STATE OF MISSISSIPPI
AND FEDERALLY ENFORCEABLE
AIR POLLUTION CONTROL

PERMIT

TO OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE

THIS CERTIFIES THAT

Southern Energy Operating LLC, Burnside Facility
Off Highway 433
Satartia, Mississippi
Yazoo County

has been granted permission to operate air emissions equipment in accordance with emission limitations, monitoring requirements and conditions set forth herein. This permit is issued in accordance with the Federal Clean Air Act and the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), the regulations and standards adopted and promulgated thereunder, and the State Implementation Plan for operating permits for synthetic minor sources.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

Krystal Rudolph

AUTHORIZED SIGNATURE
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Issued: November 29, 2017 **Permit No.: 3020-00058**

Modified: February 24, 2021

Effective Date: As specified herein.

Expires: October 31, 2022

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Section 1.

A. GENERAL CONDITIONS

1. This permit is for air pollution control purposes only. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D.)

2. This permit is a Federally-approved permit to operate a synthetic minor source as described in 11 Miss. Admin. Code Pt. 2, R. 2.4.D. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.4.D.)

3. Any activities not identified in the application are not authorized by this permit. (Ref.: Miss. Code Ann. 49-17-29 1.b)

4. The knowing submittal of a permit application with false information may serve as the basis for the Permit Board to void the permit issued pursuant thereto or subject the applicant to penalties for constructing or operating without a valid permit. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(5).)

5. The issuance of a permit does not release the permittee from liability for constructing or operating air emissions equipment in violation of any applicable statute, rule, or regulation of state or federal environmental authorities. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(7).)

6. 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 unless halting or reducing activity would create an imminent and substantial endangerment threatening the public health and safety of the lives and property of the people of this state. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(a).)

7. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(c).)

8. The permittee shall allow the Mississippi Department of Environmental Quality Office of Pollution Control and the Mississippi Environmental Quality Permit Board and/or their authorized representatives, upon the presentation of credentials:

   a. To enter upon the permittee's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit, and

   b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any air emission.

   (Ref.: Miss. Code Ann. 49-17-21)

9. Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Environmental Quality Office of Pollution Control. (Ref.: Miss. Code Ann. 49-17-39)

10. Nothing herein contained shall be construed as releasing the permittee from any liability for damage to persons or property by reason of the installation, maintenance, or operation of the air cleaning facility, or from compliance with the applicable statutes of the State, or with local laws, regulations, or ordinances. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(7).)

11. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof or their application to other persons or sets of circumstances, shall not be affected thereby. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D(7).)

12. This permit does not authorize a modification as defined in Regulation 11 Miss. Admin. Code Pt. 2, Ch.2., "Permit Regulations for the Construction and/or Operation of Air Emission Equipment." A modification may require a Permit to Construct and a modification of this permit. Modification is defined as "Any physical change in or change in the method of operation of a facility which increases the actual emissions or the potential uncontrolled emissions of any air pollutant subject to regulation under the Federal Act emitted into the atmosphere by that facility or which results in the emission of any air pollutant subject to regulation under the Federal Act into the atmosphere not previously emitted. A physical change or change in the method of operation shall not include:

    a. Routine maintenance, repair, and replacement;

    b. Use of an alternative fuel or raw material by reason of an order under Sections 2(a) and (b) of the Federal Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

    c. Use of an alternative fuel by reason of an order or rule under Section 125 of the Federal Act;

    d. Use of an alternative fuel or raw material by a stationary source which:

        (1) The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.166; or

        (2) The source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40CFR 51.66;

e. An increase in the hours of operation or in the production rate unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Subpart I or 40 CFR 51.166; or

f. Any change in ownership of the stationary source.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.C(15).)

B. GENERAL OPERATIONAL CONDITIONS

1. Should the Executive Director of the Mississippi Department of Environmental Quality declare an Air Pollution Emergency Episode, the permittee will be required to operate in accordance with the permittee's previously approved Emissions Reduction Schedule or, in the absence of an approved schedule, with the appropriate requirements specified in Regulation, 11 Miss. Admin. Code Pt. 2, "Regulations for the Prevention of Air Pollution Emergency Episodes" for the level of emergency declared. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.10.)

2. Any diversion from or bypass of collection and control facilities is prohibited, except as provided for in 11 Miss. Admin. Code Pt. 2, R. 1.10., "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants." (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)

3. Solids removed in the course of control of air emissions shall be disposed of in a manner such as to prevent the solids from becoming windborne and to prevent the materials from entering State waters without the proper environmental permits. (Ref.: Miss. Code Ann. 49-17-29 1.a(i and ii))

4. Except as otherwise specified herein, the permittee shall be subject to the following provisions with respect to upsets, startups, and shutdowns.

   a. Upsets

      (1) For an upset defined in 11 Miss. Admin. Code Pt. 2, R. 1.2., the Commission may pursue an enforcement action for noncompliance with an emission standard or other requirement of an applicable rule, regulation, or permit. In determining whether to pursue enforcement action, and/or the appropriate enforcement action to take, the Commission may consider whether the source has demonstrated through properly signed contemporaneous operating logs or other relevant evidence the following:

         (i) An upset occurred and that the source can identify the cause(s) of the upset;

         (ii) The source was at the time being properly operated;

(iii) During the upset the source took all reasonable steps to minimize levels of emissions that exceeded the emission standard or other requirement of an applicable rule, regulation, or permit;

(iv) That within 5 working days of the time the upset began, the source submitted a written report to the Department describing the upset, the steps taken to mitigate excess emissions or any other noncompliance, and the corrective actions taken and;

(v) That as soon as practicable but no later than 24 hours of becoming aware of an upset that caused an immediate adverse impact to human health or the environment beyond the source boundary or caused a general nuisance to the public, the source provided notification to the Department.

