

West Virginia Department of Environmental Protection

*Earl Ray Tomblin
Governor*

Division of Air Quality

*Randy C. Huffman
Cabinet Secretary*

Permit to Construct



R13-3123

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45 C.S.R. 13 — Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the facility listed below is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:
EQT Production Company
Big 192 Pad
103-00072

*John A. Benedict
Director*

Issued: Draft • Effective: Draft

Facility Location: Smithfield, Wetzel County, West Virginia
Mailing Address: 625 Liberty Ave., Suite 1700
Pittsburgh, PA 15222
Facility Description: Well Production Support Equipment
NAICS Codes: 211111
UTM Coordinates: 535.100 km Easting • 4,375.100 km Northing • Zone 17
Permit Type: Construction
Descrip. of Change: Permit for construction and operation of a natural gas production facility at the Big 192 well-pad

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

The source is not subject to 45CSR30.

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1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S001	E001	Condensate Storage Tank	2013	400 bbl	C001
S002	E002	Condensate Storage Tank	2013	400 bbl	C001
S003	E003	Condensate Storage Tank	2013	400 bbl	C001
S004	E004	Condensate Storage Tank	2013	400 bbl	C001
S005	E005	Condensate Storage Tank	2013	400 bbl	C001
S006	E006	Condensate Storage Tank	2013	400 bbl	C001
S007	E007	Condensate Storage Tank	2013	400 bbl	C001
S008	E008	Condensate Storage Tank	2013	400 bbl	C001
S009	E009	Condensate Storage Tank	2013	400 bbl	C001
S010	E010	Condensate Storage Tank	2013	400 bbl	C001
S011	E011	Condensate Storage Tank	2013	400 bbl	C001
S012	E012	Condensate Storage Tank	2013	400 bbl	C001
S013	E013	Line Heater	2013	1.54 mmBtu/hr	N
S014	E014	Line Heater	2013	1.54 mmBtu/hr	N
S015	E015	Line Heater	2013	1.54 mmBtu/hr	N
S016	E016	Line Heater	2013	1.54 mmBtu/hr	N
S017	E017	Line Heater	2013	1.54 mmBtu/hr	N
S018	E018	Line Heater	2013	1.54 mmBtu/hr	N
S019	E019	Line Heater	2013	1.54 mmBtu/hr	N
S020	E020	Line Heater	2013	1.54 mmBtu/hr	N
S021	E021	Line Heater	2013	1.54 mmBtu/hr	N
S022	E022	Line Heater	2013	1.54 mmBtu/hr	N
S023	E023	Line Heater	2013	1.54 mmBtu/hr	N
S024	E024	Thermoelectric Generator	2013	0.03 mmBtu/hr	N
S025	E025	Thermoelectric Generator	2013	0.03 mmBtu/hr	N
C001	C001	Vapor Combustor	2013		N/A

2.0. General Conditions

2.1. Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45 CSR § 30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NO_x	Nitrogen Oxides
CBI	Confidential Business Information	NSPS	New Source Performance Standards
CEM	Continuous Emission Monitor	PM	Particulate Matter
CES	Certified Emission Statement	PM_{2.5}	Particulate Matter less than 2.5µm in diameter
C.F.R. or CFR	Code of Federal Regulations	PM₁₀	Particulate Matter less than 10µm in diameter
CO	Carbon Monoxide	Ppb	Pounds per Batch
C.S.R. or CSR	Codes of State Rules	pph	Pounds per Hour
DAQ	Division of Air Quality	ppm	Parts per Million
DEP	Department of Environmental Protection	Ppmv or ppmv	Parts per million by volume
dscm	Dry Standard Cubic Meter	PSD	Prevention of Significant Deterioration
FOIA	Freedom of Information Act	psi	Pounds per Square Inch
HAP	Hazardous Air Pollutant	SIC	Standard Industrial Classification
HON	Hazardous Organic NESHAP	SIP	State Implementation Plan
HP	Horsepower	SO₂	Sulfur Dioxide
lbs/hr	Pounds per Hour	TAP	Toxic Air Pollutant
LDAR	Leak Detection and Repair	TPY	Tons per Year
M	Thousand	TRS	Total Reduced Sulfur
MACT	Maximum Achievable Control Technology	TSP	Total Suspended Particulate
MDHI	Maximum Design Heat Input	USEPA	United States Environmental Protection Agency
MM	Million	UTM	Universal Transverse Mercator
MMBtu/hr or mmbtu/hr	Million British Thermal Units per Hour	VEE	Visual Emissions Evaluation
MMCF/hr or mmcf/hr	Million Cubic Feet per Hour	VOC	Volatile Organic Compounds
NA	Not Applicable	VOL	Volatile Organic Liquids
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Law W.Va. Code §§22-5-1 et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation;*

2.4. Term and Renewal

- 2.4.1. This permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any applicable legislative rule.

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-3123 and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and 13-10.3]

- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;

- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;

- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses and/or approvals from other agencies; i.e., local, state and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-4]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.

[45CSR§13-5.4.]

2.10. Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.

[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. Emergency

- 2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission

limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

- 2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are not met.
- 2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and,
 - d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emission, and corrective actions taken.
- 2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- 2.12.5. The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. [45CSR§13-10.1]

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

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3.0. Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]
- 3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45 C.S.R. 11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

[Reserved]

3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in

this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4 or 45CSR§13-5.4 as applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4 or 45CSR§13-5.4 as applicable.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language;
 2. The result of the test for each permit or rule condition; and,
 3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.
- 3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. *State-Enforceable only.*]

3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304-2345

If to the USEPA:

Associate Director
Office of Air Enforcement and Compliance
Assistance (3AP20)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

- 3.5.4. **Operating Fee.**

- 3.5.4.1. In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.
- 3.5.4.2. In accordance with 45CSR22 – Air Quality Management Fee Program, enclosed with this permit is an Application for Certificate to Operate (CTO). The CTO will cover the time period beginning with the date of initial startup through the following June 30. Said application and the appropriate fee shall be submitted to this office prior to the date of initial startup. For any startup date other than July 1, the permittee shall pay a fee or prorated fee in accordance with Section 4.5 of 45CSR22. A copy of this schedule may be found on the reverse side of the CTO application.
- 3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

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4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. Only those emission units/sources as identified in Table 1.0, with the exception of any *de minimis* sources as identified under Table 45-13B of 45CSR13, are authorized at the permitted facility. In accordance with the information filed in Permit Application R13-3123, the emission units/sources identified under Table 1.0 of this permit shall be installed, maintained, and operated so as to minimize any fugitive escape of pollutants, shall not exceed the listed maximum design capacities, and shall use the specified control devices.

4.1.2. The Line Heaters (S013-S023) shall operate according to the following requirements:

- a. The maximum emissions from the Line Heaters shall not exceed the limits given in the following table;

Table 4.1.2(a): Process Heater Emission Limits

	NO _x		CO	
	lb/hr	tpy	lb/hr	tpy
S013	0.147	0.642	0.123	0.539
S014	0.147	0.642	0.123	0.539
S015	0.147	0.642	0.123	0.539
S016	0.147	0.642	0.123	0.539
S017	0.147	0.642	0.123	0.539
S018	0.147	0.642	0.123	0.539
S019	0.147	0.642	0.123	0.539
S020	0.147	0.642	0.123	0.539
S021	0.147	0.642	0.123	0.539
S022	0.147	0.642	0.123	0.539
S023	0.147	0.642	0.123	0.539
Total	1.617	7.062	1.353	5.929

- b. The MDHI of the Line Heaters S013-S023 shall not exceed 1.54 mmBtu/hr. All units shall only be fired by natural gas; and
- c. As the annual emission limits given in Table 4.1.2(a) are based on operating 8,760 hours/year, there is no limit on the annual hours of operation or fuel usage of the Line Heaters;
- d. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on

a six minute block average.

[45CSR§2-3.1.]

- 4.1.3. The maximum aggregate production of condensate/liquids from the wells shall not exceed 8,406,720 gallons/year.
- 4.1.4. All condensate/liquids trucks shall be loaded using the submerged-fill method.
- 4.1.5. Emissions from the facility shall not exceed the following:

Source	CO		NO _x		PM ⁽¹⁾		SO ₂		VOCs		HAPs	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Process Heaters/Generator ⁽²⁾	1.36	5.95	1.61	7.08	0.12	0.54	0.01	0.04	0.09	0.39	0.03	0.13
Tanks + Combustor	0.93	4.09	1.11	4.86	0.08	0.37	--	0.03	12.33	54.12	0.38	1.65
Fugitive Emissions (component leaks)	--	--	--	--	--	--	--	--	2.75	12.07	0.07	0.50
Truck Loading	--	--	--	--	--	--	--	--	0.11	2.05	0.01	0.06
Facility-Wide Totals →	2.29	10.04	2.72	11.94	0.20	0.91	0.01	0.07	15.28	68.63	0.49	2.34

- (1) Conservatively, all particulate matter emissions are assumed to be less than 2.5 microns. Includes condensables.
- (2) Aggregate emission rate of all such units.

- 4.1.6. The permittee shall not exceed the number and type of components (valves, pump seals, connectors, etc.) in gas/vapor or light liquid (as applicable) listed in Attachment N of Permit Application R13-3123.
- 4.1.7. The Company shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to prevent any substantive fugitive escape of regulated air pollutants. Any above-ground piping, valves, pumps, etc. that shows signs of excess wear and that have a reasonable potential for substantive fugitive emissions of regulated air pollutants shall be replaced.
- 4.1.8. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]

4.2. Monitoring Requirements

- 4.2.1. For the purposes of demonstrating compliance with maximum limit for the aggregate production of condensate/liquids from the wells set forth in 4.1.3, the permittee shall monitor and record the monthly and rolling twelve month total of condensate/liquids (in gallons) produced in the wells. Monitoring and recording the monthly and rolling twelve month total of condensate/liquids (in gallons) unloaded from the storage tanks can be used to show compliance with this requirement.
- 4.2.2. For the purposes of demonstrating compliance with visible emissions limitations set forth in 4.1.2(d), the permittee shall:
- a. Conduct an initial Method 22 visual emission observation on the line heaters to determine the compliance with the visible emission provisions. The permittee shall take a minimum of two (2) hours of visual emissions observations on the line heaters.
 - b. Conduct monthly Method 22 visible emission observations of the line heaters stack to ensure proper operation for a minimum of ten (10) minutes each month the line heaters are in operation.
 - c. In the event visible emissions are observed in excess of the limitations given under 4.1.2(d), the permittee shall take immediate corrective action.
- 4.2.3. The permittee shall maintain records of all visual emission observations pursuant to the monitoring required under 4.2.2. including any corrective action taken.
- 4.2.4. Any deviation(s) from the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 or 22 shall be reported in writing to the Director of the Division of Air Quality as soon as practicable, but in any case within ten (10) calendar days of the occurrence and shall include at least the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

4.3. Testing Requirements

- 4.3.1. Within sixty (60) days of the issuance date of this permit, the permittee shall perform, or have performed, an analysis to determine the constituent properties of the condensate. The analysis shall, at a minimum, include the same components as the analysis used to calculate storage tank emissions in Permit Application R13-3123. The sample shall be taken from the pressurized liquid stream, aqueous and organic, coming from the last separator that feeds the storage tanks. Where applicable, if the analysis shows average constituent properties that, when used to calculate emissions in the same manner as submitted in Permit Application R13-3123, result in emissions that are greater than the limits in 4.1.4, the permittee shall, within thirty (30) days of receiving the results of the analysis, submit to the Director an appropriate permit application to increase emissions.

