

Facility ID: 0679010132 Issuance type: Final State Permit To Operate

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In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0679010132 Emissions Unit ID: P011 Issuance type: Final State Permit To Operate

[Go to the top of this document](#)

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Nonylphenol Process vented to a packed tower scrubber	OAC rule 3745-31-05(A)(3) PTI #06-4608	All emissions from the feed tank, reactors, distillation unit and product tanks shall be vented to the scrubber. Emissions of organic compounds shall not exceed 5.00 pounds per day nor 0.865 ton per year.
	OAC rule 3745-21-09(DD)	The requirements of this rule are less stringent than those of NSPS subpart VV.
	40 CFR 60.480 through 60.489 (NSPS subpart VV)	See sections below which contain rule citations from the NSPS.

2. Additional Terms and Conditions

- (a) 60.482-1(a)
Each owner or operator subject to the provisions of Subpart VV shall demonstrate compliance with the requirements of 60.482-1 through 60.482-10 or 60.480(e) for all equipment within 180 days of initial startup.
- 60.482-1(b)
Compliance with 60.482-1 to 60.482-10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 60.485.
- 60.482-1(d)
Equipment that is in vacuum service is excluded from the requirements of 60.482-2 to 60.482-10 if it is identified as required in 60.486(e)(5).

B. Operational Restrictions

1. The pressure drop across the scrubber shall be continuously maintained at a value of not less than 5 inches of water at all times while the emissions unit is in operation.
 2. The scrubber water flow rate shall be continuously maintained at a value of not less than 30 gallons per minute at all times while the emissions unit is in operation.
1. 60.482-2(a)
 1. Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 60.485(b), except as provided in 60.482-1(c) and 60.482-2(d), (e), and (f).
 2. Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.
 - 60.482-2(b)
 1. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
 2. If there are indications of liquids dripping from the pump seal, a leak is detected.
 - 60.482-2(c)
 1. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 60.482-9.
 2. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
 - 60.482-2(d)

Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph B.3.a, provided the following requirements are met:

1. Each dual mechanical seal system is:
 - i. Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or
 - ii. Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.
2. The barrier fluid system is in heavy liquid service or is not in VOC service.
3. Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.
4. Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.
- 5.i. Each sensor as described in paragraph B.3 is checked daily or is equipped with an audible alarm, and
 - ii. The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.
 - 6.i. If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph B.3.d.5.ii, a leak is detected.
 - ii. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 60.482-9.
 - iii. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
1. 60.482-4(a)

Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 60.485(c).

60.482-4(b)

 1. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 60.482-9.
 2. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 60.485(c).

60.482-4(d)

 1. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs B.4.a and B.4.b of this section, provided the owner or operator complies with the requirements in paragraph B.4.c.2.
 2. After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 60.482-9.
1. 60.482-6(a)
 1. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 60.482-1(c).
 2. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

60.482-6(b)

Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.
1. 60.482-7(a)

Each valve shall be monitored monthly to detect leaks by the methods specified in 60.485(b) and shall comply with paragraphs B.6.b through B.6.e, except as provided in paragraphs B.6.f, g, and h, and 60.483-1, 2, and 60.482-1(c).

60.482-7(b)

If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

60.482-7(c)

 1. Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.
 2. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

60.482-7(d)

 1. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 60.482-9.
 2. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

60.482-7(e)

First attempts at repair include, but are not limited to, the following best practices where practicable:

 1. Tightening of bonnet bolts;
 2. Replacement of bonnet bolts;

3. Tightening of packing gland nuts; and

4. Injection of lubricant into lubricated packing.

60.482-7(f)

Any valve that is designated, as described in 60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph B.6.a if the valve:

1. Has no external actuating mechanism in contact with the process fluid,

2. Is operated with emissions less than 500 ppm above background as determined by the method specified in 60.485(c); and

3. Is tested for compliance with paragraph B.6.f.2 initially upon designation, annually, and at other times requested by the Administrator.

60.482-7(g)

Any valve that is designated, as described in 60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph B.6.a if:

1. The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph B.6.a, and

2. The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

60.482-7(h)

Any valve that is designated, as described in 60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph B.6.a if:

1. The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

2. The process unit within which the valve is located either becomes an affected facility through 60.14 or 60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and

3. The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

1. 60.482-8(a)

If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures:

1. The owner or operator shall monitor the equipment within 5 days by the method specified in 60.485(b) and shall comply with the requirements of paragraphs B.7.b through B.7.d.

2. The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak.

60.482-8(b)

If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

60.482-8(c)

1. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 60.482-9.

2. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

60.482-8(d)

First attempts at repair include, but are not limited to, the best practices described under 60.482-7(e).

1. 60.482-9(a)

Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.