(2) In any enforcement proceeding by the Commission, the source seeking to establish the occurrence of an upset has the burden of proof.

(3) This provision is in addition to any upset provision contained in any applicable requirement.

(4) These upset provisions apply only to enforcement actions by the Commission and are not intended to prohibit EPA or third party enforcement actions.

b. Startups and Shutdowns (as defined by 11 Miss. Admin. Code Pt. 2, R. 1.2.)

(1) Startups and shutdowns are part of normal source operation. Emission limitations apply during startups and shutdowns unless source specific emission limitations or work practice standards for startups and shutdowns are defined by an applicable rule, regulation, or permit.

(2) Where the source is unable to comply with existing emission limitations established under the State Implementation Plan (SIP) and defined in this regulation, 11 Mississippi Administrative Code, Part 2, Chapter 1, the Department will consider establishing source specific emission limitations or work practice standards for startups and shutdowns. Source specific emission limitations or work practice standards established for startups and shutdowns are subject to the requirements prescribed in 11 Miss. Admin. Code Pt. 2, R. 1.10.B(2)(a) through (e).

(3) Where an upset as defined in Rule 1.2 occurs during startup or shutdown, see the upset requirements above.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)

5. Compliance Testing: Regarding compliance testing:

a. The results of any emissions sampling and analysis shall be expressed both in units consistent with the standards set forth in any Applicable Rules and Regulations or this permit and in units of mass per time.

b. Compliance testing will be performed at the expense of the permittee.

c. Each emission sampling and analysis report shall include but not be limited to the following:

(1) Detailed description of testing procedures;

(2) Sample calculation(s);

(3) Results; and

(4) Comparison of results to all Applicable Rules and Regulations and to emission limitations in the permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.6.B(3), (4), and (6).)

C. PERMIT RENEWAL / MODIFICATION / TRANSFER / TERMINATION

1. For renewal of this permit, the applicant shall make application not less than one-hundred eighty (180) days prior to the expiration date of the permit substantiated with current emissions data, test results or reports or other data as deemed necessary by the Mississippi Environmental Quality Permit Board. If the applicant submits a timely and complete application pursuant to this paragraph and the Permit Board, through no fault of the applicant, fails to act on the application on or before the expiration date of the existing permit, the applicant shall continue to operate the stationary source under the terms and conditions of the expired permit, which shall remain in effect until final action on the application is taken by the Permit Board. Permit expiration terminates the source's ability to operate unless a timely and complete renewal application has been submitted. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.8.)

2. The permittee shall furnish to the DEQ within a reasonable time any information the DEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee shall furnish such records to the DEQ along with a claim of confidentiality. The permittee may furnish such records directly to the Administrator along with a claim of confidentiality. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(d).)

3. The permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. Sufficient cause for a permit to be reopened shall exist when an air emissions stationary source becomes subject to Title V. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a

notification of planned changes or anticipated noncompliance does not stay any permit condition. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(b).)

4. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to:

   a. Persistent violation of any terms or conditions of this permit.

   b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

   c. A change in federal, state, or local laws or regulations that require either a temporary or permanent reduction or elimination of previously authorized air emission.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.C.)

5. This permit may only be transferred upon approval of the Mississippi Environmental Quality Permit Board. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.16.B.)

SECTION 2
EMISSION POINT DESCRIPTION

The permittee is authorized to operate air emissions equipment, as described in the following table.

Emission Point	Description
AB-000	**Entire Natural Gas Production and Treatment Facility**
AB-001	10.1 MMBTU/hr (1340 HP) natural gas fired, 4SLB, compressor engine (ENG-1)
AB-005	8.0 MMBTU/hr natural gas fired amine reboiler 2 (AMINEREB2)
AB-006	One (1) triethylene glycol dehydration unit - 0.5 MMBTU/hr natural gas fired glycol reboiler 1 (GLYREB1)
AB-007	One (1) triethylene glycol dehydration unit - 0.5 MMBTU/hr natural gas fired glycol reboiler 2 (GLYREB2)
AB-009	3.75 MMBTU/hr Burnside line heater (LH-1)
AB-010	1.0 MMBTU/hr Williams 9-12 line heater (LH-2)
AB-011	Two (2) 16,800 gallon Oil Tanks (TK-OIL) with emissions controlled by Control Flare
AB-012	Two (2) 16,800 gallon Produced Water Tanks (TK-WATER) with emissions controlled by Control Flare
AB-013	Oil Tank Loading (LOAD-OIL)
AB-014	Produced Water Tank Loading (LOAD-PW)
AB-016	Amine Flash Tank 2 (AM-FLASH2) with emissions controlled by Control Flare
AB-018	Amine Regeneration Column Vent 2 (AM-REGEN2) with emissions controlled by Control Flare
AB-019	Fugitive Emissions
AB-020	Control Flare (FLARE)
AB-021	Glycol Unit 1 Flash (EG-FLASH1) with emissions controlled by Control Flare
AB-022	Glycol Unit 2 Flash (EG-FLASH2) with emissions controlled by Control Flare
AB-023	Low-Pressure Separator Oil Flash (LP-OIL) with emissions controlled by Control Flare
AB-024	Low-Pressure Separator Water Flash (LP-WATER) with emissions controlled by Control Flare