4.4. Recordkeeping Requirements

- 4.4.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:
- a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.
- 4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
- 4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
- a. The equipment involved.
 - b. Steps taken to minimize emissions during the event.
 - c. The duration of the event.
 - d. The estimated increase in emissions during the event.

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For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
 - f. Steps taken to correct the malfunction.
 - g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
- 4.4.4. The permittee shall maintain records of all visual emission observations pursuant to the monitoring required under 4.2.2 including any corrective action taken.

4.5. Reporting Requirements

[Reserved]

5.0. Source-Specific Requirements (Vapor Combustor, C001)

5.1. Limitations and Standards

5.1.1. *Operation and Maintenance of Air Pollution Control Equipment.* The permittee shall, to the extent practicable, install, maintain, and operate the vapor combustor (C001) and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]

5.1.2. The permittee shall install a vapor combustor (C001) to control VOC and HAP emissions from the storage tanks (S001-S012). This vapor combustor shall be designed to achieve a minimum guaranteed control efficiency of 95% for volatile organic compound (VOC) emissions.

5.1.3. The maximum quantity of condensate that shall be loaded shall not exceed 8,406,720 gallons per year. Compliance with this limit shall be demonstrated using a twelve month rolling total. A twelve month rolling total shall mean the sum of the monthly throughput at any given time during the previous twelve consecutive calendar months.

5.1.4. The vapor combustor (C001) shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

5.1.5. The vapor combustor (C001) shall be operated, with a flame present at all times whenever emissions may be vented to them, except during SSM (Startup, Shutdown, Malfunctions) events.

5.1.6. The presence of a pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

5.1.7. The vapor combustor (C001) is subject to 45CSR6. The requirements of 45CSR6 include but are not limited to the following:

- i. No person shall cause, suffer, allow or permit particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the factor, F, is either 5.43 for an incinerator with a capacity of less than 15,000 lbs/hr or 2.72 for an incinerator with a capacity of 15,000 lbs/hr or greater.
[45CSR6 §4.1]

- ii. No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater.
[45CSR6 §4.3]

- iii. The provisions of paragraph (i) shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up.
[45CSR6 §4.4]

- iv. No person shall cause or allow the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air.
[45CSR6 §4.5]
 - v. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.
[45CSR6 §4.6]
 - vi. Due to unavoidable malfunction of equipment, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed five (5) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director. **[45CSR6 §8.2]**
- 5.1.8. To demonstrate compliance with Section 5.1.9, the quantity of waste gas that shall be consumed in the vapor combustor (C001) shall not exceed 7,800 cubic feet per hour. Compliance with the gas throughput limit shall be demonstrated using a rolling 12-month total.
- 5.1.9. Maximum emissions from the vapor combustor (C001) shall not exceed the following limits:

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Volatile Organic Compounds	12.34	54.12
Nitrogen Oxides	1.11	4.86
Carbon Monoxide	0.93	4.09
Particulate Matter-10	0.08	0.37

5.2. Monitoring Requirements

- 5.2.1. The permittee shall operate the vapor combustor (C001) with no visible emissions and have a constant pilot flame at all times that waste gas is directed to it. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with manufacturer's specifications.
- 5.2.2. The permittee shall monitor the throughput to the vapor combustor (C001) on a monthly basis.
- 5.2.3. To demonstrate compliance with the flame requirements of sections 5.1.5 and 5.1.6, the presence of a flame shall be continuously monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

5.3. Testing Requirements

- 5.3.1. The permittee shall conduct a Method 22 opacity test on the vapor combustor (C001) for at least two hours. This test shall demonstrate no visible emissions are observed for more than a total of 5 minutes during any 2 consecutive hour period using 40CFR60 Appendix A Method 22. The permittee shall conduct this test within one (1) year of permit issuance or initial startup whichever is later. The visible emission checks shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR part 60, appendix A, Method 22 or from the lecture portion of 40 CFR part 60, appendix A, Method 9 certification course.
- 5.3.2. At such reasonable times as the Secretary may designate, the operator of any incinerator shall be required to conduct or have conducted stack tests to determine the particulate matter loading, by using 40 CFR Part 60, Appendix A, Method 5 or other equivalent U.S. EPA approved method approved by the Secretary, in exhaust gases. Such tests shall be conducted in such manner as the Secretary may specify and be filed on forms and in a manner acceptable to the Secretary. The Secretary may, at the Secretary's option, witness or conduct such stack tests. Should the Secretary exercise his or her option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices.
[45CSR6 §7.1]
- 5.3.3. The Secretary may conduct such other tests as the Secretary may deem necessary to evaluate air pollution emissions other than those noted above.
[45CSR6 §7.2]

5.4. Recordkeeping Requirements

- 5.4.1. For the purpose of demonstrating compliance with section 5.2.1, the permittee shall maintain records of the times and duration of all periods which the pilot flame was absent.
- 5.4.2. For the purpose of demonstrating compliance with section 5.3.1, the permittee shall maintain records of the visible emission opacity tests.
- 5.4.3. For the purpose of demonstrating compliance with sections 5.1.3, the permittee shall maintain records of the amount of condensate production and the volumes loaded into tank trucks. The permittee shall calculate the monthly throughput to the vapor combustor (C001) by ratio of the recorded condensate, produced water and tank truck loading volumes against the process modeling and throughput information within the plans and specifications filed in Permit Application R13-3123.
- 5.4.4. All records required under Section 5.4 shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Director of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Director shall be certified by a responsible official.
- 5.4.5. *Record of Maintenance of Air Pollution Control Equipment.* The permittee shall maintain accurate records of the vapor combustor (C001) equipment inspection and/or preventative maintenance procedures.
- 5.4.6. *Record of Malfunctions of Air Pollution Control Equipment.* The permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the vapor combustor

(C001) during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

5.5. Reporting Requirements

- 5.5.1 Any deviation(s) of the allowable visible emission requirement for any emission source discovered during observations using 40CFR Part 60, Appendix A, Method 9 must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

6.0. Source-Specific Requirements (40CFR60 Subpart OOOO Requirements, Pneumatic Controllers)

6.1. Limitations and Standards

6.1.1. What standards apply to pneumatic controller affected facilities?

For each pneumatic controller affected facility you must comply with the VOC standards, based on natural gas as a surrogate for VOC, in paragraph (c) of this section, as applicable. Pneumatic controllers meeting the conditions in paragraph (a) of this section are exempt from this requirement.

(a) The requirements of paragraph (b) or (c) of this section are not required if you determine that the use of a pneumatic controller affected facility with a bleed rate greater than 6 standard cubic feet per hour is required based on functional needs, including but not limited to response time, safety and positive actuation.

(c) (1) Each pneumatic controller affected facility constructed, modified or reconstructed on or after October 15, 2013 at a location between the wellhead and a natural gas processing plant must have a bleed rate less than or equal to 6 standard cubic feet per hour.

(2) Each pneumatic controller affected facility at a location between the wellhead and a natural gas processing plant must be tagged with the month and year of installation, reconstruction or modification, and identification information that allows traceability to the records for that controller as required in § 60.5420(c)(4)(iii).

(d) You must demonstrate initial compliance with standards that apply to pneumatic controller affected facilities as required by § 60.5410.

(e) You must demonstrate continuous compliance with standards that apply to pneumatic controller affected facilities as required by § 60.5415.

(f) You must perform the required notification, recordkeeping, and reporting as required by § 60.5420, except that you are not required to submit the notifications specified in § 60.5420(a).

[40CFR§60.5390, Pneumatic Controllers]

6.2. Initial Compliance Demonstration

6.2.1. To achieve initial compliance with emission standards for your pneumatic controller affected facility you comply with the requirements specified below.

1. If applicable, you have demonstrated by maintaining records as specified in §60.5420(c)(4)(ii) of your determination that the use of a pneumatic controller affected facility with a bleed rate greater than 6 standard cubic feet of gas per hour is required as specified in §60.5390(a).
2. You own or operate a pneumatic controller affected facility located between the wellhead and a natural gas processing plant and the manufacturer's design specifications indicate that the controller emits less than or equal to 6 standard cubic feet of gas per hour.
3. You must tag each new pneumatic controller affected facility according to the requirements of § 60.5390(b)(2).
4. You must include the information in paragraph (d)(1) of this section and a listing of the pneumatic controller affected facilities specified in paragraphs (d)(2) and (3) of this section in the initial annual report submitted for your pneumatic controller affected facilities constructed, modified or reconstructed during the period covered by the annual report according to the

requirements of § 60.5420(b).

5. You must maintain the records as specified in § 60.5420(c)(4) for each pneumatic controller affected facility.

[40CFR§60.5410, Pneumatic Controllers]

6.3. Continuous Compliance Demonstration

- 6.3.1. For each pneumatic controller affected facility, you must demonstrate continuous compliance according to paragraphs (1) through (3) of this section.

1. You must continuously operate the pneumatic controllers as required in § 60.5390(a), (b), or (c).
2. You must submit the annual report as required in § 60.5420(b).
3. You must maintain records as required in § 60.5420(c)(4).

[40CFR§60.5415(d), Pneumatic Controllers]

6.4. Notification, Recordkeeping and Reporting Requirements

- 6.4.1. You must submit the notifications required in § 60.7(a)(1) and (4), and according to paragraphs (a)(1) and (2) of this section, if you own or operate one or more of the affected facilities specified in § 60.5365 that was constructed, modified, or reconstructed during the reporting period.

- 6.4.2. Reporting requirements. You must submit annual reports containing the information specified in paragraphs (b)(1) through (6) of this section to the Administrator and performance test reports as specified in paragraph (b)(7) of this section. The initial annual report is due 30 days after the end of the initial compliance period as determined according to § 60.5410. Subsequent annual reports are due on the same date each year as the initial annual report. If you own or operate more than one affected facility, you may submit one report for multiple affected facilities provided the report contains all of the information required as specified in paragraphs (b)(1) through (6) of this section. Annual reports may coincide with title V reports as long as all the required elements of the annual report are included. You may arrange with the Administrator a common schedule on which reports required by this part may be submitted as long as the schedule does not extend the reporting period.

