West Virginia Department of Environmental Protection
Division of Air Quality

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

Dominion Transmission, Inc
Lightburn Station
R30-04100013-2012

John A. Benedict
Director

Issued: July 24, 2012 • Effective: August 7, 2012
Expiration: July 24, 2017 • Renewal Application Due: January 24, 2017

Permit Number: **R30-04100013-2012**
Permittee: **Dominion Transmission, Inc.**
Facility Name: **Lightburn Station**
Mailing Address: **445 West Main Street**
Clarksburg, WV 26301

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Jane Lew, Lewis County, West Virginia
Mailing Address:	6486 Old Mill Road, Jane Lew, WV 26378
Telephone Number:	(304) 884-7845
Type of Business Entity:	Corporation
Facility Description:	Natural Gas Transmission Facility
SIC Codes:	4922
UTM Coordinates:	547.54 km Easting • 4331.11 km Northing • Zone 17

Permit Writer: Denton McDerment

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.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Lightburn Compressor Station (LCS)					
001-01	EN01*	Reciprocating Engine/Integral Compressor; Clark TLA-6	1964	2000 HP	N/A
001-02	EN02*	Reciprocating Engine/Integral Compressor; Clark TLA-6	1964	2000 HP	N/A
001-03	EN03*	Reciprocating Engine/Integral Compressor; Clark TCV-12	1968	4000 HP	N/A
001-04	EN04*	Reciprocating Engine/Integral Compressor; Clark TCV-12	1970	4000 HP	N/A
001-05	EN05*	Reciprocating Engine/Integral Compressor; Clark TCV-12	1970	4000 HP	N/A
001-06	EN06* (6)	Reciprocating Engine/Integral Compressor; Dresser Rand TCVD-12	1993	6060 HP	N/A
001-07	EN07* (7)	Reciprocating Engine/Integral Compressor; Dresser Rand TCVD-12	1993	6060 HP	N/A
002-02	AUX02* (11)	Reciprocating Engine/Auxiliary Generator; Caterpillar	2002	1085 HP	N/A
004-01	DEHY01*	Dehydration Unit Still; Natco	1967	600 mmscf/day	Flare (~~DEHY1~~ F1)
004-02	DEHY02*	Dehydration Unit Still; Natco	1994	600 mmscf/day	Flare (~~DEHY2~~ F2)
005-01	BLR01*	Boiler; Cleaver Brooks CB786-250	1969	10.461 MMBtu/hr	N/A
005-02	BLR02* (14)	Boiler; Bryan HE-RV550-W-FDG	2009	5.5 MMBtu/hr	N/A
005-03	HTR01*	Boiler; Natco 4X6-27Y	1967	4.0 MMBtu/hr	N/A
005-04	RBR01*	Dehydration Reboiler; Natco 5GR-2000	1967	2.29 MMBtu/hr	N/A
005-05	RBR02* (13)	Dehydration Reboiler; Natco 5B32/18-24	1994	3.33 MMBtu/hr	N/A
~~0001~~ 0003	~~DEHY1~~ F1*	~~Dehydration unit flare; 95% destruction efficiency~~ Questor Q250 Dehydration Unit #1 Flare (enclosed combustion device)	~~1967~~ 2014	~~613.5~~ 539.5 s~~a~~cf/min	N/A
~~0002~~ 0004	~~DEHY2~~ F2 *	~~Dehydration unit flare; 95% destruction efficiency~~ Questor Q250 Dehydration Unit #2 Flare (enclosed combustion device)	~~1994~~ 2014	~~381.8~~ 539.5 s~~a~~cf/min	N/A

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Lightburn Extraction Plant (LEP)					
006-01	EN08*	Caterpillar 3612 Compressor Engine	2010	3,550 hp	CC1
006-02	EN09*	Caterpillar 3612 Compressor Engine	2010	3,550 hp	CC2
007-01	EN10	John Deere Co. JU6H-UF54 Fire Pump Engine	2010	216hp	None
007-02	EN11	John Deere Co. JU6H-UF54 Fire Pump Engine	2010	216hp	None
008-01	FLARE3	Horizontal Natural Gas Liquid Storage Tank	2010	60,000 gal	Pressure Tank
008-02	FLARE3	Horizontal Natural Gas Liquid Storage Tank	2010	60,000 gal	Pressure Tank
008-03	FLARE3	Horizontal Natural Gas Liquid Storage Tank	2010	60,000 gal	Pressure Tank
008-04	FLARE3	Horizontal Natural Gas Liquid Storage Tank	2010	60,000 gal	Pressure Tank
009-01	FLARE3	Natural Gas Liquid Loading Rack #1	2010	400 gpm	Vapor Return to Tank
009-02	FLARE3	Natural Gas Liquid Loading Rack #2	2010	400 gpm	Vapor Return to Tank
011-01	FLARE3	Emergency and Maintenance Flare	2010	94,000 lb/hr	FLARE3
014-01	Vent	Diesel Fuel Storage Tank assoc. with Fire Pump 007-01	2010	290 gal	None
014-02	Vent	Diesel Fuel Storage Tank assoc. with Fire Pump 007-02	2010	290 gal	None
014-03	Vent	Methanol Storage Tank for De-icing	2010	500 gal	None
012-01	AUX-03*	Emergency Generator	2011	150 kw 254 hp	Catalyst

*** This equipment burns or combusts pipeline quality natural gas only.**

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2823~~C~~D	~~March 17, 2014~~ October 6, 2014
R14-0009E	January 7, 2009

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 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments
CBI	Confidential Business Information
CEM	Continuous Emission Monitor
CES	Certified Emission Statement
C.F.R. *or* CFR	Code of Federal Regulations
CO	Carbon Monoxide
C.S.R. *or* CSR	Codes of State Rules
DAQ	Division of Air Quality
DEP	Department of Environmental Protection
FOIA	Freedom of Information Act
HAP	Hazardous Air Pollutant
HON	Hazardous Organic NESHAP
HP	Horsepower
lbs/hr *or* lb/hr	Pounds per Hour
LDAR	Leak Detection and Repair
m	Thousand
MACT	Maximum Achievable Control Technology
mm	Million
mmBtu/hr	Million British Thermal Units per Hour
mmft^3/hr *or* mmcf/hr	Million Cubic Feet Burned per Hour
NA *or* N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	Particulate Matter less than 10µm in diameter
pph	Pounds per Hour
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
TPY	Tons per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
USEPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
VEE	Visual Emissions Evaluation
VOC	Volatile Organic Compounds

2.3. Permit Expiration and Renewal

2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]

2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]

2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]

2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

2.5.1. This permit shall be reopened and revised under any of the following circumstances:

a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.

b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.

c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

a. The change must meet all applicable requirements and may not violate any existing permit term or condition.

b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield.

d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.
[45CSR§30-5.8]

2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.
[45CSR§30-5.8.a.]

2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or

b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.

a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.

b. The permit shield shall extend to all terms and conditions under each such operating scenario; and

c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. 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; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

2.14.1. 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.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and

b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

2.16.1. It shall not be a defense for a permittee in an enforcement action that it would 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.
[45CSR§30-5.1.f.2.]

2.17. Emergency

2.17.1. An "emergency" means any situation arising from sudden and reasonably 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.
[45CSR§30-5.7.a.]

2.17.2. 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 45CSR§30-5.7.c. are met.
[45CSR§30-5.7.b.]

2.17.3. 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. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, 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, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
[45CSR§30-5.7.d.]

2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.
[45CSR§30-5.7.e.]

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.
[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as “State-enforceable only” shall become “Federally-enforceable” requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

2.19.1. 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 modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required 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.
[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

2.20.1. 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.
[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.
[45CSR§30-5.6.a.]

2.21.2. Nothing in this permit shall alter or affect the following:

a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or

b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.

c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. 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 defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.
[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.
[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.
[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.
[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person 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 or allow 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.
[40 C.F.R. §61.145(b) and 45CSR34]

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. **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 45CSR11.
[45CSR§11-5.2]

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]

3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.1.9. In order to demonstrate compliance with the annual emission limitation in Section 3.1.12, the permittee shall not operate the 1085 HP auxiliary power unit more than 1,340 hours per year.
[45CSR14, R14-0009, A.6] [AUX02]

3.1.10. Emissions from emission point 6 (EN06) shall not exceed the following:

Pollutant	Performance Specification (g/hp-hr)	Emission Rate	
		Lb/hr	TPY
Nitrogen Oxides (NOx)	2.0	26.7	117.0
Carbon Monoxide (CO)	2.9	38.7	169.5
Volatile Organic Compounds (VOC)	0.82	11.0	48.2
Sulfur Dioxide (SO_2)	0.002	0.027	0.12

[45CSR14, R14-0009, A.1] [EN06]

3.1.11. Emissions from emission point 7 (EN07) shall not exceed the following:

Pollutant	Performance Specification (g/hp-hr)	Emission Rate	
		Lb/hr	TPY
Nitrogen Oxides (NOx)	2.0	26.7	117.0
Carbon Monoxide (CO)	2.9	38.7	169.5
Volatile Organic Compounds (VOC)	0.82	11.0	48.2
Sulfur Dioxide (SO_2)	0.002	0.027	0.12

[45CSR14, R14-0009, A.2] [EN07]

3.1.12. Emissions from emission point 11 (AUX02) shall not exceed the following:

Pollutant	Performance Specification (g/hp-hr)	Emission Rate	
		Lb/hr	TPY
Nitrogen Oxides (NOx)	2.0	4.78	3.21
Carbon Monoxide (CO)	1.5	3.59	2.40
Volatile Organic Compounds (VOC)	0.60	1.44	0.96
Formaldehyde		0.46	0.31
PM_{10}		0.0746	0.05
SO_2		0.0045	0.00

[45CSR14, R14-0009, A.3] [AUX02]

3.1.13. Pursuant to the letter dated February 26, 2007, all air displaced from the odorant tanks during filling shall be vented into the natural gas transmission pipeline.
[45CSR14, R14-0009, A.7]

3.1.14. No person shall cause, suffer, allow or permit fugitive particulate matter to be discharged beyond the boundary lines of the property on which the discharge originates or at any public or residential location, which causes or contributes to statutory air pollution.
[45CSR§17-3.1; State Enforceable Only]

3.1.15 If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of 40 C.F.R.§ 63.6640. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under 40 C.F.R. 63 Subpart ZZZZ and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[45CSR34, 40 C.F.R. §63.6640(f)(2)] (002-02)

3.2. Monitoring Requirements

3.2.1. Monthly emissions of SO_2 from each engine (EN06 & EN07) shall be calculated by the fifteenth day of the subsequent month utilizing the equation(s) listed below:
SO_2 Emission Rate (tons/month): (6060 hp) x (0.002 gm/bhp-hr) x (Operating Hours/Month) x (1 lb / 453.6 gm) x (1 ton / 2000 lb).
A twelve month rolling total of emissions will be maintained to verify compliance with the annual emission limitations set forth in Sections 3.1.10 & 3.1.11 of this permit. Each month a new twelve month total shall be calculated using the previous twelve months data. Compliance with the hourly emission limits shall be demonstrated by converting to pounds and dividing the monthly calculated emissions by the number of operating hours in the previous month to obtain an hourly average. Records indicating the hourly and twelve month rolling total emissions shall be maintained on site for a period of no less than five (5) years.
[45CSR14, R14-0009, B.5] [EN06, EN07]

3.2.2. The following equations shall be used to calculate emission rates to be reported annually:

NO_x Emission Rate: (1085 hp) x (2.0 gm/bhp-hr) x (Operating Hours/Month) x (1 lb / 453.6 gm) x (1 ton / 2000 lb) = tons/Month

CO Emission Rate: (1085 hp) x (1.5 gm/bhp-hr) x (Operating Hours/Month) x (1 lb / 453.6 gm) x (1 ton / 2000 lb) = tons/Month

VOC Emission Rate: (1085 hp) x (0.60 gm/bhp-hr) x (Operating Hours/Month) x (1 lb / 453.6 gm) x

(1 ton / 2000 lb) = tons/Month

Formaldehyde Emission Rate: (1085 hp) x (0.1908582 gm/bhp-hr) x (Operating Hours/Month) x (1 lb / 453.6 gm) x (1 ton / 2000 lb) = tons/Month

Methanol Emission Rate: (1085 hp) x (0.0128755 gm/bhp-hr) x (Operating Hours/Month) x (1 lb / 453.6 gm) x (1 ton / 2000 lb) = tons/Month

Acrolein Emission Rate: (1085 hp) x (0.0176999 gm/bhp-hr) x (Operating Hours/Month) x (1 lb / 453.6 gm) x (1 ton / 2000 lb) = tons/Month

PM_{10} Emission Rate: (1085 hp) x (7011 btu/bhp-hr) x (Operating Hours/Month) x (10 lb / mmcf) x (mmcf / 1020000000 btu) = pounds/Month

SO_2 Emission Rate: (1085 hp) x (7011 btu/bhp-hr) x (Operating Hours/Month) x (0.6 lb / mmcf) x (mmcf / 1020000000 btu) = pounds/Month

A twelve month rolling total of hours of operation by month will be maintained to verify compliance with the long term emission limitations. Each month a new twelve month total shall be calculated using the previous twelve months data. Compliance with the limitation on hours of operation per year shall be deemed to satisfy the emission limitation requirements. Records indicating twelve month rolling total hours of operation by month shall be maintained on site for a period of no less than five (5) years.
[45CSR§30-5.1.c] [AUX02]

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, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are 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.

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 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.

3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(14-15) and 45CSR13]
[45CSR13, R13-2823, 11.2.1. and 11.2.2. (007-01, 007-02)]

3.3.2. In order to determine compliance with the emission limitations set forth in Sections 3.1.10 & 3.1.11, the permittee shall conduct annual stack tests on emission points EN06 and EN07 using an emissions analyzer and a flame ionization detector to determine compliance with the hourly emission rates for NO_x , CO and VOC. Compliance tests of the 6060 horsepower compressor engines shall be conducted at 70% and 100% of the full torque setting. Test results and the dates of the tests shall be maintained on site for a period of no less than five (5) years. In addition, at least once every five years, the permittee shall conduct stack tests employing the following methods to verify the accuracy of the emissions analyzer and flame ionization detector:

Pollutant	USEPA Test Method *
NO_x	7, 7A, 7C, 7D, or 7E
CO	10, 10B
VOC	25, 25A

*Test Methods located at 40 CFR 60 Appendix A
[45CSR14, R14-0009, B.4] [EN06, EN07]

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** 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.

[45CSR§30-5.1.c.2.A; 45CSR13, R13-2823, 4.1.1.]
[**45CSR13, R13-2823, 11.3.2. (007-01, 007-02)**]

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.
[45CSR§30-5.1.c.2.B.]

3.4.3. **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§30-5.1.c. State-Enforceable only.]

3.4.4. In order to determine compliance with the operational limitations set forth in Section 3.1.9, the permittee shall keep monthly records of the operation of the 1,085 HP auxiliary power unit. Such records shall be kept on site for a period of not less than five years and be made available to the Director or his duly authorized representative upon request. **[45CSR14, R14-0009, B.4] [AUX02]**

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.
[45CSR§§30-4.4. *and* 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]

3.5.3. Except for the electronic submittal of the annual certification to the USEPA as required in 3.5.5 below, 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, mailed first class or by private carrier 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

Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:

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

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.
[45CSR§30-8.]

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification.
[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4.
[45CSR§30-5.1.c.3.A.]

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.

2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.

4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary. **[45CSR§30-5.1.c.3.B.]**

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement. **[45CSR§30-4.3.h.1.B.]**

3.6. Compliance Plan

N/A

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

3.7.2.1. **40 C.F.R. Part 60 Subpart Kb -** ***Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*****.** 40 C.F.R. §60.110b(d)(2) states that this subpart does not apply to pressure vessels designed to operate in excess of 204.9 kPa (29.7 psi) and without emissions to the atmosphere. The Horizontal Natural Gas Liquid Storage Tanks at the Lightburn Extraction Plant (Em. Unit IDs: 008-01, 008-02, 008-03, 008-04) will be operated at 225 psi and do not vent to atmosphere since their emissions are controlled by FLARE3. Since these tanks do not meet the applicability criteria they are not subject to this rule. The Diesel Fuel Storage Tanks and Methanol Storage Tank (Em. Unit IDs: 014-01, 014-02, 014-03) are all of design capacity less than 75 cubic meters. Since these tanks do not meet the applicability criteria of §60.110b(a), they are not subject to this rule.

3.7.2.2. **40 C.F.R. Part 60 Subpart LLL – *Standards of Performance for Onshore Natural Gas Processing: SO_2 Emissions.*** According to 40 C.F.R. §60.640(a), this rule applies to the following affected facilities: each sweetening unit, and each sweetening unit followed by a sulfur recovery unit. There are no sweetening units at the Lightburn Extraction Plant (LEP). The remaining applicability criteria §§60.640(b) through (e) all apply to affected facilities (i.e., sweetening units). Since there are no sweetening units, none of these criteria make the rule applicable. Since the facility does not meet the applicability criteria, this rule does not apply to the Lightburn Extraction Plant (LEP).

3.7.2.3. **40 C.F.R. Part 63 Subpart HH – *National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities.*** Under the definition of "Facility" in 40 C.F.R. §63.761 and in accordance with U.S. EPA Applicability Determination Index (ADI) # M050022, HAP emissions from the Lightburn Extraction Plant (LEP) are not to be aggregated with the Lightburn Compressor Station (LCS) to determine HAP status (major/minor) under Subpart HH. Based upon the potential HAP emissions for the LEP, the LEP is an area source of HAPs. According to 40 C.F.R. §63.760(b)(2), the affected source for area sources includes each triethylene glycol (TEG) dehydration unit, of which there are none at LEP. In accordance with 40 C.F.R. §63.760(d), if there are no affected sources at the facility, then the facility is not subject to Subpart HH.