SECTION 3
EMISSION LIMITATIONS AND STANDARDS

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limitation/Standard
AB-000	11 Miss. Admin. Code Pt. 2, R. 1.3.A.	3.1	Opacity	Facility-wide opacity limitations
	11 Miss. Admin. Code Pt. 2, R. 1.3.B.	3.2		
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	3.3	VOC	99.0 tpy
		3.4	HAPs	9.0 tpy for any individual HAP 24.0 tpy for all combined HAPs
	40 CFR Part 60, Subpart KKK (§60.630(a))	3.5	VOC	Applicability
	40 CFR Part 60, Subpart KKK (§60.632(a))	3.6		Demonstration of compliance with Subpart KKK through compliance with the specified requirements of Subpart VV
	40 CFR Part 60, Subpart VV (§60.482-2)	3.7		Standards for pumps in light liquid service
	40 CFR Part 60, Subpart KKK (§60.633(f)) 40 CFR Part 60, Subpart VV (§60.482-2)	3.8		Standards for compressors
	40 CFR Part 60, Subpart KKK (§60.633(b))	3.9		Standards for pressure relief devices
	40 CFR Part 60, Subpart VV (§60.482-6)	3.10		Standards for open-ended valves or lines
	40 CFR Part 60, Subpart VV (§60.482-7)	3.11		Standards for valves in gas/vapor service and in light liquid service
	40 CFR Part 60, Subpart VV (§60.482-8)	3.12		Standards for pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.
	40 CFR Part 60, Subpart VV (§60.482-9)	3.13		Standards for delays of repair
	40 CFR Part 60, Subpart VV (§60.482-10)	3.14		Standards for closed vent systems and control devices

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limitation/Standard
AB-000	40 CFR Part 60, Subpart VV (§60.485(a-g))	3.15	VOC	Test methods and procedures
	40 CFR Part 60, Subpart OOOOa (§60.5365a(c))	3.16	GHG VOC	Applicability
AB-001	40 CFR Part 60, Subpart OOOOa (§60.5385a)	3.17		GHG and VOC standards
	40 CFR Part 63, Subpart ZZZZ (§63.6585(a) and (c))	3.18	Exhaust Emissions	Applicability
	40 CFR Part 63, Subpart ZZZZ (§63.6590(a)(2)(iii) and 63.6590(c)(1)) 40 CFR Part 60, Subpart JJJJ (§60.4230(a)(4)(ii))	3.19	Exhaust Emissions	Demonstration of compliance with Part 63, Subpart ZZZZ by compliance with the specified requirements of Part 60, Subpart JJJJ Emission Point AB-001 has no applicable requirements
AB-006 AB-007 AB-021 AB-022	40 CFR Part 63, Subpart HH (§63.760(a)(1-3); and 63.760(b)(2))	3.20	HAPs	Applicability
	40 CFR Part 63, Subpart HH (§63.760(c))	3.21		Annual Major Source Determination Avoidance: • 4.9 tpy for any individual HAP • 12.4 tpy for all combined HAPs
	40 CFR Part 63, Subpart HH (§63.764(e)(1)(ii) and 63.772(b)(2))	3.22	Benzene	0.9 Mg/year (0.992 tons/year)
AB-011 AB-012 AB-016 AB-018 AB-021 AB-022 AB-023 AB-024	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	3.23	VOC HAP	All vented emissions shall be routed to the control flare
AB-001 AB-020	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).	3.24	PM/PM_{10} (*filterable only)*	$E = 0.8808*I^{-0.1667}$
AB-005 AB-006 AB-007 AB-009 AB-010	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.25	PM/PM_{10} (*filterable only)*	Emissions shall not exceed 0.6 lb/MMBtu

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limitation/Standard
AB-005 AB-006 AB-007 AB-009 AB-010	11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.26	SO_2	4.8 lbs/MMBtu

3.1 Except as otherwise specified or limited herein, the permittee shall not cause, permit, or allow the emission of smoke from a point source into the open air from any manufacturing, industrial, commercial or waste disposal process which exceeds forty (40) percent opacity. Startup operations may produce emissions which exceed 40% opacity for up to fifteen (15) minutes per startup in any one hour and not to exceed three (3) startups per stack in any twenty-four (24) hour period. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.A.)

3.2 Except as otherwise specified or limited herein, the permittee shall not cause, allow, or permit the discharge into the ambient air from any point source or emissions, any air contaminant of such opacity as to obscure an observer's view to a degree in excess of 40% opacity, equivalent to that provided in Condition 3.1. This shall not apply to vision obscuration caused by uncombined water droplets. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.B.)

3.3 For the entire facility (AB-000), the permittee shall limit the emissions of volatile organic compounds (VOCs) to no more than 99.0 tons per year for each consecutive 12-month period on a rolling basis. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.4 For the entire facility (AB-000), the permittee shall limit the emissions of any individual hazardous air pollutant (HAP) from both sources to no more than 9.0 tpy for each consecutive 12-month period on a rolling basis. The permittee shall limit the emissions of all combined HAPs from both sources to no more than 24.0 tpy for each consecutive 12-month period on a rolling basis. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.5 The entire facility (AB-000) is subject to and shall comply with 40 CFR Part 60, Subpart KKK – Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984 and on or Before August 23, 2011. (Ref.: 40 CFR 60.630(a))

3.6 For the entire facility (AB-000), unless stated otherwise by §60.633, in order to comply with the provisions of 40 CFR Part 60, Subpart KKK, the permittee shall comply with the specified requirements of 40 CFR Part 60, Subpart VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006. (Ref.: 40 CFR 60.632(a))

3.7 For the entire facility (AB-000), for pumps operating in light liquid service, the permittee shall comply with the following standards:

(a) (1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in Condition 3.15(b), except as provided in paragraphs (d), (e), and (f). A pump that begins operation in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in paragraphs (d), (e), and (f).

