State of Utah

GARY R. HERBERT
*Governor*

SPENCER J. COX
*Lieutenant Governor*

Department of
Environmental Quality

Alan Matheson
*Executive Director*

DIVISION OF AIR QUALITY
Bryce C. Bird
*Director*

10034

# Title V Operating Permit

**PERMIT NUMBER:** 3700014003
**DATE OF PERMIT:** December 1, 2016
Date of Last Revision: December 1, 2016

This Operating Permit is issued to, and applies to the following:

**Name of Permittee:**

CCI Paradox Midstream LLC
811 Main Street
Suite 3500
Houston, TX 77002-6225

**Permitted Location:**

CCI Paradox Midstream LLC- Lisbon Natural Gas Processing Plant
7 Rankine Road
La Sal, UT 84530-0215

UTM coordinates: 605,831 m Easting, 4,225,054 m Northing
SIC code: 1311 (Crude Petroleum & Natural Gas)

By:

_____
Bryce C. Bird, Director

Prepared By:

_____
Jennifer He

# ENFORCEABLE DATES AND TIMELINES

The following dates or timeframes are referenced in Section I: General Provisions of this permit.

| | |
|---|---|
| Annual Certification Due: | September 30 of every calendar year that this permit is in force. |
| Renewal application due: | June 1, 2021 |
| Permit expiration date: | December 1, 2021 |
| Definition of "prompt": | written notification within 14 days. |

# ABSTRACT

CCI Paradox Midstream LLC - Lisbon Gas Plant is located about 35 miles south of Moab in San Juan County, an attainment area of the National Ambient Air Quality Standards (NAAQS) for all pollutants. The Lisbon Gas Plant is a natural gas processing plant which processes natural gas and crude oil/condensate from the Lisbon Oil Field. It is a major source of air pollution for $SO_2$, $NO_x$, and CO emissions. The Lisbon Gas Plant is subject to 40 CFR 60, Subparts A, Dc (Standards Of Performance For Small Industrial-Commercial-Institutional Steam Generating Units), KKK (Standards Of Performance For Equipment Leaks Of VOC From Onshore Natural Gas Processing Plants), LLL (Standards of Performance for Onshore Natural Gas Processing: $SO_2$ Emissions), OOOO (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and distribution), 40 CFR 64 (Compliance Assurance Monitoring) , and 40 CFR 63 Subparts A, HH (National Emission Standards For Hazardous Air Pollutants From Oil And Natural Gas Production Facilities), ZZZZ (National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines). The Lisbon Gas Plant is a major source for NOx, $SO_2$, CO, and VOC.

# OPERATING PERMIT HISTORY

| Permit/Activity | Date Issued | Recorded Changes |
|---|---|---|
| | | |
| Title V renewal application (Project #OPP0100340011) | 12/1/2016 | Changes: to include changes approved in AO DAQE-AN100340024-16 for two Reciprocating Engines E4A and E4B |
| Title V administrative amendment by DAQ (Project #OPP0100340010) | 05/05/2015 | Changes: Removing the specific well numbers from emission unit II.A.16, Sulfur Enrichment and Injection Unit (SEI), which was authorized under the current effective AO DAQE-AN0100340023-15. |
| Title V administrative amendment by DAQ (Project #OPP0100340009) | 10/24/2014 | Changes: name and address of the permittee |
| Title V administrative amendment - enhanced AO (Project #OPP0100340008) | 09/09/2014 | Changes: due to issuance of AO DAQE-100340021-14, for replacing two storage tanks and replacement in kind of two engines (E4A and E4B). NESHAP ZZZZ requirements are updated for the remote emission units. |
| Title V renewal application (Project #OPP0100340007) | 08/04/2011 | Changes: 40 CFR 64 (CAM) and 40 CFR 63 Subparts A, HH, and ZZZZ requirements are included in the renewal permit, in addition to the new flare/combustor approved under the current effective AO DAQE-AN0100340019-10 |
| Title V administrative amendment by DAQ (Project #OPP0100340005) | 09/14/2005 | Changes: to change name from Tom Brown Inc. to EnCana Oil and Gas (USA) Inc. (DAQE-GN0034014-05) in the above reference Title V permit. |
| Title V administrative amendment by DAQ (Project #OPP0100340004) | 06/17/2005 | Changes: due to issuance of AO DAQE-0034013-05, for replacing the pre-stratified $NO_x$ emissions control on Engine E-1 with a non-selective catalytic reduction (NSCR) $NO_x$ emissions control. Initial stack testing for $NO_x$ and CO is required for the modified Engine E-1 (EU#1) in this revision. The initial stack testing requirements for $NO_x$ and CO are removed from Engine E-3 (EU#25) because the source has already conducted initial testing. |
| Title V administrative amendment by DAQ (Project #OPP0100340003) | 07/15/2003 | Changes: due to issuance of AO DAQE- AN0034010-03 dated June 19, 2003, for bringing Engine E-4 into full services and installing NSCR on Engine E-3 with new CO and $NO_x$ limits |
| Title V administrative amendment by DAQ (Project #OPP0100340002) | 02/26/2003 | Changes: due to issuance of AO DAQE-AN0034008-02, dated October 28, 2002, adding the SEI project into the permit. NSPS LLL requirements applied to SRU in the last version apply to the Gas Sweetening Process Unit as well as to SRU in this administrative amendment. In |

| | | |
|---|---|---|
| | | addition, NSPS KKK requirements are incorporated into this administrative amendment, instead of being referenced in the last version. |
| Title V initial application (Project #OPP0100340001) | 09/30/2002 | |

# Table of Contents

**Issued under authority of Utah Code Ann. Section 19-2-104 and 19-2-109.1, and in accordance with Utah Administrative Code R307-415 Operating Permit Requirements.**

All definitions, terms and abbreviations used in this permit conform to those used in Utah Administrative Code R307-101 and R307-415 (Rules), and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the Rules.

Where a permit condition in Section I, General Provisions, partially recites or summarizes an applicable rule, the full text of the applicable portion of the rule shall govern interpretations of the requirements of the rule. In the case of a conflict between the Rules and the permit terms and conditions of Section II, Special Provisions, the permit terms and conditions of Section II shall govern except as noted in Provision I.M, Permit Shield.

# SECTION I: GENERAL PROVISIONS

I.A **Federal Enforcement.**

All terms and conditions in this permit, including those provisions designed to limit the potential to emit, are enforceable by the EPA and citizens under the Clean Air Act of 1990 (CAA) except those terms and conditions that are specifically designated as "State Requirements". (R307-415-6b)

I.B **Permitted Activity(ies).**

Except as provided in R307-415-7b(1), the permittee may not operate except in compliance with this permit. (See also Provision I.E, Application Shield)

I.C **Duty to Comply.**

I.C.1 The permittee must comply with all conditions of the operating permit. Any permit noncompliance constitutes a violation of the Air Conservation Act and is grounds for any of the following: enforcement action; permit termination; revocation and reissuance; modification; or denial of a permit renewal application. (R307-415-6a(6)(a))

I.C.2 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. (R307-415-6a(6)(b))

I.C.3 The permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director copies of records required to be kept by this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the EPA along with a claim of confidentiality. (R307-415-6a(6)(e))

I.C.4 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 shall not stay any permit condition, except as provided under R307-415-7f(1) for minor permit modifications. (R307-415-6a(6)(c))

I.D **Permit Expiration and Renewal.**

I.D.1 This permit is issued for a fixed term of five years and expires on the date shown under "Enforceable Dates and Timelines" at the front of this permit. (R307-415-6a(2))

I.D.2 Application for renewal of this permit is due on or before the date shown under "Enforceable Dates and Timelines" at the front of this permit. An application may be submitted early for any reason. (R307-415-5a(1)(c))

I.D.3 An application for renewal submitted after the due date listed in I.D.2 above shall be accepted for processing, but shall not be considered a timely application and shall not relieve the permittee of any enforcement actions resulting from submitting a late application. (R307-415-5a(5))

I.D.4 Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted consistent with R307-415-7b (see also Provision I.E, Application Shield) and R307-415-5a(1)(c) (see also Provision I.D.2). (R307-415-7c(2))

I.E **Application Shield.**

If the permittee submits a timely and complete application for renewal, the permittee's failure to have an operating permit will not be a violation of R307-415, until the Director takes final action on the permit renewal application. In such case, the terms and conditions of this permit shall remain in force until permit renewal or denial. This protection shall cease to apply if, subsequent to the completeness determination required pursuant to R307-415-7a(3), and as required by R307-415-5a(2), the applicant fails to submit by the deadline specified in writing by the Director any additional information identified as being needed to process the application. (R307-415-7b(2))

I.F **Severability.**

In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force. (R307-415-6a(5))

I.G **Permit Fee.**

I.G.1 The permittee shall pay an annual emission fee to the Director consistent with R307-415-9. (R307-415-6a(7))

I.G.2 The emission fee shall be due on October 1 of each calendar year or 45 days after the source receives notice of the amount of the fee, whichever is later. (R307-415-9(4)(a))

I.H **No Property Rights.**

This permit does not convey any property rights of any sort, or any exclusive privilege. (R307-415-6a(6)(d))

I.I **Revision Exception.**

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 this permit. (R307-415-6a(8))

I.J **Inspection and Entry.**

I.J.1 Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director or an authorized representative to perform any of the following:

I.J.1.a Enter upon the permittee's premises where the source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit. (R307-415-6c(2)(a))

I.J.1.b Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit. (R307-415-6c(2)(b))

I.J.1.c Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practice, or operation regulated or required under this permit. (R307-415-6c(2)(c))

I.J.1.d Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with this permit or applicable requirements. (R307-415-6c(2)(d))

I.J.2 Any claims of confidentiality made on the information obtained during an inspection shall be made pursuant to Utah Code Ann. Section 19-1-306. (R307-415-6c(2)(e))

I.K **Certification.**

Any application form, report, or compliance certification submitted pursuant to this permit shall contain certification as to its truth, accuracy, and completeness, by a responsible official as defined in R307-415-3. 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. (R307-415-5d)

I.L **Compliance Certification.**

I.L.1 Permittee shall submit to the Director an annual compliance certification, certifying compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall be submitted no later than the date shown under "Enforceable Dates and Timelines" at the front of this permit, and that date each year following until this permit expires. The certification shall include all the following (permittee may cross-reference this permit or previous reports): (R307-415-6c(5))

I.L.1.a The identification of each term or condition of this permit that is the basis of the certification;

I.L.1.b The identification of the methods or other means used by the permittee for determining the compliance status with each term and condition during the certification period. Such methods and other means shall include, at a minimum, the monitoring and related recordkeeping and reporting requirements in this permit. If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information;

I.L.1.c The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in Provision I.L.1.b. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred; and

I.L.1.d Such other facts as the Director may require to determine the compliance status.

I.L.2 The permittee shall also submit all compliance certifications to the EPA, Region VIII, at the following address or to such other address as may be required by the Director: (R307-415-6c(5)(d))

Environmental Protection Agency, Region VIII
Office of Enforcement, Compliance and Environmental Justice
(mail code 8ENF)
1595 Wynkoop Street
Denver, CO 80202-1129

I.M **Permit Shield.**

I.M.1 Compliance with the provisions of this permit shall be deemed compliance with any applicable requirements as of the date of this permit, provided that:

I.M.1.a Such applicable requirements are included and are specifically identified in this permit, or (R307-415-6f(1)(a))

I.M.1.b Those requirements not applicable to the source are specifically identified and listed in this permit. (R307-415-6f(1)(b))

I.M.2 Nothing in this permit shall alter or affect any of the following:

I.M.2.a The emergency provisions of Utah Code Ann. Section 19-1-202 and Section 19-2-112, and the provisions of the CAA Section 303. (R307-415-6f(3)(a))

I.M.2.b The liability of the owner or operator of the source for any violation of applicable requirements under Utah Code Ann. Section 19-2-107(2)(g) and Section 19-2-110 prior to or at the time of issuance of this permit. (R307-415-6f(3)(b)

I.M.2.c The applicable requirements of the Acid Rain Program, consistent with the CAA Section 408(a). (R307-415-6f(3)(c))

I.M.2.d The ability of the Director to obtain information from the source under Utah Code Ann. Section 19-2-120, and the ability of the EPA to obtain information from the source under the CAA Section 114. (R307-415-6f(3)(d))

I.N **Emergency Provision.**

I.N.1 An "emergency" is 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 this 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 preventive maintenance, careless or improper operation, or operator error. (R307-415-6g(1))

I.N.2 An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the affirmative defense is demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

I.N.2.a An emergency occurred and the permittee can identify the causes of the emergency. (R307-415-6g(3)(a))

I.N.2.b The permitted facility was at the time being properly operated. (R307-415-6g(3)(b))

I.N.2.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 this permit. (R307-415-6g(3)(c))

I.N.2.d The permittee submitted notice of the emergency to the Director within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirement of Provision I.S.2.c below. (R307-415-6g(3)(d))

I.N.3 In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. (R307-415-6g(4))

I.N.4 This emergency provision is in addition to any emergency or upset provision contained in any other section of this permit. (R307-415-6g(5))

I.O **Operational Flexibility.**

Operational flexibility is governed by R307-415-7d(1).

I.P **Off-permit Changes.**

Off-permit changes are governed by R307-415-7d(2).

I.Q **Administrative Permit Amendments.**

Administrative permit amendments are governed by R307-415-7e.

I.R **Permit Modifications.**

Permit modifications are governed by R307-415-7f.

I.S **Records and Reporting.**

I.S.1 Records.

