

AIR QUALITY DIVISION
CHAPTER 6, SECTION 3
OPERATING PERMIT

WYOMING DEPARTMENT OF
ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
122 West 25th Street
Cheyenne, Wyoming 82002



PERMIT NO. 3-2-026-1

Issue Date: **May 14, 2015**
Expiration Date: **May 21, 2015**
Effective Date: **May 14, 2015**
Replaces Permit No.: **3-2-026**

In accordance with the provisions of W.S. §35-11-203 through W.S. §35-11-212 and Chapter 6, Section 3 of the Wyoming Air Quality Standards and Regulations,

Mountain Gas Resources LLC
Patrick Draw Gas Processing Plant
Section 25, Township 19 North, Range 99 West
Sweetwater County, Wyoming

is authorized to operate a stationary source of air contaminants consisting of emission units described in this permit. The units described are subject to the terms and conditions specified in this permit. All terms and conditions of the permit are enforceable by the State of Wyoming. All terms and conditions of the permit, except those designated as not federally enforceable, are enforceable by EPA and citizens under the Act. A copy of this permit shall be kept on-site at the above named facility.

Steven A. Dietrich
Steven A. Dietrich, Administrator
Air Quality Division

MAY 14, 2015
Date

Todd Parfitt
Todd Parfitt, Director
Department of Environmental Quality

5/14/15
Date

WAQSR CHAPTER 6, SECTION 3 OPERATING PERMIT

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION

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GENERAL INFORMATION
(Modified May 14, 2015)

Company Name: **Mountain Gas Resources LLC**

Mailing Address: **P.O. Box 173779**

City: **Denver**

State: **CO**

Zip: **80217-3779**

Plant Name: **Patrick Draw Gas Processing Plant**

Plant Location: **Section 25, Township 19 North, Range 99 West, Sweetwater County, Wyoming (approximately 36 miles east of Rock Springs, four miles south of Interstate 80, accessed from the Patrick Draw #146 exit)**

Latitude/Longitude (WGS84): 41.5786/-108.5201

Plant Mailing Address: **P.O. Box 100**

City: **Green River**

State: **WY**

Zip: **82935**

Name of Owner: **Mountain Gas Resources LLC**

Phone: **(720) 929-6000**

Responsible Official: **Reserved**

Plant Manager/Contact: ***Scott Heiner***

Phone: ***(307) 875-8785***

(Amended August 13, 2012)

DEQ Air Quality Contact: **District 5 Engineer
510 Meadowview Drive
Lander, WY 82520**

Phone: **(307) 332-6755**

SIC Code: **1321-Natural Gas Liquids**

Description of Process: **The facility gathers natural gas from several pipelines for processing. The natural gas liquids (NGL) are removed from the gas stream and fractionated for sales. The remaining methane gas is then re-compressed for sales and transmission.**

SOURCE EMISSION POINTS

This table may not include any or all insignificant activities at this facility.

(Modified May 14, 2015)

SOURCE ID#	SOURCE DESCRIPTION	SIZE	CH. 6, SEC. 2 PERMITS
05	C-7 White Superior 8G-825 Compressor Engine ^a	557 hp	MD-1439
05 ^c	C-7 Caterpillar G3608LE Compressor Engine ^b	2,124 hp	MD-5924A2, MD-17014
06	C-9 White Superior 8G-825 Compressor Engine ^a	701 hp	MD-357, MD-924A3
06 ^c	C-9 Caterpillar G3608LE Compressor Engine ^b	2,124 hp	MD-5924A2, MD-17014
07	C-10 White Superior 8G-825 Compressor Engine ^a	800 hp	MD-357, MD-924A3
07 ^c	C-10 Caterpillar G3606LE Compressor Engine ^b or Caterpillar G3516LE Compressor Engine ^b	1,480 hp or 1,196 hp	MD-5924A2, MD-17014
08	C-12 White Superior 8G-825 Compressor Engine ^a	800 hp	MD-5924A2
09	C-13 White Superior 8G-825 Compressor Engine ^a	630 hp	MD-5924A2
10	C-14 White Superior 8G-825 Compressor Engine ^a	630 hp	MD-5924A2
16	H-1 Hot Oil Heater	22.0 MBtu/hr	MD-357, MD-5924A2
17	Fugitive Equipment Leaks	N/A	None
18	Truck Disconnect Losses	N/A	None
19	C-801A Caterpillar G3612LE Compressor Engine ^b	2,905 hp	MD-5924A2
20	C-801B White Superior 2416G Compressor Engine ^b	3,200 hp	MD-357, MD-924A3
20 ^c	C-801B Caterpillar G3612LE Compressor Engine ^b	2,905 hp	MD-5924A2, MD-17014
21	C-801C Caterpillar G3612LE Compressor Engine ^b	2,905 hp	MD-5924A2
22	C-801D Caterpillar G3612LE Compressor Engine ^b	2,905 hp	MD-5924A2
23	C-802A Caterpillar G3612LE Compressor Engine ^b	2,905 hp	MD-5924A2
24	C-802B Caterpillar G3612LE Compressor Engine ^b	2,905 hp	MD-5924A2
25	C-802C Caterpillar G3612 LE Compressor Engine ^b	2,905 hp	MD-5924A2
26	H-803 Heat Medium Heater	27.0 MMBtu/hr	waiver 6/30/98, MD-5924A2
27	Plant #2 Amine Still Vent (V-801)	120 MMSCFD	MD-924A3, MD-5924A2, MD-17014
28	C-101E Waukesha 7044GSI Compressor Engine ^a	1,600 hp	MD-5924A2
29	C-101F Waukesha 7044GSI Compressor Engine ^a	1,600 hp	MD-5924A2