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b) (1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, the permittee shall follow the procedure specified in either paragraph (b)(2)(i) or (ii). This requirement does not apply to a pump that was monitored after a previous weekly inspection if the instrument reading for that monitoring event was less than 10,000 ppm and the pump was not repaired since that monitoring event.

(i) Monitor the pump within 5 days as specified in Condition 3.15(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. The leak shall be repaired using the procedures in paragraph (c).

(ii) Designate the visual indications of liquids dripping as a leak, and repair the leak within 15 days of detection by eliminating the visual indications of liquids dripping.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition 3.13.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in paragraphs (i) and (ii), where practicable.

(i) Tightening the packing gland nuts;

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

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

(1) Each dual mechanical seal system is—

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

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of Condition 3.14; or

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

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

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

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

(ii) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified (A) or (B) below.

(A) Monitor the pump within 5 days as specified in Condition 3.15(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

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

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

(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.

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

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

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

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

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

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

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in Condition 3.15(c), and

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

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of Condition 3.14, it is exempt from paragraphs (a) through (e).

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

(1) The permittee demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a); and

(2) The permittee has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) if a leak is detected.

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

(Ref.: 40 CFR 60.482-2(a-h))

3.8 For the entire facility (AB-000), for all compressors, except for reciprocating compressors in wet gas service, the permittee shall comply with the following standards:

(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 and paragraphs (h) and (i).

(b) Each compressor seal system as required in paragraph (a) shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of Condition 3.14; or

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

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

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

(e) (1) Each sensor as required in paragraph (d) shall be checked daily or shall be equipped with an audible alarm.

(2) The 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), 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 Condition 3.13.

(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), if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of Condition 3.14, except as provided in paragraph (i).

(i) Any compressor that is designated, as described in §60.486(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a)–(h) if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in Condition 3.15(c); and

(2) Is tested for compliance with paragraph (i)(1) initially upon designation, annually, and at other times requested by the Administrator.

(Ref.: 40 CFR 60.633(f) and 60.482-3(a-i))

3.9 For the entire facility (AB-000), for each pressure relief device in gas/vapor service, the permittee shall comply with the following standards:

(a) Each pressure relief device in gas/vapor service may be monitored quarterly and within 5 days after each pressure release to detect leaks by the methods specified in Condition 3.15(b) except as provided in §60.632(c), paragraph (d), and §60.482-4(a) through (c).

(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 it is detected, except as provided in Condition 3.13.

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

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

(2) No pressure relief device described in paragraph (d)(1) shall be allowed to operate for more than 30 days after a pressure release without monitoring.

(Ref.: 40 CFR 60.633(b)

3.10 For the entire facility (AB-000), for each open-ended valve or line, the permittee shall comply with the following standards:

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

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

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

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

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

(e) Open-ended valves or lines containing materials which would auto-catalytically 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) are exempt from the requirements of paragraphs (a) through (c).

(Ref.: 40 CFR 60.482-6)

3.11 For the entire facility (AB-000), for each valve in gas/vapor service or light liquid service, the permittee shall comply with the following standards:

(a) (1) Each valve shall be monitored monthly to detect leaks by the methods specified in Condition 3.15(b) and shall comply with paragraphs (b) through (e), except as provided in paragraphs (f), (g), and (h), §60.482-1(c) and (f), and §60.483-1 & 2.

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

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

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

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

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

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

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

(d) (1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in Condition 3.13.

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

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

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;

(4) Injection of lubricant into lubricated packing.

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

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

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in Condition 3.15(c), and

(3) Is tested for compliance with paragraph (f)(2) initially upon designation, annually, and at other times requested by the MDEQ.

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

(1) The permittee demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and

(2) The permittee adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

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

(1) The permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

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

(3) The permittee follows a written plan that requires monitoring of the valve at least once per calendar year.

(Ref.: 40 CFR 60.482-7)

3.12 For the entire facility (AB-000), for all pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the permittee shall comply with the following standards:

(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 Condition 3.15(b) 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 within 5 calendar days of detection.

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

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition 3.13.

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

(d) First attempts at repair include, but are not limited to, the best practices described under Condition 3.7(c)(2) and Condition 3.11(e).

(Ref.: 40 CFR 60.482-8)

3.13 For the entire facility (AB-000), for all delays in repair, the permittee shall comply with the following standards:

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

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

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

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

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with Condition 3.14.

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

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

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

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

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

(Ref.: 40 CFR 60.482-9)

3.14 For the entire facility (AB-000), for all closed vent systems and control devices, the permittee shall comply with the following standards:

(a) 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.

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

(c) Flares used to comply with this subpart shall comply with the requirements of §60.18.

(d) The permittee shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(e) Except as provided in paragraphs (h) through (j), each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (1) and (2).

(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 (i) and (ii):

(i) Conduct an initial inspection according to the procedures in Condition 3.15(b); and

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

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

(i) Conduct an initial inspection according to the procedures in Condition 3.15(b); and

(ii) Conduct annual inspections according to the procedures in Condition 3.15(b).

(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 (g).

(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 of paragraphs (f)(1)(i) and (f)(2) of this ~~section~~ condition.

