. Animal studies have shown that chronic ozone exposures of months to years do indeed cause permanent

reductions in lung function and lung tissue damage.

Children are at a higher risk from ozone exposure than adults. They breathe more air per pound of body weight than adults and they spend more time outdoors, especially in the summer, when exposure to ozone is more prevalent. Because children's respiratory systems are still developing, they are more susceptible than adults to environmental threats.

Studies of the major cash crops in the U.S. indicate that ozone is responsible for several billion dollars in agricultural crop yield loss each year. Ozone also causes noticeable foliar damage in many crops which reduces marketability and value. Finally, it appears that ozone is responsible for forest and ecosystem damage, which may be exhibited as foliar damage, reduced growth rate, and increased susceptibility to insects and disease.

Some VOC that would be regulated by this rule, including benzene, hexane, methyl ethyl ketone, toluene, and naphthalene, are also organic hazardous air pollutants. These organic hazardous air pollutants are known to cause a range of adverse health effects such as: increased risk of cancer, aplastic anemia, pancytopenia, chromosomal breakages, weakening of bone marrow, polyneuropathy (muscle weakness and numbness), and cataracts and anemia in infants.

### C. Background on the Rule

On September 12, 1994 (59 FR 46780), the EPA proposed the NSPS for SOCMCI wastewater in the **Federal Register**. On October 11, 1995 (60 FR 52889), the EPA published a supplement to the proposed NSPS for SOCMCI wastewater in the **Federal Register**. Both of these notices are also available on EPA's Technology Transfer Network (TTN) via the Internet. The Internet address is <http://www.epa.gov/ttn/>. Select the CHIEF Bulletin Board once you access the TTN and then select the menu item Title I. The file names are socmireg.zip and suplprop.zip, respectively.

## II. Overview of Changes to the Proposed Rule

Today the Agency is proposing revisions that are designed to clarify provisions of the proposed 40 CFR, part 60, subpart YYY. These proposed revisions address some of the public comments received in response to the September 1994 and October 1995 notices and incorporate some of the provisions promulgated in the HON, published on January 17, 1997 (62 FR 2721). If promulgated, the proposed revisions retain the same basic control

requirements and best demonstrated technology as the proposed rule. Best demonstrated technology for this rule was discussed in the September 12, 1994 preamble, 59 FR 46733. A summary of the revisions is provided in the following paragraphs.

The applicability and date of compliance section (§ 60.770) has been revised to improve clarity and incorporate certain concepts relevant to applicability of the rule. Concepts such as designated chemical process unit and primary product have been added. The requirement that an affected facility must generate a wastewater stream has been removed. Modified facilities will have to be in compliance by initial startup or promulgation, whichever is later. In addition, provisions have been added to § 60.772 to clarify how to determine whether an affected facility has been modified.

Seven sections have been substantially revised in today's amendments to improve clarity and to incorporate the new "point of determination" concept discussed in section VI. of this preamble. The seven sections address the following topics: criteria for determining the Group 1 and Group 2 wastewater streams (§ 60.773); compliance options for wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators (§ 60.774); performance standards for process wastewater (§ 60.779); procedures for determining Group 1 and Group 2 wastewater streams (§ 60.782); procedures for demonstrating compliance (§ 60.783); alternative monitoring and recordkeeping systems, one excursion per control device per day, excused excursions, clarification of monitoring parameter value violations, and Notification of Compliance Status (§ 60.784); and recordkeeping provisions (§ 60.785). Also, sections addressing aqueous in-process streams (§ 60.775); maintenance wastewater (§ 60.776); and, start-up, shutdown, and other provisions (§ 60.787) have been added.

Changes are also proposed to the sections governing control devices, delay of repair, monitoring, recordkeeping, and reporting, and the proposed rule's relationship to other rules. The list of SOCMCI chemicals that trigger the rule's applicability was previously in § 60.788; it is now in Table 1 to subpart YYY. Other tables have been added to the subpart, and all the tables have been renumbered.

As a result, today's provisions are being proposed in §§ 60.770 through 60.789, in Tables 1 through 14, and in appendix J to part 60. This preamble is

organized in the order of the proposed rule sections.

## III. Revisions to Requirements for Determining Applicability and Date of Compliance (§ 60.770)

### A. Applicability and Affected Facility Determination

#### 1. Overview of Applicability and Affected Facility Determination

The application of the NSPS to SOCMCI wastewater facilities under both the September 1994 proposal and today's revisions is predicated on a chemical process unit (CPU) that produces a chemical on the list of SOCMCI chemicals in Table 1, and that commences construction or reconstruction, or is modified after September 12, 1994. However, today's revisions add the designated CPU concept, remove the requirement that an affected facility must generate a wastewater, add the primary product concept, provide a list of processes which are not considered SOCMCI processes, clarify how storage vessels are assigned to a CPU, and include other clarifying edits.

#### 2. Chemical Process Unit and Designated Chemical Process Unit

The term "chemical process unit" is used instead of "process unit," which was used in the September 1994 proposal. These two terms and the term "chemical manufacturing process unit" used in the HON have essentially the same meaning. The difference is that the definition of chemical process unit does not include transfer racks. Transfer racks were removed from the definition because the amount of wastewater they generate is insignificant and more difficult to control as compared to individual drain systems and storage vessels.

The chemical process unit (CPU) is the basis for determining whether the process equipment is SOCMCI as it was for the original proposal. As explained in section IV.D. of the September 12, 1994 preamble, using the CPU as the basis for the applicability determination has several advantages including maintaining consistency with the HON and reflecting industry construction practices.

While the CPU is the basis for determining SOCMCI, today's revisions propose using the "designated CPU" as the basis for determining whether construction, reconstruction, or modification has occurred. The designated CPU is either the entire CPU, a process line within the CPU, or a combination of process lines within the CPU. The owner or operator may assign

either a process line, or combination of process lines, within the CPU as a designated CPU. However, once the assignment of process lines and associated storage vessels has been made, it is irrevocable.

EPA believes incorporating the designated CPU concept would add flexibility for industry while supporting EPA's long-term goals of protecting human health and the environment. Industry commented that the cost of compliance with the rule would, in some cases, be many times greater than the cost of the change. This could result in unintended consequences, such as reluctance to make process improvements, that would be damaging to industry's ability to compete in the world market. In addition, EPA believes that changes in SOCOMI are on-going and that most designated CPU's would meet the applicability criteria of the rule over time.

The proposed rule excludes certain processes from the definition of CPU because they are not SOCOMI processes, but are sometimes associated with SOCOMI. Other SOCOMI rules have also excluded these processes. The processes excluded are as follows: (1) research and development facilities; (2) petroleum refining processes (but not CPU located at petroleum refinery plant sites); (3) chemical process units located in coke by-product recovery plants; (4) solvent reclamation, recovery, or recycling operations at hazardous waste treatment, storage, and disposal facilities (TSDF) requiring a permit under 40 CFR 270 that are not part of a CPU; and, (5) organic chemicals extracted from natural sources or totally produced from biological synthesis such as pinene and beverage alcohol. Determinations for excluding processes must be based on the designation for the process unit, in contrast to the plant site.

### 3. CPU Must Manufacture a SOCOMI Product as its Primary Product

Today's action incorporates the concept of "primary product" into the rule's applicability determination. The primary product determination is made for a CPU. If the product(s) of the CPU, on a mass basis, are comprised of 50 percent or more of the SOCOMI chemicals listed in Table 1 of the rule, the CPU's primary product is SOCOMI. For purposes of this rule, "product" includes products, co-products, and by-products manufactured by the CPU. "Product" does not include isolated intermediates, impurities, wastes, and trace contaminants.

The primary product determination is dependent upon the quantity of each

chemical produced by the CPU and whether expected use of the CPU is known. The primary product provisions address both cases: (1) the expected use of the CPU is known for a 12-month period and (2) the expected use of the CPU is unknown for a 12-month period. When owners or operators know the expected use of the CPU, the primary product determination is based on the mass of product produced. If a CPU produces 50 percent or more, by mass, of the chemicals listed in Table 1, the primary product is SOCOMI.

For some contract manufacturing units, the owner or operator may not be able to predict production sufficiently to make a primary product determination. In these cases, the primary product of the CPU is SOCOMI once the facility begins producing a SOCOMI chemical or has a contract to produce a SOCOMI chemical.

EPA adopted the primary product approach to simplify applicability determinations, to limit the applicability of the rule to those CPU that produce mostly the chemicals listed in Table 1 of the rule, and to make the proposed rule more like the HON.

The revised proposed rule simplifies the determination of SOCOMI in two ways. First, together with the definition of "product," it clarifies the meaning of the terms "product" and "to produce" and the correct way to decide whether a source "produces" a listed chemical. Second, the primary product concept provides clear criteria for making a determination.

The primary product concept also limits the applicability of the rule to CPU that produce mostly SOCOMI products. In the September 1994 proposal, by-products, co-products, and intermediates produced by the CPU and listed in Table 1 of the rule, in any amount, made the CPU a SOCOMI unit. This could have resulted in numerous non-SOCOMI process units, such as pharmaceutical units, being designated SOCOMI and being subject to the SOCOMI Wastewater NSPS. The proposal addresses this by establishing the 50 percent threshold. Although this change will reduce the number of CPU affected by the rule, it more accurately reflects the SOCOMI source category.

EPA believes that making the SOCOMI Wastewater NSPS as much like the HON as possible will facilitate implementation of the rule. The HON and the SOCOMI Wastewater NSPS will regulate the same types of process units and treatment processes, and in some cases, the same process units and treatment processes. Thus, the primary product concept was adopted for the proposal.

Today's revisions use expected annual production as the basis for determining the mass for each product. Expected annual production is proposed instead of annual design capacity to accommodate CPU designed and operated to manufacture more than one chemical. Typically these facilities are contract manufacturing facilities, also known as tolling or multi-purpose facilities or flexible operations facilities. Using expected annual production allows a facility to more closely represent actual production rather than basing the primary product decisions for each chemical on annual design capacity. The facility would also have to report the CPU's annual design capacity. However, EPA is concerned whether this approach creates potential burden for regulating agencies and requests comment on whether expected production or design capacity should be used.

### 4. Designated CPU Must Have Been Constructed, Reconstructed or Modified After September 12, 1994

To be subject to this proposed rule, a designated CPU must have been constructed, reconstructed, or modified after September 12, 1994.

### 5. Affected Facility Must Generate a Process Wastewater, a Maintenance Wastewater, and/or an Aqueous In-Process Stream for Control Requirements To Apply

In the original proposal, an affected facility had to be a process unit that generated wastewater. "Wastewater" included process wastewater and maintenance wastewater. Today's revised proposal removes "generating wastewater" as a criteria for determining applicability.

This change to the applicability determination was done for two reasons. First, to remove maintenance wastewater from triggering applicability of the rule to a designated CPU. Maintenance wastewater is generally more difficult to quantify and EPA believes is a less significant source of VOC emissions than process wastewater for this source category. Second, in the September 1994 proposal, "wastewater" was defined as "an organic containing water . . ." without regard to the concentration of VOC in the wastewater. Today's revised proposal, adds a concentration of 50 part per million, by weight, (ppmw) into the wastewater definition. Thus, low concentration wastewater streams that would have triggered applicability in the original proposal would not do so with the revised wastewater definition. EPA intends that a designated CPU that is

new or reconstructed or modified after September 12, 1994 and that is part of a CPU that produces SOCOMI as its primary product control process wastewater streams, maintenance wastewater streams, and aqueous in-process streams when the streams are generated.

EPA recognizes that affected facilities that do not generate wastewater or aqueous in-process streams should not be subject to all the reporting and recordkeeping requirements. Therefore, EPA has specified that affected facilities that do not generate process wastewater streams, maintenance wastewater streams, or aqueous in-process streams are exempt from most of the provisions of the subpart. If the affected facility began generating a process wastewater stream, a maintenance wastewater stream, or aqueous in-process stream, it would have to comply with all applicable provisions of the subpart at the time of the change.

#### 6. Applicability of Part 60 and Part 63 General Provisions

Today's proposal adds table 2 and table 2A, which clarify the 40 CFR part 60 and part 63 general provisions that apply to this rule. There was a need for selected part 63 general provisions to apply to this part 60 rule because the part 60 general provisions do not contain certain provisions that were used by the HON and are necessary for compliance with this rule. The applicable part 63 general provisions pertain to the start-up, shutdown, and malfunction plan, performance testing requirements, control device requirements, and delegated authority.

##### B. Date of Compliance

In October 1995 the Agency proposed to allow modified sources undergoing significant capital improvements an additional three years to come into compliance with the SOCOMI Wastewater NSPS. The additional time would have been subject to the Administrator's approval and would have required documentation of the need for more time.

Today's revised proposal would require that all affected facilities be in compliance with the NSPS no later than initial start-up of an affected facility or promulgation of the rule, whichever is later.

In response to the September 1994 proposal, several commenters wrote that the applicability and compliance provisions were unclear making it difficult for them to implement any requirements. In addition, EPA recognizes that some facilities may require several months or years lead

time to complete large capital projects such as retrofitting sewers and designing and installing steam strippers. Facilities need time to determine whether the rule applies to them, familiarize themselves with the rule, choose a compliance option, design the necessary equipment, and construct and renovate as needed.

To provide time for facilities that commenced construction, reconstruction, or modification between September 12, 1994 and the promulgation date, EPA is proposing to promulgate this rule no earlier than spring 2000. Appendix J to part 60 may be promulgated earlier.

Facilities commencing construction, reconstruction, or modification after the promulgation date will be required to be in compliance upon initial start-up. As is the case under all other NSPS, facilities will have to plan ahead to complete any necessary construction at a facility so as to be in compliance with the NSPS upon start-up of operations.

Today's revised proposed rule would limit modifications to changes costing 12.5 percent or more of the cost of the existing facility. This is discussed in section V. of this preamble. Because the cost test precludes relatively smaller changes from triggering the NSPS, only larger projects will be modifications. The larger projects take more time to plan and implement, giving the facility time to plan for compliance. Therefore, the facilities that become modified after the promulgation date will have adequate notice of the requirements and sufficient time to plan for compliance.

#### IV. Revisions to the Definitions (§ 60.771)

##### A. Overview of Changes to the Definitions

###### 1. Definitions Added

Significant changes were made to the definition section of the rule. The following definitions were added to § 60.771: aqueous in-process stream; automated monitoring and recording system; chemical process unit; closed biological treatment process; designated chemical process unit or designated CPU; enhanced biological treatment system or enhanced biological treatment process; flexible operation unit; Fbio; Fe; Fr.; Fr; fuel gas; fuel gas system; incinerator; initial start-up; modification; non-automated monitoring and recording system; on-site or onsite; open biological treatment process; petroleum refining process or petroleum refining process unit; plant site; point of determination; product; recapture device; recovery device; research and development facility;

shutdown; specific gravity monitoring device; start-up; start-up, shutdown, and malfunction plan; steam jet ejector; storage vessel; tank drawdown; unit operation; volatile organic compound or VOC; and wastewater tank.

###### 2. Definitions Removed

The following definitions were removed from § 60.771: mass flow rate, operating parameter value, point of generation, process unit, process unit shutdown, tank, and volatile organic concentration.

###### 3. Definitions Changed

The following definitions were changed: annual average concentration, annual average flow rate, boiler, closed-vent system, container, continuous record, continuous recorder, continuous seal, control device, cover, duct work, flame zone, flow indicator, hard-piping, individual drain system, oil-water separator or organic water separator, process wastewater, residual, sewer line, temperature monitoring device, treatment process, waste management unit, wastewater, and wastewater seal controls. Most of these revisions were to make the definitions in today's proposed rule consistent with those in the HON.

##### B. Significant Definitional Changes

Significant definitional changes proposed are as follows: revisions to the "wastewater" definition; revisions to the "product" definition; replacement of the "point of generation" (POG) definition with "point of determination" (POD) definition; addition of "closed" and "open biological treatment process" definitions; addition of the "enhanced biological treatment system" definition; revisions to the "individual drain system" definition; and, revisions to the "VOC" definition.

The definitions of "wastewater," "recovery device," and "point of generation" were revised to clarify EPA's intent concerning which VOC-containing waters are in-process fluids regulated by the provisions in § 60.775 and which are wastewater and regulated by the provisions in § 60.773 and § 60.779 through § 60.783.

###### 1. Revised Wastewater Definition

The most significant change proposed today to the "wastewater" definition is the addition of the concept of "discard." This concept is fundamental to distinguishing which fluids exiting the CPU are subject to the SOCOMI Wastewater NSPS provisions in § 60.773. Adding "discard" to the definitions provides a clear demarcation

between those fluids no longer useful to that production process, i.e., discarded, and those fluids that add value to that production process. Together with the point of determination and aqueous in-process stream concepts, the revised definition of wastewater makes it easier for facilities and regulatory authorities to implement the rule.

## 2. Replaced Point of Generation With Point of Determination

Today's revised proposal changes the definition of "point of generation" to "point of determination." The change is to reflect a conceptual difference. "Point of generation" was defined in the September 1994 proposed rule as "the location where process wastewater exits the process unit equipment." In today's revised proposal, it has been replaced by "point of determination", which is defined as "each point where the process wastewater exits the chemical process unit," often the last recovery device. The need for and significance of this change is discussed in more detail in section VI.B. of this preamble.

## 3. Recovery Device

Today's revised proposed rule includes a revised definition of "recovery device." The proposed definition of "recovery device" differs from the existing definition in order to reflect the revised approach to the definition of "wastewater" and to reflect the fact that deviations from normal operations do occur. This was discussed in the HON preamble of August 26, 1996 (61 FR 43710).

The revised definition of "recovery device" is intended to eliminate the potential for sham transactions involving the "sale" of wastewater by limiting the concept of sales to sales for the same general purposes for which chemicals may be recovered and used within the facility (i.e., use, reuse, or burning as fuel). The EPA believes that the revised definition is broad enough to encompass any sale that is not a sham since "use" and "reuse" are very general concepts. The definition also differs from the existing definition in that the word "normally" now modifies the phrase "used for the purpose of recovering. . . ." This change was made to recognize that occasional exceptions to normal usage can and will arise.

## 4. Added Definitions for Closed Biological Treatment Process, Open Biological Treatment Process, and Enhanced Biological Unit

Definitions for closed biological treatment process, open biological treatment process, and enhanced biological treatment system were added to the definitions in § 60.771. The new

definitions are necessary to make distinctions among biological treatment processes which allow the incorporation of more flexible and less burdensome compliance demonstrations for some facilities. This is discussed in more detail in the discussion of changes to § 60.783 in section XI. of this preamble.

## 5. Modified Individual Drain System Definition

The definition for individual drain system would be modified to clarify three key concepts and incorporate minor wording changes. The definition in today's proposal would clarify that only stationary systems are included in the definition; that individual drain systems are used to convey residuals as well as wastewater streams; and that the individual drain system does not include in-process equipment as described in § 60.775.

## 6. Modified VOC Definition

VOC, for the purposes of this subpart, are defined to be those substances already defined as volatile organic compounds in 40 CFR section 51.100(s) and that are not excluded or exempted by that section, except that any substance with a Henry's law constant less than or equal to 0.1 y/x atmosphere per mole fraction as determined according to Appendix J of this subpart is not a VOC for the purposes of this subpart.

This definition of VOC reflects EPA's belief that chemicals with lower Henry's law constants are not a significant source of VOC emissions from wastewater. A Henry's law constant of 0.1 y/x at 25°C is similar to the lowest Fe value for the HAP controlled by the HON. In selecting which compounds to control, EPA also considered a compound's biodegradability and Fr value. In general, lower volatility compounds are already significantly biodegraded and are not removed to a significant extent by steam stripping.

## V. Revisions to Requirements for Determining Modification (§ 60.772)

### 1. Modification

Today's proposed rule revises § 60.772 to clarify how to determine whether a designated CPU has been modified such that it is subject to the SOCMi Wastewater rule. The revisions add a definition of "modification" in § 60.771; clarify that the designated CPU is used as the basis of modification determinations; provide exclusions to modification; and, provide procedures to determine increases from process wastewater and aqueous in-process streams.

Modification, as defined in § 60.771, means "any physical change in, or change in the method of operation of, an existing designated CPU which increases or creates emissions to the atmosphere of VOC from process wastewater and/or aqueous in-process streams generated by the designated CPU, except as provided in § 60.772(c)." This definition supersedes for the purposes of subpart YYY the definition in § 60.2 of the General Provisions to 40 CFR, part 60. The proposed definition incorporates the concept that only process wastewater and aqueous in-process streams are considered for modification determinations; maintenance wastewater is not considered. It also states that the basis of the modification is the designated CPU, making the modification provisions consistent with the applicability provisions for subpart YYY.

Today's revisions also replace the exclusions to what constitutes a modification in § 60.14(e) of the general provisions with four exclusions. Three of these are similar to exclusions provided by § 60.14(e)—maintenance, repair, and replacement, including replacement of spent catalyst with the same catalyst; increase in hours of operation; and, relocation or change in ownership of an existing facility.

The fourth exclusion is for changes that cost less than 12.5 percent of the cost of the existing designated CPU. This concept is also used in the SOCMi rule for equipment leaks, subpart VV to part 60. It is meant to encompass any change, including, an increase of production rate, environmental control, and bottleneck removal. One reason a percent cost exclusion was added is in recognition that SOCMi equipment routinely undergoes small changes and that EPA does not intend small changes to constitute a modification for this rule. Another reason is that this exclusion provides a clear and simple statement of what is not a modification. EPA chose 12.5 percent because 12.5 percent was used in the SOCMi rule for equipment leaks, subpart VV to part 60. In addition, the General provisions to part 60 use the 12.5 percent level in an exclusion for an increase in production rate (see § 60.14(e)(2), § 60.14(2), definition of "capital expenditure, and Internal Revenue Service Publication 534). When two or more physical or operational changes are reasonably viewed as a project, the cost of the entire project should be considered when determining the 12.5 percent.

Today's proposed revisions add provisions for determining whether an increase in VOC emissions from process

wastewater or aqueous in-process streams has occurred or will occur. The proposed provisions make a distinction between flexible operations units and non-flexible operations units. The flexible operations units, which manufacture more than one product, choose one product as a baseline against which to compare emissions that occur due to changes. This approach was outlined in a memo entitled "Clarification of Methodology for Calculating Potential to Emit (PTE) for Batch Chemical Production Operations" which was issued by John S. Seitz, the director of EPA's Office of Air Quality Planning and Standards, to the 10 EPA Regional Offices on August 29, 1996.