I.S.1.a The records of all required monitoring data and support information shall be retained by the permittee for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-charts or appropriate recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. (R307-415-6a(3)(b)(ii))

I.S.1.b For all monitoring requirements described in Section II, Special Provisions, the source shall record the following information, where applicable: (R307-415-6a(3)(b)(i))

I.S.1.b.1 The date, place as defined in this permit, and time of sampling or measurement.

I.S.1.b.2 The date analyses were performed.

I.S.1.b.3 The company or entity that performed the analyses.

I.S.1.b.4 The analytical techniques or methods used.

I.S.1.b.5 The results of such analyses.

I.S.1.b.6 The operating conditions as existing at the time of sampling or measurement.

I.S.1.c Additional record keeping requirements, if any, are described in Section II, Special Provisions.

I.S.2 Reports.

I.S.2.a Monitoring reports shall be submitted to the Director every six months, or more frequently if specified in Section II. All instances of deviation from permit requirements shall be clearly identified in the reports. (R307-415-6a(3)(c)(i))

I.S.2.b All reports submitted pursuant to Provision I.S.2.a shall be certified by a responsible official in accordance with Provision I.K of this permit. (R307-415-6a(3)(c)(i)

I.S.2.c The Director shall be notified promptly of any deviations from permit requirements including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken. Prompt, as used in this condition, shall be defined as written notification within the number of days shown under "Enforceable Dates and Timelines" at the front of this permit. Deviations from permit requirements due to breakdowns shall be reported in accordance with the provisions of R307-107. (R307-415-6a(3)(c)(ii))

I.S.3 Notification Addresses.

I.S.3.a All reports, notifications, or other submissions required by this permit to be submitted to the Director are to be sent to the following address or to such other address as may be required by the Director:

Utah Division of Air Quality
P.O. Box 144820
Salt Lake City, UT 84114-4820
Phone: 801-536-4000

I.S.3.b All reports, notifications or other submissions required by this permit to be submitted to the EPA should be sent to one of the following addresses or to such other address as may be required by the Director:

For annual compliance certifications:

Environmental Protection Agency, Region VIII
Office of Enforcement, Compliance and Environmental Justice
(mail code 8ENF)
1595 Wynkoop Street
Denver, CO 80202-1129

For reports, notifications, or other correspondence related to permit modifications,

applications, etc.:

Environmental Protection Agency, Region VIII
Office of Partnerships and Regulatory Assistance Air and Radiation Program
(mail code 8P-AR)
1595 Wynkoop Street
Denver, CO 80202-1129
Phone: 303-312-6440

I.T **Reopening for Cause.**

I.T.1 A permit shall be reopened and revised under any of the following circumstances:

I.T.1.a New applicable requirements become applicable to the permittee and there is a remaining permit term of three or more years. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless the terms and conditions of this permit have been extended pursuant to R307-415-7c(3), application shield. (R307-415-7g(1)(a))

I.T.1.b The Director or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit. (R307-415-7g(1)(c))

I.T.1.c EPA or the Director determines that this permit must be revised or revoked to assure compliance with applicable requirements. (R307-415-7g(1)(d))

I.T.1.d Additional applicable requirements are to become effective before the renewal date of this permit and are in conflict with existing permit conditions. (R307-415-7g(1)(e))

I.T.2 Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the Acid Rain Program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into this permit. (R307-415-7g(1)(b))

I.T.3 Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. (R307-415-7g(2))

I.U **Inventory Requirements.**

An emission inventory shall be submitted in accordance with the procedures of R307-150, Emission Inventories. (R307-150)

I.V **Title IV and Other, More Stringent Requirements**

Where an applicable requirement is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, Acid Deposition Control, both provisions shall be incorporated into this permit. (R307-415-6a(1)(b))

# SECTION II: SPECIAL PROVISIONS

II.A **Emission Unit(s) Permitted to Discharge Air Contaminants.**
(R307-415-4(3)(a) and R307-415-4(4))

II.A.1 **Permitted Source**
Source-wide

II.A.2 **Reciprocating Engine (E1)**
900 bhp reciprocating internal combustion compressor engine (E1), natural gas fired, 3-way Non-Selective Catalytic Reduction (NSCR) controlled (installed in 2005).

II.A.3 **Reciprocating Engine (E3)**
900 bhp reciprocating internal combustion compressor engines (E3), natural gas fired, Non-Selective Catalytic Reduction (NSCR) controlled (installed in 2003).

II.A.4 **Reciprocating Engines (E4A & E4B)**
Two 1478 bhp reciprocating internal combustion compressor engines (E4A & E4B) (Replacement-in-kind in 2014). E4A was manufactured in 1998 and E4B was manufactured in 1992. Both engines are natural gas fired, Non-Selective Catalytic Reduction (NSCR) controlled, NSPS KKK.

II.A.5 **Reciprocating Engines (E2, E4 & E5)**
Three 900 bhp Reciprocating internal combustion compressor engines (E2, E4, & E5), natural gas fired, pre-1969, existing non-emergency 4SRB without NSCR controls, 40 CFR 63 Subpart ZZZZ

II.A.6 **NESHP ZZZZ non-emergency remote engine group**
Includes Engines E1, E3, E4A, E4B, E2, E4, & E5, existing non-emergency 4SRB greater than 500 hp. 40 CFR 63 Subpart ZZZZ

II.A.7 **Turbine Engines (E6 thru E11)**
Six 850 bhp turbine compressor engines (E6, E7, E8, E9, E10, E11), natural gas fired, pre-1969. No unit-specific applicable requirements.

II.A.8 **Heat Medium Heater (E12)**
47.54 MMBtu/hr, natural gas fired, a waste heat recovery system, recovers the exhaust heat from E8, E9, E10, & E11. Exhaust from the heater passes through two stacks (E12A & E12B), pre-1969. No unit-specific applicable requirements.

II.A.9 **Boilers (E13 & E14)**
Two natural gas fired boilers (E13 & E14) rated at 66.9 MMBtu/hr each, generates steam for process heat throughout the plant, equipped with flue gas recirculation emissions control, NSPS Dc.

II.A.10 **DGA polisher**
The diglycolamine (DGA) polisher process removes minute amounts of $H_2S$, COS, and $CO_2$ which pass through the MDEA system. No unit-specific applicable requirements.

II.A.11 **TEG dehydrator (E21)**
Triethylene glycol (TEG) dehydrator removes water from the gas stream. 40 CFR 63 Subpart HH, Pre-1969.

II.A.12 **Molecular Sieve**
The molecular sieve beds are heated with natural gas to absorb the water from the gas stream. No

unit-specific applicable requirements.

II.A.13 **Dehydration Process Unit**

Includes DGA polisher, TEG dehydrator, and Molecular Sieve. NSPS KKK. No unit-specific applicable requirements.

II.A.14 **Gas Sweetening Process Unit**

Includes two methyldiethanolamine (MDEA) stages to absorb $H_2S$ and $CO_2$ from the gas stream. Acid gas released from MDEA liquid during MDEA regeneration process is routed to either the SRU (Emission Unit #12) or SEI (Emission Unit #27). NSPS LLL and KKK.

II.A.15 **Sulfur Recovery Unit**

Two stage catalytic reaction using three converters (Selectox converter and two Claus converters) to convert $H_2S$ to liquid sulfur, followed by the incinerator, NSPS LLL.

II.A.16 **Sulfur Enrichment and Injection Unit (SEI)**

SEI removes the $H_2S$ from the acid gas generated from the sweetening unit, compresses the $H_2S$-rich off-gas, then injects the off-gas into off-site wells. Some acid gas is routed to the incinerator.

II.A.17 **Incinerator (E15)**

Natural gas fired incinerator (76 MMBtu/hr) to control tailgas from the sulfur recovery unit, or absorber acid gas from the sulfur enrichment unit. NSPS LLL.

II.A.18 **Upset Flare (E16)**

Emergency upset flare to control the acid gas from the MDEA regenerator during power failures and breakdowns. The flare is also connected with the pressure relief valve system. The exhaust gas from DGA process is also routed to the flare. NSPS A, KKK.

II.A.19 **CRYO Process Unit**

Liquefies and separates the natural gas liquids from nitrogen, helium, and a portion of methane. Includes Chiller Separator/Nitrogen Rejection Unit (NRU), NRU Feed Tower, Demethanizer Tower, Nitrogen Rectifier Columns, and Raw Mix Treater, NSPS KKK, No unit-specific applicable requirements.

II.A.20 **40 CFR Part 60, Subpart KKK Applicable Equipment**

A group of equipment defined in 40 CFR 60.631 includes Reciprocating Engines (E4A & E4B), Dehydration Process Unit, Gas Sweetening Process Unit, Upset Flare, and CRYO Process Unit.

II.A.21 **Emergency Fire Water Engine (E17)**

300 bhp, diesel, provides emergency fire water pressure during emergency situations when electrical power is not available to operate the fire water system. No unit-specific applicable requirements.

II.A.22 **Emergency Generator (E18)**

1575 bhp, diesel, provides lighting and power during emergency shutdowns or power failures. No unit-specific applicable requirements.

II.A.23 **Emergency Compressed Ignition ICE (E17&18)**

Existing emergency compressed ignition internal combustion engines (ICE), includes Engines E17 and E18, 40 CFR 63 Subpart ZZZZ.

II.A.24 **Regenerative Gas Heater (E19)**

3 MMBtu/hr, natural gas fired, used to regenerate molecular sieve bed located upstream of the cryogenic process.

II.A.25 **Regenerative Gas Heater (E20)**

1.775 MMBtu/hr, natural gas fired, used to regenerate molecular sieve beds downstream of the

debutanizer when the fractionation process is in operation, pre-1969. No unit-specific applicable requirements.

II.A.26 **Fractionation Process Unit**

Includes de-ethanizer, debutanizer, DGA, molecular sieve, and de-propanizer process units to produce propane and butane. Pre-1969. No unit-specific applicable requirements.

II.A.27 **Crude Oil/Condensate Tanks (E23)**

Two storage tanks having 5,000 barrels capacity each (794 cubic meters). Emissions from the tank will be routed either through Vapor Recovery Unit (VRU) or Flare (E29). Non-NSPS.

II.A.28 **Vapor Recovery Unit (VRU)**

Controls VOC emission from Crude Oil/Condensate Tanks (E23)

II.A.29 **Flare/Combustor (E29)**

2.1 MMBtu/hr combustor to control VOC emission from Crude Oil/Condensate Tanks (E23)

II.A.30 **Natural gas fired heater (E26)**

Circulates steam heat through two 10, 000 bbl fire water storage tanks, rated at 1.5 MMBtu/hr.

II.A.31 **Gas fired steam boiler (E27)**

Used to heat the secondary oil recovery tank, rated at 0.695 MMBtu/hr.

II.A.32 **Secondary Oil Recovery Tank (E28)**

Separates water from oil, 5,000 barrels. No unit-specific applicable requirements.

II.A.33 **Loading Rack (E22)**

Used to load truck trailers with propane and butane. No unit-specific applicable requirements.

II.A.34 **Pre-1969 equipment**

Including Emission Units Reciprocating Engines (E2, E4 & E5), Turbine Engines, Heat Medium heater, TEG dehydrator, Regenerative Gas Heater, and Fractionation Process Unit,

II.A.35 **Storage Tank (SW1DOT)**

One crude oil storage tank, 400 barrels (16,800 gallons). No unit-specific applicable requirements.

II.A.36 **Storage Tank (SW1BWT)**

One waste water storage tank, 400 barrels (16,800 gallons). No unit-specific applicable requirements.

## II.B Requirements and Limitations

The following emission limitations, standards, and operational limitations apply to the permitted facility as indicated:

### II.B.1 Conditions on permitted source (Source-wide).

II.B.1.a **Condition:**

The natural gas processing rate for the Lisbon plant shall not exceed 65 MMSCF per day. [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.1.a.1 **Monitoring:**

The daily volume of gas processed shall be determined by the use of gas flow meters and located

so that they can be read by an inspector at any time.

II.B.1.a.2 **Recordkeeping:**

The volume of natural gas processed shall be recorded daily in a log and shall be measured from 8:00 am of one day to 8:00 am of the following day during daylight savings periods and from 7:00 am of one to 7:00 am of the following day in the remainder of the year.

II.B.1.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.b **Condition:**

A Risk Management Plan (RMP) developed in accordance with 40 CFR Part 68 shall be submitted to the United States Environmental Protection Agency not later than the applicable date in 40 CFR 68 [Origin: 40 CFR 68.150(b)]. [40 CFR 68.150(b)]

II.B.1.b.1 **Monitoring:**

A copy of the Risk Management Plan shall be available upon request along with a copy of the transmittal letter to EPA.

II.B.1.b.2 **Recordkeeping:**

A copy of the Risk Management Plan shall be available to the Director upon request along with a copy of the transmittal letter to EPA.

II.B.1.b.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.c **Condition:**

The permittee shall use only natural gas for all equipment except for emergency equipment which shall use diesel fuel [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.1.c.1 **Monitoring:**

A log shall be maintained which identifies any time fuel other than NG is used and the fuel type used for each affected equipment.

II.B.1.c.2 **Recordkeeping:**

Records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.1.c.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.d **Condition:**

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent

practicable, maintain and operate any permitted plant equipment, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [[Origin: DAQE-AN0100340024-16]. [40 CFR 60.11(d), R307-401-8(2)]

II.B.1.d.1 **Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.1.d.2 **Recordkeeping:**

Permittee shall document activities performed to assure proper operation and maintenance. Records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.1.d.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.2 **Conditions on Reciprocating Engine E1.**

II.B.2.a **Condition:**

Emissions of CO shall be no greater than 5.95 lbs/hr and 1105.0 ppm [Origin: DAQE- DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.2.a.1 **Monitoring:**

A. Stack Testing

The engine shall be tested at least once every 5 years, based on the date in which the most recent stack test is performed. A pretest conference shall be held at least 30 days prior to the stack test if directed by the Director and shall include the permittee, the tester, and the Director.