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

(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 paragraphs (e)(1)(i) or (e)(2); 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 paragraph (k)(2), as difficult to inspect are exempt from the inspection requirements of paragraphs (e)(1)(i) and (e)(2) if they comply with the requirements specified in paragraphs (1) through (3):

(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 §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) The permittee shall record the information specified in paragraphs (1) through (5).

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

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

(3) For each inspection during which a leak is detected, a record of the information specified in §60.486(c).

(4) For each inspection conducted in accordance with Condition 3.15(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (e)(1)(ii) 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.

(l) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(Ref.: 40 CFR 60.482-10(b-m))

3.15 For the entire facility (AB-000), unless otherwise specified by §60.633, the permittee shall comply with the following test methods and procedures to determine compliance with the applicable standards outlined by Part 60, Subpart VV:

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

(b) The permittee shall determine compliance with the standards in Conditions 3.7 through 3.14 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 Condition 3.7(e), Condition 3.8(i), Condition 3.11(f), and Condition 3.14(e) as follows:

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

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

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

(2) Organic compounds that are considered by the MDEQ 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 MDEQ disagrees with the judgment, paragraphs (d)(1) and (d)(2) shall be used to resolve the disagreement.

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

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

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

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

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

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

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

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

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

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

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

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

K_1 = 8.706 m/sec (metric units)

= 28.56 ft/sec (English units)

K_2 = 0.7084 m4/(MJ-sec) (metric units)

= 0.087 ft4/(Btu-sec) (English units)

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

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

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

C_i = Concentration of sample component "i," ppm

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

(5) Method 18 or ASTM D6420-99 (2004) (where the target compound(s) are those listed in Section 1.1 of ASTM D6420-99, and the target concentration is between 150 parts per billion by volume and 100 parts per million by volume) and ASTM D2504-67, 77 or 88 (Reapproved 1993)

(incorporated by reference—see §60.17) shall be used to determine the concentration of sample component "i."

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

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

(Ref.: 40 CFR 60.485(a-g))

3.16 Emission Point AB-001 is a reciprocating compressor which is located at an onshore natural gas facility and was constructed after September 18, 2015. As such, the entire facility is categorized as a reciprocating compressor affected facility and is subject to and shall comply with all applicable requirements of 40 CFR Part 60, Subpart OOOOa - Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015. (Ref.: 40 CFR 60.5365a(c))

3.17 For Emission Point AB-001, the permittee shall reduce Green House Gas (GHG) (in the form of a limitation on emissions of methane) and VOC emissions by complying with the standards in paragraph (a):

(a) The permittee shall replace the reciprocating compressor rod packing according to either paragraph (a)(1) or (2).

(1) On or before the compressor has operated for 26,000 hours. The number of hours of operation must be continuously monitored beginning upon initial startup of the reciprocating compressor affected facility, or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.

(2) Prior to 36 months from the date of the most recent rod packing replacement, or 36 months from the date of startup for a new reciprocating compressor for which the rod packing has not yet been replaced.

(Ref.: 40 CFR 60.5385a)

3.18 Emission Point AB-001 is a stationary reciprocating internal combustion engine (RICE) located at an area source of HAPs. As such, the engine is subject to and shall comply with all applicable requirements of 40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. (Ref.: 40 CFR 63.6585(a) and (c))

3.19 Emission Point AB-001 is a stationary RICE located at an area source of HAP emissions which was constructed after June 12, 2006. As such, these engines are considered to be new stationary RICE and shall demonstrate compliance with the requirements of Subpart ZZZZ by complying with the applicable requirements of 40 CFR Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

Emission Point AB-001 is a 1,340 HP non-emergency four stroke, lean burn (4SLB) natural gas fired engine which was manufactured after June 12, 2006 but before January 1, 2008. As such, there are no applicable requirements for this engine. (Ref.: 40 CFR 63.6590(a)(2)(iii), 63.6590(c)(1), 60.4230(a)(4)(ii), Subpart JJJJ)

3.20 Emission Points AB-006, AB-007, AB-021, and AB-022 are subject to and shall comply with all applicable requirements of 40 CFR Part 63, Subpart HH – National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities. (Ref.: 40 CFR 63.760(a)(1-3) and 63.760(b)(2))

3.21 For Emission Points AB-006, AB-007, AB-021, and AB-022, in order to avoid the annual major source determination requirements outlined in §63.760(c), the permittee shall limit the emissions of any individual HAP to no more than 4.9 tpy and all combined HAPs to no more than 12.4 tpy. In the event that the HAP emissions from these sources exceeds these thresholds, the permittee shall be required to comply with the annual major source determination requirement using gas composition data measured during the preceding 12 month period. (Ref.: 40 CFR 63.760(c))

3.22 For Emission Points AB-006, AB-007, AB-021, and AB-022, in order to maintain the exemption from the general standards required by §63.764(d)(2), the permittee shall limit the actual average emissions of Benzene from each glycol dehydration unit process vent to the atmosphere to no more than 0.9 megagrams per year (Mg/year) (0.992 tons/year). The actual average emissions of Benzene shall be determined using the procedures in either paragraph (a) or (b) below and shall be determined either uncontrolled or with federally enforceable controls in place.

(a) The permittee shall determine actual average benzene or BTEX emissions using the model GRI-GLYCalcTM, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalcTM Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled “Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions” (GRI-95/0368.1); or

(b) The permittee shall determine an average mass rate of benzene or BTEX emissions in kilograms per hour through direct measurement using the methods in §63.772(a)(1)(i) or (ii), or an alternative method according to §63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate

by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.