3.7.2.4. **40 C.F.R. Part 63 Subpart EEEE - *National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)***. The Lightburn Extraction Plant (LEP) is a natural gas production facility, as the term "facility" is defined in §63.761 of 40 C.F.R. 63 Subpart HH; and the Lightburn Compressor Station (LCS) is a natural gas transmission and storage facility, as the term "facility" is defined in §63.1271 of 40 C.F.R 63 Subpart HHH. Therefore, Lightburn Station is not subject to Subpart EEEE since it meets the criteria of 40 C.F.R. §§63.2334(c)(1) and (2).

3.7.2.5. **40 C.F.R. Part 64 – *Compliance Assurance Monitoring* (CAM).** The table below sets forth the non-applicability determinations for multiple emission units integral to the proposed Lightburn Station.

Em. Unit ID	Pollutant	Rationale
001-01 through 001-07, 002-02, 005-01, 005-02, 005-03, 005-04, 005-05	Various	These Emission Units do not have any control; Therefore, in accordance with 40 C.F.R § 64.2(a)(2), CAM is not applicable to these emission units.
004-01, 004-02	VOC, HAPs	These Emission Units have flares to control VOC and HAPs, but the only limitations for these come from 40 C.F.R 63 Subpart HHH which is exempt from CAM per §64.2(b)(1)(i).

Em. Unit ID	Pollutant	Rationale
006-01, 006-02	CO, VOC	For each of the **Caterpillar G3612 engines** (Em. Unit IDs: 006-01, 006-02) uncontrolled potential emissions of CO and VOC are 94.18 tpy and 22.26 tpy, respectively. These pre-control device PTEs are less than the major source threshold of 100 tpy. Since the applicability criterion at 40 C.F.R. §64.2(a)(3) is not met, CAM does not apply to the engines on a pollutant-specific basis for pollutants CO and VOC.
	NOx	A control device is not employed to control NOx emissions from the **Caterpillar G3612 engines** (Em. Unit IDs: 006-01, 006-02). According to the manufacturer's data supplied in Attachment M of the application, NOx emissions are unaffected by the oxidation catalyst employed to reduce CO and VOC emissions. The applicability criterion at 40 C.F.R. §64.2(a)(2) is not met, and thus CAM does not apply on a pollutant-specific basis for NOx emitted from the engines. Furthermore, potential NOx emissions from each engine are 17.124 tpy, which is less than the major source threshold. Thus, even if a NOx control device were used, the engines would still not meet applicability criterion at 40 C.F.R. §64.2(a)(3) for NOx.
	HCHO	The **Caterpillar G3612 engines** (Em. Unit IDs: 006-01, 006-02) are subject to an emission limitation for formaldehyde, which meets applicability criterion §64.2(a)(1). An oxidation catalyst controls formaldehyde emissions to meet the limitation, which meets applicability criterion §64.2(a)(2). According to the application, the uncontrolled potential emissions of formaldehyde from each of the Caterpillar G3612 engines are 13.70 tpy, which exceeds the major source threshold of 10 tpy of a single HAP. Thus all applicability criteria §§64.2(a)(1) through (3) are met. However, emissions of formaldehyde from the engines are subject to 40 C.F.R. 63 Subpart ZZZZ. Therefore, the criterion at §64.2(b)(1)(i) for an exemption is met and CAM does not apply to the Caterpillar G3612 engines (Em. Unit IDs: 006-01, 006-02) for formaldehyde.
007-01, 007-02	Various	The **John Deere Co. Fire Pump engines** (Em. Unit IDs: 007-01, 007-02) are subject to emission limitations for various pollutants; however no air pollution control device is employed to achieve compliance with such limitations. Therefore, CAM does not apply to these engines since they do not meet the applicability criterion at 40 C.F.R. §64.2(a)(2).

Em. Unit ID	Pollutant	Rationale
008-01, 008-02, 008-03, 008-04	VOC	The **Horizontal Natural Gas Liquids Storage Tanks** (Em. Unit IDs: 008-01, 008-02, 008-03, 008-04) are subject to an emission limitation or standard. The standard is the maximum throughput limitation of permit R13-2823, 7.1.1. This is determined since part of the definition of *Emission limitation or standard* at §64.1 is that "An emission limitation or standard may also be expressed either as a work practice, process or control device parameter, or other form of specific design, equipment, operational, or operation and maintenance requirement." The throughput limitation is considered an operational standard; therefore, the applicability criterion at §64.2(a)(1) is met. The tanks are pressurized vessels under normal operations, and the tanks are only vented to control device FLARE3 during emergency situations or non-routine maintenance activities. Thus, the control device is not employed during normal operations. More importantly, the FLARE3 is not employed to achieve compliance with the throughput limitation. Therefore, applicability criterion §64.2(a)(2) is not met and CAM does not apply to the tanks.
FLARE3	Various	The **Emergency and Maintenance Flare** (Control Device ID: FLARE3) controls VOC emissions from (i) absorber draining; and (ii) emergency episodes of venting the Horizontal Natural Gas Liquids Storage Tanks. The flare pilot runs continuously through all times. None of the PTEs of any pollutant emitted from the flare exceed the major source threshold. Therefore, applicability criterion §64.2(a)(3) is not met and CAM does not apply to the FLARE3.
AUX-03	Various	The Emergency Generator (012-01) is subject to the emission standards of 40 C.F.R. 63 Subpart JJJJ which are exempt from CAM per 40 C.F.R § 64.2 (b) (1)(i)

3.7.2.6. **45CSR10 – *To Prevent and Control Air Pollution from the Emission of Sulfur Oxides*.**
Internal Combustion Engines (Em. Unit IDs: 001-01 through 001-07, 002-02, 006-01, 006-02, 007-01, 007-02)
All limits and standards of 45CSR§10-3 apply to fuel burning units. None of the compressor engines (*001-01 through 001-07*, 006-01, 006-02), Auxiliary Generator (*002-02*) and fire pump engines (007-01, 007-02) are a "Fuel burning unit" as defined in 45CSR§10-2.8. Therefore, none of the engines are subject to 45CSR§10-3 limits or standards. Similarly, all limits and standards of 45CSR§10-4 apply to manufacturing process source operations. None of the engines are a "manufacturing process" "source operation" according to the definitions in 45CSR§§10-2.11. and 2.19. Therefore, none of the engines are subject to 45CSR§10-4 limits or standards. As a final point, internal combustion engines, including gas turbines and emergency generators, are not subject to 45CSR10 according to the Director's verbal guidance.

Emission Unit IDs- BLR02, HTR01, RBR01, RBR02 are less than 10 MMBtu/hr, and are exempt from the requirements of 45CSR§10-3 and 45CSR§§10-6 through 8 in accordance with the exemption granted under 45CSR§10-10.1.

3.7.2.7 **Condition 11.3.1.b. of Permit R13-2823.** This underlying condition applies to the compressor engines 006-01 and 006-02, and the fire pump engines 007-01 and 007-02. The condition states, "For the purpose of determining compliance with the Regulated Pollutant Limitation for SO2, a person designated by a Responsible Official or Authorized Representative shall maintain records of the maximum sulfur content on a per-shipment basis for fuel oil, recycled or used oil or annual certification of the sulfur content from the supplier for pipeline quality natural gas." These engines are not subject to an SO_2 emission limitation. Therefore, this underlying recordkeeping is unnecessary for Title V permitting purposes.

3.7.2.8 **40 CFR 63 Subpart ZZZZ** - Emission Unit IDs 001-01 through 001-07 are spark ignited non-emergency, 2 stroke lean burn engines. They are existing stationary engines with a site rating of greater than 500HP located at a major source of HAPs. These Engines are not subject to any requirements for 40 CFR 63 Subpart ZZZZ, per 40 C.F.R § 63.6590(b)(3)(i).

3.8. Emergency Operating Scenario

For emergency situations which interrupt the critical supply of natural gas to the public, and which pose a life threatening circumstance to the customer, the permittee is allowed to temporarily replace failed engine(s) as long as all of the following conditions are met:

a. The replacement engine(s) is only allowed to operate until repair of the failed engine(s) is complete, but under no circumstance may the replacement engine(s) operate in excess of sixty (60) days;

b. Both the replacement engine(s) and the repaired failed engine(s) shall not operate at the same time with the exception of any necessary testing of the repaired engine(s) and this testing may not exceed five (5) hours;

c. Potential hourly emissions from the replacement engine(s) are less than or equal to the potential hourly emissions from the engine(s) being replaced;

d. Credible performance emission test data verifying the emission rates associated with the operation of the substitute engine shall be submitted to the Director within five (5) days;

e. The permittee must provide written notification to the Director within five (5) days of the replacement. This notification must contain:

   i. Information to support the claim of life threatening circumstances to justify applicability of this emergency provision;

   ii. Identification of the engine(s) being temporarily replaced;

   iii. The design parameters of the replacement engine(s) including, but not limited to, the design horsepower and emission factors;

   iv. Projected duration of the replacement engine(s); and

   v. The appropriate certification by a responsible official.

[45CSR§30-12.7]

4.0 Source-Specific Requirements [BLR01, BLR02, RBR01, RBR02, HTR01]

4.1. Limitations and Standards

4.1.1. 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]

4.1.2. No person shall cause, suffer, allow or permit the discharge of particulate matter into the open air in excess of the following: BLR01 - 0.94 pounds per hour.
[45CSR§2-4.1.b] [BLR01]

4.1.3. No person shall cause, suffer, allow or permit the discharge of sulfur dioxide into the open air in excess of the following: BLR01 - 33.5 pounds per hour.
[45CSR§10-3.3.f] [BLR01]

4.1.4. Emissions from emission point 13 (RBR02) shall not exceed the following:

Pollutant	Performance Specification (lb/MMBtu)	Emission Rate	
		Lb/hr	TPY
Nitrogen Oxides (NOx)	0.08	0.27	1.17
Carbon Monoxide (CO)	0.15	0.50	2.19
Volatile Organic Compounds (VOC)	0.05	0.17	0.73
PM	0.003	0.01	0.044
Sulfur Dioxide (SO_2)	0.0006	0.002	0.009

[45CSR14, R14-0009, A.4] [RBR02]

4.1.5. Emissions from emission point 14 (BLR02) shall not exceed the following:

Pollutant	Performance Specification (lb/MMBtu)	Emission Rate	
		Lb/hr	TPY
Nitrogen Oxides (NOx)	0.10	0.55	2.41
Carbon Monoxide (CO)	0.084	0.46	2.02
Volatile Organic Compounds (VOC)	0.0055	0.03	0.13
PM(1)	0.0076	0.04	0.18
$PM_{2.5}$	0.0057	0.03	0.14

(1) Assumes all particulate matter emissions are 10 microns or less.

[45CSR14, R14-0009, A.5] [BLR02]

4.2. Monitoring Requirements

N/A

4.3. Testing Requirements

N/A

4.4. Recordkeeping Requirements

4.4.1. The owner or operator of a fuel burning unit(s) shall maintain records of the operating schedule, and the quality and quantity of fuel burned in each fuel burning unit as specified below:

For fuel burning unit(s) which burn only pipeline quality natural gas, such records shall include, but not be limited to, the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis.
[45CSR§2-8.3.c] [45CSR§2A-7.1.a] [BLR01]

4.5. Reporting Requirements

4.5.1. (a) **40 C.F.R. 63, Subpart DDDDD.** The Natural Gas Boiler (BLR01)- Emission Unit ID-005-01 shall comply with all applicable requirements for existing affected sources, pursuant to 40 C.F.R. 63, Subpart DDDDD, "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" no later than the existing source compliance date of ~~March 21, 2014~~ January 31, 2016, or as amended by US EPA.

[40 C.F.R. 63, Subpart DDDDD]

(b) If required to submit a Notification of Compliance Status (NOCS) pursuant to 40 C.F.R. 63, Subpart DDDDD, the permittee shall also submit a complete application for significant modification to the Title V permit to incorporate the specific requirements of the rule no later than the maximum time allowed for the NOCS submittal in 40 C.F.R. §63.7545(e).

If requested, this Title V permitting deadline may be changed upon written approval by the Director. The permittee shall request the change in writing at least 30 days prior to the application due date.

[40 C.F.R. 63, Subpart DDDDD, 45CSR§30-6.5.b.] [BLR01]

4.6. Compliance Plan

N/A

5.0 Source-Specific Requirements [~~DEHY1~~ F1, ~~DEHY2~~ F2, DEHY01, DEHY02]

5.1. Limitations and Standards

5.1.1. 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:

Emissions (lb/hr) = F x Incinerator Capacity (tons/hr)
Where, the factor, F, is as indicated in Table I below:
Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions
Incinerator Capacity: Factor F
A. Less than 15,000 lbs/hr 5.43
B. 15,000 lbs/hr or greater 2.72

Calculation for PM Emissions:

~~(5.43) x (613.5 cf/min) x (60 min/hr) x (0.03858 lb/cf) x (ton/2000 lb) = 3.8556 lb/hr (DEHY1)~~
~~(5.43) x (381.8 cf/min) x (60 min/hr) x (0.03858 lb/cf) x (ton/2000 lb) = 2.3995 lb/hr (DEHY2)~~

Emissions (lb/hr) = 5.43 × [(1,454.3 lb/hr) × (1 ton/2,000 lb)] = 3.95 lb/hr (F1)
Emissions (lb/hr) = 5.43 × [(1,454.3 lb/hr) × (1 ton/2,000 lb)] = 3.95 lb/hr (F2)

Where 1,454.3 lb/hr is the maximum mass flow rate of waste gas to each of the enclosed flares F1 and F2.

[45CSR§6-4.1; 45CSR13, R13-2823, 14.1.2.][~~DEHY1, DEHY2~~ F1, F2]

5.1.2. Emission of Visible Particulate Matter --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.
[45CSR§6-4.3; 45CSR13, R13-2823, 14.1.3.][~~DEHY1, DEHY2~~ F1, F2]

5.1.3. The provisions of Section 5.1.2 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.
[45CSR§6-4.4; 45CSR13, R13-2823, 14.1.4.][~~DEHY1, DEHY2~~ F1, F2]

5.1.4. No person shall cause, suffer, allow or permit 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.
[45CSR§6-4.5] [~~DEHY1, DEHY2~~ F1, F2]

5.1.5. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.
[45CSR§6-4.6] [~~DEHY1, DEHY2~~ F1, F2]

5.1.6. No person shall cause, suffer, allow or permit the emission into the open air from any source operation an in-stack sulfur dioxide concentration exceeding 2,000 parts per million by volume from existing source operations, except as provided in 45CSR§10-4.1.a through 45CSR§10-4.1.e.
[45CSR§10-4.1]

5.1.7. No person shall cause, suffer, allow or permit the combustion of any refinery process gas stream or any other process gas stream that contains hydrogen sulfide in a concentration greater than 50 grains per 100 cubic feet of gas except in the case of a person operating in compliance with an emission control and mitigation plan approved by the Director and U. S. EPA. In certain cases very small units may be considered exempt from this requirement if, in the opinion of the Director, compliance would be economically unreasonable and if the contribution of the unit to the surrounding air quality could be considered negligible.
[45CSR§10-5.1]

5.1.8. This facility is subject to 40 C.F.R 63 Subpart HHH and consequently 40 C.F.R § 63.11. 40 C.F.R 63 Subpart HHH and 40 C.F.R § 63.11 requirements are included in Appendix A & B. The Enclosed Combustion Devices shall meet all applicable control device requirements given under 40 C.F.R. 63, Subpart HHH, Section §63.1281.
[45CSR34] [40 C.F.R 63 Subpart HHH; 45CSR13, R13-2823, 14.1.5.] [DEHY01, DEHY02, ~~DEHY1, DEHY2~~ F1, F2]
~~(Note: Initial notification was submitted by the company on June 1, 2000)~~

5.1.9. Two Enclosed Combustion Devices, identified as F1 and F2, shall be designed, operated, and maintained according to good engineering practices or manufacturing recommendations so as to achieve, at a minimum, a hydrocarbon combustion rate of 95.0% on the DEHY01 and DEHY02 (respectively) dehydration unit regenerator overheads.
[45CSR13, R13-2823, 14.1.1.]

5.2. Monitoring Requirements

5.2.1. At a minimum of once per year, sample and analyze the inlet gas stream to the station utilizing gas chromatography for the presence of Sulfur. Proof of compliance with the 2000 ppm_v limit will be considered demonstrated if the gas chromatograph shows a total sulfur content of 1.2519 grains/100ft^3 or less for ~~DEHY1~~ F1 and 0.7791 grains/100ft^3 or less for ~~DEHY2~~ F2. Records shall be maintained on site or at a reasonably available location for a period of no less than five (5) years stating the date and time of analysis and the sulfur content of the gas sampled.
[45CSR§30-5.1.c] [~~DEHY1, DEHY2~~ F1, F2]

5.2.2. At a minimum of once per year, sample and analyze the inlet gas stream to the station utilizing gas chromatography for the presence of H_2S. Proof of compliance with the 50 grains/100ft^3 limit will be considered demonstrated if the gas chromatograph shows a total H_2S content of 0.0736 grains/100ft^3 or less for ~~DEHY1~~ F1 and 0.0458 grains/100 ft^3 or less for ~~DEHY2~~ F2. Records shall be maintained on site or at a reasonably available location stating the date of analysis and the hydrogen sulfide content of the gas sampled. **[45CSR§30-5.1.c] [~~DEHY1, DEHY2~~ F1, F2]**

5.2.3. Visual emission checks of each emission point specified shall be conducted monthly. If during these checks or at any other time visible emissions are observed at any emission point, compliance shall be determined by conducting tests in accordance with Method 9 of 40 C.F.R. 60, Appendix A. Records shall be maintained on site or at a reasonably available location stating the date and time of each visible emission check and whether visible emissions were observed. Visible emission checks shall not be required during start-ups, shut-downs and malfunctions. **[45CSR§30-5.1.c] [~~DEHY1, DEHY2~~ F1, F2]**

5.3. Testing Requirements

N/A

5.4. Recordkeeping Requirements

5.4.1. For the purpose of demonstrating compliance with 5.1.2 & 5.2.3, the permittee shall maintain records of all monitoring data documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, and the results of the check(s). The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6-10 mph NE wind) during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirements of Method 9. For an emission unit out of service during the normal monthly evaluation, the record of observation may note "out of service" (O/S) or equivalent.
[45CSR§30-5.1.c]

5.5. Reporting Requirements

5.5.1. Any violation(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.
[45CSR§30-5.1.c]

5.6. Compliance Plan

N/A

6.0 Source-Specific Requirements [Extraction Plant]

6.1. Limitations and Standards

6.1.1. **Minor Source of Hazardous Air Pollutants (HAP).** HAP emissions from the Lightburn Extraction Plant shall be less than 10 tons/year of any single HAP or 25 tons/year of any combination of HAPs. Compliance with this Section shall ensure that the Lightburn Extraction Plant is a minor HAP source.
[45CSR13, R13-2823, 4.1.2.]