60.482-9(b)

Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

60.482-9(c)

Delay of repair for valves will be allowed if:

1. The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair; and

2. When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 60.482-10.

60.482-9(d)

Delay of repair for pumps will be allowed if:

1. Repair requires the use of a dual mechanical seal system that includes a barrier fluid system; and

2. Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

60.482-9(e)

Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

1. 60.482-10(a)
Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.
- 60.482-10(b)
Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.
- 60.482-10(e)
Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.
- 60.482-10(f)
Except as provided in 60.482-10(i) through (k), each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs B.9.d.1 and B.9.d.2.
 1. If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs B.9.d.1.i and B.9.d.1.ii:
 - i. Conduct an initial inspection according to the procedures in 60.485(b); and
 - ii. Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.
 - 60.482-10(g)
Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph 9.f.
 1. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.
 2. Repair shall be completed no later than 15 calendar days after the leak is detected.
 - 60.482-10(h)
Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.
 - 60.482-10(m)
Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.
1. 60.483-1(a)
An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.
- 60.483-1(b)
The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:
 1. An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in 60.487(d).
 2. A performance test as specified in paragraph B.10.c shall be conducted initially upon designation, annually, and at other times requested by the Administrator.
 3. If a valve leak is detected, it shall be repaired in accordance with 60.482-7(d) and (e).
- 60.483-1(c)
Performance tests shall be conducted in the following manner:
 1. All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in 60.485(b).
 2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
 3. The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.
- 60.483-1(d)
Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent.
1. 60.483-2(a)
 1. An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs 11.b.2 and 11.b.3.
 2. An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in 60.487(d).
 - 60.483-2(a)
 1. An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in 60.482-7.
 2. After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
 3. After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
 4. If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in 60.482-7 but can again elect to use this section.
 5. The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current

monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this section.

6. An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

- a. The pressure drop across the scrubber, in inches of water, on a daily basis.
- b. The scrubber water flow rate, in gallons per minute, on a daily basis.
- c. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

1. 60.486(a)

1. Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

2. An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

60.486(b)

When each leak is detected as specified in 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following requirements apply:

1. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

2. The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 60.482-7(c) and no leak has been detected during those 2 months.

3. The identification on equipment except on a valve, may be removed after it has been repaired.

60.486(c)

When each leak is detected as specified in 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

1. The instrument and operator identification numbers and the equipment identification number.
2. The date the leak was detected and the dates of each attempt to repair the leak.
3. Repair methods applied in each attempt to repair the leak.
4. "Above 10,000" if the maximum instrument reading measured by the methods specified in 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.
5. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
6. The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.
7. The expected date of successful repair of the leak if a leak is not repaired within 15 days.
8. Dates of process unit shutdowns that occur while the equipment is unrepaired.

9. The date of successful repair of the leak.

60.486(d)

The following information pertaining to the design requirements for closed vent systems and control devices described in 60.482-10 shall be recorded and kept in a readily accessible location:

1. Detailed schematics, design specifications, and piping and instrumentation diagrams.
2. The dates and descriptions of any changes in the design specifications.
3. A description of the parameter or parameters monitored, as required in 60.482-10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.
4. Periods when the closed vent systems and control devices required in 60.482-2, 60.482-3, 60.482-4, and 60.482-5 are not operated as designed, including periods when a flare pilot light does not have a flame.

5. Dates of startups and shutdowns of the closed vent systems and control devices required in 60.482-2, 60.482-3, 60.482-4, and 60.482-5.

60.486(e)

The following information pertaining to all equipment subject to the requirements in 60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location:

1. A list of identification numbers for equipment subject to the requirements of this subpart.

2.i. A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 60.482-2(e), 60.482-3(i) and 60.482-7(f).

ii. The designation of equipment as subject to the requirements of 60.482-2(e), 60.482-3(i), or 60.482-7(f) shall be signed by the owner or operator.

3. A list of equipment identification numbers for pressure relief devices required to comply with 60.482-4.

4.i. The dates of each compliance test as required in 60.482-2(e), 60.482-3(i), 60.482-4, and 60.482-7(f).

ii. The background level measured during each compliance test.

iii. The maximum instrument reading measured at the equipment during each compliance test.

5. A list of identification numbers for equipment in vacuum service.

60.486(f)

The following information pertaining to all valves subject to the requirements of 60.482-7(g) and (h) and to all pumps subject to the requirements of 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location:

1. A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump.

2. A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

60.486(g)

The following information shall be recorded for valves complying with 60.483-2:

1. A schedule of monitoring.

2. The percent of valves found leaking during each monitoring period.

60.486(h)

The following information shall be recorded in a log that is kept in a readily accessible location:

1. Design criterion required in 60.482-2(d)(5) and 60.482-3(e)(2) and explanation of the design criterion; and

2. Any changes to this criterion and the reasons for the changes.

60.486(i)

The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 60.480(d):

1. An analysis demonstrating the design capacity of the affected facility,

2. A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and

3. An analysis demonstrating that equipment is not in VOC service.

60.486(j)

Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

60.486(k)

The provisions of 60.7 (b) and (d) do not apply to affected facilities subject to this subpart.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:

a. The static pressure drop across the scrubber.

b. The scrubber water flow rate.