The following stack testing requirements shall be met:

(1) The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) Volumetric flow rate shall be determined using 40 CFR 60, Appendix A, Method 2.

(3) CO concentrations shall be determined using 40 CFR 60, Appendix A, Method 10.

(4) To determine mass emission rates (lb/hr, etc) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director to give the results in the specified units of the emission limitation.

(5) The operating load during testing shall be at least 90% of the average throughput for the previous 3 year's operation.

B. Portable Analyzer Test

CO emissions testing shall be performed on each affected unit once every two years using a

portable analyzer or testing instrument capable of detecting emissions of the pollutant being tested at the concentrations necessary to determine compliance. The tested unit shall be operated under normal conditions and at a minimum of 90% of the maximum production or throughput achieved since the last required test. A testing protocol shall be developed, documented, and used for all tests. At a minimum, the following topics shall be addressed in the protocol:

(1) A description of sampling locations and sample gathering procedures that result in representative and reproducible samples.

(2) Calibration and operation procedures for the analyzer.

(3) Methods used to determine the flow rate, temperature, and other parameters as necessary to demonstrate compliance.

(4) Calculations and other information necessary to convert the analyzer output to the units of the limitation.

The test protocol shall be made available to the Executive Secretary upon request. If the Director determines that the protocol does not adequately address the minimum requirements list above, or that the protocol does not provide sufficient assurance that the test results are adequate for demonstrating compliance with the limitation, the Director may require the permittee to modify the protocol.

II.B.2.a.2 **Recordkeeping:**

Results of all stack testing and portable analyzer testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.2.a.3 **Reporting:**

The results of stack testing and portable analyzer testing shall be submitted to the Director within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.2.b **Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.2.b.1 **Monitoring:**

In lieu of opacity monitoring, the report required for this permit condition will serve as monitoring.

II.B.2.b.2 **Recordkeeping:**

The report required for this permit condition will serve as recordkeeping

II.B.2.b.3 **Reporting:**

In addition to the reporting requirements specified in Section I of this permit, the permittee shall certify each annual certification report that only pipeline quality natural gas is used as fuel during the reporting year.

II.B.2.c **Condition:**

Emissions of NOx shall be no greater than 3.83 lbs/hr and 433.0 ppm. [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.2.c.1 **Monitoring:**

(A). Stack Testing

Emissions shall be tested at least once every 5 years, based on the date in which the most recent stack test is performed. A pretest conference shall be held at least 30 days prior to the stack test if directed by the Director and shall include the permittee, the tester, and the Director.

The following stack testing requirements shall be met:

(1) The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) Volumetric flow rate shall be determined using 40 CFR 60, Appendix A, Method 2.

(3) NOx concentrations shall be determined using 40 CFR 60, Appendix A, Method 7e.

(4) To determine mass emission rates (lb/hr, etc) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director to give the results in the specified units of the emission limitation.

(5) The operating load during testing shall be at least 90% of the average throughput for the previous 3 year's operation.

(B) Temperature of exhaust gas into the catalyst and NOx emission, as measured by a portable analyzer, shall be used as indicators to provide a reasonable assurance of compliance with the NOx emission limitation as specified below:

(i) Temperature

(1) Measurement Approach: Exhaust gas temperature shall be monitored continuously using an in-line thermocouple.

(2) Indicator Range: Temperature at the inlet of the catalyst shall be maintained between 750$^{o}$F and 1250$^{o}$F. Excursions from this temperature range shall trigger an inspection and review of the catalyst's performance as indicated by other parameters (to confirm if the temperature reading is valid and to determine the catalyst operating deficiencies). If the excursion is the result of a deficiency with the catalyst, then corrective actions and reporting are required.

(3) Performance Criteria:

(A) Data Representativeness: Temperature measurements made by a thermocouple sensor shall provide a direct indicator of catalyst performance. A sensor shall be located at the inlet of the catalyst. The minimum accuracy of the thermocouple is +/- 2%.

(B) QA/QC Practices and Criteria: Thermocouple is maintained per manufacturer's specifications. It shall be tested semi-annually to ensure its accuracy.

(C) Monitoring Frequency: Temperature shall be monitored continuously when the engine is operating.

(D) Data Collection Procedure: Temperature data shall be collected once per hour and recorded on a log sheet when the engine is operating.

(E) Averaging Period: The temperature shall be recorded and reduced to 4-hour rolling averages when the engine is operating.

(ii) Portable Analyzer Test

(1) Measurement Approach: NOx emission shall be measured using a portable hand-held Testo analyzer during normal operating conditions.

(2) Indicator Range: Excursion from the NOx limit is defined as an emission rate of NOx at or above 3.83 lbs/hr or 433.0 ppm. Excursions from this limit shall trigger an inspection and review of the catalyst's performance as indicated by other parameters (to confirm if the result is valid and to determine the catalyst operating deficiencies). If the excursion is the result of a deficiency with the catalyst, then corrective actions and reporting are required.

(3) Performance Criteria:

(A) Data Representativeness: NOx emission shall be measured at the outlet of the catalyst.

(B) QA/QC Practices and Criteria: Testo analyzer shall be calibrated annually. A testing protocol for performing a portable analyzer test shall be developed, documented, and used for all tests.

(C) Monitoring Frequency: NOx emission shall be analyzed semi-annually unless the stack testing is performed at the same time or engine is not running.

(D) Data Collection Procedure: Records of calibration and testing shall be maintained in the facilities computerized MP2. Also a strip chart of the result shall be kept in the engines' paper files

(E) Averaging Period: NOx emission shall be calculated per the testing protocol developed in accordance with II.B.2.c.1.B.(ii)(3)(B).

II.B.2.c.2 **Recordkeeping:**

In addition to the recordkeeping requirement described in Provision I.S.1 of this permit,

(a) The permittee shall maintain a file of all stack testing and all other information required by permit provision I.S.1.

(b) The permittee shall maintain a file of continuous monitor measurements, including performance testing measurements, all performance evaluations, all calibration checks, all adjustments, and maintenance.

(c) The permittee shall maintain a file of the occurrence and duration of any excursion, corrective actions taken, and any other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. (40 CFR 64.9(b)).

II.B.2.c.3 **Reporting:**

In addition to the reporting requirements described in Provision I.S.2 of this permit,

(a) The monitoring report required in Provision I.S.2 of this permit shall include, at a minimum, the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;(40 CFR 64.9(a)(2)(i))

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). (40 CFR 64.9(a)(2)(ii))

(b) The results of stack testing shall be submitted to the Director within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status.

II.B.3 **Conditions on Reciprocating Engine E3.**

II.B.3.a **Condition:**

Emissions of CO shall be no greater than 5.95 lbs/hr and 1105.0 ppm [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.3.a.1 **Monitoring:**

A. CO emissions testing shall be performed on each affected unit once every two years using a portable analyzer or testing instrument capable of detecting emissions of the pollutant being tested at the concentrations necessary to determine compliance. The tested unit shall be operated under normal conditions and at a minimum of 90% of the maximum production or throughput achieved since the last required test. A testing protocol shall be developed, documented, and used for all tests. At a minimum, the following topics shall be addressed in the protocol:

(1) A description of sampling locations and sample gathering procedures that result in representative and reproducible samples.

(2) Calibration and operation procedures for the analyzer.

(3) Methods used to determine the flow rate, temperature, and other parameters as necessary to demonstrate compliance.

(4) Calculations and other information necessary to convert the analyzer output to the units of the limitation.

The test protocol shall be made available to the Director upon request. If the Director determines that the protocol does not adequately address the minimum requirements list above, or that the protocol does not provide sufficient assurance that the test results are adequate for demonstrating compliance with the limitation, the Director may require the permittee to modify the protocol.

B. Stack testing to demonstrate compliance with CO limits shall be conducted at least once every 5 years. A pretest conference shall be held at least 30 days prior to the stack test if directed by the Director and shall include the permittee, the tester, and the Director.

The following stack testing requirements shall be met:

(1) The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) Volumetric flow rate shall be determined using 40 CFR 60, Appendix A, Method 2.

(3) CO concentrations shall be determined using 40 CFR 60, Appendix A, Method 10.

(4) To determine mass emission rates (lb/hr, etc) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director to give the results in the specified units of the emission limitation.

(5) The operating load during testing shall be at least 90% of the average throughput for the previous 3 year's operation.

II.B.3.a.2 **Recordkeeping:**

Results of all stack testing and portable analyzer testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.3.a.3 **Reporting:**

The results of stack testing and portable analyzer testing shall be submitted to the Director within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.3.b **Condition:**

Emissions of NOx shall be no greater than 3.83 lbs/hr and 433.0 ppm. [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.3.b.1 **Monitoring:**

(A). Stack testing to demonstrate compliance with NOx limits shall be conducted at least once every 5 years when the affected unit is operating. A pretest conference shall be held at least 30 days prior to the stack test if directed by the Director and shall include the permittee, the tester, and the Director.

The following stack testing requirements shall be met:

(1) The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) Volumetric flow rate shall be determined using 40 CFR 60, Appendix A, Method 2.

(3) $NO_x$ concentrations shall be determined using 40 CFR 60, Appendix A, Method 7e.

(4) To determine mass emission rates (lb/hr, etc) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director to give the results in the specified units of the emission limitation.

(5) The operating load during testing shall be at least 90% of the average throughput for the previous 3 year's operation.

(B) The temperature of exhaust gas into the catalyst and NOx emission, as measured by a portable analyzer, shall be used as indicators to provide a reasonable assurance of compliance with the NOx emission limitation as specified below:

(i) Temperature

(1) Measurement Approach: Exhaust gas temperature shall be monitored continuously using an in-line thermocouple.

(2) Indicator Range: Temperature at the inlet of the catalyst shall be maintained between 750°F and 1250°F. Excursions from this temperature range shall trigger an inspection and review of the catalyst's performance as indicated by other parameters (to confirm if the temperature reading is valid and to determine the catalyst operating deficiencies). If the excursion is the result of a deficiency with the catalyst, then corrective actions and reporting are required.

(3) Performance Criteria:

(A) Data Representativeness: Temperature measurements made by a thermocouple sensor shall provide a direct indicator of catalyst performance. A sensor shall be located at the inlet of the catalyst. The minimum accuracy of the thermocouple is +/- 2%.

(B) QA/QC Practices and Criteria: Thermocouple shall be maintained per manufacturer's specifications. It shall be tested semi-annually to ensure its accuracy.

(C) Monitoring Frequency: Temperature shall be monitored continuously when the engine is operating.

(D) Data Collection Procedure: Temperature data shall be collected once per hour and recorded on a log sheet when the engine is operating.

(E) Averaging Period: The temperature shall be recorded and reduced to 4-hour rolling averages when the engine is operating.

(ii) Portable Analyzer Test

(1) Measurement Approach: NOx emission shall be measured using a portable hand-held Testo analyzer during normal operating conditions.

(2) Indicator Range: Excursion from the NOx limit is defined as an emission rate of NOx at or above 3.83 lbs/hr or 433.0 ppm. Excursions from this limit shall trigger an inspection and review of the catalyst's performance as indicated by other parameters (to confirm if the result is valid and to determine the catalyst operating deficiencies). If the excursion is the result of a deficiency with the catalyst, then corrective actions and reporting are required.

(3) Performance Criteria:

(A) Data Representativeness: NOx emission shall be measured at the outlet of the catalyst.

(B) QA/QC Practices and Criteria: Testo analyzer shall be calibrated annually. A testing protocol for performing a portable analyzer test shall be developed, documented, and used for all tests.

(C) Monitoring Frequency: NOx emission shall be analyzed semi-annually unless the stack testing is performed at the same time or the engine is not running.

(D) Data Collection Procedure: Records of calibration and testing shall be maintained in the

facilities computerized MP2. Also a strip chart of the result shall be kept in the engines' paper files

(E) Averaging Period: NOx emission shall be calculated per the testing protocol developed in accordance with condition II.B.3.b.1.(B)(ii)(3)(B).

II.B.3.b.2 **Recordkeeping:**

In addition to the recordkeeping requirement described in Provision I.S.1 of this permit,

(a) The permittee shall maintain a file of all stack testing and all other information required by permit provision I.S.1.

(b) The permittee shall maintain a file of continuous monitor measurements, including performance testing measurements, all performance evaluations, all calibration checks, all adjustments, and maintenance.

(c) The permittee shall maintain a file of the occurrence and duration of any excursion, corrective actions taken, and any other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. (40 CFR 64.9(b)).

II.B.3.b.3 **Reporting:**

In addition to the reporting requirement described in Provision I.S.2 of this permit,

(a) The monitoring report required in Provision I.S.2 of this permit shall include, at a minimum, the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;(40 CFR 64.9(a)(2)(i))

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). (40 CFR 64.9(a)(2)(ii))

(b) The results of stack testing shall be submitted to the Director within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status.

II.B.3.c **Condition:**

Visible emissions shall be no greater than 10 percent opacity [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.3.c.1 **Monitoring:**

In lieu of opacity monitoring, the report required for this permit condition will serve as monitoring.

II.B.3.c.2 **Recordkeeping:**

The report required for this permit condition will serve as recordkeeping

II.B.3.c.3 **Reporting:**

In addition to the reporting requirements specified in Section I of this permit, the permittee shall certify each annual certification report that only pipeline quality natural gas is used as fuel during the reporting year.