6.1.2. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment (for Extraction Plant only) listed in Section 1.1. 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.
[45CSR13, R13-2823, 4.1.3.]

6.2. Monitoring Requirements

6.2.1. Reserved.

6.3. Testing Requirements

6.3.1. Reserved.

6.4. Recordkeeping Requirements

6.4.1. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment (for Extraction Plant only) listed in Section 1.1, 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.

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.

[45CSR13, R13-2823, 4.1.4.]

6.5. Reporting Requirements

6.5.1. Reserved.

6.6. Compliance Plan

6.6.1. Reserved.

7.0 Source-Specific Requirements [Engines, Em. Unit IDs: 006-01, 006-02, 007-01, 007-02; Emergency Generator: 012-01]

7.1. Limitations and Standards

7.1.1. The quantity of natural gas that shall be consumed in each of the 3,550 hp natural gas fired reciprocating engines, Caterpillar G3612 (006-01, 006-02) shall not exceed 27,512 cubic feet per hour or 241 x 10^6 cubic feet per year.
[45CSR13, R13-2823, 5.1.1.]

7.1.2. Maximum emissions from each of the 3,550 hp natural gas fired reciprocating engines, Caterpillar G3612 (006-01, 006-02) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
006-01 006-02	Nitrogen Oxides	3.91	17.13
	Carbon Monoxide	1.65	7.20
	Volatile Organic Compounds	2.35	10.28
	Formaldehyde	0.80	3.51

[45CSR13, R13-2823, 5.1.2.]

7.1.3. The quantity of fuel that shall be consumed in each of the 216 hp diesel fired, John Deere Co. JU6H-UF54 Fire Pump Reciprocating Engines (007-01, 007-02) shall not exceed 13.3 gallons per hour or 6,650 gallons per year.
[45CSR13, R13-2823, 5.1.3.]

7.1.4. Maximum emissions from each of the 216 hp diesel fired, John Deere Co. JU6H-UF54 Fire Pump Reciprocating Engines (007-01, 007-02) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
007-01 007-02	Nitrogen Oxides	2.07	0.52
	Carbon Monoxide	0.47	0.12

[45CSR13, R13-2823, 5.1.4.]

7.1.5. **Maximum Yearly Operation Limitation**. The maximum yearly hours of operation each of the 216 hp diesel fired, John Deere Co. JU6H-UF54 Fire Pump Reciprocating Engines (007-01, 007-02) shall not exceed 500 hours per year. Compliance with the Maximum Yearly Operation Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the hours of operation at any given time during the previous twelve consecutive calendar months.
[45CSR13, R13-2823, 11.1.1.] (007-01, 007-02)

7.1.6. **Recycled or Used Oil**

a. The permittee shall not receive, store, burn or fire any recycled or used oil in the emergency generator registered herein which is considered a hazardous waste or does not meet the used oil specifications below (40 C.F.R. 279.11, Table 1). The burning of used or recycled oil which does not meet these specifications shall constitute a violation of 45CSR25, 33CSR20 and the requirements, provisions, standards and conditions of this permit.

Constituent or Property	Maximum Allowable Specification
Arsenic	5.0 ppm
Cadmium	2.0 ppm
Chromium	10.0 ppm
Lead	100.0 ppm
PCBs	2.0 ppm
Total Halogen	4000.0 ppm maximum
Mercury	0.20 ppm
Flash Point	100.0°F minimum

b. Recycled or used oil with a Total Halogen content greater than 1000.0 ppm is presumed to be a hazardous waste under the rebuttable presumption provided in 40 C.F.R. 279.10(b)(1)(ii). Therefore, the permittee may receive, store and burn recycled or used oil exceeding 1000.0 ppm Total Halogen (but less than 4000.0 ppm maximum) only if the supplier or marketer has demonstrated that the recycled or used oil is not and does not contain hazardous waste.

[45CSR13, R13-2823, 11.1.2.] (007-01, 007-02)

7.1.7. **Emission Standards**

Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to 40 C.F.R. 60 Subpart IIII, for all pollutants.

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

Maximum Engine Power	Model Year(s)	NMHC + NO_X (g/HP-hr)	CO (g/HP-hr)	PM (g/HP-hr)
175 ≤ HP < 300	2008 and earlier	7.8	2.6	0.40
	2009+ [a]	3.0		0.15

[a] In model years 2009–2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

[40 C.F.R. §60.4205(c); 45CSR16; 45CSR13, R13-2823, 11.1.3.] (007-01, 007-02)

7.1.8. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4204 and §60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.
[40 C.F.R. §60.4206; 45CSR16; 45CSR13, R13-2823, 11.1.4.] (007-01, 007-02)

7.1.9. **Fuel Requirements**
Beginning October 1, 2007, owners and operators of stationary CI ICE subject to 40 C.F.R. 60 Subpart IIII that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).
[40 C.F.R. §60.4207(a); 45CSR16; 45CSR13, R13-2823, 11.1.5.] (007-01, 007-02)

7.1.10. **Fuel Requirements**
Beginning October 1, 2010, owners and operators of stationary CI ICE subject to 40 C.F.R. 60 Subpart IIII with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.
[40 C.F.R. §60.4207(b); 45CSR16; 45CSR13, R13-2823, 11.1.6.] (007-01, 007-02)

7.1.11. **Fuel Requirements**
Owners and operators of pre-2011 model year stationary CI ICE subject to 40 C.F.R. 60 Subpart IIII may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of 40 C.F.R. §60.4207 beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.
[40 C.F.R. §60.4207(c); 45CSR16; 45CSR13, R13-2823, 11.1.7.] (007-01, 007-02)

7.1.12. **Fuel Requirements**
Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in 40 C.F.R. §60.4207.
[40 C.F.R. §60.4207(e); 45CSR16; 45CSR13, R13-2823, 11.1.8.] (007-01, 007-02)

7.1.13. In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (f) of 40 C.F.R. §60.4208 after the dates specified in paragraphs (a) through (f) of 40 C.F.R. §60.4208.
[40 C.F.R. §60.4208(g); 45CSR16; 45CSR13, R13-2823, 11.1.9.] (007-01, 007-02)

7.1.14. The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.
[40 C.F.R. §60.4208(h); 45CSR16; 45CSR13, R13-2823, 11.1.10.] (007-01, 007-02)

7.1.15. If you are an owner or operator, you must meet the monitoring requirements of 40 C.F.R. §60.4209. In addition, you must also meet the monitoring requirements specified in §60.4211.
[40 C.F.R. §60.4209; 45CSR16; 45CSR13, R13-2823, 11.1.11.] (007-01, 007-02)

7.1.16. If you are an owner or operator of an emergency stationary CI internal combustion engine, you must install a non-resettable hour meter prior to startup of the engine.
[40 C.F.R. §60.4209(a); 45CSR16; 45CSR13, R13-2823, 11.1.12.] (007-01, 007-02)

7.1.17. If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.
[40 C.F.R. §60.4209(b); 45CSR16; 45CSR13, R13-2823, 11.1.13.] (007-01, 007-02)

7.1.18. If you are an owner or operator and must comply with the emission standards specified in 40 C.F.R. 60 Subpart IIII, you must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. You must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.
[40 C.F.R. §60.4211(a); 45CSR16; 45CSR13, R13-2823, 11.1.14.] (007-01, 007-02)

7.1.19. If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to 40 C.F.R. 60 Subpart IIII and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications.
[40 C.F.R. §60.4211(c); 45CSR16; 45CSR13, R13-2823, 11.1.15.] (007-01, 007-02)

7.1.20. If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (2) of 40 C.F.R. §60.4211.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.
(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of 40 C.F.R. §60.4211.
    (i) Identification of the specific parameters you propose to monitor continuously;
    (ii) A discussion of the relationship between these parameters and NOX and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NOX and PM emissions;
    (iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
    (iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
    (v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

[40 C.F.R. §§60.4211(d)(1), (d)(2)(i)-(v); 45CSR16; 45CSR13, R13-2823, 11.1.16.] (007-01, 007-02)

7.1.21. Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited.
[40 C.F.R. §60.4211(e); 45CSR16; 45CSR13, R13-2823, 11.1.17.] (007-01, 007-02)

7.1.22. The provisions of 40 C.F.R. 60 Subpart JJJJ are applicable to owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified below. For the purposes of 40 C.F.R. 60 Subpart JJJJ, the date that construction commences is the date the engine is ordered by the owner or operator.

a. Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:

1. On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);
2. on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

b. Owners and operators of stationary SI ICE that commence modification or reconstruction after June 12, 2006.

[40 C.F.R. §60.4230(a); 45CSR16; 45CSR13, R13-2823, 12.1.1.] (006-01, 006-02)

7.1.23. Stationary SI ICE may be eligible for exemption from the requirements of 40 C.F.R. 60 Subpart JJJJ as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR parts 90 and 1048, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.
[40 C.F.R. §60.4230(e); 45CSR16; 45CSR13, R13-2823, 12.1.3.] (006-01, 006-02)

7.1.24. Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to 40 C.F.R. 60 Subpart JJJJ for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to 40 C.F.R. 60 Subpart JJJJ, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified.

Engine Type and Fuel	Maximum Engine Power	Manufacture Date	Emission Standards					
			g/HP-hr			Ppmvd at 15% O_2		
			NOx	CO	VOC	NOx	CO	VOC
Non-Emergency SI Natural Gas	HP ≥ 500	7/1/2007	2.0	4.0	1.0	160	540	86
	HP ≥ 500	7/1/2010	1.0	2.0	0.7	82	270	60

[40 C.F.R. §60.4233(e); 45CSR16; 45CSR13, R13-2823, 12.2.1.] (006-01, 006-02)

7.1.25. Owners and operators of stationary SI ICE that are required to meet standards that reference 40 CFR 1048.101 must, if testing their engines in use, meet the standards in that section applicable to field testing, except as indicated in paragraph (e) of 40 C.F.R. §60.4233.
[40 C.F.R. §60.4233(h); 45CSR16; 45CSR13, R13-2823, 12.2.2.] (006-01, 006-02)

7.1.26. Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine.
[40 C.F.R. §60.4234; 45CSR16; 45CSR13, R13-2823, 12.2.3.] (006-01, 006-02)

7.1.27. After July 1, 2009, owners and operators may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 HP that do not meet the applicable requirements in §60.4233, except that lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP that do not meet the applicable requirements in §60.4233 may not be installed after January 1, 2010.
[40 C.F.R. §60.4236(b); 45CSR16; 45CSR13, R13-2823, 12.3.1.] (006-01, 006-02)

7.1.28. The requirements of 40 C.F.R. §60.4236 do not apply to owners and operators of stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location. [40CFR§60.4236(e)]
[40 C.F.R. §60.4236(e); 45CSR16; 45CSR13, R13-2823, 12.3.2.] (006-01, 006-02)

7.1.29. If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs a. and b. of this permit condition.

a. Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of 40 C.F.R. §60.4243.

b. Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to paragraphs b.1. and 2. of this permit condition.

1. If you are an owner or operator of a stationary SI internal combustion engine greater than 25 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance.

2. If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

[40 C.F.R. §60.4243(b); 45CSR16; 45CSR13, R13-2823, 12.4.1.] (006-01, 006-02)

7.1.30. Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of §60.4233.
[40 C.F.R. §60.4243(e); 45CSR16; 45CSR13, R13-2823, 12.4.2.] (006-01, 006-02)

7.1.31. It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.
[40 C.F.R. §60.4243(g); 45CSR16; 45CSR13, R13-2823, 12.4.3.] (006-01, 006-02)

7.1.32. Emissions from the emergency generator shall not exceed the following:

	Pounds per Hour	Tons per Year
PM[1]	0.04	0.01
SO_2	0.01	0.01
NO_x	0.02	0.01
CO	0.85	0.22
VOC	0.07	0.02
HAPs	0.07	0.02

[1]PM is filterable + condensable and all PM is assumed to be $PM_{2.5}$.
[45CSR13, R13-2823, 13.1.1.] (012-01)

7.1.33. The emergency generator shall not operate more than 500 hours per year based on a 12 month rolling total.
[45CSR13, R13-2823, 13.1.2.] (012-01)

7.1.34. Air-to-fuel ratio controllers must be maintained and operated to ensure proper operation of the engine and control device to minimize emissions at all times.
[40 C.F.R. §60.4243(g); 45CSR16; 45CSR13, R13-2823, 13.1.3.] (012-01)

7.1.35. Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to 40 C.F.R. 60 Subpart JJJJ for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to 40 C.F.R. 60

Subpart JJJJ, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified.

Engine Type and Fuel	Maximum Engine Power	Manufacture Date	Emission Standards					
			g/HP-hr			Ppmvd at 15% O_2		
			NOx	CO	VOC	NOx	CO	VOC
Emergency	HP≥130	1/1/2009	2.0	4.0	1.0	160	540	86

[40 C.F.R. §60.4233(e); 45CSR16] (012-01)

7.1.36. What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?

(a) (1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator.

(b) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) of this section.

(1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

[40 C.F.R. §60.4243; 45CSR16] (012-01)

7.1.37. Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.
[40 C.F.R. §60.4243(d); 45CSR16] (012-01)

7.1.38. *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets the criteria in paragraph (c)(1) of this section must meet the requirements of 40 CFR part 63 subpart ZZZZ by meeting the requirements of 40 C.F.R 60 Subpart IIII for compression ignition engines(007-01and 007-02) or 40 C.F.R.60 Subpart JJJJ for spark ignition(006-01, 006-02 and 012-01). No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;
[40 C.F.R. §63.6590(c)] (012-01, 006-01, 006-02, 007-01, 007-02)

7.2. Monitoring Requirements

7.2.1. Reserved.

7.3. Testing Requirements

7.3.1. The Secretary may require a different test method or approve an alternative method in light of any technology advancements that may occur and may conduct such other tests as may be deem necessary to evaluate air pollution emissions.
[45CSR13, R13-2823, 11.2.3.] (007-01, 007-02)

7.3.2. Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to 40 C.F.R. 60 Subpart IIII must do so according to paragraphs (a) through (d) of 40 C.F.R. §60.4212.
[40 C.F.R. §60.4212; 45CSR16; 45CSR13, R13-2823, 11.2.4.] (007-01, 007-02)

7.3.3. The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F.
[40 C.F.R. §60.4212(a); 45CSR16; 45CSR13, R13-2823, 11.2.5.] (007-01, 007-02)

7.3.4. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.
[40 C.F.R. §60.4212(b); 45CSR16; 45CSR13, R13-2823, 11.2.6.] (007-01, 007-02)

7.3.5. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

NTE Requirement for each pollutant = (1.25) x (STD)

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of 40 C.F.R. 60 Subpart IIII, as appropriate.
[40 C.F.R. §60.4212(c); 45CSR16; 45CSR13, R13-2823, 11.2.7.] (007-01, 007-02)

7.3.6. Each performance test must be conducted according to the requirements in §60.8 and under the specific conditions that 40 C.F.R. 60 Subpart IIII specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.
[40 C.F.R. §60.4213(a); 45CSR16; 45CSR13, R13-2823, 11.2.8.] (007-01, 007-02)

7.3.7. You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c).
[40 C.F.R. §60.4213(b); 45CSR16; 45CSR13, R13-2823, 11.2.9.] (007-01, 007-02)

7.3.8. You must conduct three separate test runs for each performance test required in 40 C.F.R. §60.4213, as specified in §60.8(f). Each test run must last at least 1 hour.
[40 C.F.R. §60.4213(c); 45CSR16; 45CSR13, R13-2823, 11.2.10.] (007-01, 007-02)

7.3.9. Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs a. through f. of this permit condition.

a. Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to 40 C.F.R. 60 Subpart JJJJ.

b. You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.

c. You must conduct three separate test runs for each performance test required in 40 C.F.R. §60.4244, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

d. To determine compliance with the NO_X mass per unit output emission limitation, convert the concentration of NO_X in the engine exhaust using Equation 1 of 40 C.F.R. §60.4244:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr} \qquad \text{(Eq. 1)}$$

Where:
ER = Emission rate of NO_X in g/HP-hr.

C_d= Measured NO_X concentration in parts per million by volume (ppmv).

1.912×10^{-3} = Conversion constant for ppm NO_X to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

e. To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of 40 C.F.R. §60.4244:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \qquad \text{(Eq. 2)}$$

Where:
ER = Emission rate of CO in g/HP-hr.

C_d= Measured CO concentration in ppmv.

1.164×10^{-3} = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

f. For purposes of 40 C.F.R. 60 Subpart JJJJ, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of 40 C.F.R. §60.4244:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr} \qquad \text{(Eq. 3)}$$

Where:
ER = Emission rate of VOC in g/HP-hr.

C_d= VOC concentration measured as propane in ppmv.