1. 60.487(a)

Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.

60.487(b)

The initial semiannual report to the Administrator shall include the following information:

1. Process unit identification.

2. Number of valves subject to the requirements of 60.482-7, excluding those valves designated for no detectable emissions under the provisions of 60.482-7(f).

3. Number of pumps subject to the requirements of 60.482-2, excluding those pumps designated for no detectable emissions under the provisions of 60.482-2(e) and those pumps complying with 60.482-2(f).

4. Number of compressors subject to the requirements of 60.482-3, excluding those compressors designated for no detectable emissions under the provisions of 60.482-3(i) and those compressors complying with 60.482-3(h).

60.487(c)

All semiannual reports to the Administrator shall include the following information, summarized from the information in 60.486:

1. Process unit identification.

2. For each month during the semiannual reporting period,

- i. Number of valves for which leaks were detected as described in 60.482-7(b) or 60.483-2,
- ii. Number of valves for which leaks were not repaired as required in 60.482-7(d)(1),
- iii. Number of pumps for which leaks were detected as described in 60.482-2(b) and (d)(6)(i),
- iv. Number of pumps for which leaks were not repaired as required in 60.482-2(c)(1) and (d)(6)(ii),
- v. Number of compressors for which leaks were detected as described in 60.482-3(f),
- vi. Number of compressors for which leaks were not repaired as required in 60.482-3(g)(1); and
- vii. The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

3. Dates of process unit shutdowns which occurred within the semiannual reporting period.

4. Revisions to items reported according to paragraph D.2.b if changes have occurred since the initial report or subsequent revisions to the initial report.

60.487(d)

An owner or operator electing to comply with the provisions of 60.483-1 or 60.483-2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

60.487(e)

An owner or operator shall report the results of all performance tests in accordance with 60.8 of the General Provisions. The provisions of 60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.

60.487(f)

The requirements of paragraphs D.2.a through D.2.c of this section remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of paragraphs D.2.a through D.2.c of this section, provided that they comply with the requirements established by the State.

E. Testing Requirements

- 1. Compliance with the organic compound emission limits of 5.00 pounds per day and 0.865 ton per year have been determined through computer modeling done by the facility. No testing is specifically required by this permit but, if appropriate, may be requested pursuant to OAC rule 3745-15-04(A). Such testing would be required to comply with methods described in OAC rule 3745-21-10 for organic compounds.

1. 60.485(a)

In conducting the performance tests required in 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in 60.8(b).

60.485(b)

The owner or operator shall determine compliance with the standards in 60.482, 60.483, and 60.484 as follows:

1. Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:

i. Zero air (less than 10 ppm of hydrocarbon in air); and

ii. A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

60.485(c)

The owner or operator shall determine compliance with the no detectable emission standards in 60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f), and 60.482-10(e) as follows:

1. The requirements of paragraph (b) shall apply.

2. Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

60.485(d)

The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

1. Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference -- see 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

2. Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

3. Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs E.2.d.1 and 2 shall be used to resolve the disagreement.

60.485(e)

The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply:

1. The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 degree Celcius (1.2 in. H₂O at 68 degree fahrenheit). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by

reference -- see 60.17) shall be used to determine the vapor pressures.

2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 Celsius (1.2 in. water at 68 degree fahrenheit) is equal to or greater than 20 percent by weight.

3. The fluid is a liquid at operating conditions.

60.485(f)

Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

60.485(g)

The owner or operator shall determine compliance with the standards of flares as follows:

1. Method 22 shall be used to determine visible emissions.

2. A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

3. The maximum permitted velocity for air assisted flares shall be computed using the equation in 60.485(g)(3).

4. The net heating value (HT) of the gas being combusted in a flare shall be computed using the equation in 60.485(g)(4).

5. Method 18 and ASTM D2504-67, 77, or 88 (Reapproved 1993) (incorporated by reference -- see 60.17) shall be used to determine the concentration of sample component "i" in the equation in E.2.g.4.

6. ASTM D2382-76 or 88 or D4809-95 (incorporated by reference -- see 60.17) shall be used to determine the net heat of combustion of component "i" in the equation in E.2.g.4 if published values are not available or cannot be calculated.

7. Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

F. Miscellaneous Requirements

1. 60.484(a)

Each owner or operator subject to the provisions of this subpart may apply to the Administrator for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

60.484(b)

Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:

1. Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

2. The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

3. The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

60.484(c)

Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:

1. Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

2. For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

3. For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

4. Each owner or operator applying for a determination of equivalence shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

5. The Administrator will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph F.1.c.4.

6. The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

60.484(d)

An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

60.484(e)

1. After a request for determination of equivalence is received, the Administrator will publish a notice in the Federal Register and provide the opportunity for public hearing if the Administrator judges that the request may be approved.

2. After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the Federal Register.

3. Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the Clean Air

Act.

60.484(f)

1. Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.

2. The Administrator will make an equivalence determination according to the provisions of paragraphs F.1.b, c, d, and e.