1. The general information specified in paragraphs (b)(1)(i) through (iv) of this section.
 - i. The company name and address of the affected facility.
 - ii. An identification of each affected facility being included in the annual report.
 - iii. Beginning and ending dates of the reporting period.
 - iv. A certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
2. *Reserved.*
3. *Reserved.*
4. *Reserved.*

5. For each pneumatic controller affected facility, the information specified in paragraphs (b)(5)(i) through (v) of this section.
 - i. An identification of each pneumatic controller constructed, modified or reconstructed during the reporting period, including the identification information specified in §60.5390(c)(2).
 - ii. If applicable, documentation that the use of pneumatic controller affected facilities with a natural gas bleed rate greater than 6 standard cubic feet per hour are required and the reasons why.
 - iii. Records of deviations specified in paragraph (c)(4)(v) of this section that occurred during the reporting period.
6. *Reserved*
7.
 - i. Within 60 days after the date of completing each performance test (see §60.8 of this part) as required by this subpart you must submit the results of the performance tests required by this subpart to EPA's WebFIRE database by using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). Performance test data must be submitted in the file format generated through use of EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>). Only data collected using test methods on the ERT Web site are subject to this requirement for submitting reports electronically to WebFIRE. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority.
 - ii. All reports required by this subpart not subject to the requirements in paragraph (a)(2)(I) of this section must be sent to the Administrator at the appropriate address listed in §63.13 of this part. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy). The Administrator retains the right to require submittal of reports subject to paragraph (a)(2)(i) and (ii) of this section in paper format.

[40CFR§60.5420(b)]

- 6.4.3. Recordkeeping requirements. You must maintain the records identified as specified in § 60.7(f) and as specified below. All records must be maintained for at least 5 years.

1. For each pneumatic controller affected facility, you must maintain the records identified in paragraphs (c)(4)(i) through (v) of this section.
 - i. Records of the date, location and manufacturer specifications for each pneumatic controller constructed, modified or reconstructed.
 - ii. Records of the demonstration that the use of pneumatic controller affected facilities with a natural gas bleed rate greater than 6 standard cubic feet per hour are required and the reasons why.
 - iii. If the pneumatic controller is not located at a natural gas processing plant, records of the manufacturer's specifications indicating that the controller is designed such that natural gas bleed rate is less than or equal to 6 standard cubic feet per hour.
 - iv. If the pneumatic controller is located at a natural gas processing plant, records of the documentation that the natural gas bleed rate is zero.
 - v. Records of deviations in cases where the pneumatic controller was not operated in compliance with the requirements specified in § 60.5390.
[40CFR§60.5420]

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7.0. Source-Specific Requirements [Natural Gas Well Affected Facility]

Note: NSPS, Subpart OOOO requirements for Natural Gas Well Affected Facilities are included in this section.

7.1. Limitations and Standards

- 7.1.1. If you are the owner or operator of a gas well affected facility for which construction, modification, or reconstruction commenced after August 23, 2011, you must comply with the following:
- a. Except as provided in paragraph (f) of this section, for each well completion operation with hydraulic fracturing begun prior to January 1, 2015, the applicant shall comply with the requirements of paragraphs (a)(3) and (4) of this permit section; optionally, the applicant may comply with requirements (a)(1) – (a)(4) of this permit section. For each new well completion operation with hydraulic fracturing begun on or after January 1, 2015, the applicant shall comply with requirements (1) – (4) below:
 1. For the duration of flowback, route the recovered liquids into one or more storage vessels or re-inject the recovered liquids into the well or another well, and route the recovered gas into a gas flow line or collection system, reinject the recovered gas into the well or another well, use the recovered gas as an on-site fuel source, or use the recovered gas for another useful purpose that a purchased fuel or raw material would serve, with no direct release to the atmosphere. If this is infeasible, follow the requirements in paragraph (3) of this permit section.
 2. All salable quality gas must be routed to the gas flow line as soon as practicable. In cases where flowback emissions cannot be directed to the flow line, the applicant shall follow the requirements in paragraph (3) of this permit section.
 3. The applicant shall capture and direct flowback emissions to a completion combustion device, except in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost or waterways. Completion combustion devices must be equipped with a reliable continuous ignition source over the duration of flowback.
 4. The applicant has a general duty to safely maximize resource recovery and minimize releases to the atmosphere during flowback and subsequent recovery.
 - b. The applicant shall maintain a log for each well completion operation at each gas well affected facility. The log must be completed on a daily basis for the duration of the well completion operation and must contain the records specified in section 7.4.1(iii) of this permit.
 - c. The applicant shall demonstrate initial compliance with the standards that apply to gas well affected facilities as required by section 7.1.3 of this permit.
 - d. The applicant shall demonstrate continuous compliance with the standards that apply to gas well affected facilities as required by section 7.2.1 of this permit.
 - e. The applicant shall perform the required notification, recordkeeping and reporting as required by sections 7.4 and 7.5 of this permit.

- f. 1. For each gas well affected facility specified in paragraphs A and B below, the applicant shall comply with the requirements of paragraphs (2) and (3) of this section.
 - A. Each well completion operation with hydraulic fracturing at a gas well affected facility meeting the criteria for a wildcat or delineation well.
 - B. Each well completion operation with hydraulic fracturing at a gas well affected facility meeting the criteria for a non-wildcat low pressure gas well or non-delineation low pressure gas well.
2. The applicant shall capture and direct flowback emissions to a completion combustion device, except in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost or waterways. Completion combustion devices must be equipped with a reliable continuous ignition source over the duration of flowback. You must also comply with paragraphs (a)(4) and (b) – (e) of this permit section.
3. The applicant shall maintain records specified in section 7.4.1(iii) of this permit for wildcat, delineation and low pressure gas wells.

[NSPS, Subpart OOOO; 40CFR§60.5375(a)-(f)]

7.1.2. If you are the owner or operator of a gas well affected facility that is hydraulically refractured, the applicant shall comply with the following:

1. A gas well facility that conducts a well completion operation following hydraulic refracturing is not an affected facility, provided that the requirements of section 7.1.1 of this permit are met. For purposes of this provision, the dates specified in section 7.1.1(a) of this permit do not apply, and such facilities, as of October 15, 2012, must meet the requirements of section 7.1.1.a.1 – 7.1.1.a.4 of this permit.
2. A well completion operation following hydraulic refracturing at a gas well facility not conducted pursuant to section 7.1.1 of this permit is a modification to the gas well affected facility.
3. Refracturing of a gas well facility does not affect the modification status of other equipment, process units, storage vessels, compressors, or pneumatic controllers located at the well site.
4. A gas well facility initially constructed after August 23, 2011, is considered an affected facility regardless of this provision.

[NSPS, Subpart OOOO; 40CFR§60.5365(h)]

7.1.3. *Initial Compliance.* The applicant shall determine initial compliance with the standards for each natural gas well affected facility using the requirements in this section of the permit. The initial compliance period begins on October 15, 2012 or upon initial startup, whichever is later, and ends no later than one year after the initial startup date for your natural gas well affected facility or no later than one year after October 15, 2012. The initial compliance period may be less than one full year.

- a. To achieve initial compliance with the standards for each well completion operation conducted at your gas well affected facility the applicant shall comply with the following:
 1. Submit the notification required in section 7.5.1(2) of this permit.
 2. Submit the initial annual report for your well affected facility as required in section 7.5.2 of this permit.
 3. You must maintain a log of records as specified in § 60.5420(c)(1)(i) through (iv) for each well completion operation conducted during the initial compliance period.
 4. For each gas well affected facility subject to both §60.5375(a)(1) and (3), as an alternative to retaining the records specified in § 60.5420(c)(1)(i) through (iv), you may maintain records of one or more digital photographs with the date the photograph was taken and the latitude and longitude of the well site imbedded within or stored with the digital file showing the equipment for storing or re-injecting recovered liquid, equipment for routing recovered gas to the gas flow line and the completion combustion device (if applicable) connected to and operating at each gas well completion operation that occurred during the initial compliance period. As an alternative to imbedded latitude and longitude within the digital photograph, the digital photograph may consist of a photograph of the equipment connected and operating at each well completion operation with a photograph of a separately operating GIS device within the same digital picture, provided the latitude and longitude output of the GIS unit can be clearly read in the digital photograph.

[NSPS, Subpart OOOO; 40CFR§60.5410(a)(1) – (4)]

7.1.4. *Affirmative defense for violations of emission standards during malfunction.* In response to an action to enforce the standards set forth in sections 7.1.1 and 7.1.2 of this permit, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at §60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

1. To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in § 60.5415(h)(2), and must prove by a preponderance of evidence that:
 - i. The violation:
 - A. Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and
 - B. Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and
 - C. Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
 - D. Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
 - ii. Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and
 - iii. The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and
 - iv. If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

- v. All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and
- vi. All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
- vii. All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and
- viii. At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and
- ix. A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

2. Report. The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (1) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

[NSPS, Subpart OOOO; 40CFR§60.5415(h)]

- 7.1.5. *Completion Combustion Devices.* Completion combustion devices are subject to the requirements of 45CSR6 which include but are not limited to, the following:
§45-6-4.1 No person shall cause, suffer, allow or permit particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the factor, F, is either 5.43 for an incinerator with a capacity of less than 15,000 lbs/hr or 2.72 for an incinerator with a capacity of 15,000 lbs/hr or greater.

§45-6-4.3 No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater.

§45-6-4.4. The provisions of subsection 4.3 shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up.

§45-6-4.5. No person shall cause or allow the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air.

§45-6-4.6 Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.

§45-6-8.2. Due to unavoidable malfunction of equipment, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed five (5) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major

equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.

- 7.1.6. Any future amendments to 40 CFR Part 60, subpart OOOO shall supersede the subpart OOOO requirements contained in this general permit, amended September 23, 2013.

7.2. Monitoring Requirements

- 7.2.1. *Continuous Compliance.* For each gas well affected facility, you must demonstrate continuous compliance by submitting the reports required by section 7.5.2 of this permit and maintaining the records for each completion operation specified in section 7.4.1 of this permit.
[NSPS, Subpart OOOO; 40CFR§60.5415(a)]

7.3. Testing Requirements

Reserved.

7.4. Recordkeeping Requirements

- 7.4.1. The applicant shall maintain the records identified as specified in §60.7(f) and in this section. All records required by this subpart must be maintained either onsite or at the nearest local field office for at least 5 years.

The records for each gas well affected facility as specified below:

- i. Records identifying each well completion operation for each gas well affected facility;
- ii. Records of deviations in cases where well completion operations with hydraulic fracturing were not performed in compliance with the requirements specified in section 7.1.1 of this permit.
- iii. Records required in section 7.1.1 (b) or (f) of this permit for each well completion operation conducted for each gas well affected facility that occurred during the reporting period. You must maintain the records specified below:
 - A. For each gas well affected facility required to comply with the requirements of section 7.1.1(a) of this permit, the applicant shall record: The location of the well; the API well number; the duration of flowback; duration of recovery to the flow line; duration of combustion; duration of venting; and specific reasons for venting in lieu of capture or combustion. The duration must be specified in hours of time.
 - B. For each gas well affected facility required to comply with the requirements of section 7.1.1(f) of this permit, the applicant shall maintain the records specified in paragraph A above except that you do not have to record the duration of recovery to the flow line.
- iv. For each gas well facility for which you claim an exception under section 7.1.1(a)(3) of this permit, the applicant shall record: the location of the well; the API well number; the specific exception claimed; the starting date and ending date

for the period the well operated under the exception; and an explanation of why the well meets the claimed exception.