1.833×10^{-3} = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

g. If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of 40 C.F.R. §60.4244. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of 40 C.F.R. §60.4244.

$$RF_i = \frac{C_{25A}}{C_{Ai}} \qquad \text{(Eq. 4)}$$

Where:
RF_i= Response factor of compound i when measured with EPA Method 25A.

C_{Mi}= Measured concentration of compound i in ppmv as carbon.

C_{Ai}= True concentration of compound i in ppmv as carbon.

$$C_{icorr} = RF_i \times C_{imeas} \qquad \text{(Eq. 5)}$$

Where:
C_{icorr}= Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

C_{imeas}= Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{Peq} = 0.6098 \times C_{icorr} \qquad \text{(Eq. 6)}$$

Where:
C_{Peq}= Concentration of compound i in mg of propane equivalent per DSCM.

[40 C.F.R. §§60.4244(a) through (g); 45CSR16; 45CSR13, R13-2823, 12.5.1.] (006-01, 006-02)

7.3.10. The permittee must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance with the formaldehyde limit in condition 7.1.2.
[45CSR§30-5.1.c.] (006-01, 006-02)

7.4. Recordkeeping Requirements

7.4.1. To demonstrate compliance with sections 7.1.1 - 7.1.4 the permittee shall maintain records of the amount of fuel consumed in 006-01, 006-02, 007-01, 007-02.

7.4.1.1. Records for Caterpillar G3612 (006-01, 006-02)
a. Records must be kept of volume of natural gas consumed per calendar month for each engine, and hours of operation per calendar month for each engine.
b. Records must be kept of the rolling yearly total of volume of natural gas consumed for each engine.

7.4.1.2. Records for John Deere Co. Model JU6H-UF84 (007-01, 007-02)
a. Records must be kept of volume of fuel consumed per calendar month for each engine, and hours of operation per calendar month for each engine.
b. Records must be kept of the rolling yearly total of volume of fuel consumed for each engine.

Said records 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.
[45CSR13, R13-2823, 5.2.; 45CSR§30-5.1.c.]

7.4.2. **Records, Operation and Compliance**

a. For the purpose of determining compliance with the Maximum Yearly Operation Limitation (condition 7.1.5.), a person designated by a Responsible Official or Authorized Representative shall maintain records of hours of operation;

b. Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. 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.

[45CSR13, R13-2823, 11.3.1.a. and c.] (007-01, 007-02)

7.4.3. **Equipment Maintenance Records**

a. The permittee shall maintain maintenance records relating to failure and/or repair of fire pump equipment. In the event of equipment or system failure, these records shall document the permittee's effort to maintain proper and effective operation of such equipment and/or systems;

b. Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. 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.

[45CSR13, R13-2823, 11.3.3.] (007-01, 007-02)

7.4.4. **Retention of Records**

Said records shall be maintained for a period of five (5) years on site or in a readily accessible off-site location maintained by the permittee. 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.

[45CSR13, R13-2823, 11.3.4.] (007-01, 007-02)

7.4.5. **Compliance Testing**

The permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in Section 7.3.

[45CSR13, R13-2823, 11.3.5.] (007-01, 007-02)

7.4.6. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to 40 C.F.R. 60 Subpart IIII, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time. [40CFR§60.4214b]

[40 C.F.R. §60.4214(b); 45CSR16; 45CSR13, R13-2823, 11.3.7.] (007-01, 007-02)

7.4.7. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.
[40 C.F.R. §60.4214(c); 45CSR16; 45CSR13, R13-2823, 11.3.8.] (007-01, 007-02)

7.4.8. Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

a. Owners and operators of all stationary SI ICE must keep records of the information in paragraphs a.1. through 4. of this permit condition.

3. All notifications submitted to comply with this subpart and all documentation supporting any notification.
4. Maintenance conducted on the engine.
5. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90 and 1048.
6. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

b. For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

c. Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in §60.4231 must submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs c.1 through 5 of this permit condition.

1. Name and address of the owner or operator;
2. The address of the affected source;
3. Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
4. Emission control equipment; and
5. Fuel used.

d. Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed.

[40 C.F.R. §§60.4245(a) through (d); 45CSR16; 45CSR13, R13-2823, 12.6.1.] (006-01, 006-02)

7.4.9. In order to determine compliance with condition 7.1.34 of this permit, the permittee shall monitor and record the number of hours the generator is operated each day.
[45CSR13, R13-2823, 13.3.1.] (012-01)

7.4.10. What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?

Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(2) of this section.

(2) Maintenance conducted on the engine.

[40 C.F.R. §60.4245; 45CSR16; 45CSR13, R13-2823, 13.3.2.] (012-01)

7.5. Reporting Requirements

7.5.1. Refer to permit conditions 7.4.8.c. and 7.4.8.d.

7.6. Compliance Plan

7.6.1. Reserved.

8.0 Source-Specific Requirements [Tanks, Em. Unit IDs: 008-01, 008-02, 008-03, 008-04]

8.1 Limitations and Standards

8.1.1 Maximum Tank Throughput Limitation. The maximum tank aggregated throughput for these tanks (008-01, 008-02, 008-03, 008-04) shall not exceed 34,399,200 gallons per year. Compliance with the Maximum Yearly Tank Throughput Limitation shall be determined using a twelve month rolling total. A twelve month rolling total shall mean the sum of the tank throughput at any given time during the previous twelve consecutive calendar months.
[45CSR13, R13-2823, 7.1.1.; 45CSR§30-12.7.]

8.2 Monitoring Requirements

8.2.1 Reserved.

8.3 Testing Requirements

8.3.1 Reserved.

8.4 Recordkeeping Requirements

8.4.1 The permittee shall maintain a monthly record of the total aggregated throughput for tanks (008-01, 008-02, 008-03, 008-04) to demonstrate compliance with section 8.1.1 of this permit. Said records 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.
[45CSR13, R13-2823, 7.2.1.; 45CSR§30-5.1.c.]

8.5 Reporting Requirements

8.5.1 Reserved.

8.6 Compliance Plan

8.6.1 Reserved.

9.0 Source-Specific Requirements [Non-fractionating Process Plant]

9.1 Limitations and Standards

9.1.1 Maximum Throughput Limitation. The maximum wet natural gas throughput to the Non-Fractionating Processing Plant shall not exceed 52mmscf/day. Compliance with the Maximum Throughput Limitation shall be determined 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.
[45CSR13, R13-2823, 8.1.1.]

9.1.2 The permitted facility shall comply with all applicable provisions of 40CFR60 Subpart KKK, provided that compliance with any more stringent limitation set forth under this permit shall also be demonstrated. Recordkeeping and reporting requirements shall be conducted in accordance with §60.635 and §60.636. These reports shall be submitted in accordance with the time lines and in the order set forth in §60.636 and submitted to the addresses listed in Section 3.5.3.
[45CSR13, R13-2823, 8.1.2.]

9.1.3 Each owner or operator subject to the provisions of 40 C.F.R. 60 Subpart KKK shall comply with the requirements of 40 C.F.R. §§60.482–1 (a), (b), and (d) (*permit condition 9.1.10.*) and 60.482–2 through 60.482–10 (*permit conditions 9.1.11. through 9.1.19.*), except as provided in 40 C.F.R. §60.633, as soon as practicable, but no later than 180 days after initial startup.
[40 C.F.R. §60.632(a); 45CSR16]

9.1.4 An owner or operator may elect to comply with the requirements of 40 C.F.R. §§60.483–1 and 60.483–2.
[40 C.F.R. §60.632(b); 45CSR16]

9.1.5 An owner or operator may apply to the Administrator for permission to use an alternative means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to that achieved by the controls required in this subpart. In doing so, the owner or operator shall comply with requirements of §60.634 of 40 C.F.R. 60 Subpart KKK.
[40 C.F.R. §60.632(c); 45CSR16]

9.1.6 Each owner or operator subject to the provisions of 40 C.F.R. 60 Subpart KKK shall comply with the provisions of 40 C.F.R. §60.485 (*permit condition 9.3.1.*) except as provided in §60.633(f) of 40 C.F.R. 60 Subpart KKK.
[40 C.F.R. §60.632(d); 45CSR16]

9.1.7 Each owner or operator subject to the provisions of 40 C.F.R. 60 Subpart KKK shall comply with the provisions of 40 C.F.R. §§60.486 and 60.487 except as provided in §§60.633, 60.635, and 60.636 of 40 C.F.R. 60 Subpart KKK.
[40 C.F.R. §60.632(e); 45CSR16]

9.1.8 An owner or operator shall use the following provision instead of 40 C.F.R. §60.485(d)(1): Each piece of equipment is presumed to be in VOC service or in wet gas service unless an owner or operator demonstrates that the piece of equipment is not in VOC service or in wet gas service. For a piece of equipment to be considered not in VOC service, it must be determined that the VOC content can be reasonably expected never to exceed 10.0 percent by weight. For a piece of equipment to be considered in wet gas service, it must be determined that it contains or contacts the field gas before the extraction step in the process. For purposes of determining the percent VOC content of the process fluid that is contained in or contacts a piece of equipment, procedures that conform to the methods described in ASTM E169–63, 77, or 93, E168–67, 77, or 92, or E260–73, 91, or 96 (incorporated by reference as specified in §60.17) shall be used.
[40 C.F.R. §60.632(f); 45CSR16]

9.1.9 **Exceptions of 40 C.F.R. 60 Subpart KKK**

(a) Each owner or operator subject to the provisions of 40 C.F.R. 60 Subpart KKK may comply with the following exceptions to the provisions of subpart VV.

(b)(1) Each pressure relief device in gas/vapor service may be monitored quarterly and within 5 days after each pressure release to detect leaks by the methods specified in §60.485(b) except as provided in §60.632(c), paragraph (b)(4) of this section, and §60.482–4 (a) through (c) of subpart VV.

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

(3)(i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in §60.482–9.

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(4)(i) Any pressure relief device that is located in a nonfractionating plant that is monitored only by nonplant personnel may be monitored after a pressure release the next time the monitoring personnel are on site, instead of within 5 days as specified in paragraph (b)(1) of this section and §60.482–4(b)(1) of subpart VV.

(ii) No pressure relief device described in paragraph (b)(4)(i) of this section shall be allowed to operate for more than 30 days after a pressure release without monitoring.

(c) Sampling connection systems are exempt from the requirements of §60.482–5.

(d) Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service that are located at a nonfractionating plant that does not have the design capacity to process 283,200 standard cubic meters per day (scmd) (10 million standard cubic feet per day) or more of field gas are exempt from the routine monitoring requirements of §§60.482–2(a)(1) and 60.482–7(a), and paragraph (b)(1) of this section.

(e) Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service within a process unit that is located in the Alaskan North Slope are exempt from the routine monitoring requirements of §§60.482–2(a)(1), 60.482–7(a), and paragraph (b)(1) of this section.

(f) Reciprocating compressors in wet gas service are exempt from the compressor control requirements of

§60.482–3.

(g) Flares used to comply with 40 C.F.R. 60 Subpart KKK shall comply with the requirements of §60.18.

(h) An owner or operator may use the following provisions instead of §60.485(e):

(1) Equipment is in heavy liquid service if the weight percent evaporated is 10 percent or less at 150 °C (302 °F) as determined by ASTM Method D86–78, 82, 90, 95, or 96 (incorporated by reference as specified in §60.17).

(2) Equipment is in light liquid service if the weight percent evaporated is greater than 10 percent at 150 °C (302 °F) as determined by ASTM Method D86–78, 82, 90, 95, or 96 (incorporated by reference as specified in §60.17).

[40 C.F.R. §60.633; 45CSR16]

9.1.10 **40 C.F.R. §§60.482–1 (a), (b), and (d) Standards: General**

(a) Each owner or operator subject to the provisions of 40 C.F.R. 60 Subpart VV shall demonstrate compliance with the requirements of 40 C.F.R. §§60.482–1 through 60.482–10 or §60.480(e) for all equipment within 180 days of initial startup.

(b) Compliance with 40 C.F.R. §§60.482–1 to 60.482–10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 40 C.F.R. §60.485.

(d) Equipment that is in vacuum service is excluded from the requirements of 40 C.F.R. §§60.482–2 to 60.482–10 if it is identified as required in 40 C.F.R. §60.486(e)(5).

[40 C.F.R. §60.632(a); 45CSR16]

9.1.11 **40 C.F.R. §60.482-2 Standards: Pumps in light liquid service.**

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 C.F.R. §60.485(b), except as provided in 40 C.F.R. §60.482–1(c) and (f) and paragraphs (d), (e), and (f) of this permit condition. A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in 40 C.F.R. §60.482–1(c) and (f) and paragraphs (d), (e), and (f) of this permit condition.
(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, except as provided in 40 C.F.R. §60.482–1(f).

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
(2) If there are indications of liquids dripping from the pump seal, the owner or operator shall follow the procedure specified in either paragraph (b)(2)(i) or (ii) of this permit condition. This requirement does not apply to a pump that was monitored after a previous weekly inspection if the instrument reading for that monitoring event was less than 10,000 ppm and the pump was not repaired since that monitoring event.
(i) Monitor the pump within 5 days as specified in 40 C.F.R. §60.485(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. The leak shall be repaired using the procedures in paragraph (c) of this permit condition.
(ii) Designate the visual indications of liquids dripping as a leak, and repair the leak within 15 days of detection by eliminating the visual indications of liquids dripping.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 C.F.R. §60.482–9.
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in paragraphs (c)(2)(i) and (ii) of this permit condition, where practicable.
(i) Tightening the packing gland nuts;
(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this permit condition, provided the requirements specified in paragraphs (d)(1) through (6) of this permit condition are met.

(1) Each dual mechanical seal system is—

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of 40 C.F.R. §60.482–10; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) (i) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(ii) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (d)(4)(ii)(A) or (B) of this permit condition.

(A) Monitor the pump within 5 days as specified in 40 C.F.R. §60.485(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(B) Designate the visual indications of liquids dripping as a leak.

(5) (i) Each sensor as described in paragraph (d)(3) of this permit condition is checked daily or is equipped with an audible alarm.

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(iii) If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion established in paragraph (d)(5)(ii) of this permit condition, a leak is detected.

(6) (i) When a leak is detected pursuant to paragraph (d)(4)(ii)(A) of this permit condition, it shall be repaired as specified in paragraph (c) of this permit condition.

(ii) A leak detected pursuant to paragraph (d)(5)(iii) of this permit condition shall be repaired within 15 days of detection by eliminating the conditions that activated the sensor.

(iii) A designated leak pursuant to paragraph (d)(4)(ii)(B) of this permit condition shall be repaired within 15 days of detection by eliminating visual indications of liquids dripping.

(e) Any pump that is designated, as described in 40 C.F.R. §60.486(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this permit condition if the pump:

(1) Has no externally actuated shaft penetrating the pump housing,

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in 40 C.F.R. §60.485(c), and

(3) Is tested for compliance with paragraph (e)(2) of this permit condition initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of 40 C.F.R. §60.482–10, it is exempt from paragraphs (a) through (e) of this permit condition.

(g) Any pump that is designated, as described in 40 C.F.R. §60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this permit condition if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this permit condition; and
(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this permit condition if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this permit condition, and the daily requirements of paragraph (d)(5) of this permit condition, provided that each pump is visually inspected as often as practicable and at least monthly.

[40 C.F.R. §60.632(a); 45CSR16]

9.1.12 **40 C.F.R. §60.482-3 Standards: Compressors.**
(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in 40 C.F.R. §60.482–1(c) and paragraphs (h), (i), and (j) of this permit condition.

(b) Each compressor seal system as required in paragraph (a) shall be:
(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or
(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of 40 C.F.R. §60.482–10; or
(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) shall be checked daily or shall be equipped with an audible alarm.
(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2), a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar

days after it is detected, except as provided in 40 C.F.R. §60.482–9.
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this permit condition, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of 40 C.F.R. §60.482–10, except as provided in paragraph (i) of this permit condition.

(i) Any compressor that is designated, as described in 40 C.F.R. §60.486(e) (1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a)–(h) if the compressor:
(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in 40 C.F.R. §60.485(c); and
(2) Is tested for compliance with paragraph (i)(1) of this permit condition initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of 40 C.F.R. §60.14 or 40 C.F.R. §60.15 is exempt from paragraphs (a) through (e) and (h) of this permit condition, provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this permit condition.

[40 C.F.R. §60.632(a); 45CSR16]

9.1.13 **40 C.F.R. §60.482-4 Standards: Pressure relief devices in gas/vapor service.**
(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 C.F.R. §60.485(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 C.F.R. §60.482–9.
(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 C.F.R. §60.485(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in 40 C.F.R. §60.482–10 is exempted from the requirements of paragraphs (a) and (b) of this permit condition.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this permit condition, provided the owner or operator complies with the requirements in paragraph (d)(2) of this permit condition.
(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 40 C.F.R. §60.482–9.

[40 C.F.R. §60.632(a); 45CSR16]

9.1.14 **40 C.F.R. §60.482-5 Standards: Sampling connection systems**

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in 40 C.F.R. §60.482–1(c) and paragraph (c) of this permit condition.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this permit condition shall comply with the requirements specified in paragraphs (b)(1) through (4) of this permit condition.

(1) Gases displaced during filling of the sample container are not required to be collected or captured.

(2) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

(3) Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured.

(4) Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet requirements in either paragraph (b)(4)(i), (ii), (iii), or (iv) of this permit condition.

(i) Return the purged process fluid directly to the process line.

(ii) Collect and recycle the purged process fluid to a process.

(iii) Capture and transport all the purged process fluid to a control device that complies with the requirements of 40 C.F.R. §60.482–10.

(iv) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(A) A waste management unit as defined in 40 C.F.R. §63.111, if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(B) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266;

(C) A facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261;

(D) A waste management unit subject to and operated in compliance with the treatment requirements of 40 C.F.R. §61.348(a), provided all waste management units that collect, store, or transport the purged process fluid to the treatment unit are subject to and operated in compliance with the management requirements of 40 C.F.R. §§61.343 through 61.347; or

(E) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR part 279, subpart G, provided the purged process fluid is not hazardous waste as defined in 40 CFR part 261.