For both flexible operation units and non-flexible operation units, the owner or operator would calculate VOC emissions before and after a physical or operational change. The owner or operator may elect to determine the amount of VOC emissions by calculating VOC mass flow rate in the wastewater as a surrogate for VOC emissions or by calculating VOC emissions using a fraction emitted, Fe, value. The Fe value may be either a default Fe value or a site-specific Fe value. The default Fe values are listed in Table 2 of the proposed appendix J to this part. The site-specific Fe values are determined according to the procedures and forms specified in the proposed appendix J to this part.

Once the VOC mass flow rate or VOC emissions have been determined both before and after the change, they must be compared to determine whether the change caused an increase in VOC emissions to the atmosphere. When emissions are determined using mass flow rate as a surrogate for emissions, the VOC mass flow rate before the change for all process wastewater streams affected by the change are compared to the VOC mass flow rate after the change for all process wastewater streams affected by the change. The same comparison is done for aqueous in-process streams. If either comparison, i.e., the process wastewater comparison or the aqueous in-process streams comparison, demonstrates that VOC mass flow rate has increased after the change, the designated CPU is modified and becomes an affected facility. In contrast, when emissions are determined using Fe values, the sum of all affected process wastewater streams and all affected aqueous in-process streams before the change are compared to the sum of all affected aqueous in-process streams and all affected process wastewater streams after the change.

## 2. Reconstruction

Today's revisions clarify when costs begin accumulating for purposes of reconstruction, clarify the accumulation period, and add a requirement for documentation. The reconstruction of an affected facility subjects it to the NSPS because the replacement of the components of an existing facility eventually results in a new facility. The general provisions to 40 CFR, part 60 sets the level of replacement that constitutes reconstruction at 50 percent or greater of the cost of constructing a comparable new facility. EPA is proposing that the first day replacement costs for actual work, i.e., dismantling of equipment or construction, on the facility are incurred, the costs are "charged" to the designated CPU for the purpose of determining reconstruction. When replacement of components is reasonably viewed as a project, the cost of the entire project would be charged to the first day expenses were incurred. All replacement costs must be counted toward the reconstruction cost, regardless of whether costs arise from different projects.

The September 12, 1994 proposal set a time period of two years as the period that project costs should be aggregated and counted toward reconstruction. Today's notice clarifies that the two year period is a rolling two year period. A rolling two year period is not based on a specific set of dates. A rolling two year period allows any day to be used as the beginning point for the two year period. Thus, the two year period can be considered to any 730 consecutive days. The rolling two year period should be examined to see if all combined replacements to the facility cost 50 percent or more of the cost of constructing a new facility that would be comparable in cost to the existing facility. The cost of all projects incurred within a two year period would be added together.

## VI. Revisions to the General Requirements for Process Wastewater (§ 60.773)

The EPA is proposing changes to the general process wastewater provisions in § 60.773. These provisions provide instructions on how to determine if a process wastewater stream requires control and the general outline of requirements for process wastewater streams. These changes are consistent with the changes made to the wastewater provisions in the HON rule. Significant changes proposed include the following: requirements for determining whether wastewater streams require control by determining

Group 1 or Group 2 status, replacement of point of generation with point of determination, addition of prohibition of discarding certain organic material into water or wastewater, and the addition of off-site treatment requirements. The off-site treatment provisions require that an owner or operator may only ship to a facility that has certified that it will treat the wastewater to the standard required by the rule.

### A. Group 1/Group 2 Status Determination

The EPA is proposing using Group 1 and Group 2 terminology to determine whether a process wastewater stream requires control for VOC. Determination of whether a process wastewater stream is Group 1 or Group 2 is based on annual average concentration and flow rate criteria. Control requirements for Group 1 wastewater streams require that VOC emissions be controlled until the VOC are either removed from the wastewater or destroyed. Group 2 wastewater streams are required to comply with certain recordkeeping and reporting requirements. The proposed control criteria of 500 ppmw at a flow rate of 1 liter per minute (lpm) or 10,000 ppmw at any flow rate have not changed.

### B. Change From Point of Generation to Point of Determination

Today's revised proposed rule predicates the determination of the applicability of control requirements to a wastewater stream on its characteristics at the point where the wastewater stream exits the last piece of processing equipment. The new location for determining the characteristics of a wastewater stream is being called the point of determination (POD) to distinguish it from the POG concept used in other air rules for waste and wastewater such as the Benzene Waste NESHAP. In instances where the wastewater stream exits the process equipment and is not sent to a recovery device that recovers chemicals for fuel value, use, reuse, or for sale (for fuel value, use, or reuse) the POD would be the same as the POG location. The POD concept proposed for this rule is the same as used in the HON.

The EPA's intent in developing the POD approach is to have a clear decision criterion that specifies the location for evaluation of a wastewater stream for the purposes of control. The POD encompasses each point where process wastewater exits the last piece of process equipment, often the last recovery device. There can be multiple POD associated with a CPU or

designated CPU. This proposed definition of POD would allow a facility to recover chemicals for fuel value, use, reuse or for sale (for fuel value, use, or reuse). As with the POG, under the POD approach owners and operators would not be allowed to mix streams together for the purpose of escaping compliance by the diluting of wastewater streams. Under the POD approach, process units conveying process fluids in the chemical process unit are subject to the requirements established in Table 6 of the rule. Table 6 is consistent with the suppression requirements for a wastewater stream requiring control. Again, the intent is to allow process fluids that have recovery potential to be sent to recovery devices; however, these fluids are required to be managed to limit VOC emissions to the atmosphere. Process fluids that do not have recovery potential are considered wastewater streams at the point where the stream exits the process equipment. A more detailed discussion is available in section IV.D. of the HON preamble published on August 26, 1996 (61 FR 43698).

#### *C. Prohibition of Discarding Certain Organic Materials into Water or Wastewater*

Language that prohibits discarding of certain organic material into water or wastewater has been added to § 60.773. Specifically, liquid or solid organic materials containing greater than 10,000 parts per million of VOC may not be discarded into water or wastewater unless the receiving stream is managed and treated as a Group 1 wastewater stream. The prohibition would exclude equipment leaks; activities included in maintenance or start-up/shutdown/malfunction plans; spills; and samples. This paragraph was added to ensure that high concentration organic streams, such as off-specification product, are discarded only to individual drain systems and treatment processes meeting the requirements for Group 1 wastewater streams.

#### *D. Addition of Off-Site or Third-Party Treatment Requirements*

Today's proposed rule would allow owners and operators to transfer Group 1 wastewater streams or residuals off-site for treatment provided the transferee certifies to EPA (and provides a copy to the owner or operator) that it will manage and treat the wastewater streams or residuals in accordance with this rule's provisions. These provisions were revised to provide a means to allow transfers of treatment responsibility without holding the owner or operator responsible for the

actions of another and are consistent with the HON provisions.

#### **VII. Revisions to Requirements for Wastewater Tanks, Surface Impoundments, Containers, Individual Drain Systems, and Oil-Water Separators (§ 60.774)**

Today's revised proposed rule adds additional compliance options for wastewater tanks, surface impoundment, containers, individual drain systems, and oil-water separators. The six compliance options that may be selected are as follows: HON, part 63, subparts F and G; Standard-standards, part 63, subparts QQ, PP, RR, and VV; Petroleum Refinery, part 60, subpart QQQ; RCRA, part 264, subpart CC; RCRA, part 265, subpart CC; and Benzene Waste, part 61, subpart FF.

Table 3 was added to today's revised proposed rule in order to indicate which of the six compliance options may be used as a control option for wastewater tanks, surface impoundment, containers, individual drain systems, and oil-water separators. Table 5 was added to today's revised proposed rule in order to identify the control requirements, monitoring provisions, recordkeeping provisions, reporting provisions, control device provisions, leak detection provisions, and delay of repair provisions for each of the six compliance options.

As shown in Table 3, the owner or operator must comply with the control requirements for one of the six compliance options. If an owner or operator has a waste management unit that is subject to any of the six compliance options, then the owner or operator may choose to comply with the delay of repair provisions, monitoring provisions, recordkeeping provisions, reporting provisions, control device provisions, and leak detection provisions in the selected compliance option or in this subpart. If an owner or operator was not subject to the control requirements for any of the six compliance options, then the owner or operator must comply with the delay of repair provisions, monitoring provisions, recordkeeping provisions, reporting provisions, control device provisions, and leak detection provisions of this subpart.

#### **VIII. Addition of Requirements for Control of Certain Aqueous In-Process Streams (§ 60.775)**

The revisions adding a new § 60.775 and Table 6 are an outgrowth of the change from the point of generation (POG) concept of the September 1994 rule to the point of determination (POD) concept in these revisions. As discussed

in Section XI. of this preamble, the point of the determination concept is replacing the point of generation concept. The purpose of this new section is to ensure that VOC-containing fluids are properly managed in closed systems. Table 6 lists the applicable requirements for a drain or drain hub, manhole, lift station, trench, oil-water separator, and a tank.

In developing the point of determination approach, the EPA assumed that fluids containing organic compounds within the process would be managed in closed systems to minimize losses of a recoverable material. The provisions in Table 6 and the new § 60.775 were designed to ensure that conveyance and handling of process fluids containing volatile organic compounds would be handled in a manner consistent with the requirements for wastewater streams subject to control.

#### **IX. Addition of Requirements for Maintenance Wastewater (§ 60.776)**

The EPA is proposing changes to the maintenance wastewater requirements in the proposed rule. In the September 1994 proposal, maintenance wastewater and process wastewater were subject to the same provisions in § 60.773 and § 60.779. The maintenance wastewater provisions, which can now be found in § 60.776 of the rule, were changed to be consistent with the HON maintenance wastewater provisions. The provisions require the owner or operator to provide a description of their procedures for managing wastewater generated from the emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance, and repair and during non-shutdown periods such as routine maintenance. A description of these procedures will be included in a facility's start-up, shutdown, and malfunction plan.

#### **X. Addition of Requirements for Determining Stream-Specific List of VOC (§ 60.778)**

Today's revised proposed rule provides a procedure that would allow a facility to develop a stream-specific list of VOC. The stream-specific list of VOC could be used to estimate changes in emissions for modification determinations, to make Group 1 and Group 2 determinations, and to make compliance demonstrations. EPA believes adding these provisions provides flexibility without sacrificing compliance assurance. EPA is proposing to add these requirements as § 60.778.



### A. Group 1 and Group 2 Determinations and Modification Determinations

When a stream-specific list of VOC is needed to make a Group 1 determination, the owner or operator must identify up to 75 chemicals (those with the greatest mass). The chemicals on the stream-specific list must represent at least 90 percent of the total VOC in the process wastewater stream. Chemicals with a concentration less than 1 ppmw can be excluded from the list. Method 25 D in appendix A to part 60 must be used when at least 90 percent of the total VOC in the wastewater stream cannot be identified. The same procedures are used when a stream-specific list of VOC is needed to estimate changes for modification determinations.

### B. Compliance Determinations

When a stream-specific list is needed to make a compliance determination, three cases exist. The first case is when an owner or operator knows at least 90 percent of the total VOC in the wastewater stream. In this case, each chemical that has a mass of 5 percent or greater, must be included on the list. If less than half of the total VOC in the wastewater stream are represented by chemicals with a mass of 5 percent or greater, each chemical, up to 75 chemicals, must be on the stream-specific list. The second case is when an owner or operator knows at least 50 percent of the total VOC in the wastewater stream. In this case, the chemicals with the greatest mass that can be identified up to 75 chemicals are required to be included on the stream-specific list. For both of these cases, the owner or operator must: (1) ensure the stream-specific list of VOC is adequate to demonstrate compliance, and (2) document the method used to determine concentration and total VOC in the wastewater stream.

The third case is for all other streams. An owner or operator who cannot identify at least 50 percent of the total VOC in the wastewater stream must choose a compliance option that does not require speciation. Three compliance options do not require speciation: (1) the design steam stripper option (§ 60.779(d)); the 95 percent and outlet reduction of 50 ppmw mass removal/destruction option for nonbiological treatment process (§ 60.779(e)(2)); and, the steam stripper three compound option (§ 60.779(e)(3)).

## XI. Revisions to Requirements for—Performance Standards for Process Wastewater (§ 60.779)—Procedures for Determining Which Process Wastewater Streams Require Control (§ 60.782)—Procedures for Determining Compliance (§ 60.783)

### A. General

Three sections of today's proposed rule, §§ 60.779, 60.782, and 60.783, were revised to incorporate the point of determination concept and to add flexibility in the compliance demonstration for facilities using biological treatment processes to meet the requirements of subpart YYY. These revisions are based mostly on the HON. Revisions to § 60.782 include the addition of methods and an alternative validation procedure. The three sections referenced above are discussed together because a change made to one has generally also been made to the other sections. A specific change will be discussed where it first appears or has the most impact.

### B. Changes to § 60.779, Process Wastewater Provisions—Performance Standards for Treatment Processes Managing Group 1 Wastewater Streams and/or Residuals Removed From Group 1 Wastewater Streams

Section 60.779 contains provisions for control of Group 1 wastewater streams and residuals from Group 1 wastewater streams. The most significant changes proposed to § 60.779 are: adoption of the Group 1/Group 2 terminology from the HON; deletion of the recycling control options; clarification on how to use speciated options within the existing compliance option framework; technical corrections to the design steam stripper specifications and removal of unnecessary specification of steam quality; clarification of compliance demonstration procedures that may be used for biological treatment processes; clarification that treatment in series is allowed; addition of provisions for a 1 megagram facility-wide exemption; and clarification of when design evaluations may be used to demonstrate compliance instead of performance tests.

#### 1. Deletion of Recycling Options From § 60.779

The recycling option is unnecessary under the POD concept which replaces the POG concept. The recycling option allowed an owner or operator to achieve compliance by recycling a process stream to a process unit. The recycling provisions in paragraph (d) of the September 1994 proposed rule would have required that the wastewater or

residual not be exposed to the atmosphere and that waste management units in contact with the wastewater streams or residual comply with control and inspection and monitoring requirements. With the proposed point of determination concept, the recycling option would become redundant because as long as a fluid stays in the process, it would not be a wastewater subject to the provisions of § 60.779; instead, it would be an aqueous in-process stream subject to the provisions of § 60.775.

#### 2. Addition of Simplified Compliance Demonstration for Steam Strippers

Today's revisions include a compliance option for steam strippers that bases compliance on three VOC—methanol, ethylene glycol monobutyl ether acetate, and methyl ethyl ketone. This compliance option requires that the Fr value, expressed as a percentage, be achieved for each of the three compounds. This simplifies compliance demonstration by requiring a demonstration for three compounds instead of up to 75 compounds. This option could be used by a facility without identifying the compounds in the wastewater stream that are going to the steam stripper.

The EPA has defined design and operating specifications for a steam stripper, called the design steam stripper. The design steam stripper is the basis of the wastewater control requirements. Other steam strippers may provide equivalent or superior performance to the design steam stripper. Equivalent performance to the design steam stripper can be demonstrated based on compounds not present in the wastewater stream.

EPA chose methanol, ethylene glycol monobutyl ether acetate, and methyl ethyl ketone because they cover a range of volatilities. Methanol is only partially removed by the design steam stripper, and methyl ethyl ketone is removed at levels greater than 95 percent. The methanol removal is used to verify the steam rate. The methyl ethyl ketone removal is used to verify the separation performance of the steam stripper. The Henry's law constant of ethylene glycol monobutyl ether acetate is in between the Henry's law constant of methanol and methyl ethyl ketone. Consequently, the percent of ethylene glycol monobutyl ether acetate removed by the steam stripper should be in between the percents removed for the other two compounds. This helps provide verification of steam stripper performance.

When design evaluations are used to demonstrate compliance, the design

evaluation is based on the three compounds. The proposal specifies Henry's law constants at a 100 °C, expressed in atmosphere per mole fraction, that must be used in the design evaluation. These Henry's law constants and the Fr values for each compound are listed in Table 2 of this preamble.

Any computer model that can be used for accurate prediction of the steam stripper system of concern can be used. Depending on the complexity of the steam stripper system, some computer models may not be appropriate. Some examples of computer model failures include particulate buildup in the column, lack of ability to predict liquid phase separation, inability to partition compounds into oil and emulsified oil, and inadequate thermodynamic properties for the system of interest.

TABLE 2.—THREE COMPOUNDS USED FOR NEW COMPLIANCE OPTION AND ASSOCIATED HENRY'S LAW CONSTANTS AND FR VALUES

Compound	Fraction removed (Fr value)	Henry's law constant at 100° C (atm per mole fraction)
Methanol .....	0.31	7.73
Ethylene glycol monobutyl ether .....	0.76	24.96
Methyl ethyl ketone ...	0.95	59.2

When performance tests are used to demonstrate compliance, if the wastewater stream entering the steam stripper does not contain all three compounds, the wastewater stream must be spiked so that the percent removal of the compounds can be determined.

Today's revisions include two other compliance options that do not require speciation. They are the 95 percent mass removal with an outlet VOC concentration of 50 ppmw option and the design steam stripper option. EPA is aware that some in the regulated community are working to develop a nonspecified method to demonstrate compliance with biological treatment units. If this procedure is demonstrated to be effective, EPA will consider adding it to these provisions.

3. Clarification That Treatment in Series is Allowed

The September 1994 proposed rule intended that more than one treatment process could be used to comply with the rule. Today's revised proposed rule explicitly provides for treatment in series in §§ 60.779 and 60.783 and

clarifies EPA's intent on this issue. Although all Group 1 wastewater streams or residuals must be conveyed in controlled individual drain systems, treatment in series may be used whether or not treatment processes are connected by hard-piping. However, inlet and outlet mass flow rate determination for compliance demonstration differ, depending on whether hard-piping is used to connect treatment processes and whether a biological treatment process is part of the series.

4. Revised Provisions for the One Megagram Source-wide Exemption

The provisions for the 1 megagram option were clarified and revised and were moved from § 60.770 into § 60.779. In the September 1994 proposed rule, the 1 megagram exemption could have been applied to each affected process at the plant site. The 1 megagram exemption in today's revised proposed rule is a source-wide exemption that is to be shared among affected facilities at the plant site. This change makes the rule more consistent with the HON.

C. Alternative Methods to Method 25D Used in § 60.782

Today's revised proposed rule would allow use of alternative methods for Group 1 or Group 2 determinations for process wastewater streams in lieu of Method 25D for all compliance options. The EPA reviewed Methods 624, 625, 1624, and 1625 and has determined that these methods may be used with certain additional requirements. These requirements are specified in § 60.782(b) of today's proposed rule. Other methods may be used if they are validated by the Method 301 validation procedure. EPA's review of these methods was discussed in section IV.F. of the HON preamble of 26 August 1996 (61 FR 43698).

D. Changes to § 60.783, Process Wastewater—Test Methods and Procedures To Determine Compliance

Section 60.783 indicates how to demonstrate compliance with the performance standards in § 60.779. Several significant changes are proposed to this section.

1. Reorganization of § 60.783

In today's proposal, three clarifications to § 60.783 are of particular note: (1) conditions under which a performance test or design evaluation is allowed or under which neither is required are specified in paragraphs (a)(1) and (a)(2); (2) new paragraphs (a)(3)–(a)(7) specify the following performance test and compliance determination guidance:

performance tests and compliance determinations are to be conducted according to 63.7(a) of subpart A of 40 CFR part 63 and this subpart, the Administrator should be notified of the intention to conduct a performance test at least 30 calendar days before the performance test is scheduled, certain operating conditions apply when conducting tests, data should be reduced and validated, and how to apply for a performance test waiver; and (3) "representative operating conditions" for treatment processes and control devices are specified in paragraphs (a)(8) and (a)(9) of § 60.783. The reorganized section would also make provisions for measuring concentration and flow rate consistent throughout the section.

2. Demonstrating Compliance for Biological Treatment Processes and Addition of "Enhanced Biological Treatment Process" Concept

Today's revised proposed rule would add paragraph (h) which (1) describes how to determine the site-specific fraction of VOC biodegraded (Fbio); (2) clarify that biological treatment processes must use one of the required mass removal options to comply with the rule; (3) add flexibility in demonstrating compliance for biological treatment processes; and (4) add provisions that allow a subset of VOC to be used to demonstrate compliance.

Paragraph (h)—how to determine Fbio—is added to make the provisions easier to locate. In addition, § 60.783(h), together with appendix C to part 63, provide more flexibility to the owner or operator to demonstrate compliance for biological treatment processes. The September 1994 proposed rule required owners and operators using biological treatment processes to demonstrate compliance using appendix C to part 63 to determine Fbio. Today's revisions recognize that for some biological treatment processes, those EPA has designated "enhanced biological treatment processes," a less rigorous determination of Fbio is sufficient to demonstrate compliance. This concept is discussed below.

When a biological treatment process is used, one of the required mass removal options, § 60.779(f) or (g), must be chosen as the compliance option. The provisions that may be used to demonstrate compliance depend on whether the biological treatment process is open or closed. In each case, the proposed rule specifies which compliance demonstration provisions may be used.

For open biological treatment processes, volatilization is an important

concern. Therefore, to demonstrate compliance, the owner or operator must determine the mass of VOC that are removed due to biodegradation rather than volatilization. If the open biological treatment process is an enhanced biological treatment process, the source would have more flexibility in demonstrating compliance.

### 3. Performance Requirements for Open Biological Treatment Processes

Today's revised proposed rule lists 24 compounds in Table 14. This list of compounds would be used together with other provisions to specify how the source may demonstrate compliance. Table 14 may only be used for wastewater streams treated in an enhanced biological treatment system as defined by the proposed revisions to the rule. The basis of the list is discussed in detail in the HON preamble of 26 August 1996 (61 FR 43698), in the HON preamble of January 17, 1997 (62 FR 2722), in the HON preamble of August 22, 1997 (62 FR 44608), and in Docket A-90-23.

A performance demonstration would not be required for enhanced biological treatment systems that receive wastewater streams that require control and that contain only Table 14 compounds. An example would be an activated sludge unit that meets the proposed enhanced biological treatment system definition and treats Group 1 wastewater streams that contain only methanol and nitrobenzene (proposed Table 14 compounds). For enhanced biological treatment systems treating wastewater containing compounds other than those on proposed Table 14, a performance demonstration is required.