- v. For each gas well affected facility required to comply with both § 60.5375(a)(1) and (3), if you are using a digital photograph in lieu of the records required in paragraphs (i) through (iv) of this section, you must retain the records of the digital photograph as specified in §60.5410(a)(4).
[NSPS, Subpart OOOO; 40CFR§60.5420(c)]

7.5. Notification and Reporting Requirements

7.5.1. **Notification Requirements.** The applicant shall submit the notifications required in and according to paragraphs (1) and (2) of this section, if you own or operate one or more of the affected facilities specified in § 60.5365 that was constructed, modified, or reconstructed during the reporting period.

1. If you own or operate a gas well, pneumatic controller, centrifugal compressor, reciprocating compressor or storage vessel affected facility you are not required to submit the notifications required in § 60.7(a)(1), (3), and (4)

2.
 - i. If you own or operate a gas well affected facility, the applicant shall submit a notification to the Administrator no later than 2 days prior to the commencement of each well completion operation listing the anticipated date of the well completion operation. The notification shall include contact information for the owner or operator; the API well number, the latitude and longitude coordinates for each well in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983; and the planned date of the beginning of flowback. You may submit the notification in writing or in electronic format.

- ii. If you are subject to state regulations that require advance notification of well completions and you have met those notification requirements, then you are considered to have met the advance notification requirements of paragraph (1) of this section.

[NSPS, Subpart OOOO; 40CFR§60.5420(a)]

7.5.2. **Reporting requirements.** The applicant shall submit annual reports containing the information specified in this section to the Administrator and performance test reports as specified in this section. The initial annual report is due 90 days after the end of the initial compliance period as determined according to section 7.1.3 of this permit. Subsequent annual reports are due no later than same date each year as the initial annual report. If you own or operate more than one affected facility, you may submit one report for multiple affected facilities provided the report contains all of the information required as specified in paragraphs (b)(1) through (6) of § 60.5420(b). Annual reports may coincide with Title V reports as long as all the required elements of the annual report are included. You may arrange with the Administrator a common schedule on which reports required by this part may be submitted as long as the schedule does not extend the reporting period.

1. The general information specified below:
 - i. The company name and address of the affected facility.
 - ii. An identification of each affected facility being included in the annual report.
 - iii. Beginning and ending dates of the reporting period.

- iv. A certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
2. For each gas well affected facility, the information specified below:
 - i. Records of each well completion operation as specified in section 7.4.1(i-iv) of this permit for each gas well affected facility conducted during the reporting period. In lieu of submitting the records specified in section 7.4.1(i-iv) of this permit, the owner or operator may submit a list of the well completions with hydraulic fracturing completed during the reporting period and the records required by section 7.4.1(v) of this permit for each well completion.
 - ii. Records of deviations specified in section 7.4.1(ii) of this permit that occurred during the reporting period.
 3.
 - i. Within 60 days after the date of completing each performance test (see § 60.8 of this part) as required by this subpart, except testing conducted by the manufacturer as specified in § 60.5413(d), you must submit the results of the performance tests required by this subpart to the EPA as follows. You must use the latest version of the EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>) existing at the time of the performance test to generate a submission package file, which documents the performance test. You must then submit the file generated by the ERT through the EPA's Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed by logging in to the EPA's Central Data Exchange (CDX)(<https://cdx.epa.gov/>). Only data collected using test methods supported by the ERT as listed on the ERT website are subject to this requirement for submitting reports electronically. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business information, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT website, the owner or operator shall submit the results of the performance test to the Administrator at the appropriate address listed in § 60.4.
 - ii. All reports, except as specified in paragraph (b)(8) of this section, required by this subpart not subject to the requirements in paragraph (a)(2)(i) of this section must be sent to the Administrator at the appropriate address listed in § 60.4 of this part. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy).
[NSPS, Subpart OOOO; 40CFR§60.5420(b)]
- 7.5.3. Any deviation of the allowable visible emission requirement for any emission source must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

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8.0. Source-Specific Requirements [Standards of Performance for Storage Vessel Affected Facilities (NSPS, Subpart OOOO)]

8.1. Limitations and Standards

- 8.1.1. Except as provided in paragraph (h) of this section, you must comply with the standards in this section for each storage vessel affected facility.

- (a) (1) If you are the owner or operator of a Group 1 storage vessel affected facility, you must comply with paragraph (b) of this section.
- (2) If you are the owner or operator of a Group 2 storage vessel affected facility, you must comply with paragraph (c) of this section.
- (b) *Requirements for Group 1 storage vessel affected facilities.* If you are the owner or operator of a Group 1 storage vessel affected facility, you must comply with paragraphs (b)(1) and (2) of this section.
 - (1) You must submit a notification identifying each Group 1 storage vessel affected facility, including its location, with your initial annual report as specified in § 60.5420(b)(6)(iv).
 - (2) You must comply with paragraphs (d) through (g) of this section.
- (c) *Requirements for Group 2 storage vessel affected facilities.* If you are the owner or operator of a Group 2 storage vessel affected facility, you must comply with paragraphs (d) through (g) of this section.
- (d) You must comply with the control requirements of paragraph (d)(1) of this section unless you meet the conditions specified in paragraph (d)(2) of this section.
 - (1) Reduce VOC emissions by 95.0 percent according to the schedule specified in (d)(1)(i) and (ii) of this section.
 - (i) For each Group 2 storage vessel affected facility, you must achieve the required emissions reductions by April 15, 2014, or within 60 days after startup, whichever is later.
 - (ii) For each Group 1 storage vessel affected facility, you must achieve the required emissions reductions by April 15, 2015.
 - (2) Maintain the uncontrolled actual VOC emissions from the storage vessel affected facility at less than 4 tpy without considering control. Prior to using the uncontrolled actual VOC emission rate for compliance purposes, you must demonstrate that the uncontrolled actual VOC emissions have remained less than 4 tpy as determined monthly for 12 consecutive months. After such demonstration, you must determine the uncontrolled actual VOC emission rate each month. The uncontrolled actual VOC emissions must be calculated using a generally accepted model or calculation methodology. Monthly calculations must be based on the average throughput for the month. Monthly calculations must be separated by at least 14 days. You must comply with paragraph (d)(1) of this section if your storage vessel affected facility meets the conditions specified in paragraphs (d)(2)(i) or (ii) of this section.
 - (i) If a well feeding the storage vessel affected facility undergoes fracturing or refracturing, you must comply with paragraph (d)(1) of this section as soon as liquids from the well following fracturing or refracturing are routed to the storage vessel affected facility.
 - (ii) If the monthly emissions determination required in this section indicates that VOC emissions from your storage vessel affected facility increase to 4 tpy or greater and the increase is not associated with fracturing or refracturing of a well feeding the storage vessel affected facility, you must

comply with paragraph (d)(1) of this section within 30 days of the monthly calculation.

(e) *Control requirements.*

- (1) Except as required in paragraph (e)(2) of this section, if you use a control device to reduce emissions from your storage vessel affected facility, you must equip the storage vessel with a cover that meets the requirements of § 60.5411(b) and is connected through a closed vent system that meets the requirements of § 60.5411(c), and you must route emissions to a control device that meets the conditions specified in § 60.5412(c) and (d). As an alternative to routing the closed vent system to a control device, you may route the closed vent system to a process.
- (2) If you use a floating roof to reduce emissions, you must meet the requirements of §60.112b(a)(1) or (2) and the relevant monitoring, inspection, recordkeeping, and reporting requirements in 40 CFR part 60, subpart Kb.

(f) *Requirements for storage vessel affected facilities that are removed from service .* If you are the owner or operator of a storage vessel affected facility that is removed from service, you must comply with paragraphs (f)(1) and (2) of this section.

- (1) You must submit a notification in your next annual report, identifying all storage vessel affected facilities removed from service during the reporting period.
- (2) If the storage vessel affected facility identified in paragraph (f)(1) of this section is returned to service, you must comply with paragraphs (f)(2)(i) through (iii) of this section.
 - (i) If returning your storage vessel affected facility to service is associated with fracturing or refracturing of a well feeding the storage vessel affected facility, you must comply with paragraph (d) of this section immediately upon returning the storage vessel to service.
 - (ii) If returning your storage vessel affected facility to service is not associated with a well that was fractured or refractured, you must comply with paragraphs (f)(2)(ii)(A) and (B) of this section.
 - (A) You must determine emissions as specified in §60.5365(e) within 30 days of returning your storage vessel affected facility to service.
 - (B) If the uncontrolled VOC emissions without considering control from your storage vessel affected facility are 4 tpy or greater, you must comply with paragraph (d) of this section within 60 days of returning to service.
 - (iii) You must submit a notification in your next annual report identifying each storage vessel affected facility that has been returned to service.

(g) *Compliance, notification, recordkeeping, and reporting .* You must comply with paragraphs (g)(1) through (3) of this section.

- (1) You must demonstrate initial compliance with standards as required by § 60.5410(h) and (i).

- (2) You must demonstrate continuous compliance with standards as required by § 60.5415(e)(3).
- (3) You must perform the required notification, recordkeeping and reporting as required by §60.5420.
- (h) *Exemptions* . This subpart does not apply to storage vessels subject to and controlled in accordance with the requirements for storage vessels in 40 CFR part 60, subpart Kb, 40 CFR part 63, subparts G, CC, HH, or WW.
[NSPS, Subpart OOOO; 40CFR§60.5395]

8.1.2. *Closed vent and cover requirements.* You must meet the applicable requirements of this section for each cover and closed vent system used to comply with the emission standards for your storage vessel affected facility.

- (a) *Reserved.*
- (b) *Cover requirements for storage vessels*
 - (1) The cover and all openings on the cover (e.g., access hatches, sampling ports, pressure relief valves and gauge wells) shall form a continuous impermeable barrier over the entire surface area of the liquid in the storage vessel or wet seal fluid degassing system.
 - (2) Each cover opening shall be secured in a closed, sealed position (e.g., covered by a gasketed lid or cap) whenever material is in the unit on which the cover is installed except during those times when it is necessary to use an opening as follows:
 - (i) To add material to, or remove material from the unit (this includes openings necessary to equalize or balance the internal pressure of the unit following changes in the level of the material in the unit);
 - (ii) To inspect or sample the material in the unit;
 - (iii) To inspect, maintain, repair, or replace equipment located inside the unit; or
 - (iv) To vent liquids, gases, or fumes from the unit through a closed-vent system designed and operated in accordance with the requirements of paragraph (a) or (c) of this section to a control device or to a process.
 - (3) Each storage vessel thief hatch shall be weighted and properly seated. You must select gasket material for the hatch based on composition of the fluid in the storage vessel and weather conditions.
- (c) *Closed vent system requirements for storage vessel affected facilities using a control device or routing emissions to a process* .
 - (1) You must design the closed vent system to route all gases, vapors, and fumes emitted from the material in the storage vessel to a control device that meets the requirements specified in § 60.5412(c) and (d), or to a process.