(Ref.: 40 CFR 63.764(e)(1)(ii) and 63.772(b)(2))

3.23 For Emission Points AB-011, AB-012, AB-016, AB-018, AB-021, AB-022, AB-023, and AB-024, the permittee shall route all vented gases to the control flare (AB-020). (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.24 For Emission Points AB-001 and AB-020, the maximum amount of ash and/or particulate matter from fossil fuel burning installations equal to or greater than 10 MMBTU/hr input but less than 10,000 MMBTU/hr heat input shall not exceed the emission rate as determined by the following relationship:

$E = 0.8808*I^{-0.1667}$

Where E is the emission rate in pounds per MMBTU/hr heat input and I is the heat input in millions of BTU per hour. The permittee shall demonstrate compliance with this requirement by remaining in compliance with the requirements of Condition 4.6. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).)

3.25 For Emission Points AB-005, AB-006, AB-007, AB-009, and AB-010, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input.

(Ref. 11 Miss. Admin. Code Pt. 2, R.1.3.D(1)(a).)

3.26 For Emission Points AB-005, AB-006, AB-007, AB-009, and AB-010, the maximum discharge of sulfur oxides from any fuel burning installation in which the fuel is burned primarily to produce heat or power by indirect heat transfer shall not exceed 4.8 pounds (measured as sulfur dioxide) per million BTU heat input.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).)

SECTION 4
WORK PRACTICES

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Work Practice
AB-006 AB-007 AB-021 AB-022	40 CFR Part 63, Subpart HH (§63.764(j))	4.1	HAPs	Operate and maintain in a manner consistent with safety and good air pollution control practices
AB-020	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	4.2	VOC HAPs	Control flare operating requirements

4.1 For Emission Points AB-006, AB-007, AB-021, and AB-022, the permittee shall operate and maintain the sources, in a manner consistent with safety and good air pollution control practices for minimizing emissions at all times. Determination of whether such operation and maintenance procedures are being used will be based on information available to the MDEQ 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. (Ref.: 40 CFR 63.764(j))

4.2 For Emission Point AB-020, the permittee shall operate the control flare according to the requirements specified in paragraphs (a) through (e):

(a) The control flare shall be operated at all times when emissions may be vented to it.

(b) The flare shall be operated and maintained according to the manufacturer's recommendations.

(c) The flare shall be operated with no visible emissions as determined by EPA Method 22, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours.

(d) The permittee shall maintain a flare pilot flame, auto ignitor, or any equivalent device at all times when emissions may be vented to the flare.

(e) The flare shall only be used with a combustion gas mixture whose net heating value is 300 BTU/scf or greater if the flare is air or steam-assisted. If the flare is non-assisted, the flare shall only be used with a combustion gas mixture whose net heating value is 200 BTU/scf or greater.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

SECTION 5
MONITORING AND RECORDKEEPING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Monitoring/Recordkeeping Requirement
AB-000	11 Miss. Admin. Code Pt. 2, R. 2.9.	5.1	General Monitoring & Recordkeeping	Maintain records for a minimum of 5 years.
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	5.2		Required inlet gas analysis
	40 CFR Part 60, Subpart VV (§60.486(b-k))	5.3		Recordkeeping requirements
	40 CFR Part 60, Subpart KKK (§60.635)	5.4		Additional recordkeeping requirements
AB-001	40 CFR Part 60, Subpart OOOOa (§60.5410a(c))	5.5	GHG VOC	Demonstration of initial compliance
	40 CFR Part 60, Subpart OOOOa (§60.5415a(c))	5.6		Demonstration of continuous compliance
	40 CFR Part 60, Subpart OOOOa (§60.5420a(c)(3), (6), (8-11), and (17))	5.7		Recordkeeping requirements
AB-020	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	5.8	VOC HAP	Control flare monitoring requirements
		5.9		Control flare recordkeeping requirements

5.1 The permittee shall retain all required records, monitoring data, supporting information and reports for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings or other data for continuous monitoring instrumentation, and copies of all reports required by this permit. Copies of such records shall be submitted to MDEQ as required by Applicable Rules and Regulations or this permit upon request. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.9.)

5.2 In the event that a new well or wells are brought online at the facility, the permittee shall perform an annual inlet gas analysis. The permittee shall use the results of this inlet gas analysis to calculate the emissions to be reported per Condition 6.2. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.3 For the entire facility (AB-000), the permittee shall comply with the following recordkeeping requirements to demonstrate compliance with 40 CFR Part 60, Subpart KKK (and Subpart VV, by reference):

(a) When each leak is detected as specified in Condition 3.7, Condition 3.8, Condition 3.11, and Condition 3.12, 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 Condition 3.11(c) and no leak has been detected during those 2 months.

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

(b) When each leak is detected as specified in Condition 3.7, Condition 3.8, Condition 3.11, and Condition 3.12, 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 Condition 3.15(a) after each repair attempt is equal to or greater than 10,000 ppm.

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

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

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

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

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

(c) The following information pertaining to the design requirements for closed vent systems and control devices described in Condition 3.14 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 Condition 3.14(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in Condition 3.7 and Condition 3.8 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 Condition 3.7 and Condition 3.8.

(d) The following information pertaining to all equipment subject to the requirements in Condition 3.7 to Condition 3.14 shall be recorded in a log that is kept in a readily accessible location:

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

(2) (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of Condition 3.7(e), Condition 3.8(i) and Condition 3.11(f).