(c) In situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this permit condition.

[40 C.F.R. §60.632(a); 45CSR16]

9.1.15 **40 C.F.R. §60.482-6 Standards: Open-ended valves or lines.**

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 C.F.R. §60.482–1(c) and paragraphs (d) and (e) of this permit condition.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

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

(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all

other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this permit condition.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this permit condition are exempt from the requirements of paragraphs (a) through (c) of this permit condition.

[40 C.F.R. §60.632(a); 45CSR16]

9.1.16 **40 C.F.R. §60.482-7 Standards: Valves in gas/vapor service and in light liquid service.**

(a) (1) Each valve shall be monitored monthly to detect leaks by the methods specified in 40 C.F.R. §60.485(b) and shall comply with paragraphs (b) through (e) of this permit condition, except as provided in paragraphs (f), (g), and (h) of this permit condition, 40 C.F.R. §60.482–1(c) and (f), and 40 C.F.R. §§60.483–1 and 60.483–2.

(2) A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored according to paragraphs (a)(2)(i) or (ii), except for a valve that replaces a leaking valve and except as provided in paragraphs (f), (g), and (h) of this permit condition, 40 C.F.R. §60.482–1(c), and 40 C.F.R. §§60.483–1 and 60.483–2.

(i) Monitor the valve as in paragraph (a)(1) of this permit condition. The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation.

(ii) If the valves on the process unit are monitored in accordance with 40 C.F.R. §60.483–1 or 40 C.F.R. §60.483–2, count the new valve as leaking when calculating the percentage of valves leaking as described in 40 C.F.R. §60.483–2(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first.

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

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

(ii) As an alternative to monitoring all of the valves in the first month of a quarter, an owner or operator may elect to subdivide the process unit into 2 or 3 subgroups of valves and monitor each subgroup in a different month during the quarter, provided each subgroup is monitored every 3 months. The owner or operator must keep records of the valves assigned to each subgroup.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d) (1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 C.F.R. §60.482–9.

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

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

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;
(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in 40 C.F.R. §60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) if the valve:

(1) Has no external actuating mechanism in contact with the process fluid,
(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in 40 C.F.R. §60.485(c), and
(3) Is tested for compliance with paragraph (f)(2) of this permit condition initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in 40 C.F.R. §60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and
(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in 40 C.F.R. §60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.
(2) The process unit within which the valve is located either becomes an affected facility through 40 C.F.R. §60.14 or 40 C.F.R. §60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and
(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

[40 C.F.R. §60.632(a); 45CSR16]

9.1.17 **40 C.F.R. §60.482-8 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.**

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

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in 40 C.F.R. §60.485(b) and shall comply with the requirements of paragraphs (b) through (d) of this permit condition.
(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection.

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

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 C.F.R. §60.482–9.

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

(d) First attempts at repair include, but are not limited to, the best practices described under 40 C.F.R. §§60.482–2(c)(2) and 60.482–7(e).

[40 C.F.R. §60.632(a); 45CSR16]

9.1.18 **40 C.F.R. §60.482-9 Standards: Delay of repair.**

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

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

(c) Delay of repair for valves will be allowed if:

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

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 C.F.R. §60.482–10.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

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

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

(f) When delay of repair is allowed for a leaking pump or valve that remains in service, the pump or valve may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.

[40 C.F.R. §60.632(a); 45CSR16]

9.1.19 **40 C.F.R. §60.482-10 Standards: Closed vent systems and control devices.**

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of 40 C.F.R. 60 Subpart VV shall comply with the provisions of this permit condition.

(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.

(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

(d) Flares used to comply with 40 C.F.R. 60 Subpart VV shall comply with the requirements of §60.18.

(e) Owners or operators of control devices used to comply with the provisions of 40 C.F.R. 60 Subpart VV shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this permit condition, each closed vent system shall

be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this permit condition.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this permit condition:

(i) Conduct an initial inspection according to the procedures in §60.485(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in §60.485(b); and

(ii) Conduct annual inspections according to the procedures in §60.485(b).

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this permit condition.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this permit condition.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this permit condition, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this permit condition if they comply with the requirements specified in paragraphs (j)(1) and (j)(2) of this permit condition:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this permit condition; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this permit condition, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this permit condition if they comply with the requirements specified in paragraphs (k)(1) through (k)(3) of this permit condition:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through §§60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (l)(5) of this permit condition.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in §60.486(c).
(4) For each inspection conducted in accordance with §60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.
(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this permit condition during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of 40 C.F.R. 60 Subpart VV shall be operated at all times when emissions may be vented to them.
[40 C.F.R. §60.632(a); 45CSR16]

9.2 Monitoring Requirements

9.2.1 Reserved.

9.3 Testing Requirements

9.3.1 **40 C.F.R. §60.485 Test methods and procedures.**
(a) In conducting the performance tests required in 40 C.F.R. §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this permit condition, except as provided in 40 C.F.R. §60.8(b).

(b) The owner or operator shall determine compliance with the standards in 40 C.F.R. §§60.482–1 through 60.482–10, 60.483, and 60.484 as follows:
(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:
(i) Zero air (less than 10 ppm of hydrocarbon in air); and
(ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

(c) The owner or operator shall determine compliance with the no detectable emission standards in 40 C.F.R. §§60.482–2(e), 60.482–3(i), 60.482–4, 60.482–7(f), and 60.482–10(e) as follows:
(1) The requirements of paragraph (b) shall apply.
(2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:
(1) Procedures that conform to the general methods in ASTM E260–73, 91, or 96, E168–67, 77, or 92, E169–63, 77, or 93 (incorporated by reference—see 40 C.F.R. §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.
(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.
(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs

(d) (1) and (2) of this permit condition shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply:

(1) The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see 40 C.F.R. §60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

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

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

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

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

(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$$V_{max} = K_1 + K_2 H_T$$

Where:

V_{max}= Maximum permitted velocity, m/sec (ft/sec)

H_T= Net heating value of the gas being combusted, MJ/scm (Btu/scf).

K_1= 8.706 m/sec (metric units)

= 28.56 ft/sec (English units)

K_2= 0.7084 m^4 /(MJ-sec) (metric units)

= 0.087 ft^4 /(Btu-sec) (English units)

(4) The net heating value (H_T) of the gas being combusted in a flare shall be computed using the following equation:

$$H_T = K\sum_{i=1}^{n} C_i H_i$$

Where:

K = Conversion constant, 1.740×10^{-7} (g-mole)(MJ)/(ppm-scm-kcal) (metric units) = 4.674×10^{-6} [(g-mole)(Btu)/(ppm-scf-kcal)] (English units)

C_i= Concentration of sample component "i," ppm

H_i= Net heat of combustion of sample component "i" at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole

(5) Method 18 or ASTM D6420–99 (2004) (where the target compound(s) are those listed in Section 1.1 of ASTM D6420–99, and the target concentration is between 150 parts per billion by volume and 100 parts per million by volume) and ASTM D2504–67, 77 or 88 (Reapproved 1993) (incorporated by reference—see 40 C.F.R. §60.17) shall be used to determine the concentration of sample component "i."

(6) ASTM D2382–76 or 88 or D4809–95 (incorporated by reference—see 40 C.F.R. §60.17) shall be used to determine the net heat of combustion of component "i" if published values are not available or cannot be calculated.

(7) Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the actual exit velocity of a

flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

(h) The owner or operator shall determine compliance with 40 C.F.R. §60.483–1 or 40 C.F.R. §60.483–2 as follows:

(1) The percent of valves leaking shall be determined using the following equation:

$\%V_L = (V_L/V_T) * 100$

Where:

$\%V_L$= Percent leaking valves
V_L= Number of valves found leaking
V_T= The sum of the total number of valves monitored

(2) The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored.
(3) The number of valves leaking shall include valves for which repair has been delayed.
(4) Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service.
(5) If the process unit has been subdivided in accordance with 40 C.F.R. §60.482–7(c)(1)(ii), the sum of valves found leaking during a monitoring period includes all subgroups.
(6) The total number of valves monitored does not include a valve monitored to verify repair.

[40 C.F.R. §60.632(d); 45CSR16]

9.4 Recordkeeping Requirements

9.4.1 To demonstrate compliance with section 9.1.1. the permittee shall maintain monthly records of the amount of natural gas processed in the Non-Fractionating Processing Plant. Said records required 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.
[45CSR13, R13-2823, 8.2.1.; 45CSR§30-5.1.c.]

9.4.2 **Recordkeeping Requirements of 40 C.F.R. 60 Subpart KKK**

(a) Each owner or operator subject to the provisions of 40 C.F.R. 60 Subpart KKK shall comply with the requirements of paragraphs (b) and (c) of this permit condition in addition to the requirements of 40 C.F.R. §60.486 (*permit condition 9.4.3.*).

(b) The following recordkeeping requirements shall apply to pressure relief devices subject to the requirements of §60.633(b)(1) of 40 C.F.R. 60 Subpart KKK.

(1) When each leak is detected as specified in 40 C.F.R. §60.633(b)(2), a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. The identification on the pressure relief device may be removed after it has been repaired.

(2) When each leak is detected as specified in 40 C.F.R. §60.633(b)(2), the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(i) The instrument and operator identification numbers and the equipment identification number.

(ii) The date the leak was detected and the dates of each attempt to repair the leak.

(iii) Repair methods applied in each attempt to repair the leak.

(iv) "Above 10,000 ppm" if the maximum instrument reading measured by the methods specified in paragraph (a) of this permit condition after each repair attempt is 10,000 ppm or greater.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(vi) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(vii) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(viii) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(ix) The date of successful repair of the leak.

(x) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 C.F.R. §60.482–4(a). The designation of equipment subject to the provisions of 40 C.F.R. §60.482–4(a) shall be signed by the owner or operator.

(c) An owner or operator shall comply with the following requirement in addition to the requirement of 40 C.F.R. §60.486(j) (*permit condition 9.4.3.(j)*): Information and data used to demonstrate that a reciprocating compressor is in wet gas service to apply for the exemption in 40 C.F.R. §60.633(f) shall be recorded in a log that is kept in a readily accessible location.

[40 C.F.R. §§60.635(a), (b), and (c); 45CSR16]

9.4.3 **Recordkeeping requirements of 40 C.F.R. §60.486 (NSPS Subpart VV)**

(a)(1) Each owner or operator subject to the provisions of 40 C.F.R. 60 Subpart VV shall comply with the recordkeeping requirements of this permit condition.

(2) An owner or operator of more than one affected facility subject to the provisions of 40 C.F.R. 60 Subpart VV may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(b) When each leak is detected as specified in 40 C.F.R. §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, the following requirements apply:

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

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 C.F.R. §60.482–7(c) and no leak has been detected during those 2 months.

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

(c) When each leak is detected as specified in 40 C.F.R. §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) "Above 10,000" if the maximum instrument reading measured by the methods specified in 40 C.F.R. §60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.

(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in 40 C.F.R. §60.482–10 shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in 40 C.F.R. §60.482–10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in 40 C.F.R. §§60.482–2, 60.482–3, 60.482–4, and 60.482–5 are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed vent systems and control devices required in 40 C.F.R. §§60.482–2, 60.482–3, 60.482–4, and 60.482–5.

(e) The following information pertaining to all equipment subject to the requirements in 40 C.F.R. §§60.482–1 to 60.482–10 shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment subject to the requirements of 40 C.F.R. 60 Subpart VV.

(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 C.F.R. §§60.482–2(e), 60.482–3(i) and 60.482–7(f).

(ii) The designation of equipment as subject to the requirements of 40 C.F.R. §60.482–2(e), §60.482–3(i), or §60.482–7(f) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with their permitting authority that satisfies this requirement.

(3) A list of equipment identification numbers for pressure relief devices required to comply with 40 C.F.R. §60.482–4.

(4)(i) The dates of each compliance test as required in 40 C.F.R. §§60.482–2(e), 60.482–3(i), 60.482–4, and 60.482–7(f).

(ii) The background level measured during each compliance test.

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

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

(6) A list of identification numbers for equipment that the owner or operator designates as operating in VOC service less than 300 hr/yr in accordance with 40 C.F.R. §60.482–1(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr.

(f) The following information pertaining to all valves subject to the requirements of 40 C.F.R. §60.482–7(g) and (h) and to all pumps subject to the requirements of 40 C.F.R. §60.482–2(g) shall be recorded in a log that is kept in a readily accessible location:

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

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

(g) The following information shall be recorded for valves complying with 40 C.F.R. §60.483–2:

(1) A schedule of monitoring.

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

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

(1) Design criterion required in 40 C.F.R. §§60.482–2(d)(5) and 60.482–3(e)(2) and explanation of the design criterion; and

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

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 C.F.R. §60.480(d):

(1) An analysis demonstrating the design capacity of the affected facility,

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

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

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

(k) The provisions of 40 C.F.R. §60.7 (b) and (d) do not apply to affected facilities subject to 40 C.F.R. 60 Subpart VV. **[40 C.F.R. §60.635(a); 45CSR16]**

9.4.4. The permittee shall record the number of operating days for each calendar month. **[45CSR§30-5.1.c.]**

9.5 Reporting Requirements

9.5.1 **Reporting Requirements of 40 C.F.R. 60 Subpart KKK**.

(a) Each owner or operator subject to the provisions of 40 C.F.R. 60 Subpart KKK shall comply with the requirements of paragraphs (b) and (c) of this permit condition in addition to the requirements of §60.487 (*permit condition 9.5.2.*).

(b) An owner or operator shall include the following information in the initial semiannual report in addition to the information required in §60.487(b) (1)–(4): Number of pressure relief devices subject to the requirements of §60.633(b) except for those pressure relief devices designated for no detectable emissions under the provisions of §60.482–4(a) and those pressure relief devices complying with §60.482–4(c).

(c) An owner or operator shall include the following information in all semiannual reports in addition to the information required in §60.487(c)(2) (i) through (vi):

(1) Number of pressure relief devices for which leaks were detected as required in §60.633(b)(2) and

(2) Number of pressure relief devices for which leaks were not repaired as required in §60.633(b)(3).

[40 C.F.R. §§60.636(a), (b), and (c); 45CSR16]

9.5.2 **Reporting requirements of 40 C.F.R. §60.487 (NSPS Subpart VV)**

(a) Each owner or operator subject to the provisions of 40 C.F.R. 60 Subpart VV shall submit semiannual reports to the Administrator beginning six months after the initial startup date.

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

(1) Process unit identification.
(2) Number of valves subject to the requirements of 40 C.F.R. §60.482–7, excluding those valves designated for no detectable emissions under the provisions of 40 C.F.R. §60.482–7(f).
(3) Number of pumps subject to the requirements of 40 C.F.R. §60.482–2, excluding those pumps designated for no detectable emissions under the provisions of 40 C.F.R. §60.482–2(e) and those pumps complying with 40 C.F.R. §60.482–2(f).
(4) Number of compressors subject to the requirements of 40 C.F.R. §60.482–3, excluding those compressors designated for no detectable emissions under the provisions of 40 C.F.R. §60.482–3(i) and those compressors complying with 40 C.F.R. §60.482–3(h).

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 C.F.R. §60.486:

(1) Process unit identification.
(2) For each month during the semiannual reporting period,
  (i) Number of valves for which leaks were detected as described in 40 C.F.R. §60.482–7(b) or 40 C.F.R. §60.483–2,
  (ii) Number of valves for which leaks were not repaired as required in 40 C.F.R. §60.482–7(d)(1),
  (iii) Number of pumps for which leaks were detected as described in 40 C.F.R. §60.482–2(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii),
  (iv) Number of pumps for which leaks were not repaired as required in 40 C.F.R. §60.482–2(c)(1) and (d)(6),
  (v) Number of compressors for which leaks were detected as described in 40 C.F.R. §60.482–3(f),
  (vi) Number of compressors for which leaks were not repaired as required in 40 C.F.R. §60.482–3(g)(1), and
  (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.
(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to permit condition 9.5.2.(b) if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) An owner or operator electing to comply with the provisions of 40 C.F.R. §§60.483–1 or 60.483–2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with 40 C.F.R. §60.8 of the General Provisions. The provisions of 40 C.F.R. §60.8(d) do not apply to affected facilities subject to the provisions of 40 C.F.R. 60 Subpart VV except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.

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

[40 C.F.R. §60.636(a); 45CSR16]

9.6. Compliance Plan

9.6.1 Reserved.

10.0 Source-Specific Requirements [Natural Gas Liquid Loading Rack, Em. Unit IDs: 009-01, 009-02]

10.1 Limitations and Standards

10.1.1. Maximum Throughput Limitation. The maximum natural gas liquids throughput for these Natural Gas Liquid Loading Racks (009-01, 009-02) shall not exceed 34,399,200 gallons/yr. Compliance with the Maximum Throughput Limitation shall be determined 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.
[45CSR13, R13-2823, 9.1.1.]

10.1.2. The Natural Gas Liquid Loading Racks (009-01, 009-02) shall be operated in accordance with the plans and specifications filed in Permit Application R13-2823.
[45CSR13, R13-2823, 9.1.2.]

10.2. Monitoring Requirements

10.2.1. Reserved.

10.3. Testing Requirements

10.3.1. Reserved.

10.4. Recordkeeping Requirements

10.4.1. To demonstrate compliance with section 10.1.1 the permittee shall maintain daily and monthly records of the total amount of natural gas liquids loaded by the Natural Gas Liquid Loading Racks (009-01, 009-02). Said records required 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.
[45CSR13, R13-2823, 9.2.1.; 45CSR§30-5.1.c.]