SOURCE ID#	SOURCE DESCRIPTION	SIZE	CH 6, SEC 2 PERMITS
30	Condensate Tank (TK-16)	300 bbl	None
31	Condensate Tank (TK-17)	400 bbl	None
32 ^c	Plant #1 Amine Still Vent (V-202)	25 MMSCFD	MD-17014
33	H-901 Heat Medium Heater (H-805)	41.7 MMBtu/hr	MD-5924A2
34	Ford WSG-1068 Emergency Engine ^a	137 hp	AP-8504
FS-801	Plant #2 HP Emergency Flare	N/A	MD-5924A2
FS-101	Plant #1 LP Emergency Flare	N/A	MD-5924A2
TO-100	Thermal Oxidizer	11.1 MMBtu/hr	MD-5924A2, MD-17014
H-401	H-401 Dehydrator Regenerator Gas Heater	1.72 MMBtu/hr	MD-357
N/A ^c	Amine #1 Heater	6.6 MMBtu/hr	MD-17014

^a Engine is 4-stroke rich burn equipped with air-fuel ratio controls (AFRC) and non-selective catalytic reduction (NSCR) catalysts

^b Engine is 4-stroke lean burn equipped with an oxidation catalyst

^c Source is not installed on March 1, 2015

TOTAL FACILITY ESTIMATED EMISSIONS

For informational purposes only. These emissions are not to be assumed as permit limits.
(Modified May 14, 2015)

POLLUTANT	EMISSIONS (TPY)
CRITERIA POLLUTANT EMISSIONS	
Particulate Matter	Negligible
PM ₁₀ Particulate Matter	Negligible
Sulfur Dioxide (SO ₂)	Negligible
Nitrogen Oxides (NO _x)	273 ^a 280 ^b
Carbon Monoxide (CO)	183 ^a 149 ^b
Volatile Organic Compounds (VOCs)	109 ^a 116 ^b
HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS	13 ^a 9 ^b

^a Emission estimates reflect PTE from units currently installed at the facility.

^b Emission estimates reflect PTE from units authorized by Ch 6, Sec 2 permits MD-5924A2 and MD-17014. Facility formaldehyde emissions are estimated to be 9 TPY.

FACILITY-SPECIFIC PERMIT CONDITIONS

Facility-Wide Permit Conditions (Modified May 14, 2015)

- (F1) **ENGINE CONFIGURATION REQUIREMENTS [WAQSR Ch 6, Sec 2 Permit MD-5924A2, and Waiver AP-8504]**
- (a) Upon completion of the modifications authorized by permit MD-5924A2 the engine configuration for the facility shall be limited to no more than fifteen compressor engines and one emergency engine consisting of the following:
 - (i) Two Caterpillar G3608LE engines (units 05 and 06) equipped with oxidation catalysts.
 - (ii) One, either a Caterpillar G3606LE or Caterpillar G3516LE engine (unit 07), equipped with an oxidation catalyst.
 - (iii) Three White Superior 8G-825 engines (units 08, 09 and 10) equipped with AFRC and NSCR catalysts.
 - (iv) Two Waukesha 7044GSI engines (units 28 and 29) equipped with AFRC and NSCR catalysts.
 - (v) Seven Caterpillar G3612LE engines (units 19-25) equipped with oxidation catalysts.
 - (vi) One Ford WSG-1068 emergency engine (unit 34) equipped with AFRC and an NSCR catalyst.
 - (b) Unless engine replacement is specifically authorized for a unit in permit MD-5924A2, once removed from the facility, an engine cannot be installed and operated in its place unless authorized by an appropriate permit modification (except as allowed for temporary engine replacement under condition F7).
 - (c) The permittee may expand the engine configuration beyond that described in paragraph (a) upon receipt of a construction or modification permit issued under Chapter 6, Section 2 of WAQSR that authorizes such change. The permittee must, however, submit an application to modify this operating permit within 12 months of commencement of operation for any engine not already included in this permit.