(ii) The designation of equipment as subject to the requirements of Condition 3.7(e), Condition 3.8(i), or Condition 3.11(f) shall be signed by the owner or operator. Alternatively, the owner or operator may establish a mechanism with their permitting authority that satisfies this requirement.

(3) A list of equipment identification numbers for pressure relief devices required to comply with Condition 3.9.

(4) (i) The dates of each compliance test as required in Condition 3.7(e), Condition 3.8(i), Condition 3.9, and Condition 3.11.

(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.

(e) The following information pertaining to all valves subject to the requirements of Condition 3.11(g) and (h) and to all pumps subject to the requirements of Condition 3.7(g) shall be recorded in a log that is kept in a readily accessible location:

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

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

(f) The following information shall be recorded for valves complying with Condition 3.7:

(1) A schedule of monitoring.

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

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

(1) Design criterion required in Condition 3.7(d)(5) and Condition 3.8(e)(2) and explanation of the design criterion; and

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

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

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

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

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

(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 §60.7(b) and (d) do not apply to affected facilities subject to Subpart VV.

(Ref.: 40 CFR 60.486(b-k)

5.4 For the entire facility (AB-000), the permittee shall comply with the additional recordkeeping requirements outlined in this condition:

(a) The following recordkeeping requirements shall apply to all pressure relief valves subject to the standards in Condition 3.9:

(1) When each leak is detected as specified in Condition 3.9(b), 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 Condition 3.9(b), 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 Condition 5.3 after each repair attempt is 10,000 ppm or greater.

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

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

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

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

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

(b) The permittee shall comply with the following requirement in addition to the requirement of Condition 5.3(i): Information and data used to demonstrate that a reciprocating compressor is in wet gas service to apply for the exemption in §60.633(f) shall be recorded in a log that is kept in a readily accessible location.

(Ref.: 40 CFR 60.635(b) and (c))

5.5 For Emission Point AB-001, the permittee shall demonstrate initial compliance with the standards for each reciprocating compressor affected facility using the requirements in paragraph (a) of this section. The initial compliance period begins upon initial startup and ends no later than 1 year after the initial startup date for your affected facility. The initial compliance period may be less than one full year.

(a) If complying with Condition 3.17(a)(1) or (2), during the initial compliance period, the permittee shall continuously monitor the number of hours of operation or track the number of months since the last rod packing replacement.

(Ref.: 40 CFR 60.5410a(c))

5.6 For Emission Point AB-001, for each reciprocating compressor affected facility complying with Condition 3.17(a)(1) or (2), the permittee shall demonstrate continuous compliance according to paragraphs (a) and (b).

(a) The permittee shall continuously monitor the number of hours of operation for each reciprocating compressor affected facility or track the number of months since initial startup or the date of the most recent reciprocating compressor rod packing replacement, whichever is later.

(b) The permittee shall replace the reciprocating compressor rod packing on or before the total number of hours of operation reaches 26,000 hours or the number of months since the most recent rod packing replacement reaches 36 months.

(Ref.: 40 CFR 60.5415a(c))

5.7 For Emission Point AB-001, the permittee shall maintain the records identified as specified in §60.7(f) and in paragraphs (a) through (g). All records required by Subpart OOOOa must be maintained either onsite or at the nearest local field office for at least 5 years. Any records required to be maintained by Subpart OOOOa that are submitted electronically via the EPA's CDX may be maintained in electronic format.

(a) For each reciprocating compressor affected facility, the permittee shall maintain the records in paragraphs (1) through (3).

(1) Records of the cumulative number of hours of operation or number of months since initial startup or the previous replacement of the reciprocating compressor rod packing, whichever is later. Alternatively, a statement that emissions from the rod packing are being routed to a process through a closed vent system under negative pressure.

(2) Records of the date and time of each reciprocating compressor rod packing replacement, or date of installation of a rod packing emissions collection system and closed vent system as specified in Condition 3.17(a).

(3) Records of deviations in cases where the reciprocating compressor was not operated in compliance with the requirements specified in Condition 3.17.

(Ref.: 40 CFR 60.5420a(c)(3))

5.8 For Emission Point AB-020, the permittee shall comply with the following monitoring requirements outlined in paragraphs (a) through (d):

(a) The permittee shall monitor presence of the flare pilot flame or auto ignitor by one of the methods described in paragraphs (1) or (2).

(1) The use of a thermocouple or any other equivalent device to detect the presence of a flame, or

(2) Visual observation of the presence of a flame at least once daily.

(b) The permittee shall perform weekly visual observations of the flare for a minimum of five (5) minutes during operation using EPA Method 22. If smoking is observed, corrective actions shall be taken. To demonstrate compliance with the visible emission limitation in Condition 4.5(c), the permittee shall perform a follow-up visual observation for a period of two (2) hours using EPA Method 22 immediately after the appropriate corrective action(s) has been made.

(c) In order to demonstrate compliance with Condition 4.5(e), the permittee shall perform an annual flare gas analysis to determine the net heating value of the gas being combusted by the flare.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.9 For Emission Point AB-020, the permittee shall comply with the following recordkeeping requirements outlined in paragraphs (a) through (e):

(a) The permittee shall keep records of all maintenance performed on the flare in order to operate the flare in accordance with the manufacturer’s recommendation.

(b) The permittee shall maintain hourly records of the thermocouple or equivalent device output demonstrating the presence of a flame in the control flare whenever the flare is in operation. If the permittee is complying with the flame detection requirement using the visual observation requirement, then the permittee shall maintain daily records which document that the observation occurred, the date

and time of the observation, whether or not the flame was present, and what, if any, corrective actions were taken.