10.5. Reporting Requirements

10.5.1. Reserved.

10.6. Compliance Plan

10.6.1. Reserved.

11.0 Source-Specific Requirements [Flare Control Device, Em. Pt. ID: FLARE3]

11.1. Limitations and Standards

11.1.1. The permittee shall install a Zeeco UFAA-16/30 flare (FLARE3) to control VOC emissions from emergency venting and during various non-routine maintenance activities of process equipment (008-01, 008-02, 008-03, 008-04, 009-01, 009-02).
[45CSR13, R13-2823, 10.1.1.]

11.1.2. Maximum emissions from the Zeeco UFAA-16/30 flare (FLARE3) shall not exceed the following limits:

Emission Unit ID	Pollutant	Maximum Annual Emissions (ton/year)
FLARE3	Volatile Organic Compounds	0.21
	Nitrogen Oxides	0.08
	Carbon Monoxide	0.15

[45CSR13, R13-2823, 10.1.2.]

11.1.3. For purposes of determining potential HAP emissions at transmission and storage facilities to comply with the requirements in Section 6.1.1, the methods specified in 40 CFR 63, Subpart HHH shall be used. For purposes of determining potential HAP emissions at production-related facilities, the methods specified in 40 CFR 63, Subpart HH (i.e. excluding compressor engines from HAP PTE) shall be used.
[45CSR13, R13-2823, 10.1.3.]

11.1.4. The Zeeco UFAA-16/30 flare (FLARE3) subject to this section shall be designed and operated in accordance with the following:

a. Flare shall be air-assisted.
Compliance with this underlying condition 10.1.4.a. of permit R13-2823 ensures compliance with the less stringent requirement of 40 C.F.R. §60.18(c)(6).
[45CSR13, R13-2823, 10.1.4.a.; 40 C.F.R. §60.18(c)(6); 45CSR16]

b. Flare 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.
[45CSR13, R13-2823, 10.1.4.b.; 40 C.F.R. §60.18(c)(1); 45CSR16]

c. Flare shall be operated, with a flame present at all times whenever emissions may be vented to them, except during SSM (Startup, Shutdown, Malfunctions) events.
[45CSR13, R13-2823, 10.1.4.c.; 40 C.F.R. §§ 60.18(c)(2) and 60.18(e); 45CSR16]

d. A flare shall be used only where the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or where the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare~~s~~ is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K\sum_{i=1}^{n} C_i H_i$$

Where:

H_T=Net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

K=Constant=

$$1.740\times10^{-7}\left(\frac{1}{ppmv}\right)\left(\frac{\text{g-mole}}{\text{scm}}\right)\left(\frac{\text{MJ}}{\text{kcal}}\right)$$

where the standard temperature for (g-mole/scm) is 20 °C.
C_i=Concentration of sample component i in ppmv on a wet basis, which may be measured for organics by Test Method 18, but is not required to be measured using Method 18 (unless designated by the Director).
H_i=Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 if published values are not available or cannot be calculated.
n=Number of sample components.

[45CSR13, R13-2823, 10.1.4.d.; 40 C.F.R. §§ 60.18(c)(3)(ii) and 60.18(f)(3); 45CSR16]

e. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max}. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation:

$$V_{max}=8.71 + 0.708(H_T)$$

Where:
V_{max}=Maximum permitted velocity, m/sec.
8.71=Constant.
0.708=Constant.
H_T=The net heating value as determined in 11.1.4.d of this section.

[45CSR13, R13-2823, 10.1.4.e.; 40 C.F.R. §§ 60.18(c)(5) and 60.18(f)(6); 45CSR16]

11.1.5. The permittee is not required to conduct a flare compliance assessment for concentration of sample (i.e. Method 18) and tip velocity (i.e. Method 2) until such time as the Director requests a flare compliance assessment to be conducted in accordance with section 11.3.2, but the permittee is required to conduct a flare design evaluation in accordance with section 11.4.2. Alternatively, the permittee may elect to demonstrate compliance with the flare design criteria requirements of section 11.1.4 by complying with the compliance assessment testing requirements of section 11.3.2.
[45CSR13, R13-2823, 10.1.5.]

11.1.6. No person shall cause or allow particulate matter to be discharged from any incinerator into the open air in excess of 24.81 lb/hr.
[45CSR§6-4.1.]

11.1.7. Emission of Visible Particulate Matter. No person shall cause or allow emission of smoke into the atmosphere from any incinerator which is twenty percent (20%) opacity or greater.
Compliance with the more stringent no visible emissions requirement of condition 11.1.4.b. ensures compliance with this opacity limit.
[45CSR§6-4.3.]

11.1.8. The provisions of condition 11.1.7. shall not apply to smoke which is less than forty percent (40%) opacity, for a period or periods aggregating no more than eight (8) minutes per start-up.
Compliance with the more stringent time period not to exceed a total of 5 minutes during any 2 consecutive hours requirement of condition 11.1.4.b. ensures compliance with the eight (8) minutes per start-up limit of this condition.
[45CSR§6-4.4.]

11.2. Monitoring Requirements

11.2.1. In order to demonstrate compliance with the requirements of 11.1.4.c, the permittee shall continuously monitor the presence or absence of a flare pilot flame using a thermocouple or any other equivalent device, except during SSM events.
[45CSR13, R13-2823, 10.2.1.; 40 C.F.R. §60.18(f)(2); 45CSR16; 45CSR§30-5.1.c.]

11.2.2. The permittee shall monitor and record the throughput to the Zeeco UFAA-16/30 flare (FLARE3) on a monthly basis.

11.2.2.1. The throughput volume to be monitored and recorded must include all sources venting to FLARE3, which are the NGL Tanks (008-01, 008-02, 008-03, 008-04); NGL Loading Racks (009-01, 009-02); and Absorber Vessel Draining.

11.2.2.2. The permittee shall compute and record the twelve month rolling total of the actual emissions, in tons per year, of the pollutants listed in condition 11.1.2.

[45CSR13, R13-2823, 10.2.2.; 45CSR§30-5.1.c.]

11.3. Testing Requirements

11.3.1. In order to demonstrate compliance with the flare opacity requirements of 11.1.4.b, visual emission checks shall be conducted monthly.
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.
If during these checks or at any other time visible emissions are observed at any emission point, compliance with 11.1.4.b shall be determined by conducting tests in accordance with Method 9 of 40 C.F.R. 60, Appendix A. Records shall be maintained on site stating the date and time of each visible emission check, whether visible emissions were observed, the opacity observed, and the corrective measures taken. Visible emission checks shall not be required during start-ups, shut-downs and malfunctions.
[45CSR13, R13-2823, 10.3.1.; 40 C.F.R. §60.18(f)(1); 45CSR16; 45CSR§30-5.1.c.]

11.3.2. The Director may require the permittee to conduct a flare compliance assessment to demonstrate compliance with section 11.1.4. This compliance assessment testing shall be conducted in accordance with Test Method 18 for organics and Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60, as appropriate, or other equivalent testing approved in writing by the Director. Also, Test Method 18 may require the permittee to conduct Test Method 4 in conjunction with Test Method 18.
[45CSR13, R13-2823, 10.3.2.]

11.3.3. In order to demonstrate compliance with 11.1.3, upon request of the Director, the permittee shall demonstrate compliance with the HAP emissions thresholds using GLYCalc Version 3.0 or higher. The permittee shall sample in accordance with GPA Method 2166 and analyze the samples utilizing the extended GPA Method 2286 as specified in the GRI-GLYCalc V4 Technical Reference User Manual and Handbook.
[45CSR13, R13-2823, 10.3.3.]

11.4. Recordkeeping Requirements

11.4.1. For the purpose of demonstrating compliance with section 11.1.4.c and 11.2.1, the permittee shall maintain records of the times and duration of all periods which the pilot flame was absent.
[45CSR13, R13-2823, 10.4.1.]

11.4.2. For the purpose of demonstrating compliance with section 11.1.4 and 11.3.2, the permittee shall maintain a record of the flare design evaluation. The flare design evaluation shall include, net heat value calculations, exit (tip) velocity calculations, and all supporting concentration calculations and other related information requested by the Director.
[45CSR13, R13-2823, 10.4.2.]

11.4.3. For the purpose of demonstrating compliance with the requirements set forth in sections 11.1.3. and 11.3.3., the permittee shall maintain records of testing conducted in accordance with 11.3.3.
[45CSR13, R13-2823, 10.4.3.]

11.4.4. The permittee shall document and maintain the corresponding records specified by the on-going monitoring requirements of 11.2 and testing requirements of 11.3.
[45CSR13, R13-2823, 10.4.4.]

11.4.5. For the purpose of demonstrating compliance with section 11.1.4.b, the permittee shall maintain records of the visible emission opacity tests conducted per Section 11.3.1.
[45CSR13, R13-2823, 10.4.5.]

11.4.6. For the purpose of demonstrating compliance with section 11.1.3, the permittee shall maintain a record of all potential to emit (PTE) HAP calculations for the entire affected facility. These records shall include the natural gas compressor engines and ancillary equipment.
[45CSR13, R13-2823, 10.4.6.]

11.4.7. All records required under Section 11.4 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.
[45CSR13, R13-2823, 10.4.8.]

11.5. Reporting Requirements

11.5.1. If permittee is required by the Director to demonstrate compliance with section 11.3.3, then the permittee shall submit a testing protocol at least thirty (30) days prior to testing and shall submit a notification of the testing date at least fifteen (15) days prior to testing. The permittee shall submit the testing results within sixty (60) days of testing and provide all supporting calculations and testing data.
[45CSR13, R13-2823, 10.5.1.]

11.5.2. 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.
[45CSR13, R13-2823, 10.5.2.]

11.5.3. Any deviation(s) from the flare design and operation criteria in Section 11.1.4 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 discovery of such deviation.
[45CSR13, R13-2823, 10.5.3.]

11.6. Compliance Plan

11.6.1. Reserved.

Appendix A

40 C.F.R. 63 Subpart HHH Requirements For LCS

(Note: In this section "this subpart" means 40 C.F.R.63 Subpart HHH)
(Note: In this section "this part" means 40 C.F.R. Part 63)
(Note: Where N/A is specified, the corresponding requirement does not apply to requirement at LCS)

§ 63.1270 Applicability and designation of affected source.

Please refer to 40 C.F.R § 63.1270

§ 63.1271 Definitions.

Please refer to 40 C.F.R § 63.1271

§ 63.1272 Affirmative defense for violations of emission standards during malfunction.

(a) The provisions set forth in this subpart shall apply at all times.

(b)-(c) [Reserved]

(d) In response to an action to enforce the standards set forth in this subpart, 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 §63.2. 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 paragraph (d)(2) of this section, 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 (d)(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.

[77 FR 49585, Aug. 16, 2012]

§ 63.1273 [Reserved]

§ 63.1274 General standards.

(a) Table 2 of this subpart specifies the provisions of subpart A (General Provisions) that apply and those that do not apply to owners and operators of affected sources subject to this subpart.

(b) All reports required under this subpart shall be sent to the Administrator at the appropriate address listed in §**63**.13. Reports may be submitted on electronic media.

(c) The owner or operator of an affected source (i.e., glycol dehydration unit) located at an existing or new major source of HAP emissions shall comply with the requirements in this subpart as follows:

(1) The control requirements for glycol dehydration unit process vents specified in §**63**.1275;

(2) The monitoring requirements specified in §**63**.1283, and

(3) The recordkeeping and reporting requirements specified in §§**63**.1284 and **63**.1285.

(d) [Reserved]

(e) Each owner or operator of a major HAP source subject to this subpart is required to apply for a part 70 or part 71 operating permit from the appropriate permitting authority. If the Administrator has approved a State operating permit program under part 70, the permit shall be obtained from the State authority. If a State operating permit program has not been approved, the owner or operator shall apply to the EPA Regional Office pursuant to part 71.

(f) [Reserved]

(g) In all cases where the provisions of this subpart require an owner or operator to repair leaks by a specified time after the leak is detected, it is a violation of this standard to fail to take action to repair the leak(s) within the specified time. If action is taken to repair the leak(s) within the specified time, failure of that action to successfully repair the leak(s) is not a violation of this standard. However, if the repairs are unsuccessful, and a leak is detected, the owner or operator shall take further action as required by the applicable provisions of this subpart.

(h) At all times the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[64 FR 32648, June 17, 1999, as amended at 66 FR 34556, June 29, 2001; 77 FR 49586, Aug. 16, 2012]

§ 63.1275 Glycol dehydration unit process vent standards.

(a) This section applies to each glycol dehydration unit subject to this subpart that must be controlled for air emissions as specified in paragraph (c)(1) of §63.1274.

(b) Except as provided in paragraph (c) of this section, an owner or operator of a glycol dehydration unit process vent shall comply with the requirements specified in paragraphs (b)(1) and (b)(2) of this section.

(1) For each glycol dehydration unit process vent, the owner or operator shall control air emissions by either paragraph (b)(1)(i) or (b)(1)(iii) of this section.

(i) The owner or operator of a large glycol dehydration unit, as defined in §63.1271, shall connect the process vent to a control device or a combination of control devices through a closed-vent system. The closed-vent system shall be designed and operated in accordance with the requirements of §**63**.1281(c). The control device(s) shall be designed and operated in accordance with the requirements of §**63**.1281(d).

(ii) The owner or operator of a large glycol dehydration unit shall connect the process vent to a control device or a combination of control devices through a closed-vent system and the outlet benzene emissions from the control device(s) shall be less than 0.90 megagrams per year. The closed-vent system shall be designed and operated in accordance with the requirements of §63.1281(c). The control device(s) shall be designed and operated in accordance with the requirements of §63.1281(d), except that the performance requirements specified in §63.1281(d)(1)(i) and (ii) do not apply.

(iii) N/A

(2) One or more safety devices that vent directly to the atmosphere may be used on the air emission control equipment installed to comply with paragraph (b)(1) of this section.

(c) As an alternative to the requirements of paragraph (b) of this section, the owner or operator may comply with one of the following:

(1) N/A

(2) The owner or operator shall demonstrate, to the Administrator's satisfaction, that the total HAP emissions to

the atmosphere from the large glycol dehydration unit process vent are reduced by 95.0 percent through process modifications or a combination of process modifications and one or more control devices, in accordance with the requirements specified in §63.1281(e).

(3) Control of HAP emissions from a GCG separator (flash tank) vent is not required if the owner or operator demonstrates, to the Administrator's satisfaction, that total emissions to the atmosphere from the glycol dehydration unit process vent are reduced by one of the levels specified in paragraph (c)(3)(i) ~~or (ii)~~ through (iv) through the installation and operation of controls as specified in paragraph (b)(1) of this section.

(i) For any large glycol dehydration unit, HAP emissions are reduced by 95.0 percent or more.

(ii) For any large glycol dehydration unit, ~~B~~benzene emissions are reduced to a level less than 0.90 megagrams per year.

(iii) N/A

(iv) N/A

[64 FR 32648, June 17, 1999, as amended at 66 FR 34556, June 29, 2001; 77 FR 49586, Aug. 16, 2012]

§§ 63.1276-63.1280 [Reserved]

§ 63.1281 Control equipment requirements.

(a) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions as required by the provisions of this subpart. Compliance with paragraphs (c) and (d) of this section will be determined by review of the records required by §**63**.1284, the reports required by §**63**.1285, by review of performance test results, and by inspections.

(b) [Reserved]

(c) *Closed-vent system requirements.*

(1) The closed-vent system shall route all gases, vapors, and fumes emitted from the material in ~~a HAP~~ an emissions unit to a control device that meets the requirements specified in paragraph (d) of this section.

(2) The closed-vent system shall be designed and operated with no detectable emissions.

(3) 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, the owner or operator shall meet the requirements specified in paragraphs (c)(3)(i) and (c)(3)(ii) of this section.

(i) For each bypass device, except as provided for in paragraph (c)(3)(ii) of this section, the owner or operator shall either:

(A) At the inlet to the bypass device that could divert the stream away from the control device to the atmosphere, properly install, calibrate, maintain, and operate a flow indicator that is capable of taking periodic readings and sounding an alarm when the bypass device is open such that the stream is being, or could be, diverted away from the control device to the atmosphere; or

(B) 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.

(d) *Control device requirements for sources except small glycol dehydration units.* Owners and operators of small glycol dehydration units shall comply with the control requirements in paragraph (f) of this section .

(1) The control device used to reduce HAP emissions in accordance with the standards of this subpart shall be one of the control devices specified in paragraphs (d)(1)(i) through (iii) of this section.

(i) N/A

(ii) N/A

(iii) A **flare**, as defined in §63.1271, that is designed and operated in accordance with the requirements of §**63**.11(b).

(2) [Reserved]

(3) The owner or operator shall demonstrate that a control device achieves the performance requirements of paragraph (d)(1) of this section by following the procedures specified in §**63**.1282(d).

(4) The owner or operator shall operate each control device in accordance with the requirements specified in paragraphs (d)(4)(i) and (ii) of this section.

(i) Each control device used to comply with this subpart shall be operating at all times when gases, vapors, and fumes are vented from the emissions unit or units through the closed-vent system to the control device, as required under §**63**.1275, an owner or operator may vent more than one unit to a control device used to comply with this subpart.

(ii) For each control device monitored in accordance with the requirements of §**63**.1283(d), the owner or operator shall demonstrate compliance according to the requirements of §**63**.1282(e), or (f) as applicable.

(5) N/A

(e) N/A

(f) N/A

[64 FR 32648, June 17, 1999, as amended at 66 FR 34556, June 29, 2001; 68 FR 37357, June 23, 2003; 77 FR 49587, Aug. 16, 2012]

§ 63.1282 Test methods, compliance procedures, and compliance demonstrations.

Please refer to 40 C.F.R § 63.1282

§ 63.1283 Inspection and monitoring requirements.

(a) This section applies to an owner or operator using air emission controls in accordance with the requirements of §**63**.1275.

(b) The owner or operator of a control device whose model was tested under 63.1282(g) shall develop an inspection and maintenance plan for each control device. At a minimum, the plan shall contain the control device manufacturer's recommendations for ensuring proper operation of the device. Semi-annual inspections shall be conducted for each control device with maintenance and replacement of control device components made in accordance with the plan.