Source-Specific Permit Conditions

- (F2) **VISIBLE EMISSIONS [WAQSR Ch 3, Sec 2; Ch 3, Sec 6(b); Ch 5, Sec 2 (m); Ch 6, Sec 2 Permits MD-5924A2, MD-17014] (Modified May 14, 2015)**
- (a) Visible emissions from the White Superior 8G-825 compressor engine (unit 05) shall not exceed 40 percent opacity. The emission limit as indicated in sub-condition (c) of this condition for the Caterpillar G3608LE replacement unit shall become applicable and supersede the limit for the original White Superior unit upon submittal of the startup notification for the replacement unit, as required by condition F20(b).
 - (b) The flares and thermal oxidizer (FS-801, FS-101, and TO-100) shall be operated and maintained to be smokeless, with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours as determined by 40 CFR 60, Appendix A, Method 22. The flares must be equipped and operated with an automatic ignitor or a continuous burning pilot which must be maintained in good working order.
 - (c) Visible emissions of any contaminant discharged into the atmosphere from any other single emission source shall not exhibit greater than 20 percent opacity as determined by 40 CFR 60, Appendix A, Method 9.
- (F3) **ENGINE and HEATER EMISSIONS [WAQSR Ch 3, Sec 3(a); Ch 6, Sec 2 Permits MD-357, MD-1439, MD-5924A2, MD-17014, Waivers June 30, 1998 and AP-8504] (Modified May 14, 2015)**
- (a) Emissions shall not exceed the limits specified in Table I. Emission limits for each replacement unit shall become applicable and supersede the limits for the associated original unit upon submittal of the startup notification for the replacement unit, as required by F20(b).
 - (b) Compliance with the g/hp-hr limits is considered compliance with the lb/hr and TPY limits as long as each engine is operated at or below its site-rated capacity and operating hours limitations, as applicable.

- (c) In addition to the limits in Table I:
- (i) Emissions from the H-1 Hot Oil Heater (unit 16) shall be limited to 0.14 lb/MMBtu NOx and 0.04 lb/MMBtu CO.
 - (ii) Emissions from the H-803 Heat Medium Heater (unit 26) shall be limited to 0.08 lb/MMBtu NOx and 0.04 lb/MMBtu CO.
 - (iii) Emissions from the H-901 Heat Medium Heater (unit 33) shall be limited to 0.03 lb/MMBtu NOx and 0.04 lb/MMBtu CO.
 - (iv) Upon installation, NOx emissions from the Amine #1 Heater shall not exceed 0.20 lb/MMBtu heat input.
 - (v) Compliance with the lb/MMBtu limits is considered compliance with the lb/hr and TPY limits as long as each heater is operated at or below its site-rated capacity.
- (d) **Reserved**
- (e) The Ford WSG-1068 engine (unit 34) shall be limited to 500 hours of annual operation. The permittee shall install and maintain a non-resettable hour meter to demonstrate compliance with the hour limitation of this condition.

Table I: NOx, CO, VOC and Formaldehyde Emission Limits												
Source ID	Description	NOx			CO			VOC			Formaldehyde	
		g/hp-hr	lb/hr	TPY	g/hp-hr	lb/hr	TPY	g/hp-hr	lb/hr	TPY	lb/hr	TPY
05	C-7 White Superior 8G-825	1.0	1.2	5.4	2.0	2.5	10.8					
05 ^a	C-7 Caterpillar G3608LE	0.7	3.3	14.4	0.25	1.2	5.1	0.2	1.1	4.9	0.16	0.70
06	C-9 White Superior 8G-825	2.0	3.1	13.5	2.0	3.1	13.5					
06 ^a	C-9 Caterpillar G3608LE	0.7	3.3	14.4	0.25	1.2	5.1	0.2	1.1	4.9	0.16	0.70
07	C-10 White Superior 8G-825	1.5	2.6	11.6	2.0	3.5	15.4					
07 ^a	C-10 Caterpillar G3516LE or	1.0	2.6	11.6	0.2	0.5	2.3	0.1	0.3	1.2	0.05	0.23
	C-10 Caterpillar G3606LE	0.7	2.3	10.0	0.3	1.0	4.3	0.2	0.7	2.9	0.11	0.49
08	C-12 White Superior 8G-825	1.0	1.8	7.7	2.0	3.5	15.4					
09	C-13 White Superior 8G-825	2.0	2.8	12.2	2.0	2.8	12.2					
10	C-14 White Superior 8G-825	2.0	2.8	12.2	2.0	2.8	12.2					
19	C-801A Caterpillar G3612LE	0.7	4.5	19.6		1.6	7.0				0.22	0.95
20	C-801B White Superior 2146G	0.90	6.35	27.81	0.50	3.53	15.45					
20 ^a	C-801B Caterpillar G3612LE	0.7	4.5	19.6	0.25	1.6	7.0	0.25	1.6	7.0	0.22	0.95
21	C-801C Caterpillar G3612LE	0.7	4.5	19.6		1.6	7.0				0.22	0.95
22	C-801D Caterpillar G3612LE	0.7	4.5	19.6		1.6	7.0				0.22	0.95