Today's revisions offer several techniques for demonstrating compliance for an open biological treatment unit meeting the proposed definition of an enhanced biological treatment system. The demonstration is performed by estimating the  $F_{bio}$  for the system using the first order biodegradation constant ( $K_1$ ) and the forms in appendix C to part 63. The owner or operator may use any of the procedures specified in 40 CFR part 63, appendix C to calculate the site-specific  $K_1$ s for VOC. The owner or operator may elect not to calculate site-specific biodegradation rate constants but instead to calculate  $F_{bio}$  for the Table 14 compounds using the defaults for  $K_1$ s in Table 14 and to follow the procedure explained in Form IIA of appendix C. For all other VOC treated in a unit meeting the definition of "enhanced biological treatment system," the owner or operator is allowed to use any of the procedures

specified in 40 CFR part 63, appendix C, to calculate the site-specific  $K_1$ . Biological treatment units not meeting the definition of an enhanced biological treatment system are allowed to determine the  $F_{bio}$  using the site-specific  $K_1$  values determined by any of the procedures in appendix C to part 63 except procedure 3 (inlet and outlet concentration measurements).

The EPA believes that today's proposed revisions to the biological treatment option adds additional flexibility without sacrificing reduction of emissions. By separating VOC into the proposed Table 14 compounds and all other VOC and allowing different performance requirements depending on the properties of the compounds on proposed Table 14, additional options have been made available to the owner/operator. The flexibility allowed by not requiring that the site-specific fraction biodegraded be determined for all VOC in the wastewater stream is predicated on the underlying assumption that the wastewater is treated in an enhanced biological treatment system.

### 4. Meaning of Enhanced Biological Treatment Unit

The definition of "enhanced biological treatment system or enhanced biological treatment process" is intended to reflect the basis for the simplified compliance approach for some systems. The list of compounds in Table 14 were developed by modeling performance of an activated sludge system that was a thoroughly mixed biological treatment unit (Docket number A-90-23, item VII-B-8). The definition of enhanced biological treatment process includes a description of a "thoroughly mixed treatment unit." "Thoroughly mixed treatment unit" is intended to convey the concept of an activated sludge system that is designed and operated to approach or achieve the characteristics of a completely back mixed system. Because the EPA does not intend the definition to only allow systems with perfect uniformity in characteristics, a "thoroughly mixed treatment unit" would be described as 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." This description is intended to recognize that well-designed complete mix systems may still have small insignificant stagnant zones or other minor deviations from complete mixing. The meaning of enhanced biological treatment system in this subpart is

meant to be exactly the same as its meaning in the HON.

The EPA realizes that many units have varying degrees of uniformity in biomass distribution and organic compound concentration throughout the biological unit. The EPA is developing additional information to assist in determining whether a biological treatment unit is thoroughly mixed and meets the enhanced biological treatment system definition. When finished, the additional information will be available from the Air and Radiation Docket and Information Center and on the EPA's Technology Transfer Network (TTN).

### 5. Equations in § 60.783

Many of the equations in § 60.783 were revised to make mathematical corrections or to make the equations consistent with the rest of the rule and with the HON. The terms in the equations were changed to make them consistent as well.

### 6. Compounds not Required To Be Considered in Performance Tests

Today's revised proposed rule adds § 60.783(a)(6) which specifies when compounds can be excluded from in a performance test. These provisions were added because EPA recognizes that not all VOC are present in a wastewater stream; and not all compounds need to be measured to demonstrate compliance, i.e., measuring a predominant compound may be enough to show the mass removal necessary to achieve compliance. These provisions would also provide that compounds present at concentrations less than 1 ppmw at the POD or compounds present at the POD at concentrations less than the lower detection limit where the lower detection limit is greater than 1 ppmw may be excluded from the performance test. This provision was added to avoid imposing an unnecessary analytical burden.

## XII. Revisions to Requirements for Delay of Repair (§ 60.777) and Control Devices (§ 60.780)

Today's revised proposed rule changes the control device provisions in § 60.780. The delay of repair provisions previously included in this section have been moved to § 60.777. The delay of repair provisions in § 60.777 reflect changes and clarifications made to the HON delay of repair provisions for process wastewater in the January 17, 1997 HON rule amendments. The revised provisions allow delay of repair for any of the following situations: (1) the repair is technically infeasible without a shutdown, or the emissions of purged material from immediate repair

would be greater than emissions likely to result from delay of repair, (2) the equipment has been emptied or is no longer used to treat or manage Group 1 wastewater streams, and (3) additional time is necessary to obtain parts.

### **XIII. Revisions to Requirements for Inspections and Monitoring (§ 60.781)**

Today's revised proposed rule changes the inspection and monitoring provisions in § 60.781. The changes clarify that for each excursion, except for excused excursions, the owner or operator has failed to apply control in a manner that achieves the required operating conditions. Failure to achieve the required operating conditions is a violation of the standard.

### **XIV. Revisions to Reporting Requirements (§ 60.784)**

Today's revised proposed rule changes the reporting provisions in § 60.784. These changes are consistent with the reporting provisions in the HON rule. Significant changes proposed include: allowing alternative monitoring and recordkeeping systems, including non-automated systems and data compression systems; clarifying that only one excursion per control device per day can occur; the addition of one excused excursion per control device per semiannual period; clarification of monitoring parameter value violations; and the addition of a report name, the Notification of Compliance Status, to describe compliance demonstration information that must be reported.

#### *A. Alternative Monitoring and Recordkeeping Systems*

Today's revised proposed rule would allow owners or operators the option to request approval to use alternative monitoring and recordkeeping systems. This change will allow owners or operators to use existing systems. Alternative monitoring systems specifically discussed in the rule include non-automated systems and data compression systems. These systems will be allowed on a site-specific basis and requests for approval of alternative monitoring must be submitted prior to the implementation of the alternative monitoring system for which approval is being requested.

Another type of alternative monitoring system allows reduced recordkeeping. Under this alternative, the owner or operator may use a monitoring system capable of detecting unrealistic or impossible data. The monitoring system must be equipped with an alarm or other means for alerting the owner or operator when unrealistic or impossible data is

generated. Use of such a monitoring system allows the owner or operator to retain only the daily average value and would not require retention of more frequent monitored operating parameter values. Additional monitoring system requirements and recordkeeping requirements for this program are specified in § 60.785.

If after 6 months no excursions have occurred, 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. If an excursion occurs after the owner or operator has ceased recording daily average values, the owner or operator must resume retaining the daily average value for each operating day until another period of 6 consecutive months has passed without an excursion.

#### *B. One Excursion per Control Device*

Commenters requested that the rule specifically state that not more than one excursion per control device per operating day is possible. The rule was clarified to say that if one parameter meets the excursion criteria of the rule, then that is considered a single excursion for the control device. If the control device has multiple parameters that are monitored, and more than one of the parameters meets the excursion criteria, it is still considered a single excursion for the control device.

#### *C. Excused Excursions*

Commenters stated that excused excursions were necessary to account for the inevitable and unanticipated operating parameter fluctuations that occur during normal operation of control devices. The commenters stated that a certain number of excursions could be expected even with properly operated pollution control devices. The proposed rule requires the owner or operator to record a daily average for each control device with continuously monitored parameters. The EPA is proposing to allow one excused excursion per control device per six month reporting period. Excused excursions may be appropriate when a technology standard, such as the standard mandated in section 111 of the CAA, is predicated on the best demonstrated control. EPA has determined that even properly operated and maintained control equipment may not perform perfectly over time and that this may be taken into account when determining best demonstrated control.

The proposed one excused excursion per semiannual reporting period equates to roughly one-half percent of the days

in the reporting period. As discussed in the HON preamble, the time allowed as excused excursions was selected based on information about the types of events that cause parameter excursions; the duration of the typical excursions; and the frequency of the events that create excursions. In addition, the proposed approach to excused excursions would provide consistency with the HON.

Examples of events that could cause excursions that would count toward the number of excused excursions are as follows: a thermocouple failure in an incinerator; water contamination in a condenser; off-specification feedstocks; electrical problems; control valve problems such as leaky pneumatic drivers; and extreme environmental conditions. Events that are considered malfunctions under the Start-up, Shut-down, and Malfunction Plan required by this subpart are to be handled separately and would not be counted toward the allowed number of excused excursions. In addition, the provisions for excused excursions are not meant to allow actions that are specifically disallowed by other sections of the NSPS or the General Provisions, such as bypass of a control device.

#### *D. Monitoring Parameter Value Violations*

Under earlier NSPS and NESHAP programs, parameter monitoring has traditionally been used as a tool in determining whether control devices are being maintained and operated properly. However, section 114(a)(3) of the Act and § 70.6(c) of the operating permit rule (57 FR 32251, July 21, 1992) require the submissions of "compliance certifications" from sources subject to the operating permit program. Affected facilities would be subject to the operating permit program. Sources must certify whether compliance was continuous or intermittent, as well as their compliance status at the end of the reporting period. In light of these requirements, the Agency has considered how sources subject to this rule would demonstrate compliance.

EPA has considered several approaches for monitoring requirements and has determined that one or more continuous monitoring systems provide the best compliance assurance. EPA has developed a hierarchy for selecting monitoring requirements. The hierarchy is: (1) continuous emissions monitoring; (2) continuous emissions monitoring for surrogate emissions; (3) operating parameters monitoring; and, (4) work practice requirements. The choice of monitoring system selected should be based on availability, cost, and effectiveness.

For many waste management units, today's revisions specify good work practices, including periodic inspections. For control devices and treatment processes, today's revisions either specify, or require the owner or operator to establish appropriate monitoring parameter values.

Today's revisions specify that operating above the approved maximum value or below the approved minimum value for monitoring parameter values is a violation of the standard.

#### *E. Notification of Compliance Status*

The term "Notification of Compliance Status" has been added to the rule to provide a report name for compliance demonstration information that must be submitted to the EPA. Most of the information required to be submitted in the Notification of Compliance Status was already required under the September 1994 proposed rule. Types of information that would be included in the Notification of Compliance Status include results of emission point group determinations, performance tests, inspections, continuous monitoring system performance evaluations, values of monitored parameters established during performance tests, and other information used to demonstrate compliance. The Notification of Compliance Status is a one time report submitted for each affected facility. The term "Notification of Compliance Status" was chosen because it is also used in the HON.

In addition, the rule was revised to clarify that when performance tests and group determinations based on measurements are performed, only one complete test report is necessary for each test method used for a particular kind of emission point. Results and other required information still must be submitted.

A time frame for submittal of the Notification of Compliance Status was added to the rule. The rule was revised to say that the Notification of Compliance Status is due within 150 days after the compliance dates for the rule. This time frame is consistent with the time frame for the Notification of Compliance Status in the HON.

Tables 9 through 12 were also revised to reflect changes made to the HON tables and to require that the information in the tables be submitted as part of the Notification of Compliance Status. Tables 5, 7, 8, and 13 were also revised to reflect HON table changes.

#### **XV. Revisions to Recordkeeping Requirements (§ 60.785)**

Today's revised proposed rule changes the recordkeeping provisions in

§ 60.785. The changes clarify the periods during which monitoring data should not be included in the daily average: monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments; start-ups; shutdowns; malfunctions; periods of non-operation of the chemical process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies.

The EPA also added data retention provisions. Under these provisions, records and reports required by the rule must be kept and must be accessible for 5 years.

Provisions for keeping continuous records and calculating daily averages have been clarified in the proposed rule. Provisions were added to clarify the frequency with which monitoring systems should record data and which of this data are necessary to demonstrate continuous compliance. The provisions require the monitoring system to measure data values at least once every 15 minutes. Each measured data value or block average values for 15-minute or shorter periods are used to calculate hourly average data values. The hourly average values are used to calculate daily average values. For days when all recorded values for a monitored parameter are below the minimum or above the maximum established value, the owner or operator may record that all values were below the maximum or above the minimum established operating parameter value. The 15-minute value must be retained for operating days when the daily average value of the monitored parameter is above the maximum or below the minimum established value. These provisions are consistent with the continuous record provisions in the HON.

#### **XVI. Revisions to Additional Requirements—Start-up, Shutdown, Malfunction, and Non-Operation, and Alternative Means of Emission Limitation, and Permits (§ 60.787)**

Today's revised proposed rule adds provisions for proper operation and maintenance of the affected facility during periods of start-up, shutdown, malfunction, and non-operation. The provisions require that the owner or operator of each affected facility develop a written start-up, shutdown, and malfunction plan, to be kept on-site, which would describe procedures for operating and maintaining the affected facility during periods of start-up, shutdown, and malfunction, and a program for corrective action for malfunctioning process and air

pollution control equipment used to comply with this subpart. Appropriate reporting and recordkeeping of periods of start-up, shutdown, and malfunction are specified in this section. This change makes the rule more consistent with the HON.

New provisions have also been added for approval of an alternative means of emission limitation if the alternative achieves a reduction in VOC emissions at least equivalent to the reduction achieved under this subpart. Approved alternatives are published in the **Federal Register**. This change makes the rule more consistent with the HON.

Provisions directing owners or operators to obtain a permit under the operating permit program are also included in this section.

#### **XVII. Revisions to Leak Inspection Requirements (§ 60.786)**

Today's revised proposed rule changes the leak inspection provisions in § 60.786. These changes mirror the changes made to § 63.148, Leak inspection provisions, of the HON rule in the January 17, 1997 amendments (62 FR 2775).

#### **XVIII. Revisions to List of SOCM Chemicals (Table 1)**

EPA reviewed the list of proposed SOCM chemicals on Table 1 of the rule and made spelling corrections and removed some duplicate compounds. EPA is considering removing other chemicals from Table 1 and requests comment on whether any chemicals should be added to or deleted from Table 1.

#### **XIX. Addition of Appendix J to Part 60**

Today's revised proposed rule adds Appendix J to part 60, How to Determine Henry's Law Constants, Fm Values, Fr Values, and Fe Values for Organic Compounds. This appendix provides the methodology for determining Henry's law constants, fraction measured (Fm) values, fraction removed values (Fr), and fraction emitted (Fe) values.

The development of these values is discussed in "Correction to the report dated February 2, 1994 "Estimation of Air Emissions from model wastewater collection and treatment plants" and "Estimation of Compound Properties: Correlations for Fm, Fr, Fe, and Fet." (Docket item A-90-23, IV-B-4 and Docket item A-94-32, IV-A-1)

The proposed appendix has four sections. Section 2 contains the procedures for determining Henry's law constants, Fm values, Fr values, and Fe values. Section 3 describes how to

locate certain resources. Section 4 contains five tables and thirteen forms. The appendix would be used to:

1. Determine whether a chemical has a Henry's law constant at 25° C that is less than 0.1 y/x atmosphere per mole fraction.
2. Determine a fraction measured (Fm) value for a chemical.
3. Subtract the concentration of a chemical from a Method 25D concentration.
4. Determine the fraction removed (Fr) value for a chemical that has a Henry's law constant at 25° C that is greater than or equal to 0.1 y/x atmosphere per mole fraction.
5. Determine the fraction emitted (Fe) value for a chemical that has a Henry's law constant at 25° C that is greater than or equal to 0.1 y/x atmosphere per mole fraction.
6. Calculate a Henry's law constant at a specific temperature using a Henry's law constant at a different temperature for the same chemical.

## XX. Administrative Requirements

### A. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 1697.02) and a copy may be obtained from Sandy Farmer, Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M St., SW; Washington, DC 20460 or by calling (202) 260-2740.

Information will be collected as required in the General Provisions to part 60 and the requirements in the reporting and recordkeeping sections of the proposed rule. The information will be used to ensure compliance with the standard.

The changes included in today's revised proposed rule do not affect the information collection burden estimates prepared for the September 1994 proposal. The changes consist of revised definitions, alternative test procedures, and clarifications of requirements. The proposed changes do not include new or additional requirements. Consequently, the ICR has not been revised for this rule, although it has been resubmitted to OMB.

The estimated annual cost and hour burden per respondent is about \$4,830 and 150 hours, per respondent. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or

provide information to or for a federal agency. This includes the time needed to review instructions; develop, acquire, install, and use technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations are listed in 40 CFR part 9 and 48 CFR Chapter 15.

The Agency requests comments on the need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing the respondent burden, including through the use of automated collection techniques. Send comments on the ICR to the Director, Regulatory Information Division; U.S. Environmental Protection Agency (2137); 401 M St., S.W.; Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th St., N.W., Washington, D.C. 20503, marked "Attention: Desk Officer for EPA." Include the ICR number in any correspondence. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after [insert date of publication in **Federal Register**], a comment to OMB is best assured of having its full effect if OMB receives it by [insert date 30 days after publication in the **Federal Register**]. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

### B. Executive Order 12866 Review

Under Executive Order 12866, the EPA must determine whether the proposed regulatory action is "significant" and, therefore, subject to OMB review and the requirements of the Executive Order. The Order defines "significant" regulatory action as one that is likely to lead to a rule that may:

- (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety in

State, local, or tribal governments or communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

The September 1994 proposal was considered "not significant" under Executive Order 12866. The revisions proposed today clarify the September 1994 proposed rule. As revised the proposed rule does not add any new control requirements. Therefore, this regulatory action is considered "not significant" and was not reviewed by OMB.

### C. Regulatory Flexibility

The Regulatory Flexibility Act (RFA) provides that, whenever an agency promulgates a proposed rule under 5 U.S.C. § 553, an agency must prepare an initial regulatory flexibility analysis unless the head of the agency certifies that the proposed rule will not have a significant economic impact on a substantial number of small entities. The EPA has evaluated the impact of this proposed regulation on small entities. Based upon the analysis, and pursuant to section 605(b) of the Regulatory Flexibility Act, 5 U.S.C. 605 (b), I certify that this rule will not have a significant impact on a substantial number of small entities.

The SOCMi Wastewater NSPS applies to new and modified sources. Existing sources may be subject to the NSPS in the event these facilities are modified. Since the regulation is applicable to new sources or existing sources that modify facilities, the actual entities impacted by the regulation are not known precisely. This is particularly true with regard to new sources. Due to the difficulties in predicting those facilities that will be subject to the rule, the EPA looked at two data sources for information: the regulatory flexibility analysis performed for the HON and the SOCMi wastewater database.

The EPA analyzed SOCMi for impacts on small business when the HON was developed. Since the HON and the SOCMi wastewater NSPS will affect the same and similar facilities and the emission control requirements are similar, the EPA believes that the analysis done for the HON is valid for this rule as well. The HON analysis, which was based on 66 firms, concluded that fewer than 15 percent of

the firms were small firms and that they do not constitute a substantial number. Furthermore, the economic analysis for the HON projected generally small impacts (87 percent of the analyzed sample were projected to have output changes of less than 2 percent). Therefore, the HON was not expected to have a significant economic impact on a substantial number of small firms. The regulatory flexibility analysis for the HON is discussed in 59 FR 19449 (April 22, 1994).

The EPA next considered a database created from surveys sent to industry under the authority of section 114 of the Act. This database, called the SOCM1 114 database, includes information on SOCM1-generated wastewater streams. The EPA used the database as another way to assess potential impacts on small entities.

The 25 facilities in the SOCM1 114 database used to make this assessment are owned by 9 companies. All of these facilities produce chemicals in either Standard Industrial Classification (SIC) 2869 (Industrial Chemicals, N.E.C.) or SIC 2821 (Plastic Materials, Synthetic Resins, and Nonvulcanizable Elastomers). The Small Business Administration (SBA) defines a small business for SIC 2869 and SIC 2821 to be companies with less than 1000 and 750 employees, respectively. Each of the 9 companies in the SOCM1 114 database are not small businesses within the SBA definition. Based upon this database, no small businesses are expected to be directly impacted by the SOCM1 Wastewater NSPS. The economic impacts of this regulation for the facilities in the SOCM1 114 database are also anticipated to be minimal with price and quantity impacts of less than 1 percent.

The small business analysis conducted for this regulation indicates that companies potentially affected by the NSPS are large companies (SOCM1 114 database) or are not anticipated to be significantly impacted by the regulation (HON regulatory flexibility analysis). Thus, the EPA concludes that this regulation will not have a significant impact on a substantial number of small entities as specified in the RFA.

#### *D. Unfunded Mandates Reform Act*

Under Section 202 of the Unfunded Mandates Reform Act of 1995 (Unfunded Mandates Act), the EPA must prepare a budgetary impact statement to accompany any proposed or final rule that includes a Federal mandate that may result in estimated costs to State, local, or tribal governments in the aggregate or to the

private sector, of \$100 million or more in any one year. Under Section 205, the EPA must select the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 203 requires the EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the rule. The EPA has determined that today's proposed rule contains no regulatory requirements that might significantly or uniquely affect small governments.

The EPA has determined that today's proposed rule does not include a Federal mandate that may result in estimated costs of \$100 million or more to either State, local, or tribal governments in the aggregate or to the private sector. Therefore, the requirements of the Unfunded Mandates Act do not apply to this action.

#### *E. Executive Orders 12875 and 13084*

Today's action does not impose any unfunded mandate upon any State, local, or tribal government; therefore, Executive Orders 12875 and 13084 do not apply to this rulemaking.

Under E.O. 12875 and E.O. 13084, EPA may not issue a regulation that is not required by statute and that creates a mandate upon a State, local or Tribal government unless the Federal Government provides the necessary funds to pay the direct costs incurred by the State, local or Tribal government or EPA provides to the Office of Management and Budget a description of the extent of the prior consultation and written communications with representatives of affected State, local and Tribal governments and an Agency statement supporting the need to issue the regulation. In addition, E.O. 12875 and E.O. 13084 require EPA to develop an effective process permitting elected officials and other representatives of State, local and Tribal governments "to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates."

#### *F. National Technology Transfer and Advancement Act*

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (the NTTAA), Pub. L. No. 104-113, sec. 12(d) (15 U.S.C. 272 note), directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods,

sampling procedures, business practices, etc.) that are developed or adopted by voluntary consensus standard bodies. The NTTAA requires EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This proposed rulemaking includes technical standards and requirements for taking measurements. Consequently, the EPA searched for applicable voluntary consensus standards by searching the National Standards System Institute (NSSN) database. The NSSN is an automated service provided by the American National Standards Institute for identifying available national and international standards.

EPA searched for methods and tests required by this proposed rule, all of which are methods or tests previously promulgated. The proposed rule includes methods that measure: (1) Volatile organic compound concentration in wastewater (EPA Methods 25D, 305, 624, 625, 1624, or 1625); (2) biodegradation rates (EPA Methods 304A and B, aerated reactor test (i.e., BOX test) serum bottle test, performance data with and without biodegradation, or inlet and outlet concentration measurements); (3) vapor leak detection (EPA Method 21); (4) volatile organic compound concentration in vented gas stream (EPA Method 18); (5) volumetric flow rate of the vented gas stream (EPA Methods 2, 2A, 2C, or 2D); (6) sampling site location (Method 1 or 1A); (7) validation of chemical methods (EPA Method 301); (8) determination of actual oxygen concentration (percent O<sub>2</sub>d) (EPA Method 3B); and (9) visible emissions (EPA Method 22). These EPA methods are found in Appendix A to parts 60, 63, and 136. The biodegradation tests are found in Appendix C to part 63.