- (2) You must design and operate a closed vent system with no detectable emissions, as determined using olfactory, visual and auditory inspections. Each closed vent system that routes emissions to a process must be operational 95 percent of the year or greater.
- (3) You must meet the requirements specified in paragraphs (c)(3)(i) and (ii) of this section if the closed vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device or to a process.
 - (i) Except as provided in paragraph (c)(3)(ii) of this section, you must comply with either paragraph (c)(3)(i)(A) or (B) of this section for each bypass device.
 - (A) You must properly install, calibrate, maintain, and operate a flow indicator at the inlet to the bypass device that could divert the stream away from the control device or process to the atmosphere that sounds an alarm, or, initiates notification via remote alarm to the nearest field office, when the bypass device is open such that the stream is being, or could be, diverted away from the control device or process to the atmosphere.
 - (B) You must secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car-seal or a lock-and-key type configuration.
 - (ii) Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements of paragraph (c)(3)(i) of this section.

[NSPS, Subpart OOOO; 40CFR§60.5411]

8.1.3. *Control device requirements.* You must meet the applicable requirements of this section for each control device used to comply with the emission standards for your storage vessel affected facility.

- a. *Reserved.*
- b. *Reserved.*
- c. For each carbon adsorption system used as a control device to meet the requirements of paragraph (d)(2) of this section, you must manage the carbon in accordance with the requirements specified in paragraphs (c)(1) or (2) of this section.
 - (1) Following the initial startup of the control device, you must replace all carbon in the control device with fresh carbon on a regular, predetermined time interval that is no longer than the carbon service life established according to § 60.5413(c)(2) or (3) or according to the design required in paragraph (d)(2) of this section, for the carbon adsorption system. You must maintain records identifying the schedule for replacement and records of each carbon replacement as required in § 60.5420(c)(10) and (12).
 - (2) You must either regenerate, reactivate, or burn the spent carbon removed from the carbon adsorption system in one of the units specified in paragraphs (c)(2)(i) through (vii) of this section.

- (i) Regenerate or reactivate the spent carbon in a thermal treatment unit for which you have been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 264, subpart X.
 - (ii) Regenerate or reactivate the spent carbon in a thermal treatment unit equipped with and operating air emission controls in accordance with this section.
 - (iii) Regenerate or reactivate the spent carbon in a thermal treatment unit equipped with and operating organic air emission controls in accordance with an emissions standard for VOC under another subpart in 40 CFR part 60 or this part.
 - (iv) Burn the spent carbon in a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 264, subpart O.
 - (v) Burn the spent carbon in a hazardous waste incinerator which you have designed and operated in accordance with the requirements of 40 CFR part 265, subpart O.
 - (vi) Burn the spent carbon in a boiler or industrial furnace for which you have been issued a final permit under 40 CFR part 270 that implements the requirements of 40 CFR part 266, subpart H.
 - (vii) Burn the spent carbon in a boiler or industrial furnace that you have designed and operated in accordance with the interim status requirements of 40 CFR part 266, subpart H.
- (d) Each control device used to meet the emission reduction standard in § 60.5395(d) for your storage vessel affected facility must be installed according to paragraphs (d)(1) through (3) of this section, as applicable. As an alternative, you may install a control device model tested under § 60.5413(d), which meets the criteria in § 60.5413(d)(11) and § 60.5413(e).
- (1) Each enclosed combustion device (e.g., thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater) must be designed to reduce the mass content of VOC emissions by 95.0 percent or greater. You must follow the requirements in paragraphs (d)(1)(i) through (iii) of this section.
 - (i) Ensure that each enclosed combustion device is maintained in a leak free condition.
 - (ii) Install and operate a continuous burning pilot flame.
 - (iii) Operate the enclosed combustion device with no visible emissions, except for periods not to exceed a total of one minute during any 15 minute period. A visible emissions test using section 11 of EPA Method 22, 40 CFR part 60, appendix A, must be performed at least once every calendar month, separated by at least 15 days between each test. The observation period shall be 15 minutes. Devices failing the visible emissions test must follow manufacturer's repair instructions, if available, or best combustion engineering practice as outlined in the unit inspection and maintenance plan, to return the unit to compliant operation. All inspection, repair and

maintenance activities for each unit must be recorded in a maintenance and repair log and must be available for inspection. Following return to operation from maintenance or repair activity, each device must pass a Method 22, 40 CFR part 60, appendix A, visual observation as described in this paragraph.

- (2) Each vapor recovery device (*e.g.*, carbon adsorption system or condenser) or other non-destructive control device must be designed and operated to reduce the mass content of VOC in the gases vented to the device by 95.0 percent by weight or greater. A carbon replacement schedule must be included in the design of the carbon adsorption system.
- (3) You must operate each control device used to comply with this subpart at all times when gases, vapors, and fumes are vented from the storage vessel affected facility through the closed vent system to the control device. You may vent more than one affected facility to a control device used to comply with this subpart.
[NSPS, Subpart OOOO; 40CFR§60.5412]

8.1.4. *Initial Compliance.*

- a. For each storage vessel affected facility, you must comply with paragraphs (h)(1) through (5) of this section. For a Group 1 storage vessel affected facility, you must demonstrate initial compliance by April 15, 2015, except as otherwise provided in paragraph (i) of this section. For a Group 2 storage vessel affected facility, you must demonstrate initial compliance by April 15, 2014, or within 60 days after startup, whichever is later.

- (1) You must determine the potential VOC emission rate as specified in § 60.5365(e).
- (2) You must reduce VOC emissions in accordance with § 60.5395(d).
- (3) If you use a control device to reduce emissions, or if you route emissions to a process, you must demonstrate initial compliance by meeting the requirements in § 60.5395(e).
- (4) You must submit the information required for your storage vessel affected facility as specified in § 60.5420(b).
- (5) You must maintain the records required for your storage vessel affected facility, as specified in § 60.5420(c)(5) through (8) and § 60.5420(c)(12) and (13) for each storage vessel affected facility.

- b. For each Group 1 storage vessel affected facility, you must submit the notification specified in § 60.5395(b)(2) with the initial annual report specified in § 60.5420(b)(6).
[NSPS, Subpart OOOO; 40CFR§60.5410 (h,i)]

8.1.5. *Affirmative defense for violations of emission standards during malfunction.* In response to an action to enforce the standards set forth in section 6.1.4 of this permit, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at §60.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

1. To establish the affirmative defense in any action to enforce such a standard, you must timely meet the reporting requirements in § 60.5415(h)(2), and must prove by a preponderance of evidence that:
 - i. The violation:

- A. Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and
 - B. Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and
 - C. Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and
 - D. Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
- ii. Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and
 - iii. The frequency, amount and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and
 - iv. If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
 - v. All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and
 - vi. All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and
 - vii. All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and
 - viii. At all times, the affected source was operated in a manner consistent with good practices for minimizing emissions; and
 - ix. A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

- 2. Report. The owner or operator seeking to assert an affirmative defense shall submit a written report to the Administrator with all necessary supporting documentation, that it has met the requirements set forth in paragraph (1) of this section. This affirmative defense report shall be included in the first periodic compliance, deviation report or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance, deviation report or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance, deviation report or excess emission report due after the initial occurrence of the violation of the relevant standard.

[NSPS, Subpart OOOO; 40CFR§60.5415(h)]

8.1.6. *Reserved.*

8.1.7. Any future amendments to 40 CFR Part 60, subpart OOOO shall supersede the subpart OOOO requirements contained in this general permit, amended September 23, 2013.

8.2. Monitoring Requirements

8.2.1. *Continuous Compliance.* You must demonstrate continuous compliance according to paragraph (e)(3) of this section for each storage vessel affected facility, for which you are using a control device or routing emissions to a process to meet the requirement of § 60.5395(d)(1).

- (1) *Reserved.*
- (2) *Reserved.*
- (3) For each storage vessel affected facility, you must comply with paragraphs (e)(3)(i) and (ii) of this section.
 - (i) You must reduce VOC emissions as specified in § 60.5395(d).
 - (ii) For each control device installed to meet the requirements of § 60.5395(d), you must demonstrate continuous compliance with the performance requirements of §60.5412(d) for each storage vessel affected facility using the procedure specified in paragraph (e)(3)(ii)(A) and either (e)(3)(ii)(B) or (e)(3)(ii)(C) of this section.
 - (A) You must comply with § 60.5416(c) for each cover and closed vent system.
 - (B) You must comply with § 60.5417(h) for each control device.
 - (C) Each closed vent system that routes emissions to a process must be operated as specified in § 60.5411(c)(2).

[NSPS, Subpart OOOO; 40CFR§60.5415(e)]

8.2.2. *Initial and continuous cover and closed vent system inspection and monitoring requirements.* For each closed vent system or cover at your storage vessel, you must comply with the applicable requirements of paragraphs (a) through (c) of this section.

- (a) *Reserved.*
- (b) *Reserved.*
- (c) *Cover and closed vent system inspections for storage vessel affected facilities.* If you install a control device or route emissions to a process, you must inspect each closed vent system according to the procedures and schedule specified in paragraphs (c)(1) of this section, inspect each cover according to the procedures and schedule specified in paragraph (c)(2) of this section, and inspect each bypass device according to the procedures of paragraph (c)(3) of this section. You must also comply with the requirements of (c)(4) through (7) of this section.
 - (1) For each closed vent system, you must conduct an inspection at least once every calendar month as specified in paragraphs (c)(1)(i) through (iii) of this section.
 - (i) You must maintain records of the inspection results as specified in § 60.5420(c)(6).
 - (ii) Conduct olfactory, visual and auditory inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.

- (iii) Monthly inspections must be separated by at least 14 calendar days.
- (2) For each cover, you must conduct inspections at least once every calendar month as specified in paragraphs (c)(2)(i) through (iii) of this section.
 - (i) You must maintain records of the inspection results as specified in § 60.5420(c)(7).
 - (ii) Conduct olfactory, visual and auditory inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover, or between the cover and the separator wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. In the case where the storage vessel is buried partially or entirely underground, you must inspect only those portions of the cover that extend to or above the ground surface, and those connections that are on such portions of the cover (*e.g.*, fill ports, access hatches, gauge wells, etc.) and can be opened to the atmosphere.
 - (iii) Monthly inspections must be separated by at least 14 calendar days.
- (3) For each bypass device, except as provided for in § 60.5411(c)(3)(ii), you must meet the requirements of paragraphs (c)(3)(i) or (ii) of this section.
 - (i) Set the flow indicator to sound an alarm at the inlet to the bypass device when the stream is being diverted away from the control device or process to the atmosphere. You must maintain records of each time the alarm is sounded according to §60.5420(c)(8).
 - (ii) If the bypass device valve installed at the inlet to the bypass device is secured in the non-diverting position using a car-seal or a lock-and-key type configuration, visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass device. You must maintain records of the inspections and records of each time the key is checked out, if applicable, according to §60.5420(c)(8).
- (4) *Repairs.* In the event that a leak or defect is detected, you must repair the leak or defect as soon as practicable according to the requirements of paragraphs (c)(4)(i) through (iii) of this section, except as provided in paragraph (c)(5) of this section.
 - (i) A first attempt at repair must be made no later than 5 calendar days after the leak is detected.
 - (ii) Repair must be completed no later than 30 calendar days after the leak is detected.
 - (iii) Grease or another applicable substance must be applied to deteriorating or cracked gaskets to improve the seal while awaiting repair.
- (5) *Delay of repair.* Delay of repair of a closed vent system or cover for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, or if you determine that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair.

You must complete repair of such equipment by the end of the next shutdown.