Table I- NO_x, CO, VOC and Formaldehyde Emission Limits

Source ID	Description	NO _x			CO			VOC			Formaldehyde	
		g/hr	lb/hr	TPY	g/hr	lb/hr	TPY	g/hr	lb/hr	TPY	lb/yr	TPY
23	C-802A Caterpillar G3612LE	0.7	4.5	19.6	0.25	1.6	7.0	0.25	1.6	7.0	0.22	0.95
24	C-802B Caterpillar G3612LE	0.7	4.5	19.6		1.6	7.0				0.22	0.95
25	C-802C Caterpillar G3612 LE	0.7	4.5	19.6		1.6	7.0				0.22	0.95
28	C-101E Waukesha 7044GSI	0.9	3.2	13.9	0.5	1.8	7.7					
29	C-101F Waukesha 7044GSI	0.9	3.2	13.9	0.5	1.8	7.7					
34	Ford WSG-1068	1.0	0.3	0.1	2.0	0.6	0.2	0.7	0.2	0.1		
16 ^b	H-1 Hot Oil Heater		3.08	13.5		0.77	3.4					
26 ^b	H-803 Heat Medium Heater		2.16	9.6		1.08	4.8					
33 ^b	H-901 Heat Medium Heater (H-805)			5.7			7.4					
H-401	H-401 Dehydrator Regenerator		0.17	0.75		0.04	0.16					

^a Engine will replace the existing units as indicated by the source ID.

^b NO_x and CO emission limits in lb/MMBtu also apply as specified in condition F3(c).

(F4) AMINE STILL VENTS, THERMAL OXIDIZER, AND FLARE EMISSIONS/OPERATION
 [WAQSR Ch 6, Sec 2 Permits MD-5924A2, MD-17014] (Modified May 14, 2015)

- (a) Reserved.
- (b) Reserved.
- (c) Reserved.
- (d) (i) VOC emissions associated with the plant #2 amine still vent (unit 27) shall be controlled with the thermal oxidizer (unit TO-100), with a minimum efficiency of 95 percent. The minimum temperature required to achieve 95 percent destruction of VOC emissions shall be the temperature established during the most recent Division-approved performance test of the thermal oxidizer.
- (ii) Upon installation of plant #1 amine still vent (unit V-202), VOC emissions associated with plant #1 and plant #2 amine still vents (units 27 and 32) shall be controlled with the thermal oxidizer (unit TO-100), having a minimum efficiency of 98 percent. The permittee shall reestablish the minimum operating temperature in accordance with condition F9(a)(ii). Until such time that a minimum operating temperature is reestablished through the requirements of this condition, the minimum operating temperature shall be 1,280 °F.
- (e) (i) The following limits apply to the thermal oxidizer (unit TO-100) while controlling emissions from the plant #2 amine still vent (unit 27):
 - (A) VOC emissions shall not exceed 0.9 lb/hr and 3.9 TPY.
 - (B) NO_x emissions shall not exceed 0.15 lb/MMBtu and 7.0 TPY.
 - (C) CO emissions shall not exceed 0.39 lb/MMBtu and 11.9 TPY.
- (ii) Upon startup of the plant #1 amine still vent (unit 32), emissions from the thermal oxidizer (unit TO-100) shall be limited as follows:
 - (A) VOC emissions shall not exceed 0.9 lb/hr.
 - (B) NO_x emissions shall not exceed 0.14 lb/MMBtu and 1.5 lb/hr.
 - (C) CO emissions shall not exceed 0.24 lb/MMBtu and 2.7 lb/hr.

- (f) The plant #2 amine unit flash tank off gas shall be routed to the low pressure inlet during normal operations, and shall be routed to the plant #2 HP emergency flare (unit FS-801) for destruction during upsets.
 - (g) The permittee shall maintain and operate the flares (units FS-801 and FS-101) such that the devices will remain effective as a viable emissions control device during emergency situations.
- (F5) MAINTENANCE REQUIREMENTS [WAQSR Ch 6, Sec 2 Permits MD-924A3, MD-5924A2] (Modified May 14, 2015)**
 The permittee shall conduct preventative maintenance on the C-9 and C-10 White Superior 8G-825 compressor engines (units 06 and 07) in accordance with the preventative maintenance program attached as Appendix D of this permit. Revisions to this plan must first be authorized by a WAQSR Ch 6, Sec 2 permitting action and then a Ch 6, Sec 3 operating permit amendment issued prior to implementing action. Upon submittal of the startup notification for each replacement engine authorized by permit MD-5924A2, this requirement shall expire for that engine.
- (F6) COMMENCEMENT OF CONSTRUCTION [WAQSR Ch 6, Sec 2 Permit MD-17014] (Modified May 14, 2015)**
- (a) The date of commencement of construction for the C-7 and C-9 Caterpillar G3608LE engines, the C-10 Caterpillar G3516LE or Caterpillar G3606LE engine, and the C-801B Caterpillar G3612LE engine (units 05, 06, 07, and 20) shall be reported to the Administrator within 30 days of commencement. Approval to construct or modify shall become invalid if construction is not commenced by December 12, 2015 or if construction is discontinued for a period of 24 months or more. The Administrator may extend the period based on satisfactory justification of the requested extension.
 - (b) The date of commencement of construction for the plant #1 amine still vent (unit 32) and Amine #1 Heater) shall be reported to the Administrator within 30 days of commencement. Approval to construct or modify shall become invalid if construction is not commenced by March 17, 2017 or if construction is discontinued for a period of 24 months or more. The Administrator may extend the period based on satisfactory justification of the requested extension.
- (F7) ENGINE REPLACEMENT [WAQSR Ch 6, Sec 3(h)(i)(I)] (Modified May 14, 2015)**
- (a) Permanent replacement of an engine must be evaluated by the Division under WAQSR Ch 6, Sec 2 prior to such replacement to determine the appropriate permitting action and evaluate the need for additional requirements resulting from the permanent replacement.
 - (b) Should an engine break down or require an overhaul, the permittee may bring on site and operate a temporary replacement engine until repairs are made. The temporary replacement unit shall be identical or similar to the unit replaced, with emission levels at or below those of the unit replaced. The permittee shall notify the Division in writing of such temporary replacement within five working days and include the following:
 - (i) The startup date of the temporary replacement unit; and
 - (ii) A statement regarding the applicability of any New Source Performance Standards (NSPS) in 40 CFR Part 60; any National Emission Standards for Hazardous Air Pollutants (NESHAPs) in 40 CFR Part 63; and Compliance Assurance Monitoring (CAM) in WAQSR Ch 7, Sec 3 for the temporary replacement unit.