Except for EPA Methods 2 and 2C (Appendix A to part 60), no other potentially equivalent methods for the methods and tests in the proposal were found in the NSSN database search. EPA identified one Chinese (Taiwanese) National Standard (CNS) which may potentially be an equivalent method to EPA Methods 2 and 2C. The CNS method is CNS K9019 for measuring velocity and flow rates in stack gases.

However, EPA does not believe that CNS K9019 is a voluntary consensus method. It is unlikely that CNS K9019 was considered by industry groups or national setting standards organizations because it was not developed in the United States (U.S.) and there is no available information about it in the U.S.

To confirm EPA's belief, EPA is asking for comment on whether any U.S. industry has adopted CNS K9019 as a voluntary consensus method. EPA is also asking for comment on whether any potential voluntary consensus methods exist that could be allowed in addition to the methods in the proposal. Methods submitted for evaluation should be accompanied with a basis for the recommendation, including method validation data and the procedure used to validate the candidate method (if a method other than Method 301, 40 CFR part 63, Appendix A was used).

#### G. Executive Order 13045

This proposed rule is not subject to Executive Order 13045 (E.O. 13045), entitled "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because this is not an economically significant regulatory action as defined by Executive Order 12866 (E.O. 12866).

The E.O. 13045 applies to any rule that EPA determines (1) "economically significant" as defined under E.O. 12866, and (2) the rule has a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

#### List of Subjects in 40 CFR Part 60

Environmental protection, Air pollution control, Volatile organic compounds, Reporting and recordkeeping requirements.

Dated: September 29, 1998.

**Carol M. Browner,**  
Administrator.

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

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**

Sec.

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 VOC 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 nonoperation; Alternative means of emission limitation; and permits.

60.788 [Reserved]

60.789 Relationship to other regulations.

Table 1 to subpart YYY—List of SOCMI chemicals

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

Table 2A to subpart YYY—Applicability of 40 CFR part 63 general provisions to subpart YYY

Table 3 to subpart YYY—Control requirement options for wastewater tanks, surface impoundment, containers, individual drain systems, and oil-water separators

Table 4 to subpart YYY—Wastewater tanks requiring controls and control requirements

Table 5 to subpart YYY—Compliance options for wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators

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 [§ 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) The provisions of this subpart apply to each affected facility and any devices or systems required by this subpart. An affected facility is a designated chemical process unit (CPU) in the synthetic organic chemical manufacturing industry which commences or commenced construction, reconstruction or modification after September 12, 1994. An affected facility that does not generate a process wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream, is not subject to the control requirements of this subpart.

(1) *Initial determination of applicability.* Determine applicability to this subpart as specified in paragraphs (b) through (g) of this section. For an affected facility, determine if the affected facility generates a process wastewater stream, maintenance wastewater stream, or aqueous in-process stream as specified in paragraph (h) of this section. The owner or operator of an affected facility that generates a process wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream shall comply with requirements of this subpart. The owner or operator of an affected facility that does not generate a process wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream is exempt from the requirements specified in this subpart, except for the requirements specified in § 60.770(a)(2), § 60.770(h)(2), § 60.784(d)(12), and § 60.785(c)(8) of this subpart.

(2) *Reevaluation of applicability criteria.* When one or both of the applicability criteria in paragraph (a)(2)(i) or (a)(2)(ii) of this section changes, the owner or operator shall reevaluate the applicability as specified in this paragraph (a). A CPU or designated CPU shall not be evaluated more than once every 12 months. If the



designated CPU is an affected facility and subject to the provisions of this subpart, the owner or operator may elect not to reevaluate applicability.

(i) *Produces SOCOMI as a primary product.* If a CPU begins manufacturing chemicals not used in the primary product determination or ceases manufacturing chemicals listed in the primary product determination, the primary product determination is no longer in effect and shall be reevaluated as specified in paragraph (f) of this section.

(ii) *Is Modified or Reconstructed.* If a designated CPU that is not an affected facility is modified or reconstructed after September 12, 1994, then the applicability determination shall be evaluated as specified in § 60.772 of this subpart.

(3) Each affected facility shall be in compliance with the provisions of this subpart no later than initial start-up or [DATE OF PUBLICATION OF FINAL RULE], whichever is later.

(b) The designated CPU is in the synthetic organic chemical manufacturing industry (SOCMI) if the conditions of either paragraph (b)(1) or (b)(2) of this section are met.

(1) The designated CPU is a combination of all process lines within a CPU, i.e., an entire CPU, and the primary product of the designated CPU is a SOCOMI chemical; or

(2) The designated CPU is a process line, or combination of process lines within a CPU, and the primary product of the CPU is a SOCOMI chemical.

(3) The primary product of a CPU shall be determined as provided in paragraph (f) of this section.

(4) The SOCOMI chemicals are listed in Table 1 of this subpart.

(5) Each storage vessel that is part of the CPU shall be assigned to one designated CPU that it services. Storage vessels shall be assigned to the CPU as specified in paragraph (g) of this section.

(c) The designated CPU shall be an entire CPU except as otherwise provided in this paragraph (c).

(1) The owner or operator may designate each process line or combination of process lines within a CPU to be a designated CPU for purposes of this subpart, at any time before commencing construction, reconstruction or modification.

(i) If the owner or operator designates each process line, or combination of process lines, within a CPU to be a designated CPU, the installation of an additional process line may constitute construction of a designated CPU, but shall not in itself be considered

modification or reconstruction of the existing process lines.

(ii) If the entire CPU is the designated CPU, the installation of an additional process line may constitute modification or reconstruction of the designated CPU, but shall not in itself be considered construction of a designated CPU.

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

(3) Any designation under paragraph (c)(1) of this section shall be reported to the Administrator as provided in § 60.784 of this subpart and shall be irrevocable.

(d) *General Provisions applicability.* The owner or operator shall comply with the provisions of subpart A of this part and subpart A of 40 CFR part 63 as specified in Table 2 and 2A of this subpart.

(e) The provisions of this subpart do not apply to the processes listed in paragraphs (e)(1) through (e)(5) of this section. This subpart does not require these processes to comply with the provisions of subpart A of this part.

(1) Research and development facilities.

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

(3) Chemical process units that are located in coke by-product recovery plants.

(4) 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 SOCOMI chemical process unit.

(5) 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.

(f) *Primary product determinations.* The primary product of a CPU is determined according to the procedures specified in paragraphs (f)(1) and (f)(2) of this section. With respect to CPU for which the expected use is known, the owner or operator shall use paragraph (f)(1) of this section. With respect to CPU for which the expected use is unknown, the owner or operator shall use paragraph (f)(2) of this section.

(1) *Expected use is known.* The primary product determination for a CPU, where the expected use is known for the 12 months following initial startup shall be determined according to

the procedures in paragraphs (f)(1)(i) through (f)(1)(iii) of this section.

(i) If a chemical process unit produces none of the chemical products listed in Table 1 of this subpart, the primary product is not a SOCOMI product.

(ii) If a chemical process unit produces only chemical products listed in Table 1 of this subpart, the primary product is a SOCOMI product.

(iii) If a chemical process unit produces one or more chemical products listed in Table 1 of this subpart and one or more chemical products not listed in Table 1 of this subpart, the owner or operator shall sum the expected annual production, on a mass basis, for the chemical products listed in Table 1 of this subpart and sum the expected annual production, on a mass basis, for the chemical products not listed in Table 1 of this subpart. If the sum of the chemical products listed in Table 1 of this subpart is greater than or equal the sum of the chemical products not listed in Table 1 of this subpart, the primary product is a SOCOMI product. If not, the primary product is not a SOCOMI product.

(2) *Expected use is unknown.* Where the expected use of the CPU is unknown for the 12 months following initial startup and the CPU will manufacture one or more of the chemical products listed in Table 1 of this subpart, the primary product of the CPU is a SOCOMI product.

(g) *Storage vessel assignment.* The owner or operator shall follow the procedures specified in paragraphs (g)(1) through (g)(4) of this section to determine whether a storage vessel is part of the CPU to which this subpart applies, either in part or in whole.

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

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

(i) If a storage vessel is shared among chemical process units and one of the process units has the predominant use, as determined by paragraphs (g)(2)(i)(A) and (g)(2)(i)(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 chemical process unit that is located on the same plant site, then that chemical process unit has the predominant use.

(B) If the greatest input into the storage vessel is provided from a chemical process unit that is not located

on the same plant site, then the predominant use is the chemical process unit on the same plant site that receives the greatest amount of material from the storage vessel.

(ii) If a storage vessel is shared among chemical process units so that there is no single predominant use, and at least one of those chemical process units is subject to this subpart, in part or whole, the storage vessel shall be considered to be part of the chemical process unit that is subject to this subpart, in part or whole. If more than one chemical process unit is subject to this subpart, in part or whole, the owner or operator may assign the storage vessel to any of the chemical process units 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 [date final rule is published]. This determination shall be reported as part of an operating permit application or as otherwise specified by the permitting authority.

(3) Where a storage vessel is located at a plant site that includes one or more chemical process units 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 (g)(3)(i) through (g)(3)(iv) of this section.

(i) The storage vessel may only be assigned to a chemical process unit 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 chemical process unit, an intervening storage vessel means a storage vessel connected by hard-piping to the chemical process unit and to the storage vessel in the tank farm so that product or raw material entering or leaving the chemical process unit 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 chemical process unit at the plant site that meets the criteria of paragraph (g)(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 chemical process unit at the plant site that meets the criteria of paragraph (g)(3)(i) of this section with respect to a storage vessel, the storage vessel shall be assigned to that chemical process unit.

(iv) If there are two or more chemical process units at the plant site that meet the criteria of paragraph (g)(3)(i) of this section with respect to a storage vessel, the storage vessel shall be assigned to one of those chemical process units according to the provisions of paragraph (g)(2) of this section. The predominant use shall be determined among only those chemical process units that meet the criteria of paragraph (g)(3)(i) of this section.

(4) If the storage vessel begins receiving material from (or sending material to) another chemical process unit, or ceasing to receive material from (or send material to) a chemical process unit, or if there is a significant change in the use of a storage vessel whose predominant use was determined according to paragraph (g)(2)(i) of this section that could reasonably change the predominant use, the owner or operator shall reevaluate the applicability of this subpart to the storage vessel.

(h) *Process Wastewater, maintenance wastewater, and aqueous in-process stream determination.*

(1) The owner or operator shall determine whether an affected facility generates a process wastewater stream, a maintenance wastewater stream, or an aqueous in-process stream. The owner or operator of an affected facility that generates a process wastewater stream, maintenance wastewater stream, or aqueous in-process stream shall comply with the provisions of this subpart. The owner or operator of an affected facility that does not generate a process wastewater stream, maintenance wastewater stream, or aqueous in-process stream is exempt from the requirements specified in this subpart, except for the requirements specified in §§ 60.770(a)(2), 60.770(h)(2), 60.784(d)(12), and 60.785(c)(8) of this subpart.

(2) If an affected facility begins to or ceases to generate a process wastewater stream, maintenance wastewater stream, or aqueous in-process stream, the owner or operator shall reevaluate the applicability of this subpart to the affected facility. If an affected facility is subject to the provisions of this subpart, the owner or operator may elect not to reevaluate applicability.

(3) The affected facility includes the water and wastewater streams listed in paragraphs (h)(3)(i) through (h)(3)(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) Stormwater managed in segregated sewers.

(ii) Water from fire-fighting and deluge systems in segregated sewers.

(iii) Spills.

(iv) Water from safety showers.

(v) Water from testing of deluge systems.

(vi) Water from testing of firefighting systems.

#### § 60.771 Definitions.

As used in this subpart, all terms not defined here shall have the meaning given them in the 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(c) of this subpart.

*Aqueous in-process stream* means a stream comprised of water and VOC 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. An aqueous in-process stream has a concentration of at least 500 part per million by weight (ppmw) and a flowrate of at least 1 liter per minute.

*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.

*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 chemical process unit includes pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems. A chemical process unit is identified by its primary product.

*Closed biological treatment process* means a tank or surface impoundment where biological treatment occurs and VOC 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 volatile organic compound emissions.

*Container* means any portable waste management unit that has a capacity greater than or equal to 0.1 m<sup>3</sup> 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.

*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 VOC 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.

*Designated chemical process unit or designated CPU* 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 chemical process unit 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, which 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<sub>bio</sub>* means site-specific fraction of VOC biodegraded, unitless.

*F<sub>e</sub>* means fraction emitted value, unitless.

*F<sub>m</sub>* means compound-specific fraction measured factor, unitless.

*F<sub>r</sub>* means fraction removed value for VOC, 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.

*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 Emissions 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 chemical process units 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.

*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 chemical process unit 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 wastewaters 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 chemical process unit 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; or

(2) As obtained from standard reference texts; or

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

(4) 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 designated CPU which increases or creates emissions to the atmosphere of VOC from process wastewater and/or aqueous in-process streams generated by the designated CPU, except as provided in § 60.772(c) 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* means a waste management unit, used to separate oil or organics from water. An oil-water or organic-water 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 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 designated chemical process unit 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 infra-red, photo ionization, or thermal conductivity.

*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 to Definition:** 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 VOC as determined in § 60.783 of this subpart. Such changes include losses by air VOC 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 VOC.

*Primary fuel* means the fuel that provides the principal heat input to the device. To be considered primary, the fuel shall 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 steam from jet ejector systems pulling vacuum on vessels containing VOC.

*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. 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 VOC 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 chemical process unit 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  $\pm 0.02$  specific gravity units.

*Start-up* means the setting into operation of a chemical process unit 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. Start-up 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 VOC and that has been assigned, according to the procedures in § 60.770(f) of this subpart, to a chemical process unit 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 VOC emissions to the atmosphere;
- (3) Vessels with capacities smaller than 38 cubic meters;
- (4) Vessels storing organic liquids that contain VOC 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 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)  $\pm 1$  percent of the temperature being monitored expressed in degrees Celsius or (b)  $\pm 0.5$  degrees Celsius ( $^{\circ}\text{C}$ ), whichever number is greater (i.e., has the highest absolute value).

*Treatment process* means a specific technique that removes or destroys the 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. Most treatment processes are conducted in tanks. 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.

*Volatile organic compound, volatile organic compounds, VOC* means substances defined as volatile organic compounds 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 or equal to 0.1 y/x atmosphere per mole fraction as determined according to appendix J

of this subpart is not a VOC for purposes of this subpart.

*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 chemical process unit and is not a waste management unit.

*Wastewater* is either a process wastewater or a maintenance wastewater and means water that:

(1) Contains either:

(i) An annual average concentration of VOC of at least 50 parts per million by weight 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 VOC of at least 10,000 parts per million by weight at the point of determination at any flow rate, and that

(2) Is discarded from a chemical process unit as defined in this section.

*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 shall 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 designated CPU that is neither 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

paragraphs (b), (c), (e), (f), (g), (h) and (j) of this section to determine whether a designated CPU 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 designated CPU has been or will be reconstructed.

(b) *Determining modification* Modification determinations are based on the designated CPU. To determine whether a modification has occurred or will occur, the owner or operator shall follow the procedures in either paragraph (b)(1) or (b)(2) 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 VOC 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 (c) of this section.

(c) *Physical or operational changes that are not modifications.* The changes listed in this paragraph (c) shall not, by themselves, be considered modifications under this subpart. 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 designated CPU as adjusted to reflect capital improvements, casualty losses, and defunct equipment. Neither account depreciation or deflation is an allowable adjustment. The owner or operator shall keep a record or shall provide documentation on demand documenting that the cost was less than 12.5 percent.

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

(d) *Determining VOC emissions generated by a designated CPU that is neither a flexible operation unit or part of a flexible operation unit.* For a

designated CPU that is neither a flexible operation unit or part of a flexible operation unit, the owner or operator shall follow the procedures specified in paragraphs (d)(1) through (d)(4) of this section to determine whether VOC 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. The owner or operator shall keep a record or shall 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. At a minimum this documentation shall document concentration and flow rate of affected process wastewater and aqueous in-process streams both before and after a physical or operational change.

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

(2) *Determine VOC emissions before a physical or operational change.* For each affected process wastewater and aqueous in-process stream, the owner or operator shall determine VOC emissions before a physical or operational change, i.e., baseline emissions, using VOC emissions or VOC mass flow rate as a surrogate for VOC emissions. VOC emissions and mass flow rate shall be determined as specified in paragraph (f) of this section. The baseline VOC emissions or baseline VOC mass flow rate for process wastewater and aqueous in-process streams shall be summed as specified in paragraph (j) of this section.

(3) *Determine VOC emissions after a physical or operational change.* For each affected process wastewater or aqueous in-process stream, the owner or operator shall determine VOC emissions after a physical or operational change, using VOC emissions or VOC mass flow rate as a surrogate for VOC emissions. VOC emissions and mass flow rate shall be determined as specified in paragraph (f) of this section. The VOC emissions or VOC 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 VOC emissions and the sum of VOC emissions after a physical or operational change.*

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

(ii) *VOC mass flow rate as a surrogate for VOC emissions.* For process wastewater streams, the owner or operator shall compare the sum of baseline VOC mass flow rate at the point of determination to the sum of VOC mass flow rate at the point of determination after the physical or operational change. The owner or operator shall compare the sum of baseline VOC mass flow rate for aqueous in-process streams to the sum of VOC mass flow rate for aqueous in-process streams after the physical or operational change. If the sum of VOC mass flow rate at the point of determination after the physical or operational change is greater than the sum of baseline VOC mass flow rate at the point of determination, the VOC mass flow rate has increased and the VOC emissions have increased for the designated CPU. If the sum of VOC mass flow rate for aqueous in-process streams after the physical or operational change is greater than the sum of baseline VOC mass flow rate of aqueous in-process streams, the VOC mass flow rate has increased and the VOC emissions increased for the designated CPU. Once a determination has been made that VOC 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 VOC emissions generated by a designated CPU that is a flexible operation unit or part of a flexible operation unit.* For a designated CPU 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 (e)(5) of this section to determine whether VOC 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 designated CPU 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 designated CPU is capable of producing without a change in physical or operational design. The owner or operator shall use best engineering judgement and consider the information specified in paragraphs (e)(2)(i)(A) through (e)(2)(i)(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 (e)(2)(ii)(C) of this section.

(i) *Products that could be produced by the designated CPU.*

(A) Products the designated CPU currently produces.

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

(C) Products that the designated CPU reasonably can produce without having to change the physical or operational design.

(D) Products that similar designated CPU 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 designated CPU.

(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.

(C) Products for which the designated CPU 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 VOC emissions before a physical or operational change.* For each affected process wastewater and aqueous in-process stream, the owner or operator shall determine VOC emissions before a physical or operational change, i.e., baseline emissions, using VOC emissions or VOC mass flow rate as a surrogate for VOC emissions. VOC emissions and mass flow rate shall be

determined as specified in paragraph (f) of this section. Baseline VOC emissions shall be based on production of the baseline product. The VOC emissions or VOC 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 VOC 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 VOC emissions after a physical or operational change using VOC emissions or VOC mass flow rate as a surrogate for VOC emissions. VOC emissions and mass flow rate shall be determined as specified in paragraph (f) of this section. The VOC emissions or VOC mass flow rate for each process wastewater or aqueous in-process stream shall be summed as specified in paragraph (j) of this section. VOC 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).

(5) *Compare baseline VOC emissions and VOC emissions after a physical or operational change.*

(i) *VOC emissions.* The owner or operator shall compare the sum of baseline VOC emissions to the sum of VOC emissions after the physical or operational change. If the sum of VOC emissions from process wastewater and aqueous in-process streams after the physical or operational change are greater than the sum of baseline VOC emissions from process wastewater and aqueous in-process streams, the VOC emissions from process wastewater and

aqueous in-process streams have increased for the designated CPU.

(ii) *VOC mass flow rate as a surrogate for VOC emissions.* The owner or operator shall compare baseline VOC mass flow rate at the point of determination to VOC mass flow rate at the point of determination after the physical or operational change. The owner or operator shall compare baseline VOC mass flow rate for aqueous in-process streams to VOC mass flow rate for aqueous in-process streams after the physical or operational change. If the VOC mass flow rate at the point of determination after the physical or operational change is greater than the baseline VOC mass flow rate at the point of determination, the VOC mass flow rate has increased and the VOC emissions have increased for the designated CPU. If the VOC mass flow rate for aqueous in-process streams after the physical or operational change is greater than the baseline VOC mass flow rate of aqueous in-process streams, the VOC mass flow rate has increased and the VOC emissions have increased for the designated CPU. Once a determination has been made that VOC 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 VOC emissions.* VOC emissions shall be determined using either VOC emissions or mass flow rate as a surrogate for VOC emissions. VOC emissions and mass flow rate shall be determined on an annual average basis. To determine VOC emissions using the default fraction emitted value,  $F_e$ , for the individual drain system and the treatment process, the owner or operator

shall use the procedures specified in paragraph (f)(1) of this section. To determine VOC emissions using site-specific modeling for the individual drain system and either the default  $F_e$  values for the treatment process or VOC emissions for the treatment process, the owner or operator shall use the procedures specified in paragraph (f)(2) of this section. To determine VOC emissions using annual average mass flow rate as a surrogate for emissions, the owner or operator shall follow the procedures specified in paragraph (f)(3) of this section.

(1) *Calculate VOC emissions using the default fraction emitted value,  $F_e$ , for the individual drain system and the treatment process.* For each process wastewater stream and aqueous in-process stream, the owner or operator shall calculate VOC emissions using the default  $F_e$  values for the individual drain system and the treatment process and use equation 1 in this paragraph (f)(1). The default  $F_e$  values for the individual drain system and the treatment process are listed in table 2 in appendix J of this part. Annual average concentration shall be determined using the procedures specified in paragraph (g)(1) of this section. Annual average flow rate shall be determined using the procedures specified in paragraph (h) of this section. The owner or operator is not required to determine the concentration of VOC that are not reasonably expected to be in the process. The owner or operator is required to consider only VOC included on the stream-specific list of VOC when measuring VOC concentrations. The stream-specific list of VOC shall be as determined as specified in § 60.778 of this subpart.

$$\text{VOC emissions} = (6.0 \times 10^{-8}) * \text{AQ} * \text{H} \sum_{i=1}^n \text{AC}_i * \text{Fe}_i \quad (\text{Eqn 1})$$

Where:

VOC emissions=Annual average emissions of VOC, 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.