II.B.4 **Conditions on Reciprocating Engines (E4A & E4B).**

II.B.4.a **Condition:**

Emissions of CO shall be no greater than 4.88 lbs/hr and 964 ppmdv from each engine. [Origin: DAQE-AN0100340024-16. [R307-401-8(1)(a)(BACT)]

II.B.4.a.1 **Monitoring:**

(A) Initial compliance testing shall be performed as soon as possible and in no case later 180 days after the startup of the new engines. After the initial testing, stack testing shall be conducted at least once every 5 years. A pretest conference shall be held at least 30 days prior to the stack test if directed by the Director and shall include the permittee, the tester, and the Director.

The following stack testing requirements shall be met:

(1) The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) Volumetric flow rate shall be determined using 40 CFR 60, Appendix A, Method 2.

(3) CO concentrations shall be determined using 40 CFR 60, Appendix A, Method 10.

(4) To determine mass emission rates (lb/hr, etc) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director to give the results in the specified units of the emission limitation.

(5) The operating load during testing shall be at least 90% of the average throughput for the previous 3 year's operation.

(B) The temperature of exhaust gas into the catalyst, CO emissions measured by a portable analyzer, and oxygen concentration at the engine exhaust shall be used as indicators to provide a reasonable assurance of compliance with the CO emission limitation as specified below:

(i) Temperature

(1) Measurement Approach: Exhaust gas temperature shall be monitored continuously using an in-line thermocouple.

(2) Indicator Range: Temperature at the inlet of the catalyst shall be maintained between 750$^{o}$F and 1250$^{o}$F. Excursions from the temperature range shall trigger an inspection and review of the catalyst's performance as indicated by other parameters (to confirm if the temperature reading is valid and to determine the catalyst operating deficiencies). If the excursion is the result of a deficiency with the catalyst, then corrective actions and reporting are required.

(3) Performance Criteria:

(A) Data Representativeness: Temperature measurements made by a thermocouple sensor shall provide a direct indicator of catalyst performance. A sensor shall be located at the inlet of the catalyst. The minimum accuracy of the thermocouple is +/- 2%.

(B) QA/QC Practices and Criteria: Thermocouple is maintained per manufacturer's specifications. It shall be tested semi-annually to ensure its accuracy.

(C) Monitoring Frequency: Temperature shall be monitored continuously when the engine is operating.

(D) Data Collection Procedure: Temperature data shall be collected once per hour and recorded on a log sheet when the engine is operating.

(E) Averaging Period: The temperature shall be recorded and reduced to 4-hour rolling averages when the engine is operating.

(ii) Portable Analyzer Test

(1) Measurement Approach: CO emission shall be measured using a portable hand-held Testo analyzer during normal operating conditions.

(2) Indicator Range: Excursion from the CO limit is defined as an emission rate of CO at or above 4.88 lbs/hr or 964 ppmdv. Excursions from this limit shall trigger an inspection and review of the catalyst's performance as indicated by other parameters (to confirm if the result is valid and to determine the catalyst operating deficiencies). If the excursion is the result of a deficiency with the catalyst, then corrective actions and reporting are required.
(3) Performance Criteria:

(A) Data Representativeness: CO emission shall be measured at the outlet of the catalyst.

(B) QA/QC Practices and Criteria: Testo analyzer shall be calibrated annually. A testing protocol for performing a portable analyzer test shall be developed, documented, and used for all tests.

(C) Monitoring Frequency: CO emission shall be analyzed semi-annually unless the stack testing is performed at the same time or the engine is not running.

(D) Data Collection Procedure: Records of calibration and testing shall be maintained in the facilities computerized MP2. Also a strip chart of the result shall be kept in the engines' paper files.

(E) Averaging Period: CO emission shall be calculated per the testing protocol developed in accordance with II.B.4.a.1(B)(i)(3)(B).

(iii) Oxygen Concentration

(1) Measurement Approach: Oxygen concentration shall be measured through daily alarm light monitoring to assure proper operation of the Air to Fuel Ration (AFR) controller. Alarm light shall be triggered by a minivolt reading indicating when AFR is to rich or too lean. This occurs when there is an excursion from the ideal oxygen concentration range.

(2) Indicator Range: Indicator range shall be based on Testo analyzer monitoring which follows the sensor replacement. If the percent of oxygen deviates from this range, the AFR alarm light will come on. Excursions shall trigger an inspection and review of the catalyst's performance as indicated by other parameters (to confirm if the oxygen reading is valid and to determine the

catalyst operating deficiencies). If the excursion is the result of a deficiency with the catalyst, then corrective actions and reporting are required.

(3) Performance Criteria:

(A) Data Representativeness: The oxygen concentration shall be measured at the engine exhaust while the engine is operating.

(B) QA/QC Practices and Criteria: Oxygen sensors shall be replaced, at a minimum, annually, or more frequently as needed. Sensors shall be analyzed using a Testo portable analyzer following replacement..

(C) Monitoring Frequency: The alarm light shall be monitored daily to ensure that oxygen concentration is within the required range.

(D) Data Collection Procedure: Records shall be maintained to document alarmed events, sensor replacement, indicator range, and required maintenance.

(E) Averaging Period: Not applicable.

II.B.4.a.2 **Recordkeeping:**

In addition to the recordkeeping requirement described in Provision I.S.1 of this permit,

(a) The permittee shall maintain a file of all stack testing and all other information required by permit provision I.S.1.

(b) The permittee shall maintain a file of continuous monitor measurements, including performance testing measurements, all performance evaluations, all calibration checks, all adjustments, and maintenance.

(c) The permittee shall maintain a file of the occurrence and duration of any excursion, corrective actions taken, and any other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. (40 CFR 64.9(b)).

II.B.4.a.3 **Reporting:**

In addition to the reporting requirement described in Provision I.S.2 of this permit,

(a) The monitoring report required in Provision I.S.2 of this permit shall include, at a minimum, the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;(40 CFR 64.9(a)(2)(i))

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). (40 CFR 64.9(a)(2)(ii))

(b) The results of stack testing shall be submitted to the Director within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status.

II.B.4.b **Condition:**

Visible emissions shall be no greater than 10 percent opacity [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.4.b.1 **Monitoring:**

In lieu of opacity monitoring, the report required for this permit condition will serve as monitoring.

II.B.4.b.2 **Recordkeeping:**

The report required for this permit condition will serve as recordkeeping

II.B.4.b.3 **Reporting:**

In addition to the reporting requirements specified in Section I of this permit, the permittee should certify each annual certification report that only pipeline quality natural gas is used as fuel during the reporting year.

II.B.4.c **Condition:**

Emissions of NOx shall be no greater than 3.26 lbs/hr and 392 ppmdv from each engine. [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.4.c.1 **Monitoring:**

(A) Initial compliance testing shall be performed as soon as possible and in no case later 180 days after the startup of the new engines. After the initial testing, stack testing shall be conducted at least once every 5 years when the affected unit is operating. A pretest conference shall be held at least 30 days prior to the stack test if directed by the Director and shall include the permittee, the tester, and the Director.

The following stack testing requirements shall be met:

(1) The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) Volumetric flow rate shall be determined using 40 CFR 60, Appendix A, Method 2.

(3) NOx concentrations shall be determined using 40 CFR 60, Appendix A, Method 7e.

(4) To determine mass emission rates (lb/hr, etc) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director to give the results in the specified units of the emission limitation.

(5) The operating load during testing shall be at least 90% of the average throughput for the previous 3 year's operation.

(B) The temperature of exhaust gas into the catalyst, NOx emission measured by a portable analyzer, and oxygen concentration at the engine exhaust shall be used as indicators to provide a reasonable assurance of compliance with the NOx emission limitation as specified below:

(i) Temperature

(1) Measurement Approach: Exhaust gas temperature shall be monitored continuously using an in-line thermocouple.

(2) Indicator Range: Temperature at the inlet of the catalyst shall be maintained between 750$^{o}$F and 1250$^{o}$F. Excursions from this temperature range shall trigger an inspection and review of the catalyst's performance as indicated by other parameters (to confirm if the temperature reading is valid and to determine the catalyst operating deficiencies). If the excursion is the result of a deficiency with the catalyst, then corrective actions and reporting are required.

(3) Performance Criteria:

(A) Data Representativeness: Temperature measurements made by a thermocouple sensor shall provide a direct indicator of catalyst performance. A sensor shall be located at the inlet of the catalyst. The minimum accuracy of the thermocouple is +/- 2%.

(B) QA/QC Practices and Criteria: Thermocouple shall be maintained per manufacturer's specifications. It shall be tested semi-annually to ensure its accuracy.

(C) Monitoring Frequency: Temperature shall be monitored continuously when the engine is operating.

(D) Data Collection Procedure: Temperature data shall be collected once per hour and recorded on a log sheet when the engine is operating.

(E) Averaging Period: The temperature shall be recorded and reduced to 4-hour rolling averages when the engine is operating.

(ii) Portable Analyzer Test

(1) Measurement Approach: NOx emission shall be measured using a portable hand-held Testo analyzer during normal operating conditions.

(2) Indicator Range: Excursion from the $NO_x$ limit is defined as an emission rate of NOx at or above 3.26 lbs/hr or 392 ppmdv. Excursions from this limit shall trigger an inspection and review of the catalyst's performance as indicated by other parameters (to confirm if the result is valid and to determine the catalyst operating deficiencies). If the excursion is the result of a deficiency with the catalyst, then corrective actions and reporting are required.

(3) Performance Criteria:

(A) Data Representativeness: NOx emission shall be measured at the outlet of the catalyst.

(B) QA/QC Practices and Criteria: Testo analyzer shall be calibrated annually. A testing protocol for performing a portable analyzer test shall be developed, documented, and used for all tests.

(C) Monitoring Frequency: NOx emission shall be analyzed semi-annually unless the stack testing is performed at the same time or the engine is not running.

(D) Data Collection Procedure: Records of calibration and testing shall be maintained in the facilities computerized MP2. Also a strip chart of the result shall be kept in the engines' paper files.

(E) Averaging Period: NOx emission shall be calculated per the testing protocol developed in accordance with II.B.4.c.1.(B)(ii)(3)(B).

(iii) Oxygen Concentration

(1) Measurement Approach: Oxygen concentration shall be measured through daily alarm light monitoring to assure proper operation of the Air to Fuel Ration (AFR) controller. Alarm light shall be triggered by a minivolt reading indicating when AFR is to rich or too lean. This occurs when there is an excursion from the ideal oxygen concentration range.

(2) Indicator Range: Indicator range shall be based on Testo analyzer monitoring which follows the sensor replacement. If the percent of oxygen deviates from this range, the AFR alarm light will come on. Excursions trigger an inspection and review of the catalyst performance as indicated by other parameters (to confirm if the oxygen reading is valid and to determine the catalyst operating deficiencies). If the excursion is the result of a deficiency with the catalyst, then corrective actions and reporting are required.

(3) Performance Criteria:

(A) Data Representativeness: The oxygen concentration shall be measured at the engine exhaust while the engine is operating.

(B) QA/QC Practices and Criteria: Oxygen sensors shall be replaced, at a minimum, annually, or more frequently as needed. Sensors shall be analyzed using a Testo portable analyzer following replacement.

(C) Monitoring Frequency: The alarm light shall be monitored daily to ensure that oxygen concentration is within the required range.

(D) Data Collection Procedure: Records shall be maintained to document alarmed events, sensor replacement, indicator range, and required maintenance.

(E) Averaging Period: Not applicable.

II.B.4.c.2 **Recordkeeping:**

In addition to the recordkeeping requirement described in Provision I.S.1 of this permit,

(a) The permittee shall maintain a file of all stack testing and all other information required by permit provision I.S.1.

(b) The permittee shall maintain a file of continuous monitor measurements, including performance testing measurements, all performance evaluations, all calibration checks, all adjustments, and maintenance.

(c) The permittee shall maintain a file of the occurrence and duration of any excursion, corrective actions taken, and any other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. (40 CFR 64.9(b)).

II.B.4.c.3 **Reporting:**

In addition to the reporting requirement described in Provision I.S.2 of this permit,

(a) The monitoring report required in Provision I.S.2 of this permit shall include, at a minimum, the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;(40 CFR 64.9(a)(2)(i))

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). (40 CFR 64.9(a)(2)(ii))

(b) The results of stack testing shall be submitted to the Director within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status.

II.B.5 **Conditions on NESHP ZZZZ non-emergency remote engine group**

II.B.5.a **Condition:**

At all times the permittee shall 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. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Director 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. [Origin: 40 CFR 63.6595(a), 40 CFR 63.6605(b)]. [40 CFR 63 Subpart ZZZZ]

II.B.5.a.1 **Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.5.a.2 **Recordkeeping:**

The permittee shall keep the records described in 40 CFR 63.6655(a)(1)-(5) as applicable. [40 CFR 63.6655(a)]

The permittee shall document activities performed to assure proper operation and maintenance. Records shall be maintained in accordance with 40 CFR 63.6660 and Provision I.S.1 of this permit.

II.B.5.a.3 **Reporting:**

The permittee shall keep the records described in 40 CFR 63.6655(a)(1)-(5) as applicable. [40 CFR 63.6655(a)] The permittee shall document activities performed to assure proper operation and maintenance. Records shall be maintained in accordance with 40 CFR 63.6660 and Provision I.S.1 of this permit.

II.B.5.b **Condition:**

(1) The permittee shall comply with the applicable general provisions in 40 CFR 63.1-15 as identified in

Table 8 of 40 CFR 63, Subpart ZZZZ.

(2) The affected unit must meet the definition of remote stationary RICE in 40 CFR63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE in NESHP ZZZZ. The permittee shall evaluate the status of their RICE every 12 months. If the evaluation indicates that the affected unit no longer meets the definition of remote stationary RICE in 40 CF63.6675, the permit must comply with all of the requirements for existing non-emergency SI 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

(3) The permittee shall meet the following requirements at all times, except during periods of startup:

(a) Change oil and filter every 2,160 hours of operation or annually, whichever comes first.