(c) *Closed-vent system inspection and monitoring requirements.*

(1) For each closed-vent system required to comply with this section, the owner or operator shall comply with the requirements of paragraphs (c)(2) through (7) of this section.

(2) Except as provided in paragraphs (c)(5) and (6) of this section, each closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (c)(2)(i) and (ii) of this section and each bypass device shall be inspected according to the procedures of (c)(2)(iii) of this section.

(i) For each closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted or gasketed ducting flange), the owner or operator shall:

(A) Conduct an initial inspection according to the procedures specified in §**63**.1282(b) to demonstrate that the closed-vent system operates with no detectable emissions. Inspection results shall be submitted with the Notification of Compliance Status Report as specified in §**63**.1285(d)(1) or (2).

(B) Conduct annual visual 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; or broken or missing caps or other closure devices. The owner or operator shall monitor a component or connection using the procedures specified in §**63**.1282(b) to demonstrate that it operates with no detectable emissions following any time the component or connection is repaired or replaced or the connection is unsealed. Inspection results shall be submitted in the Periodic Report as specified in §**63**.1285(e)(2)(iii).

(ii) For closed-vent system components other than those specified in paragraph (c)(2)(i) of this section, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures specified in §**63**.1282(b) to demonstrate that the closed-vent system operates with no detectable emissions. Inspection results shall be submitted with the Notification of Compliance Status Report as specified in §**63**.1285(d)(1) or (2).

(B) Conduct annual inspections according to the procedures specified in §**63**.1282(b) to demonstrate that the components or connections operate with no detectable emissions. Inspection results shall be submitted in the Periodic Report as specified in §**63**.1285(e)(2)(iii).

(C) Conduct annual visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork; loose connections; or broken or missing caps or other closure devices. Inspection results shall be submitted in the Periodic Report as specified in §**63**.1285(e)(2)(iii).

(iii) For each bypass device, except as provided for in §**63**.1281(c)(3)(ii), the owner or operator shall either:

(A) At the inlet to the bypass device that could divert the steam away from the control device to the atmosphere, set the flow indicator to take a reading at least once every 15 minutes; or

(B) 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.

(3) In the event that a leak or defect is detected, the owner or operator shall repair the leak or defect as soon as practicable, except as provided in paragraph (c)(4) of this section.

(i) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(ii) Repair shall be completed no later than 15 calendar days after the leak is detected.

(4) Delay of repair of a closed-vent system for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, as defined in §**63**.1271, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next shutdown.

(5) Any parts of the closed-vent system or cover that are designated, as described in paragraphs (c)(5) (i) and (ii) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (c)(2) (i) and (ii) of this section if:

(i) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (c)(2) (i) or (ii) of this section; and

(ii) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(6) Any parts of the closed-vent system or cover that are designated, as described in paragraphs (c)(6) (i) and (ii) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (c)(2) (i) and (ii) of this section if:

(i) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(ii) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(7) Records shall be maintained as specified in §**63**.1284(b)(5) through (8).

(d) *Control device monitoring requirements.*

(1) For each control device except as provided for in paragraph (d)(2) of this section, the owner or operator shall install and operate a continuous parameter monitoring system in accordance with the requirements of paragraphs (d)(3) through (7) of this section. Owners or operators that install and operate a **flare** in accordance with §**63**.1281(d)(1)(iii) are exempt from the requirements of paragraphs (d)(4) and (5) of this section. The continuous parameter monitoring system shall be designed and operated so that a determination can be made on whether the control device is achieving the applicable performance requirements of §63.1281(d), (e)(3), or (f)(1) must meet the following specifications and requirements:

(i) Each continuous parameter monitoring system shall measure data values at least once every hour and record either:

(A) Each measured data value; or

(B) 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.

(ii) A site-specific monitoring plan must be prepared that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraph (d) of this section and in §63.8(d). Each CPMS must be installed, calibrated, operated, and maintained in accordance with the procedures in your approved site-specific monitoring plan. Using the process described in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (d)(1)(ii)(A) through (E) of this section in your site-specific monitoring plan.

(A) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(B) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(C) Equipment performance checks, system accuracy audits, or other audit procedures;

(D) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1) and (c)(3); and

(E) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(iii) The owner or operator must conduct the CPMS equipment performance checks, system accuracy audits, or other audit procedures specified in the site-specific monitoring plan at least once every 12 months.

(iv) The owner or operator must conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan.

(2) N/A

(3) The owner or operator shall 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 paragraph (d)(3)(i), (d)(3)(ii), or (d)(3)(iii) of this section.

(i) A continuous monitoring system that measures the following operating parameters as applicable:

(A) N/A

(B) N/A

(C) For a **flare**, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(D) N/A

(E) N/A

(F) N/A

(G) N/A

(H) For a control device whose model is tested under §63.1282(g):

(ii) N/A

(iii) N/A

(4) N/A

(5) N/A

(6) An excursion 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 (d)(6)(i) through (d)(6)(~~i~~v) of this section being met. When multiple operating parameters are monitored for the same control device and during the same operating day, and more than one of these operating parameters meets an excursion criterion specified in paragraphs (d)(6)(i) through (d)(6)(~~i~~v) of this section, then a single excursion is determined to have occurred for the control device for that operating day.

(i) An excursion 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 for the operating parameter in accordance with the requirements of paragraph (d)(5)(i) of this section.

(ii) For sources meeting §63.1281(d)(1)(ii), an excursion occurs when average condenser efficiency calculated according to the requirements specified in §**63**.1282(f)(2)(iii) is less than 95.0 percent, as specified in §**63**.1282(f)(3). For sources meeting §63.1281(f)(1), an excursion occurs when the 30-day average condenser efficiency calculated according to the requirements of §63.1282(f)(2)(iii) is less than the identified 30-day required percent reduction.

(iii) An excursion occurs when the monitoring data are not available for at least 75 percent of the operating hours in a day.

(iv) 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, an excursion occurs when:

(A) For each bypass line subject to §**63**.1281(c)(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.

(B) For each bypass line subject to §**63**.1281(c)(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.

(v) For control device whose model is tested under §63.1282(g) an excursion occurs when:

(A) The inlet gas flowrate exceeds the maximum established during the test conducted under §63.1282(g).

(B) Failure of the quarterly visible emissions test conducted under §63.1282(h)(3) occurs.

(7) For each excursion, the owner or operator shall be deemed to have failed to have applied control in a manner that achieves the required operating parameter limits. Failure to achieve the required operating parameter limits is a violation of this standard.

(8) [Reserved]

(9) Nothing in paragraphs (d)(1) through (d)(8) of this section shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of this subpart.

[64 FR 32648, June 17, 1999, as amended at 66 FR 34557, June 29, 2001; 68 FR 37357, June 23, 2003; 71 FR 20459, Apr. 20, 2006; 77 FR 49594, Aug. 16, 2012]

§ 63.1284 Recordkeeping requirements.

(a) The recordkeeping provisions of subpart A of this part, that apply and those that do not apply to owners and operators of facilities subject to this subpart are listed in Table 2 of this subpart.

(b) Except as specified in paragraphs (c) and (d) of this section, each owner or operator of a facility subject to this subpart shall maintain the records specified in paragraphs (b)(1) through (b)(10) of this section:

(1) The owner or operator of an affected source subject to the provisions of this subpart shall maintain files of all information (including all reports and notifications) required by this subpart. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or period.

(i) All applicable records shall be maintained in such a manner that they can be readily accessed.

(ii) The most recent 12 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request.

(iii) The remaining 4 years of records may be retained offsite.

(iv) Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

(2) Records specified in §**63**.10(b)(2);

(3) Records specified in §**63**.10(c) for each monitoring system operated by the owner or operator in accordance with the requirements of §**63**.1283(d). Notwithstanding the previous sentence, monitoring data recorded during periods identified in paragraphs (b)(3)(i) through (iv) of this section shall not be included in any average or percent leak rate computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control device operation when monitors are not operating or failed to collect required data.

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

(ii) [Reserved]

(iii) Periods of non-operation resulting in cessation of the emissions to which the monitoring applies; and

(iv) Excursions due to invalid data as defined in §**63**.1283(d)(6)(iii).

(4) Each owner or operator using a control device to comply with §**63**.1274 shall keep the following records up-to-date and readily accessible:

(i) Continuous records of the equipment operating parameters specified to be monitored under §**63**.1283(d) or specified by the Administrator in accordance with §**63**.1283(d)(3)(iii). For **flare**s, the hourly records and records of pilot flame outages specified in paragraph (e) of this section shall be maintained in place of continuous records.

(ii) Records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in §**63**.1283(d)(4), except as specified in paragraphs (b)(4)(ii)(A) through (C) of this section.

(A) For **flare**s, the records required in paragraph (e) of this section.

(B) N/A

(C) For a control device whose model is tested under §63.1282(g), the records required in paragraph (g) of this section.

(iii) Hourly records of the times and durations of all periods when the vent stream is diverted from the control device or the monitor is not operating.

(iv) Where a seal or closure mechanism is used to comply with §**63**.1281(c)(3)(i)(B), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanism has been done, and shall record the duration of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken.

(5) Records identifying all parts of the closed-vent system that are designated as unsafe to inspect in accordance with §**63**.1283(c)(5), an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(6) Records identifying all parts of the closed-vent system that are designated as difficult to inspect in accordance with §**63**.1283(c)(6), an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(7) For each inspection conducted in accordance with §**63**.1283(c), during which a leak or defect is detected, a record of the information specified in paragraphs (b)(7)(i) through (b)(7)(viii) of this section.

(i) The instrument identification numbers, operator name or initials, and identification of the equipment.

(ii) The date the leak or defect was detected and the date of the first attempt to repair the leak or defect.

(iii) Maximum instrument reading measured by the method specified in §**63**.1282(b) after the leak or defect is successfully repaired or determined to be nonrepairable.

(iv) “Repair delayed” and the reason for the delay if a leak or defect is not repaired within 15 calendar days after discovery of the leak or defect.

(v) The name, initials, or other form of identification of the owner or operator (or designee) whose decision

it was that repair could not be effected without a shutdown.

(vi) The expected date of successful repair of the leak or defect if a leak or defect is not repaired within 15 calendar days.

(vii) Dates of shutdowns that occur while the equipment is unrepaired.

(viii) The date of successful repair of the leak or defect.

(ix) N/A

(8) For each inspection conducted in accordance with §**63**.1283(c) during which no leaks or defects are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks or defects were detected.

(9) Records of glycol dehydration unit baseline operations calculated as required under §**63**.1281(e)(1).

(10) Records required in §**63**.1281(e)(3)(i) documenting that the facility continues to operate under the conditions specified in §**63**.1281(e)(2).

(c) N/A

(d) N/A

(e) Record the following when using a **flare** to comply with §**63**.1281(d):

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

(2) All visible emission readings, heat content determinations, flowrate measurements, and exit velocity determinations made during the compliance determination required by §**63**.1282(d)(2); and

(3) All hourly records and other recorded periods when the pilot flame is absent.

(f) The owner or operator of an affected source subject to this subpart shall maintain records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control equipment and monitoring equipment. The owner or operator shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with §63.1274(h), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(g) Record the following when using a control device whose model is tested under §63.1282(g) to comply with §63.1281(d), (e)(3)(ii) and (f)(1):

(1) All visible emission readings and flowrate calculations made during the compliance determination required by §63.1282(h); and

(2) All hourly records and other recorded periods when the pilot flame is absent.

(h) The date the semi-annual maintenance inspection required under §63.1283(b) is performed. Include a list of any modifications or repairs made to the control device during the inspection and other maintenance performed such as cleaning of the fuel nozzles.

[64 FR 32648, June 17, 1999, as amended at 66 FR 34558, June 29, 2001; 77 FR 49595, Aug. 16, 2012]

§ 63.1285 Reporting requirements.

(a) The reporting provisions of subpart A, of this part that apply and those that do not apply to owners and operators of facilities subject to this subpart are listed in Table 2 of this subpart.

(b) Each owner or operator of a facility subject to this subpart shall submit the information listed in paragraphs (b)(1) through (b)(6) of this section, except as provided in paragraph (b)(7) of this section.

(1) The initial notifications required for existing affected sources under §**63**.9(b)(2) shall be submitted as provided in paragraphs (b)(1)(i) and (ii) of this section.

(i) Except as otherwise provided in paragraph (b)(1)(ii) of this section, the initial notification shall be submitted by 1 year after an affected source becomes subject to the provisions of this subpart or by June 17, 2000, whichever is later. Affected sources that are major sources on or before June 17, 2000 and plan to be area sources by June 17, 2002 shall include in this notification a brief, nonbinding description of a schedule for the action(s) that are planned to achieve area source status.

(ii) An affected source identified under §63.1270(d)(3) shall submit an initial notification required for existing affected sources under §63.9(b)(2) within 1 year after the affected source becomes subject to the provisions of this subpart or by October 15, 2013, whichever is later. An affected source identified under §63.1270(d)(3) that plans to be an area source by October 15, 2015, shall include in this notification a brief, nonbinding description of a schedule for the action(s) that are planned to achieve area source status.

(2) The date of the performance evaluation as specified in §**63**.8(e)(2), required only if the owner or operator is requested by the Administrator to conduct a performance evaluation for a continuous monitoring system. A separate notification of the performance evaluation is not required if it is included in the initial notification submitted in accordance with paragraph (b)(1) of this section.

(3) The planned date of a performance test at least 60 days before the test in accordance with §**63**.7(b). Unless requested by the Administrator, a site-specific test plan is not required by this subpart. If requested by the Administrator, the owner or operator must also submit the site-specific test plan required by §**63**.7(c) with the notification of the performance test. A separate notification of the performance test is not required if it is included in the initial notification submitted in accordance with paragraph (b)(1) of this section.

(4) A Notification of Compliance Status Report as described in paragraph (d) of this section;

(5) Periodic Reports as described in paragraph (e) of this section; and

(6) If there was a malfunction during the reporting period, the Periodic Report specified in paragraph (e) of this section shall include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.1274(h), including actions taken to correct a malfunction.

(7) [Reserved]

(c) [Reserved]

(d) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status Report as required under §**63**.9(h) within 180 days after the compliance date specified in §**63**.1270(d). In

addition to the information required under §**63**.9(h), the Notification of Compliance Status Report shall include the information specified in paragraphs (d)(1) through (12) of this section. This information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination of the three. If all of the information required under this paragraph have been submitted at any time prior to 180 days after the applicable compliance dates specified in §**63**.1270(d), a separate Notification of Compliance Status Report is not required. If an owner or operator submits the information specified in paragraphs (d)(1) through (12) of this section at different times, and/or different submittals, subsequent submittals may refer to previous submittals instead of duplicating and resubmitting the previously submitted information.

(1) N/A

(2) If a closed-vent system and a **flare** are used to comply with §**63**.1274, the owner or operator shall submit performance test results including the information in paragraphs (d)(2)(iii) of this section.

(i) All visible emission readings, heat content determinations, flowrate measurements, and exit velocity determinations made during the compliance determination required by §**63**.1282(d)(2) of this subpart, and

(ii) A statement of whether a flame was present at the pilot light over the full period of the compliance determination.

(iii) The results of the closed-vent system initial inspections performed according to the requirements in §**63**.1283(c)(2)(i) and (ii).

(3) The owner or operator shall submit one complete test report for each test method used for a particular source.

(i) For additional tests performed using the same test method, the results specified in paragraph (d)(1)(ii) of this section shall be submitted, but a complete test report is not required.

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

(4) N/A

(5) Results of any continuous monitoring system performance evaluations shall be included in the Notification of Compliance Status Report.

(6) After a title V permit has been issued to the owner or operator of an affected source, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this subpart. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this subpart, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in this subpart.

(7) The owner or operator that elects to comply with the requirements of §**63**.1275(b)(1)(ii) shall submit the records required under §**63**.1284(c).

(8) The owner or operator shall submit an analysis demonstrating whether an affected source is a major source using the maximum throughput calculated according to §**63**.1270(a).

(9) The owner or operator shall submit a statement as to whether the source has complied with the requirements of this subpart.

(10) The owner or operator shall submit the analysis prepared under §**63**.1281(e)(2) to demonstrate that the conditions by which the facility will be operated to achieve the HAP emission reduction of 95.0 percent, or the BTEX limit in §63.1275(b)(1)(iii) through process modifications or a combination of process modifications and one or more control devices.

(11) If the owner or operator installs a combustion control device model tested under the procedures in §63.1282(g), the data listed under §63.1282(g)(8).

(12) For each combustion control device model tested under §63.1282(g), the information listed in paragraphs (d)(12)(i) through (vi) of this section.

(i) Name, address and telephone number of the control device manufacturer.

(ii) Control device model number.

(iii) Control device serial number.

(iv) Date the model of control device was tested by the manufacturer.

(v) Manufacturer's HAP destruction efficiency rating.

(vi) Control device operating parameters, maximum allowable inlet gas flowrate.

(e) *Periodic Reports.* An owner or operator shall prepare Periodic Reports in accordance with paragraphs (e)(1) and (2) of this section and submit them to the Administrator.

(1) An owner or operator shall submit Periodic Reports semiannually beginning 60 calendar days after the end of the applicable reporting period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status Report is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status Report is due.

(2) The owner or operator shall include the information specified in paragraphs (e)(2)(i) through (~~ix~~ xiii) of this section, as applicable.

(i) The information required under §**63**.10(e)(3). For the purposes of this subpart and the information required under §**63**.10(e)(3), excursions (as defined in §**63**.1283(d)(6)) shall be considered excess emissions.

(ii) A description of all excursions as defined in §**63**.1283(d)(6) of this subpart that have occurred during the 6-month reporting period.

(A) For each excursion caused 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), as specified in §**63**.1283(d)(6)(i), the report must include the daily average values of the monitored parameter, the applicable operating parameter limit, and the date and duration of the period that the excursion occurred.