H=Number of hours during the designated 12-month period that the process wastewater stream or aqueous in-process stream was generated, hours per year.

$\text{AC}_i$ =Annual average concentration of VOC  $i$  of the process wastewater

stream or aqueous in-process stream, parts per million by weight.

$\text{Fe}_i$ =Fraction emitted of VOC  $i$  for the individual drain system and the treatment process, dimensionless.  $F_e$  values for the individual drain system and the treatment process are listed in table 2 in appendix J to this part.

$n$ =Total number of VOC in process wastewater stream or aqueous in-process stream.

$6.0 \times 10^{-8}$ =Conversion factor, 1000 kilograms per cubic meter, 60 minutes per hour,  $10^{-3}$  cubic meters per liter,  $10^{-3}$  megagrams per kilogram, and  $10^{-6}$  from the

parts per million by weight factor (i.e.,  $\text{AC}_i$ )

(2) *Calculate VOC emissions using site-specific modeling for the individual drain system.* For each process wastewater stream and aqueous in-process stream, the owner or operator shall calculate VOC emissions using site-specific modeling for the individual drain system as determined using the procedures specified in appendix J to this part. In addition, for each process wastewater stream and aqueous in-process stream, the owner or operator shall use either the default  $F_e$  values for the treatment process or VOC emissions



for the treatment process as specified in this paragraph (f)(2), and use either equation 2 or equation 3 in this paragraph (f)(2). Annual average concentration shall be determined using the procedures specified in paragraph (g)(1) of this section. Annual average flow rate shall be determined using the procedures specified in paragraph (h) of this section. The owner or operator is not required to determine the concentration of VOC that are not reasonably expected to be in the process. The owner or operator is

required to consider only VOC included on the stream-specific list of VOC when measuring VOC concentrations. The stream-specific list of VOC shall be determined as specified in § 60.778 of this subpart.

(i) *Determining the Fe value for the treatment process or VOC emissions for the treatment process.* If the treatment process is a biological treatment process, the owner or operator shall use the default Fe values for the treatment process that are listed in table 2 in appendix J of this part. If the treatment process is a non-biological treatment

process, the owner or operator shall use performance test data or design evaluations to determine the VOC emissions for all VOC emissions generated by the treatment process as specified in § 60.779(j)(1) of this subpart.

(ii) *Equation 2.* Use equation 2 when the treatment process is a biological treatment process and the default Fe for the treatment process is used. The default Fe values for the treatment process are listed in table 2 in appendix J of this part.

$$\text{VOC emissions} = \text{IDS} + \left[ (6.0 * 10^{-8}) * \text{AQ} * \text{H} * \sum_{i=1}^n \text{AC}_i * \text{Fet}_i \right] \quad (\text{Eqn 2})$$

Where:

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

IDS=VOC emissions from the individual drain system determined as specified in appendix J to part 60, megagram per year.

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

H=Number of hours during the designated 12-month period that

the process wastewater stream or aqueous in-process stream was generated, hours per year.

AC<sub>i</sub>=Annual average concentration of VOC i of the process wastewater stream or aqueous in-process stream, parts per million by weight.

Fet<sub>i</sub>=Fraction emitted of VOC i for the treatment process, dimensionless. Fe values for the treatment process shall be determined as specified in paragraph (f)(2)(i) of this section.

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

6.0 \* 10<sup>-8</sup>=Conversion factor, 1000 kilograms per cubic meter, 60 minutes per hour, 10<sup>-3</sup> cubic meters per liter, 10<sup>-3</sup> megagrams per kilogram, and 10<sup>-6</sup> from the parts per million by weight factor (i.e., AC<sub>i</sub>)

(ii) *Equation 3.* Use equation 3 when the treatment process is a non-biological treatment process and VOC emissions for the treatment process is determined using performance test data or design evaluations.

$$\text{VOC emissions} = \text{IDS} + \text{TP} \quad (\text{Eqn 3})$$

Where:

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

IDS=VOC emissions from the individual drain system determined as specified in appendix J to part 60, megagram per year.

TP=VOC emissions from the treatment process determined as specified in paragraph (f)(2)(iii) of this section, megagrams per year.

(3) *Determining annual average VOC mass flow rate as a surrogate for VOC emissions.*

(i) Annual average concentration shall be determined using the procedures specified in paragraph (g)(2) of this section. Method 25D of 40 CFR part 60, appendix A, shall be used to determine annual average concentration.

(ii) Annual average flow rate shall be determined using the procedures specified in paragraph (h) of this section. The owner or operator is not required to determine the concentration

of VOC that are not reasonably expected to be in the process. The owner or operator is required to consider only VOC included on the stream-specific list of VOC when measuring VOC concentrations. The stream-specific list of VOC shall be as determined as specified in § 60.778 of this subpart.

(iii) Determine the annual average VOC mass flow rate using equation 2 in paragraph (f)(2) of this section for each individual process wastewater stream at the point of determination and for each aqueous in-process stream.

$$\text{QMW} = (6.0 * 10^{-5}) * \text{AQ} * \sum_{i=1}^n \text{AC}_i \quad (\text{Eqn 4})$$

Where:

QMW=Mass flow rate of VOC, for a process wastewater or aqueous in-process stream, kilograms per hour.

AQ=Annual average flow rate of the process wastewater stream or

aqueous in-process stream, liters per minute.

AC<sub>i</sub>=Annual average concentration of VOC i of the process wastewater stream or aqueous in-process stream, parts per million by weight.

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

p=Density of a process wastewater stream or aqueous in-process stream, kilograms per cubic meter.

$6.0 * 10^{-5}$  = Conversion factor, 1000 kilograms per cubic meter, 60 minutes per hour,  $10^{-3}$  cubic meters per liter, and  $10^{-6}$  from the parts per million by weight factor (i.e., AC<sub>i</sub>).

(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 designated CPU generating the process wastewater or aqueous in-process stream generated by the designated CPU over the designated 12-month period. Flow-weighted annual average concentration for VOC shall be calculated as the total mass of VOC occurring in the process wastewater stream or aqueous in-process stream during the designated 12-month period divided by the total mass of the process wastewater stream or aqueous in-process stream during the same designated 12-month period. The owner or operator shall determine the annual average concentration using the procedures specified in paragraphs (g)(1)(i) through (g)(1)(iv) of this section. The owner or operator is required to consider only VOC included on the stream-specific list of VOC when measuring VOC concentrations. The stream-specific list of VOC shall be as determined as specified in § 60.778 of this subpart.

(1) *VOC emissions.* When an owner or operator is determining concentration as part of determining annual average VOC emissions under paragraph (f)(1) or paragraph (f)(2) of this section, the procedures in paragraphs (g)(1)(i) through (g)(1)(iv) of this section shall be used.

(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 VOC 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) 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 of 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) *VOC mass flow rate.* When an owner or operator is determining concentration as part of determining annual average VOC mass flow rate under paragraph (f)(3) of this section, the procedures specified in paragraph (g)(2)(i) and (g)(2)(ii) of this section shall be used. Measurements shall be taken at the point of determination.

(i) If an owner or operator is measuring concentration as part of determining annual average VOC mass flow rate under paragraph (f)(3) of this section, 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.

(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 designated CPU over the designated 12-month period. The owner or operator shall consider the total annual average wastewater volume generated by the designated CPU. The owner or operator shall determine the annual average flow rate using the procedures specified in paragraphs (h)(1) and (h)(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 (c)(3) of this subpart are

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

(i) [Reserved]

(j) *Sum VOC emissions generated by the designated CPU.*—(i) *VOC emissions.* Sum the annual average VOC emissions, as calculated in paragraph (f)(1) or (f)(2) 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 VOC emissions for the designated CPU.

(2) *VOC mass flow rate.* Sum the annual average VOC mass flow rate, as calculated in paragraph (f)(3) of this section, for each process wastewater stream affected by the physical or operational change to determine the annual average VOC mass flow rate for the designated CPU. Sum the annual average VOC mass flow rate, as calculated in paragraph (f)(3) of this section, for each aqueous in-process stream affected by the physical or operational change to determine the annual average VOC mass flow rate for the designated CPU. Once a determination has been made that VOC emissions have increased, the owner or operator can elect not to make the other comparison.

(k) *Reconstruction.* (1) 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 designated CPU has had either components removed in preparation of 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.

(2) The owner or operator shall either keep a record for the purposes of this subpart 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.

**§ 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 (a)(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 VOC by following the requirements in either paragraph (b) of this section, determining Group 1 or Group 2, or paragraph (c) 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 (a)(2)(ix) 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 VOC 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 and 60.785 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(c) of this subpart.

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

(i) The annual average concentration of VOC is greater than or equal to 10,000 parts per million by weight at any flow rate; or

(ii) The annual average concentration of VOC is greater than or equal to 500 parts per million by weight 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.

(c) *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 (c)(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 VOC (as determined by analysis of the stream composition, engineering calculations, or process knowledge) from a chemical process unit to water or wastewater, unless the receiving stream is managed and treated as a Group 1 wastewater stream. 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/malfunction plans;

(3) Spills; or

(4) Samples.

(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 with the shipment or transport of each Group 1 wastewater stream or residual removed from a Group 1 wastewater stream. The notice shall state that the wastewater stream or residual contains VOC 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. These notices shall be retained by the owner or operator as specified in § 60.785(c) 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 that the transferee will manage and treat any Group 1 wastewater stream or residual removed from a Group 1 wastewater stream received from a 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 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 (e)(2). Upon expiration of the notice period, the owner or operator may not transfer the wastewater stream or residual to the treatment operation.

(3) 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.

(4) 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) *Purpose of this section.* (1) This section specifies control requirements for the following waste management units: wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators.

(2) For each waste management unit that receives, manages, treats, or otherwise handles a Group 1 wastewater stream or a residual taken from a Group 1 wastewater stream, the owner or operator shall comply with one of the compliance option paragraphs in this section, as appropriate. Paragraphs (a)(2)(i) through (a)(2)(v) of this section list the compliance options and waste management units to which they apply. A waste management unit shall be in compliance with one of the compliance options specified in this section. The same compliance option does not have to be used for all waste management units of the same or different types. A summary of the compliance options available for each waste management unit is provided in Table 3 of this subpart.

(i) *HON.* The provisions of the "National Emissions Standard for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry," also known as the "HON," may be used to comply for all types of waste management units as specified in paragraph (c) of this section. The HON is located in 40 CFR part 63, subparts F and G.

(ii) *Standard-standards.* The provisions of the "National Emission Standards for Containers," the

"National Emission Standards for Surface Impoundments," the "National Emission Standards for Individual Drain Systems," and the "National Emission Standards for Oil-Water Separators and Organic-Water Separators," also known as the standard-standards, may be used as a compliance option as specified in paragraph (d) of this section. These standard-standards are located in 40 CFR, part 63, subparts PP, QQ, RR, and VV, respectively.

(iii) *Petroleum Refinery NSPS.* The provisions of the "Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems" may be used to comply for individual drain systems as specified in paragraph (e) of this section. The Petroleum Refinery NSPS is located in 40 CFR, part 60, subpart QQQ.

(iv) *RCRA, subpart CC.* The provisions of "Air Emission Standards for Tanks, Surface Impoundments, and Containers" may be used to comply for wastewater tanks, surface impoundments, and containers as specified in paragraphs (f) and (g), respectively, of this section. The RCRA, subpart CC rules are located in 40 CFR part 264, subpart CC and 40 CFR, part 265, subpart CC.

(v) *Benzene Waste.* The provisions of the "National Emission Standard for Benzene Waste Operations" may be used to comply for all types of waste management units as specified in paragraph (h) of this section. The Benzene Waste rule is located in 40 CFR part 61, subpart FF.

(b) *General requirements.* (1) For each wastewater tank that receives, manages, treats, or otherwise handles a Group 1 wastewater stream or a residual taken from a Group 1 wastewater stream that meets the vapor pressure and capacity cutoffs presented in Table 4 of this subpart. The owner or operator shall choose an appropriate control requirement for wastewater tanks as specified in Table 4 of this subpart.

(2) Table 5 of this subpart provides a summary of the requirements of each compliance option.

(3) *Inspection requirements.* When complying with one of the six control requirement options for waste management units, listed in Table 3 of this subpart, the owner or operator shall comply with the applicable inspection provisions corresponding to the selected control requirement option.

(4) *Definition requirements.* When definitions differ between this subpart and one of the six compliance options, the definitions in this subpart shall apply, unless the specified term in the selected compliance option is not defined in this subpart. In such cases,

the definitions from the selected compliance option shall apply.

(5) Owners or operators shall specify the control option used for each waste management unit as specified in § 60.784(c) of this subpart.

(c) *Requirements for Hazardous Organic NESHAP (HON) compliance option.* Owners or operators selecting the HON compliance option shall comply with paragraph (c)(1) of this section and with paragraph (c)(2) or (c)(3) of this section.

(1) The owner or operator of a waste management unit that is subject to both 40 CFR part 63, subparts F and G (HON) and this subpart shall comply with either paragraph (c)(2) or (c)(3) of this section. The owner or operator of a waste management unit that is subject to this subpart but not subject to the HON shall comply with paragraph (c)(3) of this section.

(2) Comply with the applicable requirements specified in 40 CFR 63.133 through 63.137, except as specified in paragraphs (c)(2)(i)(A) through (c)(2)(i)(H) of this section. Comply with the control device provisions, delay of repair provisions, and leak inspection provisions specified in 40 CFR 63.139, 63.140, and 63.148 and with the monitoring, reporting, and recordkeeping provisions specified in 40 CFR 63.143, 63.146, and 63.147, except as specified in paragraphs (c)(2)(ii) through (c)(2)(vii) of this section.

(i) The following exceptions apply to the provisions of 40 CFR 63.133 through 63.137:

(A) 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 VOC emissions.

(B) 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.

(C) When the term "organic HAP emissions" or "organic hazardous air pollutants emissions" is used in 40 CFR 63.133, the term "VOC emissions" shall apply for the purposes of this subpart.

(D) When the term "organic HAP vapors" or "organic hazardous air pollutants vapors" is used in 40 CFR 63.133, 63.135, and 63.137, the term "VOC vapors" shall apply for the purposes of this subpart.

(E) When the terms "Group 1 wastewater stream" or "Group 2 wastewater stream" are used in 40 CFR

63.133, the definitions of these terms contained in § 60.773(b) shall apply for the purposes of this subpart.

(F) When the determination of equivalence criteria in 40 CFR 63.102(b) of subpart F is referred to in 40 CFR 63.133 and 63.137, the provisions in § 60.787(b) of this subpart shall apply for the purposes of this subpart.

(G) When the Notification of Compliance Status requirements in 40 CFR 63.152(b) are referred to in 40 CFR 63.133 and 63.137, the provisions in § 60.784(c) of this subpart shall apply for the purposes of this subpart. In addition, 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(c) of this subpart for the purposes of this subpart.

(H) When the inspection requirements for waste management units in table 11 of the appendix to subpart G of 40 CFR part 63 are referred to in 40 CFR 63.136, table 11 of the appendix to subpart G of 40 CFR part 63 shall apply for the purposes of this subpart.

(ii) The following exceptions apply to the provisions of 40 CFR 63.139:

(A) 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 VOC emissions.

(B) 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.

(C) When the term "organic HAP emissions" or "organic hazardous air pollutants emissions" is used in 40 CFR 63.139, the term "VOC emissions" shall apply for the purposes of this subpart.

(D) When the term "organic HAP concentration" or "organic hazardous air pollutants concentration" is used in 40 CFR 63.139, the term "VOC concentration" shall apply for the purposes of this subpart.

(E) When the performance standards for treatment processes managing Group 1 wastewater streams and/or residuals removed from Group 1 wastewater streams provisions in 40 CFR 63.138 are referred to in 40 CFR 63.139, the provisions in § 60.779 shall apply for the purposes of this subpart.

(F) When the test methods and procedures to determine compliance requirements in 40 CFR 63.145(i) are referred to in 40 CFR 63.139, the

provisions in § 60.783(i) of this subpart shall apply for the purposes of this subpart.

(G) When the compliance demonstration for flares requirements in 40 CFR 63.145(j) are referred to in 40 CFR 63.139, the provisions in § 60.783(j) of this subpart shall apply for the purposes of this subpart.

(iii) The following exceptions apply to the provisions of 40 CFR 63.140:

(A) 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 VOC emissions.

(B) 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.

(iv) The following exceptions apply to the provisions of 40 CFR 63.143:

(A) 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 VOC emissions.

(B) 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.

(C) When the definitions in 40 CFR 63.101 of subpart F or in 40 CFR 63.111 are referred to in 40 CFR 63.143, the provisions in § 60.771 of this subpart shall apply for the purposes of this subpart.

(D) When the performance standards for treatment processes managing Group 1 wastewater streams and/or residuals removed from Group 1 wastewater streams provisions in 40 CFR 63.138 are referred to in 40 CFR 63.143, the provisions in § 60.779 shall apply for the purposes of this subpart.

(E) When the request for approval to monitor alternative parameters requirements in 40 CFR 63.151(f) are referred to in 40 CFR 63.143 the provisions in § 60.784(b)(6) of this subpart shall apply for the purposes of this subpart.

(v) The following exceptions apply to the provisions of 40 CFR 63.146:

(A) 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 VOC emissions.

(B) 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.

(C) When the Notification of Compliance Status requirements in 40 CFR 63.152(b) are referred to in 40 CFR 63.146, the provisions in § 60.784(c) of this subpart shall apply for the purposes of this subpart. In addition, 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(c) for the purposes of this subpart.

(D) When the inspection requirements for waste management units in table 11 of the appendix to subpart G of 40 CFR part 63 are referred to in 40 CFR 63.146, table 11 of the appendix to subpart G of 40 CFR part 63 shall apply for the purposes of this subpart.

(E) When the performance standards for treatment processes managing Group 1 wastewater streams and/or residuals removed from Group 1 wastewater streams provisions in 40 CFR 63.138 are referred to in 40 CFR 63.146, the provisions in § 60.779 shall apply for the purposes of this subpart.

(F) When the request for approval to monitor alternative parameters requirements in 40 CFR 63.151(f) are referred to in 40 CFR 63.146, the provisions in § 60.784(b)(6) of this subpart shall apply for the purposes of this subpart.

(G) When the Periodic Report requirements in 40 CFR 63.152(c) are referred to in 40 CFR 63.146, the provisions in 40 CFR 63.152(c) of this subpart that are applicable to waste management units shall apply for the purposes of submitting semiannual reports in this subpart. In addition, when information is required to be reported according to 40 CFR 63.152(c) in the Periodic Report, the information shall be reported in the semiannual report required by 40 CFR 63.152(c) for the purposes of this subpart.

(vi) The following exceptions apply to the provisions of 40 CFR 63.147:

(A) 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 VOC emissions.

(B) 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.

(C) When the term "organic hazardous air pollutants" is used in 40 CFR 63.147, the term "VOC" shall apply for the purposes of this subpart.

(D) When the third-party treatment requirements in 40 CFR 63.132(g) are referred to in 40 CFR 63.147, the provisions in § 60.773(e) shall apply for the purposes of this subpart.

(E) When the process knowledge of the wastewater requirements in 40 CFR 63.144(b)(3) or (c)(1) are referred to in 40 CFR 63.147, the provisions in § 60.782(b)(3) or (c)(1) shall apply for the purposes of this subpart.

(F) When the continuous records requirements in 40 CFR 63.152(f) are referred to in 40 CFR 63.147, the provisions in § 60.785(e) of this subpart shall apply for the purposes of this subpart.

(vii) The following exceptions apply to the provisions of 40 CFR 63.148:

(A) 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 VOC emissions.

(B) 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.

(3) Comply with the applicable requirements specified in 40 CFR 63.133 through 63.137, except as specified in paragraphs (c)(3)(i) and (c)(3)(xiii) of this section. Comply with the control device provisions, delay of repair provisions, and leak inspection provisions specified in §§ 60.780, 60.777, and 60.786 of this subpart and with the monitoring, reporting, and recordkeeping provisions specified in §§ 60.781, 60.784, and 60.785 of this subpart.

(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 VOC 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.

(iii) When the term "organic HAP emissions" or "organic hazardous air pollutants emissions" is used in 40 CFR 63.133, the term "VOC emissions" shall apply for the purposes of this subpart.

(iv) When the term "organic HAP vapors" or "organic hazardous air pollutants vapors" is used in 40 CFR 63.133, 63.135, and 63.137, the term "VOC vapors" shall apply for the purposes of this subpart.

(v) When the terms "Group 1 wastewater stream" or "Group 2 wastewater stream" are used in 40 CFR 63.133, the definitions of these terms contained in § 60.773(b) shall apply for the purposes of this subpart.

(vi) When the determination of equivalence criteria in 40 CFR 63.102(b) of subpart F is referred to in 40 CFR 63.133 and 63.137, the provisions in § 60.787(b) of this subpart shall apply for the purposes of this subpart.

(vii) When the control device provisions for process wastewater in 40 CFR 63.139 are referred to in 40 CFR 63.133, 63.134, 63.135, 63.136, 63.137, the provisions in § 60.780 shall apply for the purposes of this subpart.

(viii) When the delay of repair provisions in 40 CFR 63.140 are referred to in 40 CFR 63.133, 63.134, 63.135, 63.136, 63.137, the provisions in § 60.777 shall apply for the purposes of this subpart.

(ix) When the inspection and monitoring of operations provisions in 40 CFR 63.143 are referred to in 40 CFR 63.133, 63.134, 63.135, 63.137, the provisions in § 60.781 shall apply for the purposes of this subpart.

(x) When the leak inspection provisions in 40 CFR 63.148 are referred to in 40 CFR 63.133, 63.134, 63.135, 63.136, and 63.137, the provisions in § 60.786 shall apply for the purposes of this subpart.

(xi) When the Notification of Compliance Status requirements in 40 CFR 63.152(b) are referred to in 40 CFR 63.133 and 63.137, the provisions in § 60.784(c) of this subpart shall apply for the purposes of this subpart. In addition, 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(c) for the purposes of this subpart.

(xii) When the compliance options for wastewater tanks requirements in table 10 of the appendix to subpart G of 40 CFR part 63 are referred to in 40 CFR 63.133, table 4 of this subpart shall apply for the purposes of this subpart.

(xiii) When the inspection requirements for waste management units in table 11 of the appendix to subpart G of 40 CFR part 63 are referred to in 40 CFR 63.136, table 11 of the appendix to subpart G of 40 CFR part 63 shall apply for the purposes of this subpart.