- (6) *Unsafe to inspect requirements.* You may designate any parts of the closed vent system or cover as unsafe to inspect if the requirements in paragraphs (c)(6)(i) and (ii) of this section are met. Unsafe to inspect parts are exempt from the inspection requirements of paragraphs (c)(1) and (2) of this section.
 - (i) You determine that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (c)(1) or (2) of this section.
 - (ii) You have a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.
- (7) *Difficult to inspect requirements.* You may designate any parts of the closed vent system or cover as difficult to inspect, if the requirements in paragraphs (c)(7)(i) and (ii) of this section are met. Difficult to inspect parts are exempt from the inspection requirements of paragraphs (c)(1) and (2) of this section.
 - (i) You determine that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface.
 - (ii) You have a written plan that requires inspection of the equipment at least once every 5 years.

[NSPS, Subpart OOOO; 40CFR§60.5416]

8.2.3. *Continuous control device monitoring requirements.* The applicant shall meet the applicable requirements of this section to demonstrate continuous compliance for each control device used to meet emission standards for your storage vessel affected facility.

- a. *Reserved.*
- b. You are exempt from the monitoring requirements specified in paragraphs (c) through (g) for the control devices listed in paragraphs (1) and (2) below:
 - 1. A boiler or process heater in which all vent streams are introduced with the primary fuel or is used as the primary fuel.
 - 2. A boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts.
- c. If you are required to install a continuous parameter monitoring system, you must meet the specifications and requirements in paragraphs (c)(1) through (4) of this section.
 - 1. Each continuous parameter monitoring system must measure data values at least once every hour and record the parameters in paragraphs (i) or (ii) below:
 - i. Each measured data value.
 - ii. Each block average value for each 1-hour period or shorter periods calculated from all measured data values during each period. If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the hourly (or shorter period) block average instead of all measured values.
 - 2. You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (i) - (v)

below. You must install, calibrate, operate, and maintain each continuous parameter monitoring system in accordance with the procedures in your approved site-specific monitoring plan.

- i. The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations.
 - ii. Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements.
 - iii. Equipment performance checks, system accuracy audits, or other audit procedures.
 - iv. Ongoing operation and maintenance procedures in accordance with provisions in §60.13(b).
 - v. Ongoing reporting and recordkeeping procedures in accordance with provisions in §60.7(c), (d), and (f).
3. You must conduct the continuous parameter monitoring system equipment performance checks, system accuracy audits, or other audit procedures specified in the site-specific monitoring plan at least once every 12 months.
 4. You must conduct a performance evaluation of each continuous parameter monitoring system in accordance with the site-specific monitoring plan.
- d. You must install, calibrate, operate, and maintain a device equipped with a continuous recorder to measure the values of operating parameters appropriate for the control device as specified in either paragraphs (1), (2), or (3) of this permit section.
1. A continuous monitoring system that measures the operating parameters in sections (i) - (viii) below:
 - i. For a thermal vapor incinerator that demonstrates during the performance test conducted under § 60.5413 that combustion zone temperature is an accurate indicator of performance, a temperature monitoring device equipped with a continuous recorder. The monitoring device must have a minimum accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$, or $\pm 2.5^{\circ}\text{C}$, whichever value is greater. You must install the temperature sensor at a location representative of the combustion zone temperature.
 - ii. For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device must be capable of monitoring temperature at two locations and have a minimum accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$, or $\pm 2.5^{\circ}\text{C}$, whichever value is greater. You must install one temperature sensor in the vent stream at the nearest feasible point to the catalyst bed inlet, and you must install a second temperature sensor in the vent stream at the nearest feasible point to the catalyst bed outlet.
 - iii. For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.
 - iv. For a boiler or process heater, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device must have a minimum accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$, or $\pm 2.5^{\circ}\text{C}$, whichever value is greater. You must install the temperature sensor at a location representative of the combustion zone temperature.
 - v. For a condenser, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device must have a minimum accuracy of ± 1 percent of the temperature

- being monitored in °C, or ± 2.8 °C, whichever value is greater. You must install the temperature sensor at a location in the exhaust vent stream from the condenser.
- vi. For a regenerative-type carbon adsorption system, a continuous monitoring system that meets the specifications in paragraphs A and B below:
- A. The continuous parameter monitoring system must measure and record the average total regeneration stream mass flow or volumetric flow during each carbon bed regeneration cycle. The flow sensor must have a measurement sensitivity of 5 percent of the flow rate or 10 cubic feet per minute, whichever is greater. You must check the mechanical connections for leakage at least every month, and you must perform a visual inspection at least every 3 months of all components of the flow continuous parameter monitoring system for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if your flow continuous parameter monitoring system is not equipped with a redundant flow sensor; and
- B. The continuous parameter monitoring system must measure and record the average carbon bed temperature for the duration of the carbon bed steaming cycle and measure the actual carbon bed temperature after regeneration and within 15 minutes of completing the cooling cycle. The temperature monitoring device must have a minimum accuracy of ± 1 percent of the temperature being monitored in °C, or ± 2.5 °C, whichever value is greater.
- vii. For a nonregenerative-type carbon adsorption system, you must monitor the design carbon replacement interval established using a performance test performed as specified in § 60.5413(b). The design carbon replacement interval must be based on the total carbon working capacity of the control device and source operating schedule.
- viii. For a combustion control device whose model is tested under § 60.5413(d), a continuous monitoring system meeting the requirements of paragraphs (d)(1)(viii)(A) and (B) of this section.
- (A) The continuous monitoring system must measure gas flow rate at the inlet to the control device. The monitoring instrument must have an accuracy of ± 2 percent or better. The flow rate at the inlet to the combustion device must not exceed the maximum or minimum flow rate determined by the manufacturer.
- (B) A monitoring device that continuously indicates the presence of the pilot flame while emissions are routed to the control device.
2. An organic monitoring device equipped with a continuous recorder that measures the concentration level of organic compounds in the exhaust vent stream from the control device. The monitor must meet the requirements of Performance Specification 8 or 9 of 40 CFR part 60, appendix B. You must install, calibrate, and maintain the monitor according to the manufacturer's specifications.
3. A continuous monitoring system that measures operating parameters other than those specified in paragraphs (d)(1) or (2) of this section, upon approval of the Administrator as specified in §60.13(i).
- e. You must calculate the daily average value for each monitored operating parameter for each operating day, using the data recorded by the monitoring system, except for inlet gas flow rate. If the emissions unit operation is continuous, the operating day is a 24-hour period. If the emissions unit operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

- f. For each operating parameter monitor installed in accordance with the requirements paragraph (d) of this section, you must comply with paragraph (f)(1) of this section for all control devices. When condensers are installed, you must also comply with paragraph (f)(2) of this section.
1. You must establish a minimum operating parameter value or a maximum operating parameter value, as appropriate for the control device, to define the conditions at which the control device must be operated to continuously achieve the applicable performance requirements of § 60.5412(a). You must establish each minimum or maximum operating parameter value as specified in paragraphs (i) - (iii) below:
 - i. If you conduct performance tests in accordance with the requirements of § 60.5413(b) to demonstrate that the control device achieves the applicable performance requirements specified in § 60.5412(a), then you must establish the minimum operating parameter value or the maximum operating parameter value based on values measured during the performance test and supplemented, as necessary, by a condenser design analysis or control device manufacturer recommendations or a combination of both.
 - ii. If you use a condenser design analysis in accordance with the requirements of § 60.5413(c) to demonstrate that the control device achieves the applicable performance requirements specified in § 60.5412(a), then you must establish the minimum operating parameter value or the maximum operating parameter value based on the condenser design analysis and supplemented, as necessary, by the condenser manufacturer's recommendations.
 - iii. If you operate a control device where the performance test requirement was met under § 60.5413(d) to demonstrate that the control device achieves the applicable performance requirements specified in § 60.5412(a), then your control device inlet gas flow rate must not exceed the maximum or minimum inlet gas flow rate determined by the manufacturer.
 2. If you use a condenser as specified in paragraph (d)(1)(v) of this permit section, you must establish a condenser performance curve showing the relationship between condenser outlet temperature and condenser control efficiency, according to the requirements of paragraphs (i) and (ii) below.
 - (i) If you conduct a performance test in accordance with the requirements of § 60.5413(b) to demonstrate that the condenser achieves the applicable performance requirements § 60.5412(a), then the condenser performance curve must be based on values measured during the performance test and supplemented as necessary by control device design analysis, or control device manufacturer's recommendations, or a combination or both.
 - (ii) If you use a control device design analysis in accordance with the requirements of §60.5413(c)(1) to demonstrate that the condenser achieves the applicable performance requirements specified in § 60.5412(a), then the condenser performance curve must be based on the condenser design analysis and supplemented, as necessary, by the control device manufacturer's recommendations.
- g. A deviation for a given control device is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (1-6) of this permit section are being met. If you monitor multiple operating parameters for the same control device during the same operating day and more than one of these operating parameters meets a deviation criterion specified in paragraphs (1-6) of this permit section, then a single excursion is determined to have occurred for the control device for that operating day.

1. A deviation occurs when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit) established in paragraph (f)(1) of this section.
2. If you meet § 60.5412(a)(2), a deviation occurs when the 365-day average condenser efficiency calculated according to the requirements specified in § 60.5415(e)(8)(iv) is less than 95.0 percent.
3. If you meet § 60.5412(a)(2) and you have less than 365 days of data, a deviation occurs when the average condenser efficiency calculated according to the procedures specified in § 60.5415(e)(8)(iv)(A) or (B) is less than 90.0 percent.
4. A deviation occurs when the monitoring data are not available for at least 75 percent of the operating hours in a day.
5. If the closed vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, a deviation occurs when the requirements of paragraphs (i) and (ii) below are met.
 - (i) For each bypass line subject to § 60.5411(a)(3)(i)(A), the flow indicator indicates that flow has been detected and that the stream has been diverted away from the control device to the atmosphere.
 - (ii) For each bypass line subject to § 60.5411(a)(3)(i)(B), if the seal or closure mechanism has been broken, the bypass line valve position has changed, the key for the lock-and-key type lock has been checked out, or the car-seal has broken.
6. For a combustion control device whose model is tested under § 60.5413(d), a deviation occurs when the conditions of paragraphs (i) or (ii) below are met.
 - (i) The inlet gas flow rate exceeds the maximum established during the test conducted under § 60.5413(d).
 - (ii) Failure of the quarterly visible emissions test conducted under § 60.5413(e)(3) occurs.
- h. For each control device used to comply with the emission reduction standard in § 60.5395(d)(1) for your storage vessel affected facility, you must demonstrate continuous compliance according to paragraphs (h)(1) through (h)(3) of this section. You are exempt from the requirements of this paragraph if you install a control device model tested in accordance with § 60.5413(d)(2) through (10), which meets the criteria in § 60.5413(d)(11), the reporting requirement in § 60.5413(d)(12), and meet the continuous compliance requirement in § 60.5413(e).
 1. For each combustion device you must conduct inspections at least once every calendar month according to paragraphs (h)(1)(i) through (iv) of this section. Monthly inspections must be separated by at least 14 calendar days.
 - (i) Conduct visual inspections to confirm that the pilot is lit when vapors are being routed to the combustion device and that the continuous burning pilot flame is operating properly.
 - (ii) Conduct inspections to monitor for visible emissions from the combustion device using section 11 of EPA Method 22, 40 CFR part 60, appendix A. The observation period shall be 15 minutes. Devices must be operated with no visible emissions, except for periods not to exceed a total of 1 minute during any 15 minute period.