(b) Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first;

(c) Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.

(4) The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in accordance with 40 CFR 63.6625(j) in order to extend the specified oil change requirement in paragraph (3)(a) of this condition.

(5) During periods of startup the permittee must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitation applies.

[Origin: 40 CFR 63.6595(a)(1), 40 CFR 63.6665, 40 CFR 63.6603(a), 40 CFR 63.6605(a), 40 CFR 63.6625(h), 40 CFR 63 Subpart ZZZZ Tables 2d(11), and 8]. [40 CFR 63 Subpart ZZZZ]

II.B.5.b.1 **Monitoring:**

(a) The permittee shall comply with the applicable general provisions in 40 CFR 63.1-15 as identified in Table 8 of 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6665]

(b) The permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written operation and maintenance instructions or develop and follow their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(c) The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in accordance with 40 CFR 63.6625(j). [40 CFR 63.6625(e), 40 CFR 63.6640(a), 40 CFR 63 Subpart ZZZZ Table 6(9)]. [40 CFR 63 Subpart ZZZZ]

II.B.5.b.2 **Recordkeeping:**

The permittee shall comply with the applicable general provisions in 40 CFR 63.1-15 as identified in Table 8 of 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6665]

(a) The permittee shall keep records of the initial and annual evaluation of the remote status of the engine.

(b) The permittee shall keep records of the initial and annual evaluation of the remote status of the engine.

(c) The permittee shall keep records that demonstrate continuous compliance with each applicable operating limitation including, but not limited to, the manufacturer's emission-related operation and maintenance instructions or the permittee-developed maintenance plan. [40 CFR 63.6655(d), 40 CFR 63 Subpart ZZZZ Table 6]

(d) Records of the maintenance conducted shall be kept in order to demonstrate that the permittee operated and maintained the affected emission unit and after-treatment control device (if any) according to their own maintenance plan. [40 CFR 63.6655(e)]

(e) Records shall be maintained in accordance with 40 CFR 63.6660 and Provision I.S.1 of this permit.

II.B.5.b.3 **Reporting:**

The permittee shall comply with the applicable general provisions in 40 CFR 63.1-15 as identified in 40 CFR 63, Subpart ZZZZ [40 CFR 63.6665]. The permittee shall also report each instance in which it did not meet the applicable requirements in Table 8 [40 CFR 63.6640(e)]

The permittee shall report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. [40 CFR 63 Subpart ZZZZ Table 2d Footnote 2]

There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.6 **Conditions on Boilers (E13 & E14).**

II.B.6.a **Condition:**

Emissions of CO shall be no greater than 2.53 lbs/hr and 78.0 ppm from each boiler [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.6.a.1 **Monitoring:**

A. CO emissions testing shall be performed on each affected unit once every two years using a portable analyzer or testing instrument capable of detecting emissions of the pollutant being tested at the concentrations necessary to determine compliance. The tested unit shall be operated under normal conditions and at a minimum of 90% of the maximum production or throughput achieved since the last required test. A testing protocol shall be developed, documented, and used for all tests. At a minimum, the following topics shall be addressed in the protocol:

(1) A description of sampling locations and sample gathering procedures that result in representative and reproducible samples.

(2) Calibration and operation procedures for the analyzer.

(3) Methods used to determine the flow rate, temperature, and other parameters as necessary to demonstrate compliance.

(4) Calculations and other information necessary to convert the analyzer output to the units of the limitation.

The test protocol shall be made available to the Director upon request. If the Director determines that the protocol does not adequately address the minimum requirements list above, or that the protocol does not provide sufficient assurance that the test results are adequate for demonstrating compliance with the limitation, the Director may require the permittee to modify the protocol.

B. Stack testing to demonstrate compliance with CO limits shall be conducted at least once every 5 years. A pretest conference shall be held at least 30 days prior to the stack test if directed by the Director and shall include the permittee, the tester, and the Director.

The following stack testing requirements shall be met:

(1) The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) Volumetric flow rate shall be determined using 40 CFR 60, Appendix A, Method 2.

(3) CO concentrations shall be determined using 40 CFR 60, Appendix A, Method 10.

(4) To determine mass emission rates (lb/hr, etc) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director to give the results in the specified units of the emission limitation.

(5) The operating load during testing shall be at least 90% of the average throughput for the previous 3 year's operation.

II.B.6.a.2 **Recordkeeping:**

Results of all stack testing and portable analyzer testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.6.a.3 **Reporting:**

The results of stack testing and portable analyzer testing shall be submitted to the Director within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.6.b **Condition:**

Visible emissions shall be no greater than 5 percent opacity from each boiler [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.6.b.1 **Monitoring:**

In lieu of opacity monitoring, the report required for this permit condition will serve as monitoring.

II.B.6.b.2 **Recordkeeping:**

The report required for this permit condition will serve as recordkeeping

II.B.6.b.3 **Reporting:**

In addition to the reporting requirements specified in Section I of this permit, the permittee shall certified each annual certification report that only pipeline quality natural gas is used as fuel during the reporting year.

II.B.6.c **Condition:**

The permittee shall keep daily records of the amounts of each fuel combusted each day [Origin: 40 CFR 60 Subpart Dc]. [40 CFR 60.48c(g)]

II.B.6.c.1 **Monitoring:**

Fuel consumption for each affected emission unit shall be determined by a fuel meter, vendor supplied information, or other method approved by the Director.

II.B.6.c.2 **Recordkeeping:**

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.6.c.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.6.d **Condition:**

Emissions of NOx shall be no greater than 3.35 lbs/hr and 63.0 ppm from each boiler [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.6.d.1 **Monitoring:**

A. NOx emissions testing shall be performed on each affected unit once every two years when the affected unit is operating, using a portable analyzer or testing instrument capable of detecting emissions of the pollutant being tested at the concentrations necessary to determine compliance. The tested unit shall be operated under normal conditions and at a minimum of 90% of the maximum production or throughput achieved since the last required test. A testing protocol shall be developed, documented, and used for all tests. At a minimum, the following topics shall be addressed in the protocol:

(1) A description of sampling locations and sample gathering procedures that result in representative and reproducible samples.

(2) Calibration and operation procedures for the analyzer.

(3) Methods used to determine the flow rate, temperature, and other parameters as necessary to demonstrate compliance.

(4) Calculations and other information necessary to convert the analyzer output to the units of the limitation.

The test protocol shall be made available to the Director upon request. If the Director determines that the protocol does not adequately address the minimum requirements list above, or that the protocol does not provide sufficient assurance that the test results are adequate for demonstrating compliance with the limitation, the Director may require the permittee to modify the protocol.

B. Stack testing to demonstrate compliance with NOx limits shall be conducted at least once every 5 years when the affected unit is operating. A pretest conference shall be held at least 30 days prior to the stack test if directed by the Director and shall include the permittee, the tester, and the Director.

The following stack testing requirements shall be met:

(1) The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) Volumetric flow rate shall be determined using 40 CFR 60, Appendix A, Method 2.

(3) NOx concentrations shall be determined using 40 CFR 60, Appendix A, Method 7e.

(4) To determine mass emission rates (lb/hr, etc) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director to give the results in the specified units of the emission limitation.

(5) The operating load during testing shall be at least 90% of the average throughput for the previous 3 year's operation.

II.B.6.d.2 **Recordkeeping:**

Results of all stack testing and portable analyzer testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.6.d.3 **Reporting:**

The results of stack testing and portable analyzer testing shall be submitted to the Director within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.7 **Conditions on TEG dehydrator (E21)**

II.B.7.a **Condition:**

The permittee shall operate the TEG dehydration unit such that the actual glycol circulation rate does not exceed the optimum glycol circulation rate of 306 gallons/hr. If operation conditions change, the permittee shall determine a new optimum glycol circulation rate in accordance with 40 CFR 63.764(d)(2). [Origin: 40 CFR 63.764(d)(2)(ii)]. [40 CFR 63 Subpart HH]

II.B.7.a.1 **Monitoring:**

The permittee shall install and operate a continuous monitoring system to monitor glycol circulation rate. The monitoring system shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications or other written procedures that provide reasonable assurance that the monitoring equipment is operating properly.

II.B.7.a.2 **Recordkeeping:**

(a) Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit;

(b) The permittee shall keep a record of the calculation used to determine the optimum glycol circulation rate in accordance with 40 CFR 63.764(d)(2)(i).

II.B.7.a.3 **Reporting:**

In addition to the reporting requirements specified in Section I of this permit, the permittee shall prepare a new determination and submit the information specified in accordance with 40 CFR63.775(c)(7)(ii) through (v) if operating conditions change and a modification to the

optimum glycol circulation rate is required.

II.B.8 **Conditions on Gas Sweetening Process Unit.**

II.B.8.a **Condition:**

All acid gas from the sweetening unit shall be routed to either the sulfur recovery plant or the sulfur enrichment and injection unit [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.8.a.1 **Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.8.a.2 **Recordkeeping:**

The destination of exhaust from the sweetening unit shall be logged on daily basis.

II.B.8.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.8.b **Condition:**

The sulfur dioxide reduction efficiency shall be 74% or greater [Origin: 40 CFR 60.642(b)]. [40 CFR 60 Subpart LLL]

II.B.8.b.1 **Monitoring:**

(A) The sulfur reduction efficiency achieved shall be calculated for each 24-hour period as specified in either (1) or (2) of this section:

(1) When the sulfur recovery unit is operating, the sulfur reduction shall be calculated in accordance with procedures and requirements of 40 CFR 60.646(d).

R= (100 S)/(S+E) (40 CFR 60.644 c(1))

(2) When the sulfur enrichment and inject unit is operating the sulfur reduction efficiency shall be calculated by the equation as:

R=100(X-E)/X

Or the permitte may submit the alternative method to calculate the sulfur reduction efficiency for approval.

Where:
R= the sulfur dioxide reduction efficiency achieved during the 24-hour period, in percent;
S= the sulfur production rate from the sulfur recovery plant during the 24-hour period, kg/hr; and
E= the sulfur emission rate from the incinerator expressed as elemental sulfur, kg/hr (equal to 50% of the $SO_2$ emission rate (kg/hr) determined from the CEMs in the incinerator)
X= the average sulfur production rate (kg/hr) from the gas sweetening process expressed as elemental sulfur during 24-hour period.

(B) The permittee shall calibrate, maintain, and operate monitoring devices to collect the following operational information on a daily basis when the affected unit is operating:

(1) Amount of sulfur product determined in accordance with 40 CFR 60.646 a(1)(only when sulfur recovery unit is operating) ;

(2) $H_2S$ concentration in acid gas from sweetening unit determined in accordance with 40 CFR 60.646 a(2);

(3) Average acid gas flow rate from sweetening unit determined in accordance with 40 CFR 60.646 a(3);

(4) Sulfur feed rate determined in accordance with 40 CFR 60.646 a(4);

(5) Required sulfur dioxide emission reduction efficiency for each 24-hour period, determined in accordance with 40 CFR 60.646(a)(5).

II.B.8.b.2 **Recordkeeping:**

Results of monitoring shall be recorded and maintained as required in 40 CFR 60.647(a) and as described in Provision I.S.1 of this permit.

II.B.8.b.3 **Reporting:**

In addition to reporting provisions contained in Section I of this permit, the permittee shall submit a written report of excess emissions to the Director semiannually. For the purpose of these reports, excess emissions are defined as in 40 CFR 60.647(b)(1).

II.B.9 **Conditions on Sulfur Recovery Unit.**

II.B.9.a **Condition:**

All acid gas from the sulfur recovery area shall be routed through the incinerator before being vented to the atmosphere, except during emergency or unavoidable breakdown, when the acid gas shall be routed to the upset flare. [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.9.a.1 **Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.9.a.2 **Recordkeeping:**

The destination of exhaust from the sulfur recovery area shall be logged during emergency or unavoidable breakdown

II.B.9.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.10 **Conditions on Sulfur Enrichment and Injection Unit (SEI).**

II.B.10.a **Condition:**

The residual $CO_2$-rich gas stream from the SEI unit shall be routed to the tail gas incinerator for control of $H_2S$ emissions before being vented to the atmosphere, except during emergency or unavoidable breakdown, when the acid gas shall be routed to the upset flare. Acid gas routed to the injection well may be routed to the upset flare during emergency or unavoidable breakdowns and during semi-annual maintenance of the injection system. [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.10.a.1 **Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.10.a.2 **Recordkeeping:**

The destination of exhaust from SEI unit shall be logged during emergency or unavoidable breakdown

II.B.10.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.11 **Conditions on Incinerator (E15).**

II.B.11.a **Condition:**

Emissions of NOx shall be no greater than 7.56 lbs/hr and 184.96 ppm from the incinerator [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.11.a.1 **Monitoring:**

A. NOx emissions testing shall be performed on each affected unit once every two years when the affected unit is operating, using a portable analyzer or testing instrument capable of detecting emissions of the pollutant being tested at the concentrations necessary to determine compliance. The tested unit shall be operated under normal conditions and at a minimum of 90% of the maximum production or throughput achieved since the last required test. A testing protocol shall be developed, documented, and used for all tests. At a minimum, the following topics shall be addressed in the protocol:

(1) A description of sampling locations and sample gathering procedures that result in representative and reproducible samples.

(2) Calibration and operation procedures for the analyzer.

(3) Methods used to determine the flow rate, temperature, and other parameters as necessary to demonstrate compliance.

(4) Calculations and other information necessary to convert the analyzer output to the units of the limitation.

The test protocol shall be made available to the Director upon request. If the Director determines that the protocol does not adequately address the minimum requirements list above, or that the protocol does not provide sufficient assurance that the test results are adequate for demonstrating compliance with the limitation, the Director may require the permittee to modify the protocol.