(d) *Requirements for Standard-standards compliance option.* Owners or operators selecting the Standard-standards compliance option shall comply with paragraph (d)(1) or (d)(2) of this section. The Standard-standards compliance option includes requirements for surface impoundments specified in 40 CFR part 63, subpart QQ, containers specified in 40 CFR part 63, subpart PP, individual drain systems specified in 40 CFR part 63, subpart RR, and oil-water separators specified in 40 CFR part 63, subpart VV.

(1) Comply with the applicable requirements specified in paragraphs (d)(1)(i) through (d)(1)(iv) of this section, as applicable.

(i) *Surface impoundments.* Comply with the surface impoundment requirements specified in 40 CFR 63.942 and 63.943, except as specified in paragraph (d)(1)(i)(A) of this section. Comply with the inspection provisions specified in 40 CFR 63.946, the test methods and procedures (i.e., leak inspection provisions) specified in 40 CFR 63.945, the delay of repair provisions specified in 40 CFR 63.946(c), and with the monitoring, reporting, and recordkeeping provisions specified in 40 CFR 63.946, 63.948, and 63.947, except as specified in paragraphs (d)(1)(i)(B) through (d)(1)(i)(E) of this section.

(A) The following exceptions apply to the provisions of 40 CFR 63.942 and 63.943:

(1) When the term "air emissions" is used in 40 CFR 63.942 and 63.943, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the term "organic vapor permeability" is used in 40 CFR 63.942 and 63.943, the term "VOC permeability" shall apply for purposes of this subpart.

(3) For purposes of this subpart, when the provisions of 40 CFR 63.941 are referred to in 40 CFR 63.942 and 63.943, the provisions of § 60.771 shall apply, unless the specified term in 40 CFR 63.942 and 63.943 is not defined in § 60.771, in such cases the provisions of 40 CFR 63.941 shall apply.

(4) When the closed-vent system and control device design and operation requirements in 40 CFR 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.943(b)(4), the provisions in

§§ 60.780 and 60.786 shall apply for purposes of this subpart.

(5) When the term "air emission control equipment" is used in 40 CFR 63.942 and 63.943, the term "VOC emission control equipment" shall apply for purposes of this subpart.

(B) The following exceptions apply to the provisions of 40 CFR 63.945:

(1) When the term "organic HAP concentration" is used in 40 CFR 63.945, the term "VOC concentration" shall apply for purposes of this subpart.

(2) When the term "organic constituents" or "individual organic constituent" is used in 40 CFR 63.945, the term "VOC constituents" or "individual VOC constituents" shall apply for purposes of this subpart.

(3) When the term "maximum organic concentration" is used in 40 CFR 63.945, the term "maximum VOC concentration" shall apply for purposes of this subpart.

(C) The following exceptions apply to the provisions of 40 CFR 63.946:

(1) When the term "air emissions" is used in 40 CFR 63.946, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the term "air emissions control equipment" is used in 40 CFR 63.946, the term "VOC emissions control equipment" shall apply for purposes of this subpart.

(3) When the closed-vent system and control device design and operation requirements in 40 CFR 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.946, the inspection and monitoring requirements in § 60.781 shall apply for purposes of this subpart.

(D) The following exception applies to the provisions of 40 CFR 63.947: When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.947, the recordkeeping requirements for closed-vent systems and control devices specified in 40 CFR 63.785 shall apply for purposes of this subpart.

(E) The following exception applies to the provisions of 40 CFR 63.948: When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.948, the reporting requirements for closed-vent systems and control devices specified in 40 CFR 63.784 shall apply.

(ii) *Containers.* Comply with the container requirements for Level 1 and Level 2 containers specified in 40 CFR 63.922 and 63.923, except as specified in paragraph (d)(1)(ii)(A) of this section. Containers with a design capacity greater than 0.42 m<sup>3</sup> shall be Level 2 containers. Containers with a design

capacity greater than or equal to 0.1 m<sup>3</sup> and less than or equal to 0.42 m<sup>3</sup> shall be Level 1 containers. Other storage units with capacities less than 0.1 m<sup>3</sup> are not containers for the purpose of this subpart. The requirements for Level 3 containers do not apply for the purposes of this subpart. Comply with the inspection requirements specified in 40 CFR 63.926, the test methods and procedures (i.e., leak inspection provisions and the procedures for determining a container to be vapor tight) specified in 40 CFR 63.925, the delay of repair provisions specified in 40 CFR 63.926(a)(3), and with the monitoring provisions specified in 40 CFR 63.926, except as specified in paragraph (d)(1)(ii)(B) and (d)(1)(ii)(C) of this section. Comply with the reporting and recordkeeping provisions specified in §§ 60.784 and 60.785 of this subpart.

(A) The following exceptions apply to the provisions of 40 CFR 63.922 and 63.923:

(1) When the term "air emissions" is used in 40 CFR 63.922 and 63.923, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the term "organic vapor-suppressing barrier" or "organic vapor-suppressing foam" is used in 40 CFR 63.922 and 63.923, the term "VOC vapor-suppressing barrier" or "VOC vapor-suppressing foam" shall apply for purposes of this subpart.

(3) When the term "organic vapor permeability" is used in 40 CFR 63.922 and 63.923, the term "VOC vapor permeability" shall apply for purposes of this subpart.

(4) For purposes of this subpart, when the provisions of 40 CFR 63.921 are referred to in 40 CFR 63.922 and 63.923, the provisions of § 60.771 shall apply, unless the specified term in 40 CFR 63.922 and 63.923 is not defined in § 60.771, in such cases the provisions of 40 CFR 63.921 shall apply.

(B) The following exceptions apply to the provisions of 40 CFR 63.925:

(1) When the term "no detectable organic emissions" is used in 40 CFR 63.925, the term "no detectable VOC emissions" shall apply for purposes of this subpart.

(2) When the term "organic vapor leakage" is used in 40 CFR 63.925, the term "VOC leakage" shall apply for purposes of this subpart.

(3) When the term "organic HAP concentration" is used in 40 CFR 63.925, the term "VOC concentration" shall apply for purposes of this subpart.

(4) When the term "organic constituents" or "organic constituent" is used in 40 CFR 63.925, the term "VOC constituents" or "VOC constituent" shall apply for purposes of this subpart.

(5) When the term "maximum organic concentration" is used in 40 CFR 63.925, the term "maximum VOC concentration" shall apply for the purposes of this subpart.

(C) The following exception applies to the provisions of 40 CFR 63.926: When the Container Level 3 controls in 40 CFR 63.924 are referred to in 40 CFR 63.926, these provisions do not apply for purposes of this subpart.

(iii) *Individual drain systems.* Comply with the individual drain system requirements specified in 40 CFR 63.962, except as specified in paragraph (d)(1)(iv)(A) of this section. Comply with the inspection provisions in 40 CFR 63.964, the leak inspection provisions in § 60.786 of this subpart, the delay of repair provisions specified in 40 CFR 63.964(b), and with the monitoring, reporting, and recordkeeping provisions specified in 40 CFR 63.964, 63.966, and 63.965, except as specified in paragraph (d)(1)(iv)(B) of this section.

(A) The following exceptions apply to the provisions of 40 CFR 63.962:

(1) When the term "air emissions" is used in 40 CFR 63.962, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the term "air emission control equipment" is used in 40 CFR 63.962, the term "VOC emission control equipment" shall apply for purposes of this subpart.

(3) When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.962, the provisions in §§ 60.780 and 60.786 shall apply for purposes of this subpart.

(4) When the term "organic vapors" is used in 40 CFR 63.962, the term "VOC" shall apply for purposes of this subpart.

(B) The following exceptions apply to the provisions of 40 CFR 63.964:

(1) When the term "air emissions" is used in 40 CFR 63.964, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.964, the provisions in §§ 60.780 and 60.786 shall apply for purposes of this subpart.

(iv) *Oil-water separators.* Comply with the oil-water separator requirements specified in 40 CFR 63.1042, 63.1043, and 63.1044, except as specified in paragraph (d)(1)(iv)(A) of this section. 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. Comply with the inspection provisions specified in 40 CFR 63.1047, test methods and procedures (i.e., leak inspection provisions and floating roof gap seal measurements) specified in 40 CFR 63.1046, the delay of repair provisions specified in 40 CFR 63.1047(d), and with the monitoring, reporting, and recordkeeping provisions specified in 40 CFR 63.1047, 63.1049, and 63.1048, except as specified in paragraphs (d)(1)(iv)(B) through (d)(1)(iv)(E) of this section.

(A) The following exceptions apply to the provisions of 40 CFR 63.1042 through 63.1044:

(1) When the term "air emissions" is used in 40 CFR 63.1042 through 63.1044, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the term "organic vapor permeability" is used in 40 CFR 63.942 and 63.943, the term "VOC permeability" shall apply for purposes of this subpart.

(3) For purposes of this subpart, when the provisions of 40 CFR 63.1041 are referred to in 40 CFR 63.1042 through 63.1044, the provisions of § 60.771 shall apply, unless the specified term in 40 CFR 63.1042 through 63.1044 is not defined in § 60.771, in such cases the provisions of 40 CFR 63.1041 shall apply.

(4) When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.1044(b)(4), the provisions in §§ 60.780 and 60.786 shall apply for purposes of this subpart.

(B) The following exceptions apply to the provisions of 40 CFR 63.1046:

(1) When the term "organic HAP concentration" is used in 40 CFR 63.1046, the term "VOC concentration" shall apply for purposes of this subpart.

(2) When the term "organic emissions" is used in 40 CFR 63.1046, the term "VOC emissions" shall apply for purposes of this subpart.

(3) When the term "organic vapor leakage" is used in 40 CFR 63.1046, the term "VOC leakage" shall apply for purposes of this subpart.

(C) The following exceptions apply to the provisions of 40 CFR 63.1047:

(1) When the term "air emissions" is used in 40 CFR 63.1042 through 63.1044, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.1044(b)(4), the provisions in §§ 60.780 and 60.786 shall apply for the purposes of this subpart.

(D) The following exception applies to the provisions of 40 CFR 63.1048: When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.1048(c), the recordkeeping requirements for closed-vent systems and control devices specified in 40 CFR 63.785 shall apply for purposes of this subpart.

(E) The following exception applies to the provisions of 40 CFR 63.1049: When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.1049(b), the reporting requirements for closed-vent systems and control devices specified in 40 CFR 63.784 shall apply.

(2) Comply with the applicable requirements specified in paragraphs (d)(2)(i) through (d)(2)(iv) of this section, as applicable.

(i) *Surface impoundments.* Comply with the surface impoundment requirements specified in 40 CFR 63.942 and 63.943, except as specified in paragraph (d)(2)(i)(A) of this section. Comply with the inspection provisions specified in 40 CFR 63.946, except as specified in paragraph (d)(2)(i)(B) of this section. Comply with the control device, delay of repair, and leak inspection provisions specified in §§ 60.780, 60.777, and 60.786 of this subpart, and the monitoring, reporting, and recordkeeping provisions specified in §§ 60.781, 60.784, and 60.785.

(A) The following exceptions apply to the provisions of 40 CFR 63.942 and 63.943:

(1) When the term "air emissions" is used in 40 CFR 63.942 and 63.943, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the term "organic vapor permeability" is used in 40 CFR 63.942 and 63.943, the term "VOC permeability" shall apply for purposes of this subpart.

(3) For purposes of this subpart, when the provisions of 40 CFR 63.941 are referred to in 40 CFR 63.942 and 63.943, the provisions of § 60.771 shall apply, unless the specified term in 40 CFR 63.942 and 63.943 is not defined in § 60.771, in such cases the provisions of 40 CFR 63.941 shall apply.

(4) When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.943(b)(4), the provisions in §§ 60.780 and 60.786 shall apply for purposes of this subpart.

(5) When the term "air emission control equipment" is used in 40 CFR

63.942 and 63.943, the term "VOC emission control equipment" shall apply for purposes of this subpart.

(6) When the requirements for no detectable emissions in 40 CFR 63.945(a) are referred to in 40 CFR 63.943, the provisions in § 60.786 shall apply for purposes of this subpart.

(7) When the inspection provisions specified in 40 CFR 63.946(a) are referred to in 40 CFR 63.942, the requirements of 40 CFR 63.946(a)(3) and (a)(4) do not apply for purposes of this subpart.

(8) When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.942, the provisions in §§ 60.780 and 60.786 shall apply for the purposes of this subpart.

(9) When the inspection provisions specified in 40 CFR 63.946(b) are referred to in 40 CFR 63.943, the requirements of 40 CFR 63.946(b)(1)(iii), (b)(1)(iv), and (b)(2) do not apply for purposes of this subpart.

(B) The following exceptions apply to the provisions of 40 CFR 63.946:

(1) When the term "air emissions" is used in 40 CFR 63.946, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the recordkeeping provisions of 40 CFR 63.947(a)(2) are referred to in § 63.946, the provisions of § 60.785 shall apply.

(3) When the term "air emissions control equipment" is used in 40 CFR 63.946, the term "VOC emissions control equipment" shall apply for purposes of this subpart.

(4) When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.946, the inspection and monitoring requirements in § 60.781 shall apply for purposes of this subpart.

(5) When the inspection record specified in 40 CFR 63.947(a)(2) is referred to in 40 CFR 63.946, the applicable provisions in § 60.785 shall apply for the purposes of this subpart.

(ii) *Containers.* Comply with the container requirements specified in 40 CFR 63.922 and 63.923, except as specified in paragraph (d)(2)(ii)(A) of this section. Comply with the inspection provisions specified in 40 CFR 63.926, except as specified in paragraph (d)(2)(ii)(B) of this section. Comply with the control device, delay of repair, and leak inspection provisions specified in §§ 60.780, 60.777, and 60.786 of this subpart, and the monitoring, reporting, and recordkeeping provisions specified in §§ 60.781, 60.784, and 60.785.



(A) The following exceptions apply to the provisions of 40 CFR 63.922 and 63.923:

(1) When the term "air emissions" is used in 40 CFR 63.922 and 63.923, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the term "organic vapor-suppressing barrier" or "organic vapor-suppressing foam" is used in 40 CFR 63.922 and 63.923, the term "VOC vapor-suppressing barrier" or "VOC vapor-suppressing foam" shall apply for purposes of this subpart.

(3) When the term "organic vapor permeability" is used in 40 CFR 63.922 and 63.923, the term "VOC vapor permeability" shall apply for purposes of this subpart.

(4) For purposes of this subpart, when the provisions of 40 CFR 63.921 are referred to in 40 CFR 63.922 and 63.923, the provisions of § 60.771 shall apply, unless the specified term in 40 CFR 63.922 and 63.923 is not defined in § 60.771, in such cases the provisions of 40 CFR 63.921 shall apply.

(5) When the requirements for no detectable organic emissions in 40 CFR 63.926(a) are referred to in 40 CFR 63.922, the requirements in § 60.786 shall apply for purposes of this subpart.

(B) The following exception applies to the provisions of 40 CFR 63.926: When the Container Level 3 controls in 40 CFR 63.924 are referred to in 40 CFR 63.926, these provisions do not apply for purposes of this subpart.

(iii) *Individual drain systems.* Comply with the individual drain system requirements specified in 40 CFR 63.962, except as specified in paragraph (d)(2)(iii)(A) of this section. Comply with the inspection provisions specified in 40 CFR 63.964, except as specified in paragraph (d)(2)(iii)(B) of this section. Comply with the control device, delay of repair, and leak inspection provisions specified in §§ 60.780, 60.777, and 60.786 of this subpart, and the monitoring, reporting, and recordkeeping provisions specified in §§ 60.781, 60.784, and 60.785.

(A) The following exceptions apply to the provisions of 40 CFR 63.962:

(1) When the term "air emissions" is used in 40 CFR 63.962, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the term "air emission control equipment" is used in 40 CFR 63.962, the term "VOC emission control equipment" shall apply for purposes of this subpart.

(3) When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.962, the provisions in §§ 60.780 and

60.786 shall apply for purposes of this subpart.

(4) When the term "organic vapors" is used in 40 CFR 63.962, the term "VOC" shall apply for purposes of this subpart.

(B) The following exceptions apply to the provisions of 40 CFR 63.964:

(1) When the term "air emissions" is used in 40 CFR 63.964, the term "VOC emissions" shall apply for purposes of this subpart.

(2) When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.964, the provisions in §§ 60.780 and 60.786 shall apply for purposes of this subpart.

(3) When the record of inspection specified in 40 CFR 63.965(a) or (a)(3) is referred to in 40 CFR 63.964, the applicable provisions in § 60.785 shall apply for purposes of this subpart.

(iv) *Oil-water separators.* Comply with the oil-water separator requirements specified in 40 CFR 63.1042, 63.1043, and 63.1044, except as specified in paragraphs (d)(2)(iv)(A) through (d)(2)(iv)(H) of this section. 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. Comply with the control device, delay of repair, and leak inspection provisions specified in §§ 60.780, 60.777, and 60.786 of this subpart and with the monitoring, reporting, and recordkeeping provisions specified in §§ 60.781, 60.784, and 60.785.

(A) When the term "air emissions" is used in 40 CFR 63.1042 through 63.1044, the term "VOC emissions" shall apply for purposes of this subpart.

(B) When the term "organic vapor permeability" is used in 40 CFR 63.942 and 63.943, the term "VOC permeability" shall apply for purposes of this subpart.

(C) For purposes of this subpart, when the provisions of 40 CFR 63.1041 are referred to in 40 CFR 63.1042 through 63.1044, the provisions of § 60.771 shall apply, unless the specified term in 40 CFR 63.1042 through 63.1044 is not defined in § 60.771, in such cases the provisions of 40 CFR 63.1041 shall apply.

(D) When the requirements for no detectable organic emissions in 40 CFR 63.1046(a) are referred to in 40 CFR 63.1042 and 63.1044, the provisions in § 60.786 shall apply for purposes of this subpart.

(E) When the inspection provisions specified in 40 CFR 63.1047(a) are referred to in 40 CFR 63.1042(d), the requirements of 40 CFR 63.1047(a)(3)

and (a)(4) do not apply for purposes of this subpart.

(F) When the inspection provisions specified in 40 CFR 63.1047(b) are referred to 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 for purposes of this subpart.

(G) When the inspection and monitoring provisions specified in 40 CFR 63.1047(c) are referred to 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 for purposes of this subpart.

(H) When the closed-vent system and control device design and operation requirements in § 63.693 of 40 CFR part 63, subpart DD, are referred to in 40 CFR 63.1044(b)(4), the provisions in §§ 60.780 and 60.786 shall apply for purposes of this subpart.

(e) *Requirements for Petroleum Refinery Wastewater Systems NSPS compliance option.* Owners or operators selecting the Petroleum Refinery compliance option shall comply with paragraph (e)(1) of this section and with paragraph (e)(2) or (e)(3) of this section.

(1) The owner or operator of an individual drain system that is subject to both 40 CFR part 60, subpart QQQ and this subpart shall comply with either paragraph (e)(2) or (e)(3) of this section. The owner or operator of an individual drain system that is subject to this subpart but not subject to 40 CFR part 60, subpart QQQ shall comply with paragraph (e)(3) of this section.

(2) Comply with the applicable requirements specified in 40 CFR 60.693–1(b) and (e). Comply with the closed-vent system and control device provisions, leak inspection provisions, and delay of repair provisions specified in 40 CFR 60.692–5, 60.696(b), and 60.692–6 and with the monitoring, recordkeeping, and reporting provisions specified in 40 CFR 60.695, 60.697, and 60.698, except as specified in paragraphs (e)(2)(i) through (e)(2)(iii) of this section.

(i) The following exceptions apply to the provisions of § 60.692–5:

(A) When the provisions of 40 CFR 60.18 are referred to in 40 CFR 60.692–5(c), owners or operators shall comply with the provisions of Table 2 of this subpart for purposes of this subpart.

(B) When the procedures for acquiring approval to use alternative monitoring provisions are discussed in 40 CFR 60.695 (a) and (c), the provisions of § 60.784(b) shall apply for purposes of this subpart.

(C) When the provisions of 40 CFR 60.18(f)(2) are referred to in 40 CFR 60.695(a)(4), owners or operators shall

comply with the provisions of § 60.783(j) for purposes of this subpart.

(ii) The following exceptions apply to the provisions of § 60.697:

(A) When complying with the recordkeeping provisions specified in 40 CFR 60.697, the provisions of paragraphs (a), (b)(1), (b)(2), (c), (g), (h), (i), and (j) of 40 CFR 60.697 shall not apply because the provisions of these paragraphs are not related to individual drain systems or closed vent systems and control devices.

(B) When complying with § 60.697(f)(3)(iv), owners or operators shall use the procedures specified in § 60.787 for purposes of this subpart.

(iii) The following exceptions apply to the provisions of § 60.698:

(A) When complying with the reporting provisions specified in 40 CFR 60.698, the provisions of paragraphs (a) of 40 CFR 60.698 shall not apply because complying with 40 CFR 60.693 is not an alternative standard for purposes of this subpart.

(B) When complying with the reporting provisions specified in 40 CFR 60.698, the provisions of paragraphs (b) of 40 CFR 60.698 shall not apply because paragraph (b) of 40 CFR 60.698 relates to compliance demonstration information that is required to be submitted under 60.784.

(C) When complying with the reporting provisions specified in 40 CFR 60.698, the provisions of paragraphs (e) of 40 CFR 60.698 shall not apply because owners or operators are not subject to 40 CFR 60.692-7.

(3) Comply with the applicable requirements specified in 40 CFR 60.693-1(b) and (e), except as specified in paragraphs (e)(3)(i) through (e)(3)(ii) of this section. Comply with the control device, leak inspection, and delay of repair provisions specified in §§ 60.780, 60.786, and 60.777 of this subpart and with the monitoring, reporting, and recordkeeping provisions specified in §§ 60.781, 60.784, and 60.785 of this subpart.

(i) When the standards for closed-vent systems and control devices in § 60.692-5 are referred to in § 60.693-1(b), the provisions in §§ 60.780 and 60.786 shall apply for purposes of this subpart.

(ii) When the delay of repair provisions in § 60.692-6 are referred to in § 60.693-1(e), the provisions in § 60.777 shall apply for purposes of this subpart.

(f) *Requirements for RCRA 40 CFR part 264, subpart CC compliance option.* Owners or operators selecting the RCRA 40 CFR part 264, subpart CC compliance option shall comply with paragraph

(f)(1) of this section and with paragraph (f)(2) or (f)(3) of this section.

(1) The owner or operator of a wastewater tank, surface impoundment, or container that is subject to both 40 CFR part 264, subpart CC and this subpart shall comply with either paragraph (f)(2) or (f)(3) of this section. The owner or operator of a wastewater tank, surface impoundment, or container that is subject to this subpart but not subject to 40 CFR part 264, subpart CC shall comply with paragraph (f)(3) of this section.