- (iii) Conduct olfactory, visual and auditory inspections of all equipment associated with the combustion device to ensure system integrity.
 - (iv) For any absence of pilot flame, or other indication of smoking or improper equipment operation (e.g., visual, audible, or olfactory), you must ensure the equipment is returned to proper operation as soon as practicable after the event occurs. At a minimum, you must perform the procedures specified in paragraphs (h)(1)(iv)(A) and (B) of this section.
 - (A) You must check the air vent for obstruction. If an obstruction is observed, you must clear the obstruction as soon as practicable.
 - (B) You must check for liquid reaching the combustor.
2. For each vapor recovery device, you must conduct inspections at least once every calendar month to ensure physical integrity of the control device according to the manufacturer's instructions. Monthly inspections must be separated by at least 14 calendar days.
 3. Each control device must be operated following the manufacturer's written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions. Records of the manufacturer's written operating instructions, procedures, and maintenance schedule must be available for inspection as specified in § 60.5420(c)(13).
[NSPS, Subpart OOOO; 40CFR§60.5417]

8.3. Testing Requirements

- 8.3.1. This section contains the requirements for enclosed combustion device performance tests conducted by the manufacturer applicable to storage vessel affected facilities.
 - a. *Performance test exemptions.* The applicant is exempt from the requirements to conduct performance tests and design analyses if you use any of the control devices described in paragraphs (1 – 7) below:
 1. A flare that is designed and operated in accordance with §60.18(b). You must conduct the compliance determination using Method 22 at 40 CFR part 60, appendix A-7, to determine visible emissions.
 2. A boiler or process heater with a design heat input capacity of 44 megawatts or greater.
 3. A boiler or process heater into which the vent stream is introduced with the primary fuel or is used as the primary fuel.
 4. A boiler or process heater burning hazardous waste for which you have either been issued a final permit under 40 CFR part 270 and comply with the requirements of 40 CFR part 266, subpart H; or you have certified compliance with the interim status requirements of 40 CFR part 266, subpart H.
 5. A hazardous waste incinerator for which you have been issued a final permit under 40 CFR part 270 and comply with the requirements of 40 CFR part 264, subpart O; or you have certified compliance with the interim status requirements of 40 CFR part 265, subpart O.
 6. A performance test is waived in accordance with §60.8(b).

7. A control device whose model can be demonstrated to meet the performance requirements of § 60.5412(a) through a performance test conducted by the manufacturer, as specified in paragraph (d) of this section.
- b. *Test methods and procedures.* The applicant shall use the test methods and procedures specified in section paragraphs (1)-(5) below, as applicable, for each performance test conducted to demonstrate that a control device meets the requirements of § 60.5412(a). You must conduct the initial and periodic performance tests according to the schedule specified in (b)(5) of this section.
1. You must use Method 1 or 1A at 40 CFR part 60, appendix A-1, as appropriate, to select the sampling sites specified in paragraphs (i) - (ii) below. Any references to particulate mentioned in Methods 1 and 1A do not apply to this section.
 - i. Sampling sites must be located at the inlet of the first control device, and at the outlet of the final control device, to determine compliance with the control device percent reduction requirement specified in § 60.5412(a)(1)(i) or (a)(2).
 - ii. The sampling site must be located at the outlet of the combustion device to determine compliance with the enclosed combustion device total TOC concentration limit specified in § 60.5412(a)(1)(ii).
 2. You must determine the gas volumetric flowrate using Method 2, 2A, 2C, or 2D at 40 CFR part 60, appendix A-2, as appropriate.
 3. To determine compliance with the control device percent reduction performance requirement in § 60.5412(a)(1)(i) or (a)(2), you must use Method 25A at 40 CFR part 60, appendix A-7. You must use the procedures in paragraphs (i)-(iv) below to calculate percent reduction efficiency.
 - i. For each run, you must take either an integrated sample or a minimum of four grab samples per hour. If grab sampling is used, then the samples must be taken at approximately equal intervals in time, such as 15-minute intervals during the run.
 - ii. You must compute the mass rate of TOC (minus methane and ethane) using the equations and procedures specified in paragraphs (A) and (B) below:

(A) You must use the following equations:

$$E_i = K_2 \left(\sum_{j=1}^n C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_2 \left(\sum_{j=1}^n C_{oj} M_{oj} \right) Q_o$$

Where:

E_i , E_o = Mass rate of TOC (minus methane and ethane) at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.

K_2 = Constant, 2.494×10^{-6} (parts per million) (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature (gram-mole per standard cubic meter) is 20°C.

C_{ij} , C_{oj} = Concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, dry basis, parts per million by volume.

M_{ij} , M_{oj} = Molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.

Q_i , Q_o = Flowrate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

n = Number of components in sample.

(B) When calculating the TOC mass rate, you must sum all organic compounds (minus methane and ethane) measured by Method 25A at 40 CFR part 60, appendix A-7 using the equations in paragraph A of this permit section.

iii. You must calculate the percent reduction in TOC (minus methane and ethane) as follows:

$$R_{cd} = \frac{E_i - E_o}{E_i} * 100\%$$

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Where:

R_{cd} = Control efficiency of control device, percent.

E_i = Mass rate of TOC (minus methane and ethane) at the inlet to the control device as calculated under paragraph (b)(3)(ii) of this section, kilograms TOC per hour or kilograms HAP per hour.

E_o = Mass rate of TOC (minus methane and ethane) at the outlet of the control device, as calculated under under paragraph (b)(3)(ii) of this section, kilograms TOC per hour per hour.

- iv. If the vent stream entering a boiler or process heater with a design capacity less than 44 megawatts is introduced with the combustion air or as a secondary fuel, you must determine the weight-percent reduction of total TOC (minus methane and ethane) across the device by comparing the TOC (minus methane and ethane) in all combusted vent streams and primary and secondary fuels with the TOC (minus methane and ethane) exiting the device, respectively.
4. You must use Method 25A at 40 CFR part 60, appendix A-7 to measure TOC (minus methane and ethane) to determine compliance with the enclosed combustion device total VOC concentration limit specified in § 60.5412(a)(1)(ii). You must calculate parts per million by volume concentration and correct to 3 percent oxygen, using the procedures in paragraphs (i) – (iii) below:
 - i. For each run, you must take either an integrated sample or a minimum of four grab samples per hour. If grab sampling is used, then the samples must be taken at approximately equal intervals in time, such as 15-minute intervals during the run.

- ii. You must calculate the TOC concentration for each run as follows:

$$C_{TOC} = \frac{\sum_{i=1}^x (\sum_{j=1}^n C_{ji})}{x}$$

Where:

C_{TOC} = Concentration of total organic compounds minus methane and ethane, dry basis, parts per million by volume.

C_{ji} = Concentration of sample component j of sample i, dry basis, parts per million by volume.

n = Number of components in the sample.

x = Number of samples in the sample run.

- iii. You must correct the TOC concentration to 3 percent oxygen as specified in paragraphs A and B below.
 - A. You must use the emission rate correction factor for excess air, integrated sampling and analysis procedures of Method 3A or 3B at 40 CFR part 60, appendix A to determine the oxygen concentration. The samples must be taken during the same time that the samples are taken for determining TOC concentration.
 - B. You must correct the TOC concentration for percent oxygen as follows:

$$C_c = C_m \left(\frac{17.9}{20.9 - \%O_{2d}} \right)$$

Where:

C_c = TOC concentration corrected to 3 percent oxygen, dry basis, parts per million by volume.

C_m = TOC concentration, dry basis, parts per million by volume.

$\%O_{2d}$ = Concentration of oxygen, dry basis, percent by volume.

5. The applicant shall conduct performance tests according to the schedule specified in paragraphs (i) and (ii) below:
- i. You must conduct an initial performance test within 180 days after initial startup for your affected facility. You must submit the performance test results as required in § 60.5420(b)(7).
 - ii. You must conduct periodic performance tests for all control devices required to conduct initial performance tests except as specified in paragraphs A and B below. You must conduct the first periodic performance test no later than 60 months after the initial performance test required in paragraph (i) of this permit section. You must conduct subsequent periodic performance tests at intervals no longer than 60 months following the previous periodic performance test or whenever you desire to establish a new operating limit. You must submit the periodic performance test results as specified in § 60.5420(b)(7). Combustion control devices meeting the criteria in either paragraph (A) or (B) below are not required to conduct periodic performance tests.
 - A. A control device whose model is tested under, and meets the criteria of section 8.3.1 (d) of this permit.
 - B. A combustion control device tested under section 8.3.1(b) of this permit that meets the outlet TOC performance level specified in § 60.5412(a)(1)(ii) and that establishes a correlation between firebox or combustion chamber temperature and the TOC performance level.
- c. *Control device design analysis.* Control device design analysis to meet the requirements of § 60.5412(a).
1. For a condenser, the design analysis must include an analysis of the vent stream composition, constituent concentrations, flowrate, relative humidity, and temperature, and must 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.
 2. For a regenerable carbon adsorption system, the design analysis shall include the vent stream composition, constituent concentrations, flowrate, 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 the carbon beds, design total regeneration stream 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 the carbon.

3. For a nonregenerable carbon adsorption system, such as a carbon canister, the design analysis shall include the vent stream composition, constituent concentrations, flowrate, relative humidity, and temperature, and shall establish the design exhaust vent stream organic compound concentration level, capacity of the carbon bed, type and working capacity of activated carbon used for the carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule. In addition, these systems will incorporate dual carbon canisters in case of emission breakthrough occurring in one canister.
 4. If you and the Administrator do not agree on a demonstration of control device performance using a design analysis, then you must perform a performance test in accordance with the requirements of paragraph (b) of this section to resolve the disagreement. The Administrator may choose to have an authorized representative observe the performance test.
- d. *Performance testing for combustion control devices - manufacturers' performance test.*
1. This paragraph applies to the performance testing of a combustion control device conducted by the device manufacturer. The manufacturer must demonstrate that a specific model of control device achieves the performance requirements in paragraph (d)(11) of this section by conducting a performance test as specified in paragraphs (d)(2) through (10) of this section. You must submit a test report for each combustion control device in accordance with the requirements in paragraph (d)(12) of this section.
 2. – 10. *Reserved.*
 11. *Performance test criteria.*
 - (i) The control device model tested must meet the criteria in paragraphs (d)(11)(i)(A) through (D) of this section. These criteria must be reported in the test report required by paragraph (d)(12) of this section.
 - (A) Method 22, 40 CFR part 60, appendix A, results under paragraph (d)(10) of this section with no indication of visible emissions.
 - (B) Average Method 25A, 40 CFR part 60, appendix A, results under paragraph (d)(9) of this section equal to or less than 10.0 ppmvw THC as propane corrected to 3.0 percent CO₂.
 - (C) Average CO emissions determined under paragraph (d)(8) of this section equal to or less than 10 parts ppmvd, corrected to 3.0 percent CO₂.
 - (D) Excess combustion air determined under paragraph (d)(7) of this section equal to or greater than 150 percent.
 - (ii) The manufacturer must determine a maximum inlet gas flow rate which must not be exceeded for each control device model to achieve the criteria in paragraph (d)(11)(iii) of this section. The maximum inlet gas flow rate must be included in the test report required by paragraph (d)(12) of this section.
 - (iii) A control device meeting the criteria in paragraph (d)(11)(i)(A) through (D) of this section must demonstrate a destruction efficiency of 95 percent for VOC regulated under this subpart.