Testing Requirements

- (F8) EMISSIONS TESTING [W.S. 35-11-110; Division Letter 7/14/2011; WAQSR Ch 6, Sec 2 Permits MD-5924A2 and MD-17014] (Modified May 14, 2015)**
- (a) The Division reserves the right to require additional testing as provided under condition G1 of this permit. The Division shall specify the necessary test method(s) and procedure(s) prior to the test, which may include the following test methods found at 40 CFR 60, Appendix A:
 - (i) For visible emissions from the flares and thermal oxidizer (units FS-801, FS-101 and TO-100), Method 22.
 - (ii) For other visible emissions, Method 9.

- (iii) For NO_x, CO, and VOC emissions from engines subject to 40 CFR 60, Subpart JJJJ, 40 CFR 60, Subpart JJJJ §60.4244.
 - (iv) For NO_x emissions from other sources, Methods 1-4 and 7 or 7E, and as applicable Method 19.
 - (v) For CO emissions from other sources, Methods 1-4 and 10, and as applicable Method 19.
 - (vi) Reserved.
 - (vii) For VOC emissions from other sources, Methods 1-4 and Method 25A.
 - (viii) For formaldehyde emissions, testing shall consist of at least one (1) 1-hour test following EPA reference methods and Method 320 or 323 of 40 CFR 63, Appendix A for formaldehyde. Emissions in terms of lb/hr shall be calculated using the methodology in sections 10.1.1 and 10.1.1.2 of the State of Wyoming's Portable Analyzer Protocol. The monitoring protocol can be downloaded at <http://deq.wyoming.gov/aqd/title-v/> or is available from the Division upon request.
 - (A) Formaldehyde emissions may be tested using a twenty-one minute test following EPA reference Method 320. This option is valid only for engines currently permitted to utilize the State of Wyoming's Portable Analyzer Protocol for NO_x and CO emissions and not subject to 40 CFR 60, Subpart JJJJ.
 - (B) To utilize the twenty-one minute formaldehyde test for an authorized engine, the permittee shall request this option in a test protocol submitted for review at least 30 days prior to testing and obtain final approval from the District Engineer.
 - (ix) For alternative test methods, or methods used for other pollutants, the approval of the Administrator must be obtained prior to using the test method to measure emissions.
- (b) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

(F9) INITIAL PERFORMANCE TESTING [WAQSR Ch 6, Sec 2 Permits MD-5924A2 and MD-17014; W.S. 35-11-110] (Modified May 14, 2015)

- (a) In accordance with WAQSR Ch 6, Sec 2(j), performance tests shall be conducted on each C-7 and C-9 Caterpillar G3608LE engine, the C-10 Caterpillar 3606LE or 3516LE engine, and the C-801B Caterpillar G3612LE engine (units 05, 06, 07 and 20); and on the thermal oxidizer (unit TO-100) upon startup of the plant #1 amine still vent (unit 32). Each test shall be conducted within 30 days of achieving maximum design rate but not later than 90 days after initial start-up. If maximum design production rate is not achieved within 90 days of start-up, the Administrator may require testing be done at the rate achieved and again when maximum rate is achieved. Prior to any performance testing required by this permit, a test protocol shall be submitted to the Division for approval, at least 30 days prior to testing.
 - (i) Engine testing shall be conducted as follows:
 - (A) Testing for NO_x, CO and VOC emissions shall follow 40 CFR 60, Subpart JJJJ §60.4244, except that §60.8 only applies to engines subject to Subpart JJJJ. Testing shall not consist of Method 19 or ASTM Methods.
 - (B) Testing for formaldehyde emissions shall consist of three 1-hour tests following EPA Reference Methods and a Division approved formaldehyde test method.
 - (C) Engine horsepower, inlet temperature to the catalyst, pressure drop across the catalyst, and other operating conditions shall be recorded during each test run and submitted with the test report.
 - (ii) Thermal oxidizer testing shall be conducted as follows:
 - (A) For VOC emissions, three 1-hour simultaneous tests at the inlet and outlet of the incinerator shall be performed to demonstrate compliance with the minimum control efficiency set in condition F4(d) and the VOC limit set in condition F4(e)(ii) of this permit. Testing at the inlet and outlet shall follow EPA Reference Methods 1-4 and 25A. As an alternative, the permittee may petition for approval to use a process simulation program to calculate the inlet VOC mass loading. During this initial performance test, the permittee shall reestablish the minimum operating temperature at which the thermal oxidizer must be operated to comply with the minimum control efficiency and VOC emission limits while controlling emissions from both the plant #1 and plant #2 amine still vents.