(2) Comply with the applicable requirements specified in 40 CFR 264.1084 through 264.1086, except as specified in paragraph (f)(2)(i) of this section. Comply with the closed-vent system and control device provisions in 40 CFR 264.1087, with the delay of repair provisions in 40 CFR 264.1084(k), 264.1085(f), and 264.1086(c)(4)(iii) and (d)(4)(iii), and with the inspection and monitoring, recordkeeping, and reporting provisions specified in 40 CFR 264.1088, 264.1089, and 264.1090, except as specified in paragraphs (f)(2)(ii) through (f)(2)(v) of this section.

(i) The following exceptions apply to the provisions of 40 CFR 264.1084 through 264.1086:

(A) For purposes of this subpart, 40 CFR 264.1084(a) and (j), 264.1085(a) and (e), and 264.1086(a) and (d)(2) do not apply.

(B) For purposes of this subpart, when the provisions of 40 CFR 264.1081 are referred to in 40 CFR 264.1084 through 264.1086, the provisions of § 60.771 shall apply, unless the specified term in 40 CFR 264.1084 through 264.1086 is not defined in § 60.771, in such cases the provisions of 40 CFR 264.1081 shall apply.

(C) When the term "hazardous waste" is used in 40 CFR 264.1084 through 264.1086, the term "wastewater or residual" shall apply for purposes of this subpart.

(D) When the term "tank" is used in 40 CFR 264.1084 through 264.1086, the term "wastewater tank" shall apply for purposes of this subpart.

(E) When the terms "air pollutant emissions" or "organic emissions" are used in 40 CFR 264.1084 through 264.1086, the term "VOC emissions" shall apply for purposes of this subpart.

(F) When the term "maximum organic vapor pressure" is used in 40 CFR 264.1084, the term "maximum true vapor pressure" shall apply for purposes of this subpart, and the maximum true vapor pressure shall be determined as specified in § 60.771 for purposes of this subpart.

(ii) The following exceptions apply to the provisions of 40 CFR 264.1087:

(A) When the provisions of 40 CFR 264.1033(e) are referred to in 40 CFR 264.1087(c)(5)(ii), the provisions of § 60.783(j) shall apply for purposes of this subpart.

(B) When the provisions of 40 CFR 264.1034(c)(1) through (c)(4) are referred to in 40 CFR 265.1087(c)(5)(iii), the provisions of § 60.783 shall apply for purposes of this subpart.

(C) When the terms "organic" or "organics" are used in 40 CFR 264.1087, the term "VOC" shall apply for purposes of this subpart.

(iii) The following exception applies to the provisions of 40 CFR 264.1088: 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 this paragraph 40 CFR 264.1088(b) shall be submitted as part of the Notification of Compliance Status required by § 60.784(c) for purposes of this subpart.

(iv) The following exceptions apply to the provisions of 40 CFR 264.1089:

(A) 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.

(B) When the term "hazardous waste" is used in 40 CFR 264.1089, the term "wastewater or residual" shall apply for purposes of this subpart.

(C) When the term "maximum organic vapor pressure" is used in 40 CFR 264.1089, the term "maximum true vapor pressure" shall apply for purposes of this subpart, and the maximum true vapor pressure shall be determined as specified in § 60.771 for purposes of this subpart.

(v) The following exceptions apply to the provisions of 40 CFR 264.1090:

(A) 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.

(B) [Reserved]

(3) Comply with the applicable requirements specified in 40 CFR 264.1084 through 264.1086, except as specified in paragraphs (f)(3)(i) through (f)(3)(xi) of this section. Comply with the control device, leak detection, and delay of repair provisions specified in §§ 60.780, 60.786, and 60.777 of this subpart and with the monitoring,

reporting, and recordkeeping provisions specified in §§ 60.781, 60.784, and 60.785 of this subpart.

(i) For purposes of this subpart, 40 CFR 264.1084(a) and (j), 264.1085(a) and (e), and 264.1086(a) and (d)(2) do not apply.

(ii) For purposes of this subpart, when the provisions of 40 CFR 264.1081 are referred to in 40 CFR 264.1084 through 264.1086, the provisions of § 60.771 shall apply, unless the specified term in 40 CFR 264.1084 through 264.1086 is not defined in § 60.771, in such cases the provisions of 40 CFR 264.1081 shall apply.

(iii) When the term "hazardous waste" is used in 40 CFR 264.1084 through 264.1086, the term "wastewater or residual" shall apply for purposes of this subpart.

(iv) When the term "tank" is used in 40 CFR 264.1084 through 264.1086, the term "wastewater tank" shall apply for purposes of this subpart.

(v) When the terms "air pollutant emissions" or "organic emissions" are used in 40 CFR 264.1084 through 264.1086, the term "VOC emissions" shall apply for purposes of this subpart.

(vi) When the term "maximum organic vapor pressure" is used in 40 CFR 264.1084, the term "maximum true vapor pressure" shall apply for purposes of this subpart, and the maximum true vapor pressure shall be determined as specified in § 60.771 for purposes of this subpart.

(vii) When the closed-vent systems and control devices provisions in 40 CFR 264.1087 are referred to in 40 CFR 264.1084 through 264.1086, the provisions in §§ 60.780 and 60.786 shall apply for purposes of this subpart.

(viii) For purposes of this subpart, the delay of repair provisions in 40 CFR 264.1084(k), 264.1085(f), and 264.1086(c)(4)(iii) and (d)(4)(iii) shall not apply, and the provisions in § 60.777 shall apply.

(ix) When the inspection and monitoring requirements are referred to in 40 CFR 264.1088, the provisions in § 60.781 shall apply for purposes of this subpart.

(x) When the recordkeeping provisions in 40 CFR 264.1089 are referred to in 40 CFR 264.1084 through 264.1086, the provisions in § 60.785 shall apply for purposes of this subpart.

(xi) When the leak inspection provisions of 40 CFR 264.1083(d) are referred to in 40 CFR 264.1084(h)(2), 264.1085(d)(1)(ii), and 264.1086(g), the provisions in § 60.786 shall apply for purposes of this subpart.

(g) *Requirements for RCRA 40 CFR part 265, subpart CC compliance option.* Owners or operators selecting the RCRA

40 CFR part 265, subpart CC compliance option shall comply with paragraph (g)(1) of this section and with paragraph (g)(2) or (g)(3) of this section.

(1) The owner or operator of a wastewater tank, surface impoundment, or container that is subject to both 40 CFR part 265, subpart CC and this subpart shall comply with either paragraph (g)(2) or (g)(3) of this section. The owner or operator of a wastewater tank, surface impoundment, or container that is subject to this subpart but not subject to 40 CFR part 265, subpart CC shall comply with paragraph (g)(3) of this section.

(2) Comply with the applicable requirements specified in 40 CFR 265.1085 through 265.1087, except as specified in paragraph (g)(2)(i) of this section. Comply with the closed-vent system and control device provisions in 40 CFR 265.1088, with the delay of repair provisions in 40 CFR 265.1085(k), 265.1086(f), and 265.1087(d)(4)(iii), and with the inspection and monitoring and recordkeeping provisions specified in 40 CFR 265.1089 and 265.1090, except as specified in paragraphs (g)(2)(ii) through (g)(2)(iv) of this section. Comply with the reporting provisions specified in § 60.784 of this subpart.

(i) The following exceptions apply to the provisions of 40 CFR 265.1085 through 265.1087:

(A) For purposes of this subpart, 40 CFR 265.1085(a) and (j), 265.1086(a) and (e), and 265.1087(a) and (d)(2) do not apply.

(B) For purposes of this subpart, when the provisions of 40 CFR 265.1081 are referred to in 40 CFR 265.1085 through 265.1087, the provisions of § 60.771 shall apply, unless the specified term in 40 CFR 265.1085 through 265.1087 is not defined in § 60.771, in such cases the provisions of 40 CFR 265.1081 shall apply.

(C) When the term "hazardous waste" is used in 40 CFR 265.1085 through 265.1087, the term "wastewater or residual" shall apply for purposes of this subpart.

(D) When the term "tank" is used in 40 CFR 265.1085 through 265.1087, the term "wastewater tank" shall apply for purposes of this subpart.

(E) When the terms "air pollutant emissions" or "organic emissions" are used in 40 CFR 265.1085 through 265.1087, the term "VOC emissions" shall apply for purposes of this subpart.

(F) When the term "maximum organic vapor pressure" is used in 40 CFR 265.1085, the term "maximum true vapor pressure" shall apply for purposes of this subpart, and the maximum true vapor pressure shall be

determined as specified in § 60.771 for purposes of this subpart.

(ii) The following exceptions apply to the provisions of 40 CFR 265.1088:

(A) When the provisions of 40 CFR 265.1033(e) are referred to in 40 CFR 265.1088(c)(5)(ii), the provisions of § 60.783(j) shall apply for purposes of this subpart.

(B) When the provisions of 40 CFR 265.1034(c)(1) through (c)(4) are referred to in 40 CFR 265.1088(c)(5)(iii), the provisions of § 60.783 shall apply for purposes of this subpart.

(C) When the terms "organic" or "organics" are used in 40 CFR 265.1088, the term "VOC" shall apply for purposes of this subpart.

(iii) The following exception applies to the provisions of 40 CFR 265.1089: 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 this paragraph 40 CFR 265.1089(b) shall be submitted as part of the Notification of Compliance Status required by § 60.784(c) for purposes of this subpart.

(iv) The following exceptions apply to the provisions of 40 CFR 265.1090:

(A) 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.

(B) When the term "hazardous waste" is used in 40 CFR 265.1090, the term "wastewater or residual" shall apply for purposes of this subpart.

(C) When the term "maximum organic vapor pressure" is used in 40 CFR 265.1090, the term "maximum true vapor pressure" shall apply for purposes of this subpart, and the maximum true vapor pressure shall be determined as specified in § 60.771 for purposes of this subpart.

(3) Comply with the applicable requirements specified in 40 CFR 265.1085 through 265.1087, except as specified in paragraphs (g)(3)(i) through (g)(3)(ix) of this section. Comply with the control device, leak detection, and delay of repair provisions specified in §§ 60.780, 60.786, and 60.777 of this subpart and with the monitoring, reporting, and recordkeeping provisions specified in §§ 60.781, 60.784, and 60.785 of this subpart.

(i) For purposes of this subpart, 40 CFR 265.1085(a) and (j), 265.1086(a) and (e), and 265.1087(a) and (d)(2) do not apply.

(ii) For purposes of this subpart, when the provisions of 40 CFR 265.1081 are referred to in 40 CFR 265.1085 through 265.1087, the provisions of § 60.771 shall apply, unless the specified term in 40 CFR 265.1085 through 265.1087 is not defined in § 60.771, in such cases the provisions of 40 CFR 265.1081 shall apply.

(iii) When the term "hazardous waste" is used in 40 CFR 265.1085 through 265.1087, the term "wastewater or residual" shall apply for purposes of this subpart.

(iv) When the term "tank" is used in 40 CFR 265.1085 through 265.1087, the term "wastewater tank" shall apply for purposes of this subpart.

(v) When the terms "air pollutant emissions" or "organic emissions" are used in 40 CFR 265.1085 through 265.1087, the term "VOC emissions" shall apply for purposes of this subpart.

(vi) When the term "maximum organic vapor pressure" is used in 40 CFR 265.1085, the term "maximum true vapor pressure" shall apply for purposes of this subpart, and the maximum true vapor pressure shall be determined as specified in § 60.771 for purposes of this subpart.

(vii) When the closed-vent systems and control devices provisions in 40 CFR 265.1088 are referred to in 40 CFR 265.1085 through 265.1087, the provisions in §§ 60.780 and 60.786 shall apply for purposes of this subpart.

(viii) For purposes of this subpart, the delay of repair provisions in 40 CFR 265.1085(k), 265.1086(f), and 265.1087(d)(4)(iii) shall not apply, and the provisions in § 60.777 shall apply.

(ix) When the inspection and monitoring requirements are referred to in 40 CFR 265.1089, the provisions in § 60.781 shall apply for purposes of this subpart.

(x) When the recordkeeping provisions in 40 CFR 265.1090 are referred to in 40 CFR 265.1085 through 265.1087, the provisions in § 60.785 shall apply for purposes of this subpart.

(xi) When the leak inspection provisions of 40 CFR 265.1084(d) are referred to in 40 CFR 265.1085(h)(2), 265.1086(d)(1)(ii), and 265.1087(g), the provisions in § 60.786 shall apply for purposes of this subpart.

(h) *Requirements for benzene waste option.* Owners or operators selecting the Benzene Waste compliance option shall comply with paragraph (h)(1) of this section and with paragraph (h)(2) or (h)(3) of this section.

(1) The owner or operator of a waste management unit that is subject to both 40 CFR part 61, subpart FF and this subpart shall comply with either paragraph (h)(2) or (h)(3) of this section.

The owner or operator of a waste management unit that is subject to this subpart but not subject to 40 CFR part 61, subpart FF shall comply with paragraph (h)(3) of this section.

(2) Comply with the applicable requirements specified in 40 CFR 61.343 through 61.347, except as specified in paragraphs (h)(2)(i) of this section. Comply with the closed-vent system and control device provisions, leak inspection provisions, and delay of repair provisions in 40 CFR 61.349, 61.355(h), and 61.350 and with the monitoring provisions, recordkeeping, and reporting provisions specified in 40 CFR 61.354, 61.356, and 61.357, except as specified in paragraphs (h)(2)(ii) through (h)(2)(v) of this section.

(i) The following exceptions apply to the provisions of 40 CFR 61.343 through 61.347:

(A) When the term "waste stream" is used in 40 CFR 61.343 through 61.347, the term "wastewater or residual" shall apply for purposes of this subpart.

(B) When the term "maximum organic vapor pressure" is used in 40 CFR 61.343, the term "maximum true vapor pressure" shall apply for purposes of this subpart.

(C) 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 for purposes of this subpart.

(ii) The following exceptions apply to the provisions of 40 CFR 61.349:

(A) When the term "waste" is used in 40 CFR 61.349(b), the term "wastewater or residual" shall apply for purposes of this subpart.

(B) When the term "total organic compound concentration" is used in 40 CFR 61.349, the term "total VOC concentration" shall apply for purposes of this subpart.

(C) When the term "organic emissions" is used in 40 CFR 61.349, the term "VOC emissions" shall apply for purposes of this subpart.

(D) When 40 CFR 61.349(a)(2)(i)(B) cites the use of Method 18, the test methods specified in § 60.783 shall apply for purposes of this subpart.

(E) When the provisions of 40 CFR 60.18 are referred to in 40 CFR 61.349(a)(2)(iii), owners or operators shall comply with the provisions of § 60.783(j) for purposes of this subpart.

(F) When cited in 40 CFR 61.349(a)(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 for purposes of this subpart.

(G) When cited in 40 CFR 61.349(a)(iv)(B), the phrase "or 98 percent or greater for benzene" shall not apply for purposes of this subpart.

(H) When complying with 40 CFR 61.349(c)(ii), owners or operators shall use the procedures specified in § 60.783 for purposes of this subpart.

(I) When the test methods and compliance procedures specified in 40 CFR 61.355 are referred to in 40 CFR 61.349, the provisions of § 60.783 shall apply for purposes of this subpart.

(iii) The following exceptions apply to the provisions of 40 CFR 61.354:

(A) When complying with the monitoring provisions specified in 40 CFR 61.354, the provisions of paragraphs (a) and (b) of 40 CFR 61.354 shall not apply because the provisions of these paragraphs are related to the monitoring of treatment processes, and treatment process monitoring shall be conducted following the procedures specified in § 60.781.

(B) When the provisions of 40 CFR 60.18 are referred to in 40 CFR 61.354(c)(3), owners or operators shall comply with the provisions of § 60.783(j) for purposes of this subpart.

(C) When the terms "organic compounds," "organic," or "benzene" are used in 40 CFR 61.354(c) or (d), the term "VOC" shall apply for purposes of this subpart.

(iv) The following exceptions apply to the provisions of 40 CFR 61.356:

(A) 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 because the provisions of these paragraphs are not related to waste management units or closed vent systems and control devices.

(B) When the term "organics" or the term "benzene" is used in 40 CFR 61.356(j)(8) or (j)(9), the term "VOC" shall apply for purposes of this subpart.

(C) When the term "benzene emissions" is used in 40 CFR 61.356(g), the term "VOC emissions" shall apply for purposes of this subpart.

(v) The following exceptions apply to the provisions of § 61.356:

(A) When complying with the reporting provisions specified in 40 CFR 61.357, the provisions of paragraphs (a), (b), (c), (d)(1) through (d)(5), (d)(7)(i) through (d)(7)(iii), (e), (f), and (g) of 40 CFR 61.357 shall not apply because the provisions of these paragraphs are not related to waste management units or closed vent systems and control devices.

(B) When the term "organics" or the term "benzene" is used in § 61.357(d)(7)(iv)(D), the term "VOC" shall apply for purposes of this subpart.

(C) When the term "benzene emissions" is used in § 61.357(d)(8), the term "VOC emissions" shall apply for purposes of this subpart.

(3) Comply with the applicable requirements specified in 40 CFR 61.343 through 61.347, except as specified in paragraphs (h)(3)(i) through (h)(3)(viii) of this section. Comply with the control device, leak detection, and delay of repair provisions specified in §§ 60.780, 60.786, and 60.777 of this subpart and with the monitoring, reporting, and recordkeeping provisions specified in §§ 60.781, 60.784, and 60.785 of this subpart.

(i) When the term "waste stream" is used in §§ 61.343 through 61.347, the term "wastewater or residual" shall apply for purposes of this subpart.

(ii) When the term "maximum organic vapor pressure" is used in § 61.343, the term "maximum true vapor pressure" shall apply for purposes of this subpart.

(iii) When the closed-vent systems and control devices provisions in § 61.349 are referred to in § 61.343 through 61.347, the provisions in §§ 60.780 and 60.786 shall apply for purposes of this subpart.

(iv) When the delay of repair provisions in § 61.350 are referred to in §§ 61.343 through 61.347, the provisions in § 60.777 shall apply for purposes of this subpart.

(v) When the leak inspection provisions specified in § 61.355(h) are referred to in §§ 61.343 through 61.347, the provisions of § 60.786 shall apply for purposes of this subpart.

(vi) The provisions of § 61.342(c)(1)(ii), as cited in the phrase "in which the waste stream is placed in accordance with § 61.342(c)(1)(ii)" in §§ 61.343 through 61.347, shall not apply for purposes of this subpart.

**§ 60.775 Control requirements for aqueous in-process streams.**

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

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

(c) 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 and is not listed in § 60.770(h) 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 parts per million by weight of VOC at any flowrate; or an annual average concentration greater than or equal to 500 parts per million by weight of VOC at an annual average flow rate greater than or equal to 1 liter per minute; 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 VOC at an annual average flowrate 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 (c) 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 (e) of this section for maintenance wastewaters containing VOC.

(b) The owner or operator shall prepare a description of maintenance procedures for management of maintenance wastewaters generated from the emptying and purging 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 or maintenance tasks that are anticipated to create wastewater during maintenance activities.

(2) Specify the procedures that will be followed to properly manage the wastewater and control VOC emissions to the atmosphere; and

(3) Specify the procedures to be followed when clearing materials from process equipment.

(c) 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 implement the procedures described in paragraphs (b) and (c) of this section as part of the start-up, shutdown, and

malfunction plan required in § 60.787 of this subpart.

(e) The owner or operator shall maintain a record of the information required by paragraphs (b) and (c) of this section as part of the start-up, shutdown, and malfunction plan required in § 60.787 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 VOC emissions of purged material from immediate repair would be greater than the VOC 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.

(c) 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(b)(7) of this subpart to document the reasons that the delay of repair was necessary.

**§ 60.778 Stream-specific list of VOC determination.**

(a) *General.* This section specifies how to determine a stream-specific list of VOC for a process wastewater stream or in-process aqueous stream. A stream-specific list of VOC 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 VOC 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 VOC 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 VOC to the atmosphere and for dilution.

(c) *Compounds that may be excluded from the site-specific list of VOC.*

Compounds that meet the requirements specified in paragraphs (b)(1), (b)(2), or (b)(3) of this section are not required to be included in the stream-specific list of VOC. 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 chemical process unit.

(2) Compounds with concentrations at the point of determination that are below 1 part per million by weight.

(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 part per million by weight. 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 VOC for Group 1 and Group 2 determination.*

The owner or operator shall include those individual VOC with the greatest mass on the stream-specific list of VOC until 75 compounds or every compound, whichever is fewer, is included on the list, except as provided by paragraph (c) of this section. The stream-specific list of VOC must represent at least 90 percent of the total VOC in the process wastewater stream. If the compounds on the stream-specific list of VOC do not represent at least 90 percent of total VOC, Method 25D to appendix A of this part shall be used to make the Group 1 determination for that process wastewater stream. The owner or operator shall document how the percent of VOC in the process wastewater stream was determined.

(e) *Create stream-specific list of VOC for estimating VOC emission changes for modification determinations.* The owner or operator shall include those individual VOC with the greatest mass on the stream-specific list of VOC until 75 compounds or every compound, whichever is fewer, is included on the list, except as provided by paragraph (c) of this section. The stream-specific list of VOC must represent at least 90 percent of the total VOC in the process

wastewater stream or aqueous in-process stream. If the compounds on the stream-specific list of VOC do not represent at least 90 percent of total VOC, the owner or operator shall use the mass flow rate procedure specified in § 60.772 of this subpart to estimate VOC emissions for modification determinations. The owner or operator shall document how the percent of VOC in the process wastewater stream or aqueous in-process stream was determined.

(f) *Create stream-specific list of VOC for compliance demonstrations.*

The owner or operator shall determine the percent of total VOC in the process wastewater stream. The owner or operator shall document how the percent of VOC in the process wastewater stream was determined.

(i) For the owner or operator that can identify at least 90 percent, by mass, of the VOC in the wastewater stream or aqueous in-process stream, the individual VOC that are 5 percent, by mass, or greater, are required to be included on the list. If less than half of the total VOC in the wastewater are represented by the compounds with a mass of 5 percent or greater, the owner or operator shall include those individual VOC with the greatest mass on the stream-specific list of VOC until 75 compounds or every compound, whichever is fewer, is included on the list, except as provided by paragraph (c) 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 demonstration.