(B) For each excursion caused when the 30-day average condenser control efficiency is less than the value, as specified in §**63**.1283(d)(6)(ii), the report must include the 30-day average values of the condenser control efficiency, and the date and duration of the period that the excursion occurred.

(C) For each excursion caused by lack of monitoring data, as specified in §**63**.1283(d)(6)(iii), the report must include the date and duration of period when the monitoring data were not collected and the reason why the data were not collected.

(D) For each excursion caused when the maximum inlet gas flowrate identified under §63.1282(g) is exceeded, the report must include the values of the inlet gas identified and the date and duration of the period that the excursion occurred.

(E) For each excursion caused when visible emissions determined under §63.1282(h) exceed the maximum allowable duration, the report must include the date and duration of the period that the excursion occurred, repairs affected to the unit, and date the unit was returned to service.

(iii) For each inspection conducted in accordance with §**63**.1283(c) during which a leak or defect is detected, the records specified in §**63**.1284(b)(7) must be included in the next Periodic Report.

(iv) For each closed-vent system with a bypass line subject to §**63**.1281(c)(3)(i)(A), records required under §**63**.1284(b)(4)(iii) of all periods when the vent stream is diverted from the control device through a bypass line. For each closed-vent system with a bypass line subject to §**63**.1281(c)(3)(i)(B), records required under §**63**.1284(b)(4)(iv) of all periods in which the seal or closure mechanism is broken, the bypass valve position has changed, or the key to unlock the bypass line valve was checked out.

(v) If an owner or operator elects to comply with §**63**.1275(b)(1)(ii), the records required under §**63**.1284(c)(3).

(vi) The information in paragraphs (e)(2)(vi)(A) and (B) of this section shall be stated in the Periodic Report, when applicable.

(A) No excursions.

(B) No continuous monitoring system has been inoperative, out of control, repaired, or adjusted.

(vii) Any change in compliance methods as specified in §**63**.1282(e).

(viii) If the owner or operator elects to comply with §**63**.1275(c)(2), the records required under §**63**.1284(b)(10).

(ix) For **flares**, the records specified in §**63**.1284(e).

(x) The results of any periodic test as required in §63.1282(d)(3) conducted during the reporting period.

(xi) N/A

(xii) For combustion control device inspections conducted in accordance with §63.1283(b) the records specified in §63.1284(h).

(xiii) 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.

(f) *Notification of process change.* Whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report within 180 days after the process change is made or as a part of the next Periodic Report as required under paragraph (e) of this section, whichever is sooner. The report shall include:

(1) A brief description of the process change;

(2) A description of any modification to standard procedures or quality assurance procedures;

(3) Revisions to any of the information reported in the original Notification of Compliance Status Report under paragraph (d) of this section; and

(4) Information required by the Notification of Compliance Status Report under paragraph (d) of this section for changes involving the addition of processes or equipment.

(g) *Electronic reporting.* (1) Within 60 days after the date of completing each performance test (defined in §63.2) 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/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.

(2) All reports required by this subpart not subject to the requirements in paragraph (g)(1) of this section must be sent to the Administrator at the appropriate address listed in §63.13. 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 (g)(1) of this section in paper format.

[64 FR 32648, June 17, 1999, as amended at 66 FR 34558, June 29, 2001; 77 FR 49596, Aug. 16, 2012]

§63.1286 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.1270, 63.1274 through 63.1275, 63.1281, and 63.1287.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

[68 FR 37357, June 23, 2003]

Appendix B

40 C.F.R. § 63.11(b) requirements for LCS

(b) *Flares.*

(1) Owners or operators using flares to comply with the provisions of this part shall monitor these control devices to assure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators using flares shall monitor these control devices.

(2) Flares shall be steam-assisted, air-assisted, or non-assisted.

(3) Flares shall be operated at all times when emissions may be vented to them.

(4) Flares 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. Test Method 22 in appendix A of part 60 of this chapter shall be used to determine the compliance of flares with the visible emission provisions of this part. The observation period is 2 hours and shall be used according to Method 22.

(5) Flares shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(6) An owner/operator has the choice of adhering to the heat content specifications in paragraph (b)(6)(ii) of this section, and the maximum tip velocity specifications in paragraph (b)(7) or (b)(8) of this section, or adhering to the requirements in paragraph (b)(6)(i) of this section.

(i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity V_{max}, as determined by the following equation:

$$V_{max}=(X_{H2}-K_1)* K_2$$

Where:

V_{max}=Maximum permitted velocity, m/sec.

K_1=Constant, 6.0 volume-percent hydrogen.

K_2=Constant, 3.9(m/sec)/volume-percent hydrogen.

X_{H2}=The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946–77. (Incorporated by reference as specified in §63.14).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(7)(i) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 M/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K\sum_{i=1}^{n} C_i H_i$$

Where:

H_T=Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

K=Constant=

$$1.740\times10^{-7}\left(\frac{1}{ppmv}\right)\left(\frac{\text{g-mole}}{\text{scm}}\right)\left(\frac{\text{MJ}}{\text{kcal}}\right)$$

where the standard temperature for (g-mole/scm) is 20 °C.

C_i=Concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946–77 or 90 (Reapproved 1994) (incorporated by reference as specified in §63.14).

H_i=Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in §63.14) if published values are not available or cannot be calculated.

n=Number of sample components.

(7) (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60 of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, less than the velocity V_{max}, as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, V_{max}, for flares complying with this paragraph shall be determined by the following equation:

$$\text{Log}_{10}(V_{max})=(H_T+28.8)/31.7$$

Where:

V_{max}=Maximum permitted velocity, m/sec.

28.8=Constant.

31.7=Constant.

H_T=The net heating value as determined in paragraph (b)(6) of this section.

(8) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max}. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation:

V_{max}=8.71 = 0.708(H_T)

Where:

V_{max}=Maximum permitted velocity, m/sec.

8.71=Constant.

0.708=Constant.

H_T=The net heating value as determined in paragraph (b)(6)(ii) of this section.

[59 FR 12430, Mar. 16, 1994, as amended at 63 FR 24444, May 4, 1998; 65 FR 62215, Oct. 17, 2000; 67 FR 16605, Apr. 5, 2002, 73 FR 78211, Dec. 22, 2008]

b) Flares. (1) Owners or operators using flares to comply with the provisions of this part shall monitor these control devices to assure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators using flares shall monitor these control devices.

(2) Flares shall be steam-assisted, air-assisted, or non-assisted.

(3) Flares shall be operated at all times when emissions may be vented to them.

(4) Flares 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. Test Method 22 in appendix A of part 60 of this chapter shall be used to determine the compliance of flares with the visible emission provisions of this part. The observation period is 2 hours and shall be used according to Method 22.

(5) Flares shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(6) An owner/operator has the choice of adhering to the heat content specifications in paragraph (b)(6)(ii) of this section, and the maximum tip velocity specifications in paragraph (b)(7) or (b)(8) of this section, or adhering to the requirements in paragraph (b)(6)(i) of this section.

(i)(A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity Vmax, as determined by the following equation:

$$V_{max} = (X_{H2} - K_1) * K_2$$

Where:

Vmax = Maximum permitted velocity, m/sec.

K1 = Constant, 6.0 volume-percent hydrogen.

K2 = Constant, 3.9(m/sec)/volume-percent hydrogen.

XH2 = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in §63.14).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(7)(i) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 M/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

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Where:

HT = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

K=Constant=

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where the standard temperature for (g-mole/scm) is 20 °C.

Ci = Concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946-77 or 90 (Reapproved 1994) (incorporated by reference as specified in §63.14).

Hi = Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in §63.14) if published values are not available or cannot be calculated.

n=Number of sample components.

(7)(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60 of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, less than the velocity Vmax, as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, Vmax, for flares complying with this paragraph shall be determined by the following equation:

Log10(Vmax)=(HT+28.8)/31.7

Where:

Vmax = Maximum permitted velocity, m/sec.

28.8=Constant.

31.7=Constant.

HT = The net heating value as determined in paragraph (b)(6) of this section.

(8) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity Vmax. The maximum permitted velocity, Vmax, for air-assisted flares shall be determined by the following equation:

Vmax = 8.71+0.708(HT)

Where:

Vmax = Maximum permitted velocity, m/sec.

8.71=Constant.

0.708=Constant.

HT = The net heating value as determined in paragraph (b)(6)(ii) of this section.

(c) Alternative work practice for monitoring equipment for leaks. Paragraphs (c), (d), and (e) of this section apply to all equipment for which the applicable subpart requires monitoring with a 40 CFR part 60, appendix A-7, Method 21 monitor, except for closed vent systems, equipment designated as leakless, and equipment identified in the applicable subpart as having no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. An owner or operator may use an optical gas imaging instrument instead of a 40 CFR part 60, sppendix A-7, Method 21 monitor. Requirements in the existing subparts that are specific to the Method 21 instrument do not apply under this section. All other requirements in the applicable subpart that are not addressed in paragraphs (c), (d), and (e) of this section continue to apply. For example, equipment specification requirements, and non-Method 21 instrument recordkeeping and reporting requirements in the applicable subpart continue to apply. The terms defined in paragraphs (c)(1) through (5) of this section have meanings that are specific to the alternative work practice standard in paragraphs (c), (d), and (e) of this section.

(1) Applicable subpart means the subpart in 40 CFR parts 60, 61, 63, and 65 that requires monitoring of equipment with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(2) Equipment means pumps, valves, pressure relief valves, compressors, open-ended lines, flanges, connectors, and other equipment covered by the applicable subpart that require monitoring with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(3) Imaging means making visible emissions that may otherwise be invisible to the naked eye.

(4) Optical gas imaging instrument means an instrument that makes visible emissions that may otherwise be invisible to the naked eye.

(5) Repair means that equipment is adjusted, or otherwise altered, in order to eliminate a leak.

(6) Leak means:

(i) Any emissions imaged by the optical gas instrument;

(ii) Indications of liquids dripping;

(iii) Indications by a sensor that a seal or barrier fluid system has failed; or

(iv) Screening results using a 40 CFR part 60, appendix A-7, Method 21 monitor that exceed the leak definition in the applicable subpart to which the equipment is subject.

(d) The alternative work practice standard for monitoring equipment for leaks is available to all subparts in 40 CFR parts 60, 61, 63, and 65 that require monitoring of equipment with a 40 CFR part 60, appendix A-7, Method 21 monitor.

(1) An owner or operator of an affected source subject to 40 CFR parts 60, 61, 63, or 65 can choose to comply with the alternative work practice requirements in paragraph (e) of this section instead of using the 40 CFR part 60, appendix A-7, Method 21 monitor to identify leaking equipment. The owner or operator must document the equipment, process units, and facilities for which the alternative work practice will be used to identify leaks.

(2) Any leak detected when following the leak survey procedure in paragraph (e)(3) of this section must be identified for repair as required in the applicable subpart.

(3) If the alternative work practice is used to identify leaks, re-screening after an attempted repair of leaking equipment must be conducted using either the alternative work practice or the 40 CFR part 60, Appendix A-7, Method 21 monitor at the leak definition required in the applicable subparts to which the equipment is subject.

(4) The schedule for repair is as required in the applicable subpart.

(5) When this alternative work practice is used for detecting leaking equipment, choose one of the monitoring frequencies listed in Table 1 to subpart A of this part in lieu of the monitoring frequency specified for regulated equipment in the applicable subpart. Reduced monitoring frequencies for good performance are not applicable when using the alternative work practice.

(6) When this alternative work practice is used for detecting leaking equipment, the following are not applicable for the equipment being monitored:

(i) Skip period leak detection and repair;

(ii) Quality improvement plans; or

(iii) Complying with standards for allowable percentage of valves and pumps to leak.

(7) When the alternative work practice is used to detect leaking equipment, the regulated equipment in paragraph (d)(1)(i) of this section must also be monitored annually using a 40 CFR part 60, Appendix A-7, Method 21 monitor at the leak definition required in the applicable subpart. The owner or operator may choose the specific monitoring period (for example, first quarter) to conduct the annual monitoring. Subsequent monitoring must be conducted every 12 months from the initial period. Owners or operators must keep records of the annual Method 21 screening results, as specified in paragraph (i)(4)(vii) of this section.

(e) An owner or operator of an affected source who chooses to use the alternative work practice must comply with the requirements of paragraphs (e)(1) through (e)(5) of this section.

(1) Instrument specifications. The optical gas imaging instrument must comply with the requirements specified in paragraphs (e)(1)(i) and (e)(1)(ii) of this section.

(i) Provide the operator with an image of the potential leak points for each piece of equipment at both the detection sensitivity level and within the distance used in the daily instrument check described in paragraph (e)(2) of this section. The detection sensitivity level depends upon the frequency at which leak monitoring is to be performed.

(ii) Provide a date and time stamp for video records of every monitoring event.

(2) Daily instrument check. On a daily basis, and prior to beginning any leak monitoring work, test the optical gas imaging instrument at the mass flow rate determined in paragraph (e)(2)(i) of this section in accordance with the procedure specified in paragraphs (e)(2)(ii) through (e)(2)(iv) of this section for each camera configuration used during monitoring (for example, different lenses used), unless an alternative method to demonstrate daily instrument checks has been approved in accordance with paragraph (e)(2)(v) of this section.

(i) Calculate the mass flow rate to be used in the daily instrument check by following the procedures in paragraphs (e)(2)(i)(A) and (e)(2)(i)(B) of this section.

(A) For a specified population of equipment to be imaged by the instrument, determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, within the distance to be used in paragraph (e)(2)(iv)(B) of this section, at or below the standard detection sensitivity level.

(B) Multiply the standard detection sensitivity level, corresponding to the selected monitoring frequency in Table 1 of subpart A of this part, by the mass fraction of detectable chemicals from the stream identified in paragraph (e)(2)(i)(A) of this section to determine the mass flow rate to be used in the daily instrument check, using the following equation.

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Where:

Edic = Mass flow rate for the daily instrument check, grams per hour

xi = Mass fraction of detectable chemical(s) i seen by the optical gas imaging instrument, within the distance to be used in paragraph (e)(2)(iv)(B) of this section, at or below the standard detection sensitivity level, Esds.

Esds = Standard detection sensitivity level from Table 1 to subpart A, grams per hour

k = Total number of detectable chemicals emitted from the leaking equipment and seen by the optical gas imaging instrument.

(ii) Start the optical gas imaging instrument according to the manufacturer's instructions, ensuring that all appropriate settings conform to the manufacturer's instructions.

(iii) Use any gas chosen by the user that can be viewed by the optical gas imaging instrument and that has a purity of no less than 98 percent.

(iv) Establish a mass flow rate by using the following procedures:

(A) Provide a source of gas where it will be in the field of view of the optical gas imaging instrument.

(B) Set up the optical gas imaging instrument at a recorded distance from the outlet or leak orifice of the flow meter that will not be exceeded in the actual performance of the leak survey. Do not exceed the operating parameters of the flow meter.

(C) Open the valve on the flow meter to set a flow rate that will create a mass emission rate equal to the mass rate calculated in paragraph (e)(2)(i) of this section while observing the gas flow through the optical gas imaging instrument viewfinder. When an image of the gas emission is seen through the viewfinder at the required emission rate, make a record of the reading on the flow meter.

(v) Repeat the procedures specified in paragraphs (e)(2)(ii) through (e)(2)(iv) of this section for each configuration of the optical gas imaging instrument used during the leak survey.

(vi) To use an alternative method to demonstrate daily instrument checks, apply to the Administrator for approval of the alternative under §63.177 or §63.178, whichever is applicable.

(3) Leak survey procedure. Operate the optical gas imaging instrument to image every regulated piece of equipment selected for this work practice in accordance with the instrument manufacturer's operating parameters. All emissions imaged by the optical gas imaging instrument are considered to be leaks and are subject to repair. All emissions visible to the naked eye are also considered to be leaks and are subject to repair.

(4) Recordkeeping. Keep the records described in paragraphs (e)(4)(i) through (e)(4)(vii) of this section:

(i) The equipment, processes, and facilities for which the owner or operator chooses to use the alternative work practice.

(ii) The detection sensitivity level selected from Table 1 to subpart A of this part for the optical gas imaging instrument.

(iii) The analysis to determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable, as specified in paragraph (e)(2)(i)(A) of this section.

(iv) The technical basis for the mass fraction of detectable chemicals used in the equation in paragraph (e)(2)(i)(B) of this section.

(v) The daily instrument check. Record the distance, per paragraph (e)(2)(iv)(B) of this section, and the flow meter reading, per paragraph (e)(2)(iv)(C) of this section, at which the leak was imaged. Keep a video record of the daily instrument check for each configuration of the optical gas imaging instrument used during the leak survey (for example, the daily instrument check must be conducted for each lens used). The video record must include a time and date stamp for each

daily instrument check. The video record must be kept for 5 years.

(vi) Recordkeeping requirements in the applicable subpart. A video record must be used to document the leak survey results. The video record must include a time and date stamp for each monitoring event. A video record can be used to meet the recordkeeping requirements of the applicable subparts if each piece of regulated equipment selected for this work practice can be identified in the video record. The video record must be kept for 5 years.

(vii) The results of the annual Method 21 screening required in paragraph (h)(7) of this section. Records must be kept for all regulated equipment specified in paragraph (h)(1) of this section. Records must identify the equipment screened, the screening value measured by Method 21, the time and date of the screening, and calibration information required in the existing applicable subparts.

(5) Reporting. Submit the reports required in the applicable subpart. Submit the records of the annual Method 21 screening required in paragraph (h)(7) of this section to the Administrator via e-mail to CCG-AWP@EPA.GOV.

[59 FR 12430, Mar. 16, 1994, as amended at 63 FR 24444, May 4, 1998; 65 FR 62215, Oct. 17, 2000; 67 FR 16605, Apr. 5, 2002; 73 FR 78211, Dec. 22, 2008]