B. Stack testing to demonstrate compliance with NOx limits shall be conducted at least once every 5 years when the affected unit is operating. A pretest conference shall be held at least 30 days prior to the stack test if directed by the Director and shall include the permittee, the tester, and the Director.

The following stack testing requirements shall be met:

(1) The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access

shall be provided to the test location.

(2) Volumetric flow rate shall be determined using 40 CFR 60, Appendix A, Method 2.

(3) NOx concentrations shall be determined using 40 CFR 60, Appendix A, Method 7e.

(4) To determine mass emission rates (lb/hr, etc) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director to give the results in the specified units of the emission limitation.

(5) The operating load during testing shall be at least 90% of the average throughput for the previous 3 year's operation.

II.B.11.a.2 **Recordkeeping:**

Results of all stack testing and portable analyzer testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.11.a.3 **Reporting:**

The results of stack testing and portable analyzer testing shall be submitted to the Director within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.11.b **Condition:**

Emissions of $SO_2$ shall be no greater than 600.00 lbs/hr (3-hour rolling average) and 14679.4 ppm, and no greater than 1,593 tons per calendar year from the incinerator [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.11.b.1 **Monitoring:**

The permittee shall calibrate, maintain and operate a continuous monitoring system on the incinerator stack as per 40 CFR 60.646(b)(1) for measuring the emissions of sulfur dioxide ($SO_2$) concentration when the affected unit is operating. The monitoring system shall comply with all applicable sections of UAC R307-170, 40 CFR 60.13, and 40 CFR 60, Appendix B, Specification 2 - $SO_2$. Hourly emissions and 3-hour rolling average emissions shall be calculated on an hourly basis.
Within the first 20 days of every year, $SO_2$ emissions total shall be calculated for previous calendar year.

II.B.11.b.2 **Recordkeeping:**

Results of $SO_2$ monitoring shall be recorded and maintained as required in R307-170, 40 CFR 60.647(a), and as described in Provision I.S.1 of this permit.

II.B.11.b.3 **Reporting:**

The permittee shall comply with the reporting provisions in R307-170-9, 40 CFR 60.647(b), and any additional reporting provisions contained in Section I of this permit.

II.B.11.c **Condition:**

The permittee shall measure the temperature within the secondary chamber of the incinerator and operate the chamber, according to procedures and requirements provided in NSPS Subpart LLL. [Origin: DAQE-AN0100340024-16]. [40 CFR 60.646(b)(2)]

II.B.11.c.1 **Monitoring:**

Permittee shall calibrate, maintain, and operate a monitoring device for the continuous measurement of the temperature within the secondary chamber of the incinerator when the affected unit is operating, according to procedures and requirement provided in 40 CFR Part 60.646 (b)(2)

II.B.11.c.2 **Recordkeeping:**

Results of monitoring shall be recorded and maintained as required in 40 CFR 60.647(a) and as described in Provision I.S.1 of this permit.

II.B.11.c.3 **Reporting:**

In addition to reporting provisions contained in Section I of this permit, the permittee shall submit a written report of excess emissions to the Director semiannually. For the purpose of these reports, excess emissions are defined as in 40 CFR 60.647(b)(2).

II.B.12 **Conditions on Upset Flare (E16).**

II.B.12.a **Condition:**

The flare shall be designed and operated in accordance with 40 CFR 60.18 (c) through (f). The flare shall be operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours [Origin: DAQE-AN0100340024-16]. [40 CFR 60.18, 40 CFR 60.633(g)]

II.B.12.a.1 **Monitoring:**

A visual determination of each affected emission unit shall be conducted on a monthly basis using 40 CFR 60, Appendix A, Method 22.

II.B.12.a.2 **Recordkeeping:**

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.12.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.12.b **Condition:**

Hours of operation for maintenance shall not exceed 200 hours each per rolling 12-month period unless otherwise specified. [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.12.b.1 **Monitoring:**

Within 20 days of the end of each month, and as of the last day of the previous month, a new 12-month total of hours operated shall be calculated using the previous 12 months data. [40 CFR 60]

II.B.12.b.2 **Recordkeeping:**

Hours of operation for maintenance shall be recorded on a monthly basis in an operation and maintenance log. Results of monitoring shall be maintained as described in Provision I.S.1 of this permit.

II.B.12.b.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.13 **Conditions on 40 CFR Part 60, Subpart KKK Applicable Equipment (E 25)**

II.B.13.a **Condition:**

I. Standards for pumps in light liquid service.

For each pump in light liquid service, the permittee shall comply with the requirements as provided in the paragraphs (a) through (g) of this section or demonstrate that the pump is neither in VOC service nor in wet gas service.

(a) (1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(b) (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 Standard VII (Delay of Repair) of this permit condition.
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(c) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the monitoring requirements of Monitoring Provision II(a) of this permit condition, Provided the following requirements are met:
(1) Each dual mechanical seal system is-
(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or
(ii) Equipment 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 Standard VIII of this permit condition; 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) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.
(5) (i) Each sensor as described in paragraph (c)(3) of this section is checked daily or is equipped with an audible alarm, and
(ii) The permittee determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.
(6) (i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (c)(5)(ii) of this section, a leak is detected.
(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Standard VII (Delay of Repair) of this permit condition.
(iii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Any pump that is designated, as described in Recordkeeping Provision I(e)(1) and I(e)(2) of this

permit condition, for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of Monitoring Provision II(a) of this permit condition, paragraphs (b), and (c) of the this section 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 Monitoring Provision I(c) of this permit condition, and
(3) Is tested for compliance with paragraph (d)(2) of this section initially upon designation, annually, and at other times requested by the Director.

(e) 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 Standard VIII of this permit condition, it is exempt from Monitoring Provision II(a) of this permit condition, and paragraphs (a) through (d) of this section.

(f) Any pump that is designated, as described in Recordkeeping Provision (f)(1) of this permit condition, as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of Monitoring Provision II(a) of this permit condition, and paragraphs (c)(4) through (c)(6) of this section if:
(1) The permittee 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 Monitoring Provision II(a) of this permit condition; and
(2) The permittee 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 (b) of this section if a leak is detected.

(g) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of Monitoring Provision II(a)(2) of this permit condition, and paragraph (c)(4) of this section, and the daily requirements of paragraph (c)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.
(40 CFR 60.482-2(b) through (h))

II. Standards for compressor

For each compressor, the permittee shall comply with the requirement as provided in paragraphs (a) through (j) of this section or demonstrate that the compressor is neither in VOC service nor in wet gas service or is a reciprocating compressor in wet gas service (40 CFR 60.633(f)).

(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 CFR 60.634 and paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section 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 Standard VIII of this permit condition; 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) of this section 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) of this section shall be checked daily or shall be equipped with an audible alarm.
(2) The permittee 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) of this section, 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 Standard VII (Delay of Repair) of this permit condition.
(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 section, if it is equipped with a closed vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of Standard VIII of this permit condition, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in Recordkeeping Provision I(e)(1) and I(e)(2) of this permit condition, 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) through (h) of this section 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 Monitoring Provision I(c) of this permit condition; and
(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Director.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of 40 CFR 60.14 or 40 CFR 60.15 is exempt from paragraphs (a), (b), (c), (d), (e), and (h) of this section, provided the permittee demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with these standards. (40 CFR60.482-3)

III. Standards for pressure relief devices in gas/vapor service.

For each pressure relief device in gas/vapor service, the permittee shall comply with the requirements as provided in paragraphs (a) through (d) or paragraphs (e)(1) through (e)(4) of this section or demonstrate that the pressure relief device is neither in VOC service nor in wet gas 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 Monitoring Provision I(c) of this permit condition.

(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 Section VII (Delay of Repair) of this permit condition.
(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 Monitoring Provision I(c) of this permit condition.

(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 Section VIII of this condition is exempted from the requirements of paragraphs (a) and (b) of this section.

(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 section, provided the Permittee complies with the requirements in paragraph (d)(2) of this section.
(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 Section VII (Delay of Repair) of this condition. [40 60.482-4]

(e) (1) Each pressure relief device in gas/vapor service may be monitored within 5 days after each pressure release to detect leaks by the methods specified in Monitoring Provision I(b) of this permit condition, except as provided in 40 CFR 60.634, paragraph (e)(4), and paragraphs (a) through (c) of this section.
(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 Section VII (Delay of Repair) of this permit condition.
(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 paragraphs (e)(1) and (b)(1) of this section.
(ii) No pressure relief device described in paragraph (e)(4)(i) of this section shall be allowed to operate for more than 30 days after a pressure release without monitoring. (40 CFR 60.633(b))

IV. Standards for open-ended valves or lines.

For each open-ended valve or line, the permittee shall comply with the requirements as provided in paragraphs (a) through (e) of this section or demonstrate that the open-ended valve or line is neither in VOC service nor in wet gas service.

(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 CFR 60.634.
(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) of this section 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 section.

(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 section are exempt from the requirements of paragraphs (a) through (c) of this section. [40 CFR 60.482-6]

V. Standards for valves in gas/vapor service in light liquid service.

(a) Each valve shall comply with paragraphs (b) through (d) of this section, except as provided in paragraphs (e), (f), and (g) of this section, Standards IX, X of this permit condition, and 40 CFR 60.634, or demonstrate that the open-ended valve or line is neither in VOC service nor in wet gas service.

(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 no later than 15 calendar days after the leak is detected, except as provided in Section VII (Delay of Repair) of this condition.

(2) A 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 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.

(e) Any valve that is designated, as described in Recordkeeping Provision I(e)(2) of this permit condition, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of monthly monitoring in Monitoring Provision IV(a) of this permit condition 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 Monitoring Provision I(c) of this permit condition, and
(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Director.

(f) Any valve that is designated, as described in Recordkeeping Provision I(f)(1) of this permit condition, as an unsafe-to-monitor valve is exempt from the requirements of monthly monitoring in Monitoring Provision IV(a) of this permit condition if:
(1) The permittee 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 monthly monitoring requirement specified in Monitoring Provision IV(a) of this permit condition and
(2) The permittee of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(g) Any valve that is designated, as described in Recordkeeping Provision I(f)(2) of this permit condition, as a difficult-to-monitor valve is exempt from the requirements of monthly monitoring in Monitoring Provision IV(a) of this permit condition if:
(1) The permittee 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 CFR 60.14 or 40 CFR 60.15or the permittee designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and
(3) The permittee of the valve follows a written plan that requires monitoring of the valve at least once per calendar year. (40 CFR 60.482-7 (a), (b), (d), (e), (f), (g))

VI. Standards for pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors

For each pumps and valve in heavy liquid service, pressure relief device in light liquid or heavy liquid service, and connector, the permittee shall comply with the following requirements or demonstrate that the open-ended valve or line is neither in VOC service nor in wet gas service.

(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 permittee shall follow either one of the following procedures:
(1) The permittee shall monitor the equipment within 5 days by the method specified in Monitoring Provision I(b) of this permit condition and shall comply with the requirements of paragraphs (b) through (d) of this section
(2) The permittee shall eliminate the visual, audible, olfactory, or other indication of a potential leak.

(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 Section VII (Delay of Repair) under this condition.
(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 in Standard V(d) of this permit condition. (40 CFR 60.482-8)

VII. Standards for 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.

(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 permittee 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 Standard VIII under this condition.

(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. (40.60.482-9)

VIII. Standards for closed vent systems and control devices.

(a) The permittee of closed vent systems and control devices used to comply with provisions of this permit condition shall comply with the provisions of this section.

(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$^{o}$C.

(d) Flares used to comply with this permit condition shall comply with the requirements of 40 CFR 60.18.

(e) The permittee of control devices used to comply with the provisions of this permit condition shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) 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 (e) of this section.
(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.
(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(g) 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 Permittee 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.

(h) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements specified in Monitoring Provision VI(a)(1)(i) and VI(a)(2) of this permit condition.

(i) Any parts of the closed vent system that are designated, as described in Recordkeeping Provision IV(a)(1) of this permit condition., as unsafe to inspect are exempt from the inspection requirements as specified in Monitoring Provision VI(a)(1)(i) and VI(a)(2) of this permit condition if they comply with the requirements specified in paragraphs (g)(1) and (g)(2) of this section.
(1) The permittee 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 the inspection requirements as specified in Monitoring Provision VI(a)(1)(i) and VI(a)(2) of this permit condition; and
(2) The permittee has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(j) Any parts of the closed vent system that are designated, as described in Recordkeeping Provision IV(a)(2) of this permit condition, as difficult to inspect are exempt from the inspection requirements as specified in Monitoring Provision VI(a)(1)(i) and VI(a)(2) of this permit condition if they comply with the requirements specified in paragraphs (h)(1) through (h)(3) of this section:
(1) The permittee 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 40 CFR 40 CFR 60.14 or 60.15, or the Permittee designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and
(3) The permittee 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.

(k) Closed vent systems and control devices used to comply with provisions of this condition shall be operated at all times when emissions may be vented to them. [40 CFR 60.482-10(a, d, e, g, h, I, j, k, m)]

IX. Standard for alternative standards for valves-allowable percentage of valves leaking.

(a) The permittee may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if permittee wishes to comply with an allowable percentage of valves leaking:
(1) The permittee must notify the Director that the permittee has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in Reporting Provision I(d) of this permit condition.
(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Director.
(3) If a valve leak is detected, it shall be repaired in accordance with Standards V(c) and V(d) of this permit condition.

(c) Performance tests shall be conducted in the following manner:
(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in Monitoring Provision I(b) of this permit condition.
(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) The permittee who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent. (40CFR 60.483-1)

X. Standards for alternative standards for valves-skip period leak detection and repair.

(a) (1) The permittee may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (b)(3) of this section.
(2) The permittee must notify the Director before implementing one of the alternative work practices, as specified in Reporting Provision I(d) of this permit condition.