(ii) For the owner or operator that can identify at least 50 percent, by mass, of the VOC in the wastewater stream, the individual VOC with the greatest mass on the stream-specific list of VOC up to 75 compounds or every compound, whichever is fewer, are to be included on the list, except as provided by paragraph (c) 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 demonstration.

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

(A) The design steam stripper option in § 60.779(d) of this subpart; or

(B) The 95 percent mass removal with outlet concentration of 50 ppmw option in § 60.779(e)(2) of this subpart; or

(C) The steam stripper option in § 60.779(e)(3) of this subpart.

**§ 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 (a)(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 60.783(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 Resource Conservation and Recovery Act (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(d) of this subpart (Relationship to the HON) is selected to

comply with this section, the performance test or design evaluation used to demonstrate compliance for the HON also demonstrates compliance with this section. 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 of 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 either the requirements of paragraph (a)(7)(i) or (a)(7)(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.

(C) The owner or operator shall identify, and keep a record of, the combination of treatment processes or of control devices, including identification of the first and last treatment process or control device.

(D) 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 identify, and keep a record of, the combination of treatment processes, including identification of the first and last treatment process.

(C) 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 VOC must be in addition to the reduction and destruction required by other rules, unless the removal of VOC is from the same stream.

(b) [Reserved]

(c) [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 (d)(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 kilograms 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 nonbiological treatment process.* For wastewater streams that are Group 1 and treated in a nonbiological treatment process, the owner or operator shall comply with either paragraph (e)(1) or (e)(2) of this section for a noncombustion 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), (e)(2), or (e)(3) of this section. This paragraph (e) shall not be used for biological treatment processes.

(1) *Reduce mass flow rate of VOC 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 VOC by the required removal or destruction efficiency, i.e., the flow-weighted average Fr value. To use this compliance option, the owner or operator shall develop a stream-specific list of VOC upon which to base the compliance demonstration and shall calculate a flow-weighted average Fr. Follow the procedures in § 60.778 of this subpart to develop a stream-specific list of VOC. Follow the procedures in appendix J of 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 noncombustion treatment processes, and in § 60.783(d) of this subpart, for combustion treatment processes.

(2) *Reduce mass flow rate of VOC by 95 percent and reduce outlet concentration of VOC to less than 50 ppmw, for noncombustion treatment process.* For wastewater streams that are Group 1, the owner or operator shall reduce, by removal or destruction, the mass flow rate of VOC by 95 percent and reduce the outlet concentration of VOC 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 a steam stripper reduces mass flow rate of methanol, ethylene glycol monobutyl ether acetate, 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 is reduced by 31 percent; that the mass flow rate of ethylene glycol monobutyl ether acetate is reduced by 76 percent; and that the mass flow rate of methyl ethyl ketone is reduced by 95 percent. 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: 7.73 for methanol; 24.96 for ethylene glycol monobutyl ether acetate; and 59.2 for methyl ethyl ketone.

(f) *Required mass removal (RMR) option, for noncombustion treatment process.* For wastewater streams that are Group 1, the owner or operator shall reduce, by removal or destruction, the mass flow rate of VOC by the required mass removal, i.e., the flow-weighted average Fr. To use this compliance option, the owner or operator shall develop a list of VOC upon which to base the compliance demonstration and shall calculate a flow-weighted average Fr. Follow the procedures in § 60.778 of this subpart to develop a stream-specific list of VOC. Follow the procedures in appendix J of this part to determine Fr values. The owner or operator shall conduct a compliance demonstration as specified in paragraphs (f)(1), (f)(2), and (f)(3) of this section.

(1) *Nonbiological, noncombustion 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 VOC 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. 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 VOC 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) or (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 VOC by 95 percent for all wastewater entering the biological treatment process. To use this compliance option, the owner or operator shall develop a stream-specific list of VOC as specified in § 60.778 of this subpart upon which to base the compliance demonstration. The owner or operator shall conduct a compliance demonstration as specified in paragraphs (g)(1) and (g)(2) of this section. The owner or operator shall also comply with paragraphs (g)(3) and (g)(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 VOC 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 VOC 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, paragraphs (h)(1), (h)(2), or (h)(3) of this section. These units are exempt from the design evaluation or performance tests 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) [Reserved]

(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 (j)(2) of this section that each nonbiological 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 (j)(2) of this section that each closed biological treatment process used to comply with paragraphs (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 paragraphs (e), (f), or (g) of this section, except when the treatment process is an open biological treatment process. 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 VOC exiting the treatment process shall be the sum of the mass flow rate of VOC 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 paragraphs (e), (f), or (g) of this section.

Performance tests 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 (j)(2) of this section do not apply to design stream strippers which 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 for air VOC emissions by complying with § 60.774 of this subpart and by complying with one of the provisions in paragraphs (k)(1) through (k)(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 VOC 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.

(l) [Reserved]

(m) *1 Mg exemption.* For each plant site, up to 1 Mg of VOC per year may be excluded from control. The 1 Mg shall be based on an annual average and calculated according to procedures in paragraphs (m)(1) and (m)(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 VOC that are not reasonably expected to be in the process. Concentration values that are not determined using Method 25D may be adjusted with the chemical's Fm value. Compound-specific Fm factors shall be determined as specified in appendix J of this part. Flow-weighted annual average concentrations for VOC means the total mass of VOC 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 of this subpart. The procedures specified in § 60.782(b)(5)(i) through (b)(5)(iv) and (b)(6) 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. 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 VOC 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), (c)(2), (c)(3), (c)(4), or (c)(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), (c)(1)(ii), or (c)(1)(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 VOC 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 VOC concentration of 20 parts per million by volume on a dry basis corrected to 3 percent oxygen. The owner or operator shall use either Method 18, 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 VOC 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 VOC concentration of 20 parts per million by volume, whichever is less stringent. The 20 parts per million by volume performance standard is not applicable to compliance with the provisions of § 60.774 of this subpart for surface impoundments or containers.

(3) A flare shall comply with the requirements of 40 CFR 63.11, as specified in table 2A of this subpart, 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 VOC 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 VOC concentration of 20 parts per million by volume, whichever is less stringent. The 20 parts per million by volume performance standard is not applicable to compliance with the provisions of § 60.774 of this subpart for surface impoundments or containers.

(5) Any other control device used shall reduce the total organic compound emissions, less methane and ethane, or total VOC emissions vented to the control device by 95 percent by weight or greater.

(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), (d)(2), or (d)(3) 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 (d)(2)(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 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 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 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 compound concentration level and will include the additional information in paragraphs (d)(2)(vii)(A) and (d)(2)(vii)(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 (d)(4)(iv) of this section is exempt from the requirements in paragraphs (d)(1) through (d)(3) 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 with fresh carbon on a regular, pre-determined time interval that is no longer than the carbon service life established for the carbon adsorption system.

(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 subpart X of this part or 40 CFR part 265, subpart P of this chapter;

(ii) Incinerated by a process that is permitted under subpart O 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.

#### § 60.781 Monitoring of operations.

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

(b) If the owner or operator elects to comply using biological treatment processes, 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 and shall include a description of planned reporting and recordkeeping procedures. The owner or operator shall include as part of the submittal the basis for the selected monitoring frequencies

and the methods that will be used. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means. Table 7 of this subpart summarizes the provisions specified in this paragraph (b).

(c) If the owner or operator elects to comply with Item 3 in Table 7 of this subpart, the owner or operator shall request approval to monitor appropriate 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, and shall include a description of planned reporting and recordkeeping procedures. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means.

(d) Except as provided in paragraphs (d)(4) and (d)(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), (d)(2), or (d)(3) of this section, unless otherwise specified in this subpart.

(1) The owner or operator shall comply with the monitoring requirements 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 shall request approval to monitor parameters other than those specified in paragraphs (d)(1) and (d)(2) of this section. The request shall be submitted according to the procedures specified in § 60.784(b) of this subpart, and shall include a description of planned reporting and recordkeeping procedures. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or other appropriate means.

(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 (d)(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 (d)(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)(6)(ii)(A) and 60.784(c)(7)(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), or (d) of this section and established under paragraph (e) of this section.

(h) Monitoring data under this subpart is 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)(3), 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 (a)(2) of this section for each wastewater stream to determine which wastewater streams require control for VOC. The owner or operator may use a combination of the approaches in paragraphs (a)(1) and (a)(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 VOC 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 designated CPU 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 VOC 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 VOC 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 fraction measured (Fm) factors. Compound-specific Fm factors shall be determined as specified in appendix J of this part. Flow-weighted annual average concentration for VOC means the total mass of VOC 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), (b)(4), and (b)(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 VOC, 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 (b)(5)(i)(F) 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) *Other EPA method(s).* Use procedures specified in the method and comply with the requirements specified in paragraphs (b)(5)(ii) and either paragraph (b)(5)(iii)(A) or (b)(5)(iii)(B) of this section.

(F) *Method(s) other than EPA method.* Use procedures specified in the method and comply with the requirements specified in paragraphs (b)(5)(ii) and (b)(5)(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. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity. The sample plan shall include procedures for determining recovery efficiency of the relevant VOC. 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.

(iii) *Validation of methods.* The owner or operator shall validate EPA methods other than Methods 25D, 305, 624, 625, 1624, and 1625 using the procedures specified in paragraph (b)(5)(iii)(A) or (b)(5)(iii)(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 VOC 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 of 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 of this part. If correction is required under section 6.3.3 of Method 301 of appendix A of this part, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 of appendix A of this part are not required. The concentrations of the individual VOC measured in the water may be corrected to their concentrations had they been measured by Method 25D of appendix A of this part, by multiplying each concentration by the compound-specific fraction measured (Fm) factor. Compound-specific Fm factors shall be determined as specified in appendix J of this part.

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

(iv) *Calculations of average concentration.* For methods that speciate, the average concentration of VOC shall be calculated by first summing the concentration of the individual compounds to obtain a total VOC 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 designated CPU generating the wastewater over a designated 12-month period. The owner or operator shall consider the annual wastewater volume generated by the designated CPU. If the designated CPU 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), (c)(2), and (c)(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. 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 (a)(2) of this section. Owners or operators conducting a performance test shall comply with the applicable requirements in paragraphs (a) through (i) of this section.

(1) *Performance tests and design evaluations for treatment processes.* If design steam stripper option (§ 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 to paragraph (a)(1):** 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) 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 schedule and procedures in 40 CFR 63.7(a) and table 2A of this subpart, and the applicable sections of this subpart.

(4) The owner or operator shall notify the Administrator of the intention to conduct a performance test 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.

(5) Performance tests shall be conducted according to the provisions of 40 CFR 63.7(e)(1) through (e)(2) and (e)(4) and table 2A of this subpart, except that performance tests shall be conducted at maximum representative operating conditions for the process. During the performance test, an owner or operator may operate the control or recovery device at maximum or minimum representative operating conditions for monitored control or

recovery device parameters, whichever results in lower emission reduction.

(6) Data shall be reduced in accordance with the EPA-approved methods specified in the applicable 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 40 CFR 63.7(h)(2) and table 2A of this subpart. Owners or operators who apply for a waiver of a performance test shall submit the application by the dates specified in paragraph (b)(7)(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 § 60.784(c) of this subpart 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.

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

(9) *Representative treatment process or control device operating conditions.* Performance tests shall be conducted when the treatment process or control device is operating at a representative inlet flow rate and concentration. If the treatment process or control device will be operating at several different sets of representative operating conditions, the owner or operator shall comply with paragraphs (a)(9)(i) and (a)(9)(ii) of this section. The owner or operator shall record information that is necessary to document treatment process or control device operating conditions during the test.

(i) *Range of operating conditions.* If the treatment process or control device will be operated at several different sets of representative operating conditions, performance testing over the entire range is not required. In such cases, the performance test results shall be supplemented with modeling and/or

engineering assessments to demonstrate performance over the operating range.

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

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

(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 paragraphs (a)(11)(i), (a)(11)(ii), or (a)(11)(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 part per million by weight; or

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

(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)(12)(i) of this subpart, when wastewater is conveyed by hard-piping, shall comply with either paragraph (a)(12)(i) or (a)(12)(ii) of this section. The owner or operator complying with the requirements of § 60.779(a)(12)(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 paragraphs (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 paragraphs (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 (a)(12)(i)(B) of this section. The mass flow rates removed or destroyed by the series of treatment processes and by the biological treatment process are all used to calculate actual mass removal (AMR) as specified in 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 VOC determined at the point of determination or downstream of the point of determination with adjustment for concentration and flowrate changes made according to

§ 60.782(b)(6) and (c)(4), respectively, of this subpart. All VOC 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 with paragraphs (e), (f), or (g) of this section may elect to comply with paragraph (a)(14)(i) or (a)(14)(ii) of the section.

(i) When wastewater is conveyed exclusively by hard-piping from the point of determination to a treatment process that is either the only treatment process or the first in a series of treatment processes (i.e., no treatment processes or other waste management units are used upstream of this treatment process to store, handle, or convey the wastewater), the inlet to the treatment process shall be at any location from the point of determination to where the wastewater stream enters the treatment process. When samples are taken upstream of the treatment process and before wastewater streams have converged, the owner or operator shall ensure that the mass flow rate of all Group 1 wastewater streams is accounted for when using § 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 § 60.779(a)(6) of this subpart.

(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 (a)(14)(ii)(C) of this section are met. The outlet from the series of treatment processes prior to the biological treatment process is the point at which the wastewater exits the last treatment process in the series prior to the equalization tank, if the equalization tank and biological treatment process are part of a series of treatment processes. The owner or operator shall ensure that the mass flow rate of all Group 1 wastewater streams is accounted for when using § 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 VOC emissions to a control device that meets the requirements of 40 CFR 63.133(a)(2)(i) and (b)(1) through (b)(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 noncombustion, non-biological treatment process with the percent mass removal limits specified in § 60.779(e)(1), (e)(2), and (e)(3) of this subpart for VOC. When demonstrating compliance with § 60.779(e)(1) of this subpart, the owner or operator shall comply with the requirements specified in paragraphs (c)(1) through (c)(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), (c)(2), (c)(3), and (c)(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 (e)(1), (e)(2), (e)(3), (e)(4), and (e)(6) of this section for each of the following VOC: methanol, ethylene glycol monobutyl ether acetate, and, methyl ethyl ketone.

(1) *Concentration.* The concentration of VOC 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 3 runs.

(2) *Flow rate.* The flow rate of the entering and exiting wastewater streams shall be determined using inlet and outlet flow meters, respectively. Where the outlet flow is not greater than the inlet flow, a flow meter shall be used,

and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Calculation of mass flow rate—for noncombustion, nonbiological treatment processes.*

(i) When complying with either § 60.779(e)(1) or (e)(2) of this subpart,

use this paragraph (c)(3)(i), to calculate the mass flow rate of VOC entering and exiting the treatment process.

$$QMW_a = \frac{\rho}{p * 10^6} \left( \sum_{k=1}^p Q_{a,k} C_{T,a,k} \right) \quad (\text{Eqn WW1})$$

$$QMW_b = \frac{\rho}{p * 10^6} \left( \sum_{k=1}^p Q_{b,k} C_{T,b,k} \right) \quad (\text{Eqn WW2})$$

Where:

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

$\rho$  = 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 VOC in wastewater entering ( $C_{T,a,k}$ ) or exiting ( $C_{T,b,k}$ ) the treatment process during each run  $k$ , parts per million by weight. 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 this paragraph (c)(3)(ii) to calculate the mass flow rate of each compound, i.e., methanol, ethylene glycol monobutyl ether acetate, and methyl ethyl ketone, entering and exiting the treatment process.

$$QMW_a = \frac{\rho}{p * 10^6} Q_{a,k} + C_{T,a,k} \quad (\text{Eqn WW1-1})$$

$$QMW_b = \frac{\rho}{p * 10^6} Q_{b,k} + C_{T,b,k} \quad (\text{Eqn WW2-1})$$

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, kilograms per hour.

$\rho$  = 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.

$C_{a,k}$ ,  $C_{b,k}$  = Concentration of a compound in wastewater entering ( $C_{a,k}$ ) or existing ( $C_{b,k}$ ) the treatment process during each run  $k$ , parts per million by weight. 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 as follows if

complying with § 60.779(e)(1) of this subpart:

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

Where:

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

$QMW_a$ ,  $QMW_b$  = Mass flow rate of VOC in wastewater entering ( $QMW_a$ ) and exiting ( $QMW_b$ ) the treatment process, kilograms per hour (as calculated using Equations WW1 and WW2, or Equations WW1-2 and WW2-2).

(5) *Calculation of flow-weighted average of Fr values.* If complying with § 60.779(e)(1) of this subpart, use Equation WW8 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 WW8, 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 VOC. Follow the procedures in appendix J of this part to determine Fr values.

(6) *Compare mass removal efficiency to required efficiency.* Compare the mass removal efficiency (calculated in Equation WW3) 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 WW8. 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, and the mass removal for ethylene glycol monobutyl ether acetate, and methyl ethyl ketone is greater than or equal to 76 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 VOC. The owner or operator shall comply with the requirements specified in paragraphs (d)(1) through (d)(9) of this section.

(1) *Concentration in wastewater stream entering the combustion treatment process.* The concentration of

VOC 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. 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 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 VOC entering the treatment process is calculated as follows:

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

Where:

$QMW_a$ =Mass flow rate of VOC entering the combustion unit, kilograms per hour.

$\rho$  = 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 VOC in the wastewater stream entering the combustion unit during run k, parts per million by weight.

p=Number of runs.

k=Identifier for a run.

(4) *Concentration in vented gas stream exiting the combustion treatment process.* The concentration of VOC

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 3 runs.

Concentration measurements shall be determined using Method 18, 40 CFR part 60, appendix A. 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.

(6) *Calculation of mass flow rate of vented gas stream exiting combustion treatment processes.* The mass flow rate of VOC in a vented gas stream exiting the combustion treatment process shall be calculated as follows:

[Reserved] (Eqn WW5)

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

Where:

$CG_{b,i}$ =Concentration of (TOC) (minus methane and ethane) or total VOC, in vented gas stream, exiting (CG<sub>b,i</sub>) the control device, dry basis, parts per million by volume.

$QMG_b$ =Mass rate of TOC (minus methane and ethane) or total VOC in vented gas stream, exiting (QMG<sub>b</sub>) the control device, dry basis, kilograms per hour.

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

$QG_b$ =Flow rate of gas stream exiting (QG<sub>b</sub>) the control device, dry standard cubic meters per hour.

$K_2$ =Constant,  $41.57 \times 10^{-9}$  (parts per million)<sup>-1</sup> (gram-mole per standard

cubic meter) (kilogram/gram), where standard temperature (gram-mole per standard cubic meter) is 20° Celsius.

i=Identifier for a compound.

n=Number of components in the sample.

(7) *Destruction efficiency calculation.* The destruction efficiency of the combustion unit for VOC shall be calculated as follows:

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

Where:

E=Destruction efficiency of VOC for the combustion unit, percent.

$QMW_a$ =Mass flow rate of VOC entering the combustion unit, kilograms per hour.

$QMG_b$ =Mass flow rate of VOC in vented gas stream exiting the combustion treatment process, kilograms per hour.

(8) *Calculation of flow-weighted average of Fr values.* Use Equation WW8 to calculate the flow-weighted average of the Fr values. Follow the procedures in § 60.778 of this subpart to develop a stream-specific list of VOC. Follow the procedures in appendix J of this part to determine the Fr values.

$$\text{avg} = \left( \frac{\sum_{i=1}^n \sum_{k=1}^p \text{Fr}_i * C_{i,a,k} * Q_{a,k}}{\sum_{k=1}^p \sum_{i=1}^n C_{i,a,k} * Q_{a,k}} \right) * 1 \quad (\text{Eqn WW8})$$

Where:

$\text{Fr}_{\text{avg}}$ =Flow-weighted average of the Fr values.

$C_{i,a,k}$ =Concentration of VOC in wastewater stream entering the combustion unit, during run k, parts per million by weight.

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

$\text{Fr}_i$ =Compound-specific Fr value as determined by the procedures in appendix J of this part.

(9) Calculate flow-weighted average of Fr values and compare to mass destruction efficiency. Compare the mass destruction efficiency (calculated in Equation WW7) to the required efficiency as specified in § 60.779(e)(2) of this subpart. Compliance is demonstrated if the mass destruction efficiency is greater than or equal to the flow-weighted average of the Fr value calculated in Equation WW8.

(e) *Non-combustion treatment processes including closed biological treatment processes: RMR option.* This paragraph (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 VOC. Compliance options for noncombustion nonbiological 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) of this subpart. When complying with § 60.779(f)(2)(i) or (f)(3) of this subpart, the owner or operator shall comply with the requirements specified in paragraphs (e)(1) through (e)(6) of this section. When complying with § 60.779(g)(1)(i) or (g)(2) of this subpart, the owner or operator shall comply with the requirements specified in paragraphs (e)(1) through (e)(6) of this section.

(1) *Concentration in wastewater stream.* The concentration of VOC 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 paragraph (a)(7) 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 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 non-combustion treatment processes including closed biological treatment processes.* When using §§ 60.779(f)(2)(i) or (f)(3) of this subpart to comply, the required mass removal of VOC 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 (g)(2) of this subpart to comply, the required mass removal shall be calculated as specified in paragraph (e)(3)(ii) of this section.

(i) When using § 60.779(f)(2)(i) or (f)(3) of this subpart to comply, the required mass removal of VOC for each Group 1 wastewater stream shall be calculated using Equation WW9.

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

Where:

RMR=Required mass removal for treatment process or series of treatment processes, kilograms per hour.

$\rho$ =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 VOC in stream.

$C_i$ =Concentration of VOC at the point of determination, parts per million by weight.

$\text{Fr}_i$ =Fraction removal value of a VOC.

Follow the procedures in § 60.778 of this subpart to develop a stream-specific list of VOC. Follow the procedures in appendix J of this part to determine Fr values.

$10^9$ =Conversion factor, mg/kg \* l/m<sup>3</sup>.

(ii) When using § 60.779(g)(1)(i) or (g)(2) of this subpart to comply, the required mass removal is 95 percent of the mass flow rate for all wastewater streams combined for treatment. The required mass removal of VOC wastewater streams combined for treatment when complying with 40 CFR 63.138(g) shall be calculated using the following equation:

$$\text{RWR} = \frac{0.95\rho}{10^9} Q \sum_{i=1}^n (C_i) \quad (\text{Eqn WW9a})$$

Where:

RMR=Required mass removal for treatment process or series of treatment processes, kilograms per hour.

$\rho$ =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 VOC in stream.

$C_i$ =Concentration of VOC at the point of determination, parts per million by weight.

$10^9$ =Conversion factor, mg/kg \* l/m<sup>3</sup>

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