12. The owner or operator of a combustion control device model tested under this paragraph must submit the information listed in paragraphs (d)(12)(i) through (vi) in the test report required by this section in accordance with § 60.5420(b)(8).

- (i) A full schematic of the control device and dimensions of the device components.
- (ii) The maximum net heating value of the device.
- (iii) The test fuel gas flow range (in both mass and volume). Include the maximum allowable inlet gas flow rate.
- (iv) The air/stream injection/assist ranges, if used.
- (v) The test conditions listed in paragraphs (d)(12)(v)(A) through (O) of this section, as applicable for the tested model.

- (A) Fuel gas delivery pressure and temperature.
- (B) Fuel gas moisture range.
- (C) Purge gas usage range.
- (D) Condensate (liquid fuel) separation range.
- (E) Combustion zone temperature range. This is required for all devices that measure this parameter.
- (F) Excess combustion air range.
- (G) Flame arrestor(s).
- (H) Burner manifold.
- (I) Pilot flame indicator.
- (J) Pilot flame design fuel and calculated or measured fuel usage.
- (K) Tip velocity range.
- (L) Momentum flux ratio.
- (M) Exit temperature range.
- (N) Exit flow rate.
- (O) Wind velocity and direction.

(vi) The test report must include all calibration quality assurance/quality control data, calibration gas values, gas cylinder certification, strip charts, or other graphic presentations of the data annotated with test times and calibration values.

(e) *Continuous compliance for combustion control devices tested by the manufacturer in accordance with paragraph (d) of this section.* This paragraph applies to the demonstration of compliance for a combustion control device tested under the provisions in paragraph (d) of this section. Owners or operators must demonstrate that a control device achieves the performance requirements in (d)(11) of this section by installing a device tested under paragraph (d) of this section and complying with the criteria specified in paragraphs (e)(1) through (6) of this section.

1. The inlet gas flow rate must be equal to or less than the maximum specified by the manufacturer.
2. A pilot flame must be present at all times of operation.
3. Devices must be operated with no visible emissions, except for periods not to exceed a total of 2 minutes during any hour. A visible emissions test using Method 22, 40 CFR part 60, appendix A, must be performed each calendar quarter. The observation period must be 1 hour and must be conducted according to EPA Method 22, 40 CFR part 60, appendix A.

4. Devices failing the visible emissions test must follow manufacturer's repair instructions, if available, or best combustion engineering practice as outlined in the unit inspection and maintenance plan, to return the unit to compliant operation. All repairs and maintenance activities for each unit must be recorded in a maintenance and repair log and must be available for inspection.
5. Following return to operation from maintenance or repair activity, each device must pass an EPA Method 22, 40 CFR part 60, appendix A, visual observation as described in paragraph (e)(3) of this section.
6. If the owner or operator operates a combustion control device model tested under this section, an electronic copy of the performance test results required by this section shall be submitted via email to *Oil_and_Gas_PT@EPA.GOV* unless the test results for that model of combustion control device are posted at the following Web site: *epa.gov/airquality/oilandgas/*
[NSPS, Subpart OOOO; 40CFR§60.5413]

8.4. Recordkeeping Requirements

8.4.1. *Recordkeeping requirements.* You must maintain the records identified as specified in § 60.7(f) and in paragraphs (c)(1) through (13) of this section. All records required by this subpart must be maintained either onsite or at the nearest local field office for at least 5 years.

1. – 4. *Reserved.*

5. Except as specified in paragraph (c)(5)(v) of this section, for each storage vessel affected facility, you must maintain the records identified in paragraphs (c)(5)(i) through (iv) of this section.

(i) If required to reduce emissions by complying with § 60.5395(d)(1), the records specified in §§ 60.5420(c)(6) through (8), § 60.5416(c)(6)(ii), and § 60.6516(c)(7)(ii) of this subpart.

(ii) Records of each VOC emissions determination for each storage vessel affected facility made under § 60.5365(e) including identification of the model or calculation methodology used to calculate the VOC emission rate.

(iii) Records of deviations in cases where the storage vessel was not operated in compliance with the requirements specified in §§ 60.5395, 60.5411, 60.5412, and 60.5413, as applicable.

(iv) For storage vessels that are skid-mounted or permanently attached to something that is mobile (such as trucks, railcars, barges or ships), records indicating the number of consecutive days that the vessel is located at a site in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment. If a storage vessel is removed from a site and, within 30 days, is either returned to or replaced by another storage vessel at the site to serve the same or similar function, then the entire period since the original storage vessel was first located at the site, including the days when the storage vessel was removed, will be added to the count towards the number of consecutive days.

(v) You must maintain records of the identification and location of each storage vessel affected facility.

6. Records of each closed vent system inspection required under § 60.5416(c)(1) for storage vessels.

7. A record of each cover inspection required under § 60.5416(c)(2) for storage vessels.
8. If you are subject to the bypass requirements of § 60.5416(c)(3) for storage vessels, a record of each inspection or a record each time the key is checked out or a record of each time the alarm is sounded.
9. – 11. *Reserved.*
12. For each carbon adsorber installed on storage vessel affected facilities, records of the schedule for carbon replacement (as determined by the design analysis requirements of § 60.5412(d)(2)) and records of each carbon replacement as specified in § 60.5412(c)(1).
13. For each storage vessel affected facility subject to the control device requirements of § 60.5412(c) and (d), you must maintain records of the inspections, including any corrective actions taken, the manufacturers' operating instructions, procedures and maintenance schedule as specified in § 60.5417(h). You must maintain records of EPA Method 22, 40 CFR part 60, appendix A, section 11 results, which include: company, location, company representative (name of the person performing the observation), sky conditions, process unit (type of control device), clock start time, observation period duration (in minutes and seconds), accumulated emission time (in minutes and seconds), and clock end time. You may create your own form including the above information or use Figure 22-1 in EPA Method 22, 40 CFR part 60, appendix A. Manufacturer's operating instructions, procedures and maintenance schedule must be available for inspection.
[NSPS, Subpart OOOO; 40CFR§60.5420©]

8.5. Reporting Requirements

- 8.5.1. *Notification Requirements.* You must submit the notifications according to paragraphs (a)(1) and (2) of this section if you own or operate one or more of the affected facilities specified in § 60.5365 that was constructed, modified, or reconstructed during the reporting period.
1. If you own or operate a storage vessel affected facility you are not required to submit the notifications required in § 60.7(a)(1), (3), and (4).
[40CFR§60.5420(a)]
- 8.5.2. *Reporting requirements.* You must submit annual reports containing the information specified in paragraphs (b)(1) through (6) of this section to the Administrator and performance test reports as specified in paragraph (b)(7) or (8) of this section. The initial annual report is due no later than 90 days after the end of the initial compliance period as determined according to § 60.5410. Subsequent annual reports are due no later than same date each year as the initial annual report. If you own or operate more than one affected facility, you may submit one report for multiple affected facilities provided the report contains all of the information required as specified in paragraphs (b)(1) through (6) of this section. Annual reports may coincide with title V reports as long as all the required elements of the annual report are included. You may arrange with the Administrator a common schedule on which reports required by this part may be submitted as long as the schedule does not extend the reporting period.
1. The general information specified in paragraphs (b)(1)(i) through (iv) of this section.
 - (i) The company name and address of the affected facility.
 - (ii) An identification of each affected facility being included in the annual report.
 - (iii) Beginning and ending dates of the reporting period.

- (iv) A certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

2. – 5. *Reserved.*

6. For each storage vessel affected facility, the information in paragraphs (b)(6)(i) through (vii) of this section.

- (i) An identification, including the location, of each storage vessel affected facility for which construction, modification or reconstruction commenced during the reporting period. The location of the storage vessel shall be in latitude and longitude coordinates in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983.
- (ii) Documentation of the VOC emission rate determination according to § 60.5365(e).
- (iii) Records of deviations specified in paragraph (c)(5)(iii) of this section that occurred during the reporting period.
- (iv) You must submit a notification identifying each Group 1 storage vessel affected facility in your initial annual report. You must include the location of the storage vessel, in latitude and longitude coordinates in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983.
- (v) A statement that you have met the requirements specified in § 60.5410(h)(2) and (3).
- (vi) You must identify each storage vessel affected facility that is removed from service during the reporting period as specified in § 60.5395(f)(1).
- (vii) You must identify each storage vessel affected facility for which operation resumes during the reporting period as specified in § 60.5395(f)(2)(iii).

7. (i) Within 60 days after the date of completing each performance test (see § 60.8 of this part) as required by this subpart, except testing conducted by the manufacturer as specified in §60.5413(d), you must submit the results of the performance tests required by this subpart to the EPA as follows. You must use the latest version of the EPA's Electronic Reporting Tool (ERT) (see <http://www.epa.gov/ttn/chief/ert/index.html>) existing at the time of the performance test to generate a submission package file, which documents the performance test. You must then submit the file generated by the ERT through the EPA's Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed by logging in to the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). Only data collected using test methods supported by the ERT as listed on the ERT Web site are subject to this requirement for submitting reports electronically. Owners or operators who claim that some of the information being submitted for performance tests is confidential business information (CBI) must submit a complete ERT file including information claimed to be CBI on a compact disk or other commonly used electronic storage media (including, but not limited to, flash drives) to EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: WebFIRE Administrator, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT file with the CBI omitted must be submitted to EPA via CDX as described earlier in this paragraph. At the discretion of the delegated authority, you must also submit these reports, including the confidential business

information, to the delegated authority in the format specified by the delegated authority. For any performance test conducted using test methods that are not listed on the ERT Web site, the owner or operator shall submit the results of the performance test to the Administrator at the appropriate address listed in § 60.4.

(ii) All reports, except as specified in paragraph (b)(8) of this section, required by this subpart not subject to the requirements in paragraph (a)(2)(i) of this section must be sent to the Administrator at the appropriate address listed in § 60.4 of this part. The Administrator or the delegated authority may request a report in any form suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy).

8. For enclosed combustors tested by the manufacturer in accordance with § 60.5413(d), an electronic copy of the performance test results required by § 60.5413(d) shall be submitted via email to *Oil_and_Gas_PT@EPA.GOV* unless the test results for that model of combustion control device are posted at the following Web site:
epa.gov/airquality/oilandgas/.
[NSPS, Subpart OOOO; §60.5420(b)]

DRAFT

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature¹
(please use blue ink) Responsible Official or Authorized Representative Date
Name and Title
(please print or type) Name Title
Telephone No. Fax No.

¹This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
 - (ii) the delegation of authority to such representative is approved in advance by the Director;
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of USEPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.