(b) (1) The permittee shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in Standard V of this permit condition.
(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, the permittee may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, the permittee may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
(4) If the percent of valves leaking is greater than 2.0, the permittee shall comply with the requirements as described in Standard V of this permit condition but can again elect to use this section.
(5) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this section.
(6) The permittee must keep a record of the percent of valves found leaking during each leak detection period (40CFR 60.483-2). [Origin: DAQE-AN0100340024-16]. [40 CFR 60 Subpart KKK]

II.B.13.a.1 **Monitoring:**

I. General

The monitoring requirements under this section apply to all affected equipments. Compliance will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in following paragraphs:

(a) In conducting the performance tests required in 40 CFR 60.8, the permittee shall use as reference methods and procedures the test methods in appendix A of 40 CFR 60 or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b).

(b) The permittee shall determine compliance with the standards 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 permittee shall determine compliance with the no detectable emission standards in Standards I(d), II(i), III, V(e), and VIII(e) of this permit condition as follows:
(1) The requirements of paragraph (b) of this section 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 permittee 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) Each piece of equipment is presumed to be in VOC service or in wet gas service unless the permittee 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 shall be used (40 CFR 60.632(f)).
(2) Organic compounds that are considered by the Director 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 Director disagrees with the judgment, paragraphs (d) (1) and (d)(2) of this section shall be used to resolve the disagreement.

(e) The permittee shall demonstrate that an equipment is in light liquid service by showing that either the paragraphs (e)(1) through (e)(3) or paragraphs (e)(4) and (e)(5) of this section apply:
(1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20°C (1.2 in. $H_20$ at 68°F). Standard reference texts or ASTM D2879-83, 96, or 97 shall be used to determine the vapor pressures.
(2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C (1.2 in. $H_20$ at 68°F) is equal to or greater than 20 percent by weight.
(3) The fluid is a liquid at operating conditions.
(4) 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. [40 CFR 60.633(h)(1)]
(5) 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.
[40 CFR 60.633(h)(2)]

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

(g) The permittee 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 x $10^{-7}$ (g-mole)(MJ)/ (ppm-scm-kcal) (metric units)
= 4.674 x $10^{-6}$ [(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 and ASTM D 2504-67, 77, or 88 (Reapproved 1993) shall be used to determine the concentration of sample component "i."
(6) ASTM D 2382-76 or 88 or D4809-95 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.
(40 CFR60.485 & 40 CFR 60.632 (f)).

II. Pumps in light liquid services

In addition to general monitoring requirement specified in Monitoring Provision I of this permit condition, the permittee shall comply with the following requirements pertaining to each pump in light liquid services:

(a) (1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in Monitoring Provision I(b) of this permit condition, except as provided in 40 CFR 60.634 and Standards I(c), I(d), and I(e) 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.
(40 CFR 60.482-2 (a))

III. Pressure relief devices in gas/vapor service

In addition to general monitoring requirement specified in Monitoring Provision I of this permit condition, the permittee shall comply with the following requirements pertaining to each pressure relief device in gas/vapor service:
(a) (1) Each pressure relief device in gas/vapor service may be monitored quarterly to detect leaks by the methods specified in Monitoring Provision I(b) of this permit condition, except as provided in 40 CFR 60.634 and Standard III(e)(4) and Standards III(a) through (c) of this permit condition.
(40 CFR 60.633(b)(1))

IV. Valves in gas/vapor service in light liquid service.

In addition to general monitoring requirement specified in Monitoring Provision I of this permit condition, the permittee shall comply with the following requirements pertaining to each valve in gas/vapor service in light liquid service:

(a) Each valve shall be monitored monthly to detect leaks by the methods specified in Monitoring Provision I(b) of this permit condition.

(b) (1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.
(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.
(CFR 60.482-7 (a), (c))

V. Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.

In addition to general monitoring requirement specified in Monitoring Provision I of this permit condition, the permittee shall comply with the following requirements pertaining to each pump and valve in heavy liquid service, pressure relief device in light liquid or heavy liquid service, and connector:

(a) Each pump and valve in heavy liquid service, pressure relief device in light liquid or heavy liquid service, and connector shall be checked by visual, audible, olfactory, or any other detection method for a potential leak each calendar week.

VI. Closed vent systems and control devices.

In addition to general monitoring requirement specified in Monitoring Provision I of this permit condition, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (a)(1) and (a)(2) of this section, except as provided in Standards VIII(h) through VIII(j) of this permit condition.

(a) (1) If the vapor collection system or closed vent system is constructed of hard-piping, the permittee shall comply with the requirements specified in paragraphs (a)(1)(i) and (a)(1)(ii) of this section:
(i) Conduct an initial inspection according to the procedures in Monitoring I(b) of this permit condition; 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 permittee shall:
(i) Conduct an initial inspection according to the procedures in Monitoring Provision I(b) of this permit condition; and
(ii) Conduct annual inspections according to the procedures in Monitoring Provision I(b) of this permit condition. (60.482-10(f)) (origin: NSPS Subpart KKK)

II.B.13.a.2 **Recordkeeping:**

The permittee shall maintain the records in accordance with the requirements of 40 CFR 60, subpart A and Section I.S.1 of this permit, in addition to the following requirements:

I. General

(a) (1) The permittee subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.
(2) The permittee of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(b) When each leak is detected as specified in Standards I, II, V, VI, and X of this permit condition, 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 Monitoring Provision IV(b)(1) this permit condition 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 Standards I, II, V, VI and X of this permit condition, 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 Monitoring Provision I(a) of this permit condition 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 permittee (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 Standard VIII of the condition 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 Standard VIII(c) of this condition, 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 Standards I, II, and III of this condition 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 Standards I, II, and III of this permit condition.

(e) The following information pertaining to all equipment subject to the requirements in Standards of this permit condition shall be recorded in a log that is kept in a readily accessible location:
(1) A list of identification numbers for equipment subject to the requirements of this subpart.
(2) (i) A list of identification numbers for equipment that are designated for no detectable emissions under the Standards I(d), II(i), and V(e) of this permit condition.
(ii) The designation of equipment as subject to the requirements of Standards I(d), II(i), and V(e) of this permit condition shall be signed by the permittee.
(3) A list of equipment identification numbers for pressure relief devices required to comply with Standard III of this permit condition.
(4) (i) The dates of each compliance test as required in Standards I(d), II(i), III, and V(e) of this permit condition.
(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.

(f) The following information pertaining to all valves subject to the requirements of Standards

V(f) and V(g) of this permit condition and to all pumps subject to the requirements of Standard I(f) of this permit condition 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 value.

(g) The following information shall be recorded for valves complying with Standard X:
(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 Standards I(c)(5) and II (e)(2) of this permit condition and explanation of the design criterion; and
(2) Any changes to this criterion and the reasons for the changes.

(i) 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.

(j) The provisions of 40 CFR 60.7(b) and (d) do not apply to affected facilities subject to this subpart. (40 CFR 60.486(a) through (h), (j), and (k))

II. Compressor

In addition to general recordkeeping requirement specified in Section I of this permit condition, the following information pertaining to the compressor described in Standard II of this permit condition shall be recorded and kept in a readily accessible location:

(a) Information and date used to demonstrate that a reciprocating compressor is in wet gas service to apply for the exemption in Standard II of this permit condition shall be recorded in a log that is kept in a readily accessible location.
(40 CFR 60.635(c))

III. Pressure relief devices in gas/vapor service.

dance with the requirements in 40 CFR 63.775(c)(7). The optimum glycol circulation rate was ion, the following information pertaining to the Pressure relief devices in gas/vapor service described in Standard III of this permit condition shall be recorded and kept in a readily accessible location:
(a) The following recordkeeping requirements shall apply to pressure relief devices subject to the requirements of Standard III(e)(1) and Monitoring Provision III(a)(1) of this permit condition.
(1) When each leak is detected as specified in Standard III(e)(2) of this permit condition, 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 Standard III(e)(2) of this permit condition, 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 Monitoring Provision I(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 permittee (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 Standard III(a) of this permit condition. The designation of equipment subject to the provisions of Standard III(a) of this permit condition shall be signed by the permittee. (40 CFR 60.635(b))

IV. Closed vent systems and control devices.

In addition to general recordkeeping requirement specified in Recordkeeping Provision I of this permit condition, the following information pertaining to the Closed vent systems and control devices described in Standard VIII of this permit condition shall be recorded and kept in a readily accessible location:

(a) The permittee shall record the information specified in paragraphs (a)(1) through (a)(5) of this section.
(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 Recordkeeping Provision I(c) of this permit condition.
(4) For each inspection conducted in accordance with Monitoring Provision I(b) 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.
(5) For each visual inspection conducted in accordance with Monitoring Provision VI(a)(1)(ii) 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.
[40 CFR 60.482-10(l)] (origin: NSPS Subpart KKK)

II.B.13.a.3 **Reporting:**

I. General

(a) The permittee subject to the provisions of this subpart shall submit semiannual reports to the Director beginning six months after the initial start up date.

(b) The initial semiannual report, if applicable, to the Director shall include the following information:
(1) Process unit identification.
(2) Number of valves subject to the requirements of Standard V of this permit condition, excluding those valves designated for no detectable emissions under the provisions of Standard V(e) of this permit condition.
(3) Number of pumps subject to the requirements of Standard I of this permit condition, excluding those pumps designated for no detectable emissions under the provisions of Standard I(d) of this permit condition and those pumps complying with Standard I(e) of this permit condition.
(4) Number of compressors subject to the requirements of Standard II of this permit condition,

excluding those compressors designated for no detectable emissions under the provisions of Standard II(i) of this permit condition and those compressors complying with Standard II(h) of this permit condition.

(c) All semiannual reports to the Director shall include the following information, summarized from the information in Recordkeeping requirement:
(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 Standard V(b) or Standard X of this permit condition,
(ii) Number of valves for which leaks were not repaired as required in Standard V(c)(1) of this permit condition,
(iii) Number of pumps for which leaks were detected as described in Standards I(a) and I(c)(6)(i) of this permit condition,
(iv) Number of pumps for which leaks were not repaired as required in Standards I(b)(1) and I(c)(6)(ii) of this permit condition,
(v) Number of compressors for which leaks were detected as described in Standard II(f) of this permit condition,
(vi) Number of compressors for which leaks were not repaired as required in Standard II(g)(1) of this permit condition, and
(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.
(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.
(4) Revisions to items reported according to paragraph (b) of this section if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) The permittee electing to comply with the Standards IX and X of this permit condition shall notify the Director of the alternative standard selected 90 days before implementing either of the provisions.

(e) The permittee shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that The permittee must notify the Director of the schedule for the initial performance tests at least 30 days before the initial performance tests. (40 CFR 60.487(a)-(e)).

II. Pressure relief devices in gas/vapor service.

In addition to the general reporting requirement specified in Reporting Provision I of this permit condition, the permittee shall comply with the following requirements pertaining to the Pressure relief devices in gas/vapor service described in Standard III of this permit condition:

(a) The permittee shall include the following information in the initial semiannual report if applicable, in addition to the information required in Recordkeeping Provision I(b)(1)-(4) of this permit condition: Number of pressure relief devices subject to the requirements in Standard III(e) of this permit condition, except for those pressure relief devices designated for no detectable emissions under the provisions of Standard III(a) and those pressure relief devices complying with Standard III(c).

(b) The permittee shall include the following information in all semiannual reports in addition to the information required in Recordkeeping Provision I(c)(2)(i) through (vi) of this permit condition:
(1) Number of pressure relief devices for which leaks were detected as required in Standard III(e)(2) of this permit condition and
(2) Number of pressure relief devices for which leaks were not repaired as required in Standard III(e)(3) of this permit condition. (40 CFR 60.636(c)) (origin: NSPS KKK)

II.B.14 **Conditions on Emergency Compressed Ignition ICE (E17&18)**

II.B.14.a **Condition:**

Sulfur content of the diesel fuels combusted shall be no greater than 15 ppm [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.14.a.1 **Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.14.a.2 **Recordkeeping:**

Fuel receipts shall be maintained to demonstrate usage of the following low-sulfur fuels having a sulfur content less than 15 ppm: Grade Low Sulfur No. 1-D, Grade Low Sulfur No. 2-D, Grade No. 1-D, Grade No. 2-D.

II.B.14.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.14.b **Condition:**

Visible emissions shall be no greater than 20 percent opacity [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.14.b.1 **Monitoring:**

Opacity observations of emissions shall be conducted annually in accordance with 40 CFR Part 60, Appendix A, Method 9.

II.B.14.b.2 **Recordkeeping:**

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.14.b.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.14.c **Condition:**

At all times the permittee shall 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. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Director 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. [Origin: 40 CFR 63.6595(a)(1), 40 CFR 63.6605(b)]. [40 CFR 63 Subpart ZZZZ]

II.B.14.c.1 **Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.14.c.2 **Recordkeeping:**

The permittee shall keep the records described in 40 CFR 63.6655(a)(1)-(5) as applicable. The permittee shall document activities performed to assure proper operation and maintenance. Records shall be maintained in accordance with 40 CFR 63.6660 and Provision I.S.1 of this permit.

II.B.14.c.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.14.d **Condition:**

The permittee shall comply with the following operating limitations at all times for each emergency affected emission unit:

(1) The permittee shall operate the affected emission unit according to the requirements in paragraphs (1)(a) through (1)(c). Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in 1.a through 1.c, is prohibited. If the engine is not operated in accordance with paragraphs 1.a through 1.c, it will not be considered an emergency engine and shall meet all requirements for non-emergency engines.