- (B) For NO_x and CO, three 1-hour tests following EPA Reference Methods 1-4, 7E, 10 and 19 shall be performed.
- (b) Reserved
- (c) The permittee shall provide the Division at least 15 days prior notice of the test date, as specified in condition F20(a). Results of the tests shall be submitted to the Division as specified in condition F21.

Monitoring Requirements

(F10) VISIBLE EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)] (Modified May 14, 2015)

- (a) Periodic monitoring for visible emissions from the units listed in Table I and condition F3(c)(iv) shall consist of monitoring the type of fuel used to ensure natural gas is the sole fuel source for these units.
- (b) The permittee shall monitor and note the date, time and duration, during active operation, when the thermal oxidizer (unit TO-100) exhibits visible emissions for more than 5 minutes.

(F11) ENGINE EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I) and Ch 6, Sec 2 Permits MD-1439, MD-924A3, MD-5924A2 and Waiver AP-8504] (Modified May 14, 2015)

- (a) (i) The permittee shall measure NO_x and CO emissions from each C-7, C-9, C-10, and C-801B White Superior engine (units 05, 06, 07, and 20) annually to assess compliance with the limits in condition F3(a). Testing for NO_x and CO emissions shall be conducted in accordance with the EPA Reference Methods specified in condition F8(a)(iv) and (v), or the State of Wyoming's Portable Analyzer Protocol. The monitoring protocol can be downloaded at <http://deq.wyoming.gov/aqd/title-v/> or is available from the Division upon request.
- (ii) Upon replacement of each engine as authorized by MD-5924A2, the permittee shall measure NO_x, CO, VOC, and formaldehyde emissions from each C-7, C-9, C-10, and C-801B Caterpillar engine (units 05, 06, 07, and 20) at least once every 12 calendar months to assess compliance with the limits in condition F3(a). Testing for NO_x, CO, and VOC emissions shall be conducted in accordance with condition F8. The first test is required within twelve calendar months of the initial performance test specified in condition F9(a)(i). Upon submittal of each startup notification required by condition F20(b), this condition shall be in effect and supersede the monitoring required in sub-condition (a)(i) for the replacement engine.
- (b) The permittee shall measure NO_x, CO, and formaldehyde emissions, as applicable, from each engine C-12, C-13, C-14, C-801A, C-801C, C-801D, C-802B, C-802C, C-101E, and C-101F (units 08, 09, 10, 19, 21, 22, 24, 25, 28 and 29) annually to assess compliance with the limits in condition F3(a). Testing shall be conducted, as applicable, in accordance with the appropriate Reference Methods specified in condition F8 or the State of Wyoming's Portable Analyzer Protocol. The monitoring protocol can be downloaded at <http://deq.wyoming.gov/aqd/title-v/> or is available from the Division upon request.
- (c) The permittee shall measure NO_x, CO, VOC, and formaldehyde emissions from the C-802A Caterpillar engine (unit 23) at least once every 12 calendar months to assess compliance with the limits in condition F3(a). Testing for NO_x, CO, and VOC emissions shall be conducted in accordance with condition F8(a)(iii) and for formaldehyde according to F8(a)(viii). The first test is required within twelve calendar months of the initial performance test.
- (d) The permittee shall measure NO_x, CO, and VOC emissions from the Ford WSG-1068 emergency engine at least once every three years for comparison with the emission limits specified in condition F3(a) of this permit. Testing shall consist of one 1-hour test following 40 CFR 60 Subpart JJJ §60.4244. The permittee shall also monitor the hours of operation for the Ford emergency engine.
- (e) For any engine installed:
- (i) The permittee shall notify the Division within 24 hours if any engine testing/monitoring shows operation outside the emission limits specified in condition F3(a).
- (ii) By no later than seven calendar days of such testing/monitoring event, the permittee shall repair and retest/monitor the affected engine to demonstrate the engine has been returned to operation within the limits specified in condition F3(a).