(c) The permittee shall maintain records of all visual observations, the nature and cause of any visible emissions, any corrective action(s) taken, the date and time when visual observations were conducted and any corrective action(s) was taken.

(d) The permittee shall maintain records of the annual flare gas analysis performed to determine the net heating value of the gas being combusted.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

SECTION 6
REPORTING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number(s)	Reporting Requirement
AB-000	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	6.1	Report permit deviations within five (5) working days.
		6.2	Submit certified annual monitoring report.
		6.3	All documents submitted to MDEQ shall be certified by a Responsible Official.
		6.4	Reporting of inlet gas analysis
	40 CFR Part 60, Subpart VV (§60.487(a) and (c))	6.5	Reporting requirements
	40 CFR Part 60, Subpart KKK (§60.636(b) and (c))	6.6	Additional reporting requirements
AB-001	40 CFR Part 60, Subpart OOOOa (§60.5420a(b)(1), (4), and (9-12))	6.7	Reporting requirements

6.1 Except as otherwise specified herein, the permittee shall report all deviations from permit requirements, including those attributable to upsets, the probable cause of such deviations, and any corrective actions or preventive measures taken. Said report shall be made within five (5) working days of the time the deviation began. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.2 Except as otherwise specified herein, the permittee shall submit a certified annual synthetic minor monitoring report postmarked no later than 31st of January for the preceding calendar year. This report shall address any required monitoring specified in the permit. Specifically, this report shall include the calculated totals of VOC and HAPs, in tons per year, for the preceding calendar year. All instances of deviations from permit requirements must be clearly identified in the report. Where no monitoring data is required to be reported and/or there are no deviations to report, the report shall contain the appropriate negative declaration. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.3 Any document required by this permit to be submitted to the DEQ shall contain a certification signed by a responsible official stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.4 The permittee shall submit a summary of the inlet gas analysis, required by Condition 5.2, no later than 30 days from when the field gas analysis occurred. This summary shall include the chemical composition of the field gas as well as an updated potential emission inventory for the entire facility. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.5 For the entire facility (AB-000), in order to demonstrate compliance with 40 CFR Part 60, Subpart KKK (and Subpart VV, by reference) the permittee shall submit semiannual

reports to the DEQ beginning six months after the initial startup date. All semiannual reports to the Administrator shall include the following information, summarized from the information in Condition 5.3:

(a) Process unit identification.

(b) For each month during the semiannual reporting period,

(1) Number of valves for which leaks were detected as described in Condition 3.11(b) or §60.483-2,

(2) Number of valves for which leaks were not repaired as required in Condition 3.11(d)(1),

(3) Number of pumps for which leaks were detected as described in Condition 3.7(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii),

(4) Number of pumps for which leaks were not repaired as required in Condition 3.7(c)(1) and (d)(6),

(5) Number of compressors for which leaks were detected as described in Condition 3.8(f),

(6) Number of compressors for which leaks were not repaired as required in Condition 3.8(g)(1), and

(7) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

(c) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(d) Revisions to items reported according to §60.487(b) if changes have occurred since the initial report or subsequent revisions to the initial report.

(Ref.: 40 CFR 60. 487(a) and (c))

6.6 For the entire facility (AB-000), the permittee shall comply with the additional reporting requirements outlined in this condition:

(a) The permittee shall include the following information in the initial semiannual report in addition to the information required in §60.487(b)(1)-(4): Number of pressure relief devices subject to the requirements of Condition 3.9 except for those pressure relief devices designated for no detectable emissions under the provisions of §60.482-4(a) and those pressure relief devices complying with §60.482-4(c).

(b) The permittee shall include the following information in all semiannual reports in addition to the information required in Condition 6.5(b)(1-6):

(1) Number of pressure relief devices for which leaks were detected as required in Condition 3.9(b) and

(2) Number of pressure relief devices for which leaks were not repaired as required in Condition 3.9(c).

(Ref.: 40 CFR 60.636(b) and (c))

6.7 For Emission Point AB-001, the permittee shall submit annual reports containing the information specified in paragraphs (a) and (b). The initial annual report is due no later than 90 days after the end of the initial compliance period as determined according to Condition 5.5. Subsequent annual reports are due no later than same date each year as the initial annual report. If the permittee owns or operates more than one affected facility, the permittee may submit one report for multiple affected facilities provided the report contains all of the information required as specified in paragraphs (a) and (b). The permittee may submit the required reports along with the required annual report required by Condition 6.2, as long as the first annual report following the initial report does not exceed a one year period.

(a) The general information specified in paragraphs (1) through (4) for all reports.

(1) The company name, facility site name associated with the affected facility, US Well ID or US Well ID associated with the affected facility, if applicable, and address of the affected facility. If an address is not available for the site, include a description of the site location and provide the latitude and longitude coordinates of the site in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983.

(2) An identification of each affected facility being included in the annual report.

(3) Beginning and ending dates of the reporting period.

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

(b) For each reciprocating compressor affected facility, the information specified in paragraphs (1) and (2).

(1) The cumulative number of hours of operation or the number of months since initial startup or since the previous reciprocating compressor rod packing replacement, whichever is later. Alternatively, a statement that emissions from the rod packing are being routed to a process through a closed vent system under negative pressure.

(2) Records of deviations specified in Condition 5.8(a)(3) that occurred during the reporting period.

(Ref.: 40 CFR 60.5420a(b)(1) and (4))