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

(b) Operation for any combination of the purposes specified in 40 CFR 63.6640(f)(2)(i) through (iii) is limited to 100 hours per calendar year;

(c) The permittee 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 and shall meet the requirements in 40 CFR 63.6640(f)(4)(iii). Except as provided in paragraphs 40 CFR 63.6640(f)(4)(ii), the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(2) The permittee shall meet the following requirements at all times, except during periods of startup:

(a) Change oil and filter every 500 hours of operation or annually, whichever comes first.

(b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;

(c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

(3) The permittee have the option to utilize an oil analysis program as described in 40 CFR 63.6625(j) in order to extend the specified oil change requirement in paragraph (2)(a) of this condition.

(4) During periods of startup the permittee shall minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

(5) The permittee shall comply with the applicable general provisions in 40 CFR 63.1-15 as identified in

Table 8 of 40 CFR 63 Subpart ZZZZ.
[Origin: 40 CFR 63.6595(a)(1), 40 CFR 636603(a), 40 CFR 63.6605(a), 40 CFR 63.6625(h), 40 CFR 63.6640(f), 40 CFR 63.6665, 40 CFR 63 Subpart ZZZZ Table 2d(4), 40 CFR 63 Subpart ZZZZ Table 2d(footnote 1), 40 CFR 63 Subpart ZZZZ Table 8]. [40 CFR 63 Subpart ZZZZ]

II.B.14.d.1 **Monitoring:**

The permittee shall install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]

If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the required schedule or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice shall be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. [40 CFR 63 Subpart ZZZZ Table 2d Footnote 2]

The permittee shall demonstrate continuous compliance by operating and maintaining the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written operation and maintenance instructions or develop and follow their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e), 40 CFR 63.6640(a), 40 CFR 63 Subpart ZZZZ Table 6(9)]

The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in accordance with 40 CFR 63.6625(j).

The permittee shall comply with the applicable general provisions in 40 CFR 63.1-15 as identified in Table 8 of 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6665].

II.B.14.d.2 **Recordkeeping:**

The permittee shall keep the records described in 40 CFR 63.6655(a)(1)-(5) as applicable. [40 CFR 63.6655(a)]

For each affected emission unit that does not meet the standards applicable to non-emergency engines, the permittee shall keep records of the hours of operation of the engine that are recorded through the non-resettable hour meter. The permittee shall 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. If the engines are used for demand response operation, the permittee shall keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. [40 CFR 63.6655(f)]

If additional hours are to be used for maintenance checks and readiness testing, the permittee shall maintain records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. [40 CFR 63.6640(f)(1)(ii)]

The permittee shall keep records that demonstrate continuous compliance with each applicable operating limitation including, but not limited to, the manufacturer's emission-related operation and maintenance instructions or the permittee-developed maintenance plan. [40 CFR 63.6655(d), 40 CFR 63 Subpart ZZZZ Table 6]

Records of the maintenance conducted shall be kept in order to demonstrate that the permittee operated and maintained the affected emission unit and after-treatment control device (if any)

according to their own maintenance plan. [40 CFR 63.6655(e)]

The permittee shall comply with the applicable general provisions in 40 CFR 63.1-15 as identified in Table 8 of 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6665]

Records shall be maintained in accordance with 40 CFR 63.6660 and Provision I.S.1 of this permit.

II.B.14.d.3 **Reporting:**

The permittee shall report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. [40 CFR 63 Subpart ZZZZ Table 2d Footnote 2]

The permittee shall comply with the applicable general provisions in 40 CFR 63.1-15 as identified in Table 8 of 40 CFR 63 Subpart ZZZZ. [40 CFR 63.6665] The permittee shall also report each instance in which it did not meet the applicable requirements in Table 8. [40 CFR 63.6640(e)]

There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.15 **Conditions on Regenerative Gas Heater (E19).**

II.B.15.a **Condition:**

Visible emissions shall be no greater than 10 percent opacity [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.15.a.1 **Monitoring:**

In lieu of opacity monitoring, the report required for this permit condition will serve as monitoring.

II.B.15.a.2 **Recordkeeping:**

The report required for this permit condition will serve as recordkeeping

II.B.15.a.3 **Reporting:**

In addition to the reporting requirements specified in Section I of this permit, the permittee shall certify each annual certification report that only pipeline quality natural gas is used as fuel during the reporting year.

II.B.16 **Conditions on Crude Oil/Condensate Tanks (E23).**

II.B.16.a **Condition:**

The combined throughput to the two Crude Oil /Condensate Tanks shall not exceed 584,000 barrels per 12-month period [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.16.a.1 **Monitoring:**

The oil throughput shall be measured by a certified calibrated LACT (Lease Automatic Custody Transfer) meter. Within 10 days of the end of each month, and as of the last day of the previous month, a new 12-month throughput total shall be calculated using the previous 12 months data.

II.B.16.a.2 **Recordkeeping:**

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.16.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.17 **Conditions on Vapor Recovery Unit (VRU)**

II.B.17.a **Condition:**

The vapor recovery system from each crude oil/condensate tank shall direct the VOC emissions to the plant fuel gas system to be burned or to the flare/combustor (E29) for combustion. [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.17.a.1 **Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.17.a.2 **Recordkeeping:**

Records documenting compliance with the design requirements for each affected unit shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.17.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.18 **Conditions on Flare/Combustor (E29)**

II.B.18.a **Condition:**

The flare/Combustor shall be designed and operated in accordance with 40 CFR 60.18 (c) through (f). The flare/Combustor shall be operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours [Origin: DAQE-AN0100340024-16]. [40 CFR 60.18, 40 CFR 60.633(g)]

II.B.18.a.1 **Monitoring:**

A visual determination of each affected emission unit shall be conducted on a monthly basis using 40 CFR 60, Appendix A, Method 22.

II.B.18.a.2 **Recordkeeping:**

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.18.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.19 **Conditions on Natural gas fired heater (E26).**

II.B.19.a **Condition:**

Visible emissions shall be no greater than 10 percent opacity [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.19.a.1 **Monitoring:**

In lieu of opacity monitoring, the report required for this permit condition will serve as monitoring.

II.B.19.a.2 **Recordkeeping:**

The report required for this permit condition will serve as recordkeeping

II.B.19.a.3 **Reporting:**

In addition to the reporting requirements specified in Section I of this permit, the permittee shall certify each annual certification report that only pipeline quality natural gas is used as fuel during the reporting year.

II.B.20 **Conditions on Gas fired steam boiler (E27).**

II.B.20.a **Condition:**

Visible emissions shall be no greater than 5 percent opacity [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.20.a.1 **Monitoring:**

In lieu of opacity monitoring, the report required for this permit condition will serve as monitoring.

II.B.20.a.2 **Recordkeeping:**

The report required for this permit condition will serve as recordkeeping

II.B.20.a.3 **Reporting:**

In addition to the reporting requirements specified in Section I of this permit, the permittee shall certify each annual certification report that only pipeline quality natural gas is used as fuel during the reporting year.

II.B.21 **Conditions on Pre-1969 equipment.**

II.B.21.a **Condition:**

Visible emissions shall be no greater than 20 percent opacity [Origin: DAQE-AN0100340024-16]. [R307-401-8(1)(a)(BACT)]

II.B.21.a.1 **Monitoring:**

In lieu of opacity monitoring, the report required for this permit condition will serve as monitoring.

II.B.21.a.2 **Recordkeeping:**

The report required for this permit condition will serve as recordkeeping

II.B.21.a.3 **Reporting:**

In addition to the reporting requirements specified in Section I of this permit, the permittee should certify each annual certification report that only pipeline quality natural gas is used as fuel during the reporting year.

II.C **Emissions Trading**
(R307-415-6a(10))

Not applicable to this source.

II.D **Alternative Operating Scenarios**.
(R307-415-6a(9))

Not applicable to this source.

II.E **Source-specific Definitions.**

Not applicable to this source.

# SECTION III: PERMIT SHIELD

The following requirements have been determined to be not applicable to this source in accordance with Provision I.M, Permit Shield:

III.A. 40 CFR 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)

This regulation is not applicable to the Crude Oil/Condensate Tanks (E23) for the following reason(s): each tank has a design capacity less than 1,589.874 cubic meters used for storing petroleum prior to custody transfer

III.B. 40 CFR Part 60 Subpart KKK (NSPS/ VOC leaks, Natural Gas Plants)

This regulation is not applicable to the Fractionation Process Unit for the following reason(s): this process unit was constructed before January 20, 1984.

III.C. 40 CFR Part 60 Subpart KKK (NSPS/ VOC leaks, Natural Gas Plants)

This regulation is not applicable to the NESHP ZZZZ non-emergency remote engine group for the following reason(s): this process unit was constructed before January 20, 1984.

III.D. 40 CFR Part 60 Subpart KKK (NSPS/ VOC leaks, Natural Gas Plants)

This regulation is not applicable to the Reciprocating Engine (E1) for the following reason(s): this process unit was constructed before January 20, 1984. Adding the catalyst control in 2003 did not constitute a modification.

III.E. 40 CFR Part 60 Subpart KKK (NSPS/ VOC leaks, Natural Gas Plants)

This regulation is not applicable to the Reciprocating Engine (E3) for the following reason(s): this process unit was constructed before January 20, 1984. Adding the catalyst control in 2003 did not constitute a modification.

# SECTION IV: ACID RAIN PROVISIONS

IV.A **This source is not subject to Title IV.**

**This section is not applicable.**

# REVIEWER COMMENTS

This operating permit incorporates all applicable requirements contained in the following documents:

---

Incorporates DAQE-AN0100340024-16 dated August 10, 2016

---

(1) Comment on an item originating in this permit regarding Emergency Compressed Ignition ICE (E17&18)

40 CFR 63 Subpart ZZZZ: For each unit, condition II.B.13.a of this permit allows maintenance operation for 200 hours per rolling 12-month period unless otherwise specified. However, both engines are also subject to requirements from 40 CFR 63.6640(f) (II.B.13.d) which limits maintenance to 100 hours per year and operation in non-emergency situations to 50 hours per year, provided those 50 hours count toward the 100 maintenance hours per year. Both units must comply with the more stringent limit of 100 maintenance hours per year, rather than the 200 hour limit that originates in the current approval order. [Last updated January 25, 2011]

(2) Comment on an item originating in this permit regarding Permitted Source

Engine Horsepower Rating: All engine horsepower ratings listed in Provision II.A represent the manufacture's nameplate rating for the equipment rather than the site rating. [Last updated September 4, 2005]

(3) Comment on an item originating in 40 CFR 60 Subpart KKK regarding 40 CFR Part 60, Subpart KKK Applicable Equipment

Subpart KKK for standard 40 CFR 60.482-8 (Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors) [Last updated September 4, 2005]: The routine monitoring for the affected equipment is not identified under 40 CFR 60.482-8. The weekly monitoring is required in the Title V permit for the affected equipment, which is consistent with the routine monitoring requirement for pumps in light liquid service under standard 40 CFR 60.482-2. [Last updated January 25, 2011]

(4) Comment on an item originating in this permit regarding Permitted Source

Renewal Permit 2011:
(1) A new emission Unit Flare/combustor (E29) and the associated requirements approved under the current effective AO are included.
(2) CAM monitoring is included in the renewal permit. For Engines E1 & E3, temperature of exhaust gas into the catalyst and $NO_x$ emission measured by a portable analyzer are selected as indicators to provide a reasonable assurance of compliance with the $NO_x$ emission limitation. For Engines E4A&E4B, Temperature of exhaust gas into the catalyst, $NO_x$ and CO emission measured by a portable analyzer, oxygen concentration at the engine exhaust are selected as indicators to provide a reasonable assurance of compliance with the $NO_x$ and CO emission limitations.
(3) 40 CFR 63 Subpart HH area source requirements on TEG dehydrator (E21) are included. The permittee has submitted the initial notifications in accordance with the requirements in 40 CFR 63.775(c)(7). The optimum glycol circulation rate was determined as 306 gals/hr.
(4) 40 CFR 63 Subpart ZZZZ area source requirements are included.
(5) Condition II.B.1.b in the previous permit (40 CFR 82 Subpart F Recycling and Emission Reduction) is deleted because Lisbon uses R134A which is not a Class I or II refrigerant.
(6) Greenhouse gas (GHG) applicability has been reviewed and evaluated in this renewal

permit and there are no GHG requirements included in this permit.
[Last updated January 25, 2011]

(5) Comment on an item originating in 40 CFR 60 Subpart LLL regarding Gas Sweetening Process Unit

Subpart LLL sulfur reduction efficiency [Last updated September 4, 2005]: The sulfur reduction efficiency required for this plant is a minimum of 74%. This limit applies to gas with $H_2S$ concentrations of 10% or less. This particular plant uses gases of an average concentration of 4%. The initial compliance test had been performed. [Last updated January 25, 2011]

(6) Comment on an item originating in this permit regarding Permitted Source Administrative Amendment 2014:

(1) Two replacement storage tanks (SW1DOT and SW1BWT) are not subject to NSPS OOOO because the VOC emissions from the tanks are less than 6 tons per year (tpy). The source shall maintain documentation indicating that the VOC emission rate is less than 6 tpy and how VOC is calculated. Both tanks are not subject to NSPS Kb because the capacity of each tank is less than 19,800 gallons.

(2) NESHP ZZZZ requirements: Seven engines (E1, E2, E3, E4, E4A, E4B, and E5) are considered as remote reciprocating ICEs. These engines are only subject to management practices. [Last updated August 27, 2014]

(7) Comment on an item originating in in this permit regarding Reciprocating Engines (E4A & E4B) Renewal 2016: The $NO_x$ and CO concentration limits have been increased to 392 and 964 ppmdv, respectively, as approved in AO DAQE-AN100340024-16. [Last updated July 14, 2016]