- (iii) Compliance with this condition regarding repair and retesting/monitoring shall not be deemed to limit the authority of the Division to cite the owner or operator for an exceedance of the emission limits for any testing/monitoring which shows noncompliance.
- (f) **Notification of the test date shall be provided to the Division 15 days prior to testing in accordance with condition F20(a). Results of the tests shall be submitted to the Division as specified in condition F21.**

(F12) COMPLIANCE ASSURANCE MONITORING FOR WAUKESHA 7044GSI ENGINES [WAQSR Ch 6, Sec 3(h)(i)(C)(I) and Ch 7, Sec 3(c)(ii)] (Modified May 14, 2015)

- (a) The permittee shall adhere to the compliance assurance monitoring (CAM) plan, attached as Appendix B of this permit, for NO_x and CO emissions from each Waukesha 7044 GSI compressor engine (units 28 and 29), and shall conduct monitoring as follows:
 - (i) On days the engines are operated, the permittee shall monitor and record, at minimum once daily, the inlet temperature of the catalyst.
 - (ii) The permittee shall monitor and record, at minimum, once per calendar month, the pressure differential across the catalyst.
 - (iii) The permittee shall operate the engine(s) within temperature and pressure differential ranges specified in the approved CAM plan.
 - (iv) The permittee shall maintain the compressor engines in accordance with the Preventative Maintenance Plan included Appendix D of this permit.
 - (v) **An excursion, which is considered operation outside of the ranges established in the approved CAM plan, shall trigger immediate inspection and, if appropriate, corrective action.**
 - (vi) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-4 of this permit.
- (b) Additionally, the permittee shall measure NO_x and CO emissions from each Waukesha 7044 GSI compressor engine annually as described in condition F11(b) for comparison with the emission limits specified in condition F3(a), and to further refine the relationship between emissions, the catalyst inlet temperature and pressure differential across the catalyst. The permittee shall measure the CAM indicators during the annual tests. Following each annual test, the permittee shall evaluate the data from the test, together with data from previous testing, to determine if the indicator ranges in the CAM plan should be revised.

(F13) ENGINE MAINTENANCE AND CATALYST MONITORING [WAQSR Ch 6, Sec 2 Waiver AP-8504 and Permits MD-1439, and MD-5924A2] (Modified May 14, 2015)

- (a) The monitoring and maintenance requirements for the C-7, C-12, C-13, and C-14 White Superior 8G-825 engines (units 05, 08, 09, and 10); the Caterpillar G3612LE engines (units 19 and 21-25); the Waukesha 7044GSI engines (units 28 and 29), **and upon installation, the C-7, C-9, C-10, and C-801B Caterpillar engines (units 05, 06, 07 and 20)** shall be as follows:
 - (i) Operate and maintain each engine, air pollution control equipment, and monitoring equipment according to manufacturer instructions at all times, including start-up, shutdown, and malfunction.
 - (ii) **Install, as applicable, operate and maintain a thermocouple to measure the inlet catalyst temperature.**
 - (iii) The inlet temperature for each engine shall be recorded at least monthly. If the temperature is outside the range listed below, corrective action shall be taken.
 - (A) NSCR Catalyst: 750°F to 1250°F
 - (B) Oxidation Catalyst: 450°F to 1350°F
 - (iv) **Install, as applicable, operate and maintain a device to measure the pressure drop across the catalyst on each engine.**
 - (A) The pressure drop across the catalyst for each engine shall be recorded at least monthly. If the pressure differential changes by more than two inches of water at **hundred percent load, plus or minus ten percent**, from the pressure drop as established below, corrective action shall be taken.
 - (B) During the initial performance tests, the reference pressure drop shall be established. If the catalyst is replaced, the reference pressure drop shall be reestablished for that

engine during the first monitoring in compliance with condition F11(a)-(c) to occur after catalyst replacement.

- (b) The permittee shall operate and maintain the Ford WSG-1068 engine (unit 34), associated air pollution control equipment, and monitoring equipment according to good air pollution control practices at all times, including start-up, shutdown, and malfunction.
- (c) **Compliance with 40 CFR 63, Subpart ZZZZ §63.6605 and §63.6640 can be used in lieu of the monitoring and maintenance requirements in condition (a) for the Caterpillar G3612LE engines (units 19 and 21-25), the White Superior 8G-825 engines (units 08, 09, and 10), and upon installation, the Caterpillar engines (units 05, 06, 07, and 20).**

(F14) PROCESS HEATER EMISSIONS MONITORING

[WAQSR Ch 6, Sec 3 (h)(i)(C)(I)] **(Modified May 14, 2015)**

- (a) The permittee shall measure NO_x and CO emissions from the H-1 hot oil heater, H-803 heat medium heater, H-901 heat medium heater (units 16, 26, and 33) at least once every two years for comparison with the emission limits in conditions F3(a) and (c) of this permit. If during the first monitoring of NO_x and CO emissions a heater measures seventy five percent or less of its allowable emission limit at full load, the permittee is permitted to skip the next scheduled NO_x and CO emissions test for that heater.
- (b) The permittee shall measure NO_x and CO emissions from each heater using the Division's portable analyzer monitoring protocol, or the EPA reference methods described in conditions F8(a)(iv) and (v). The Division's monitoring protocol can be downloaded at <http://deq.wyoming.gov/aqd/title-v/> or is available from the Division upon request.
- (c) Notification of the test date shall be provided to the Division 15 days prior to testing according to condition F20(a). Results of the tests shall be submitted to the Division within 45 days of completing the tests as specified in condition F21.

(F15) FLARE MONITORING AND THERMAL OXIDIZER COMPLIANCE ASSURANCE MONITORING

[WAQSR Ch 6, Sec 3(h)(i)(C)(I) and Ch 6, Sec 2 Permits MD-5924A2 and MD-17014]

(Modified May 14, 2015)

- (a) **Reserved**
- (b) The permittee shall detect the presence of a pilot flame on each of the flares (units FS-801 and FS-101) using a thermocouple and continuous recording device or any equivalent device to detect the presence of a pilot flame.
- (c) The permittee shall measure NO_x, CO and VOC emissions from the thermal oxidizer (unit TO-100) at least once every five years to assess compliance with the emission limits specified in conditions F4(d) and F4(e), and upon startup of the plant #1 amine still vent, the emission limits specified in F4(d) and F4(f). EPA reference methods described in condition F8(a)(iv), (v) and (vii) may be used.
- (d) For VOC emissions from the thermal oxidizer (unit TO-100), the permittee shall adhere to the compliance assurance monitoring (CAM) plan, attached as Appendix B of this permit, and shall conduct monitoring during active operation of either amine plant (units 27 and 32) as follows:
 - (i) The permittee shall monitor the temperature of the thermal oxidizer continuously with a thermocouple located in the combustion chamber, and the temperature shall be continuously recorded.
 - (ii) Compliance with the minimum operating temperature of the thermal oxidizer shall be based on the 24-hour block average combustion temperature as measured by the thermocouple. The 24-hour block average shall be calculated based on the average of the valid 1-hour averages. Valid data shall meet the requirements of WAQSR, Ch 5, Sec 2(j).
 - (iii) An electronic fire detector shall continuously monitor for the presence of a pilot flame in the oxidizer.
 - (iv) An excursion, which is considered lack of a pilot flame or operation outside of the temperature range established in the approved CAM plan, shall trigger immediate inspection and, if appropriate, corrective action.
 - (v) The permittee shall perform VOC emissions testing as specified in condition F15(c). During each test, the permittee shall also measure the CAM indicators. Following each

test, the permittee shall evaluate the data from the test, together with data from previous testing, to determine if the indicator ranges in the CAM plan should be revised.

- (vi) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-5 of this permit.
- (e) For the testing required by paragraph (c) of this condition, notification of the test date shall be provided to the Division 15 days prior to testing according to condition F20(a). Results of the tests shall be submitted to the Division within 45 days of completing the tests as specified in condition F21.

Recordkeeping Requirements

(F16) TESTING AND MONITORING RECORDS [WAQSR Ch 6, Sec 2 Permits MD-1439, MD-5924A2, MD-17014, and Waiver AP-8504; and Ch 6, Sec 3(h)(i)(C)(II)] (Modified May 14, 2015)

- (a) For any testing or monitoring required under conditions F8, F9(a), F11(a)-(d), F14, and F15(c) other than Method 9 or Method 22 observations, the permittee shall record the following, as applicable:
 - (i) The date, place, and time of sampling, measurements, or observations;
 - (ii) The date(s) analyses were performed;
 - (iii) The company or entity and individual(s) that performed the observation;
 - (iv) The analytical or observation techniques, or methods used;
 - (v) The results of such analyses or observations; and
 - (vi) The operating conditions as they existed at the time of testing, monitoring, or observation including, for engines, the horsepower, catalyst inlet temperature, and pressure differential across the catalyst.
 - (vii) The permittee shall maintain records of any corrective actions taken.
- (b) For any Method 9 observations required by the Division under condition F8, the permittee shall keep field records in accordance with Section 2.2 of Method 9.
- (c) For any Method 22 observations required by the Division under conditions F8, the permittee shall keep field records in accordance with Sections 11.2 and 11.5 of Method 22.
- (d) For the visible emissions monitoring under condition F10(b), the permittee shall record the date, time and duration when the thermal oxidizer (unit TO-100) exhibits visible emissions for more than 5 minutes.
- (e) While conducting the NO_x and CO emissions monitoring required under condition F11(a), the permittee shall record the evaluation of the CAM indicator ranges required by condition F12(b).
- (f) For the catalyst monitoring required under condition F13(a)(ii) through (iv), the permittee shall record, for each engine, the catalyst inlet temperature measured, the pressure differential measured across the catalyst, and the reference pressure drop. The permittee shall also record the dates of catalyst replacement for each engine.
- (g) The permittee shall maintain records of the hours of operation required by condition F11(d).
- (h) For the VOC emissions testing of the thermal oxidizer (unit TO-100) required under condition F15(c), the permittee shall record the CAM indicator values during the test, and the evaluation of the CAM indicator ranges required by condition F15(d).
- (i) The permittee shall maintain records noting the date and duration of time during active operation when the pilot flame is not present on flare sources FS-801 and FS-101.
- (j) The permittee shall retain on-site at the facility, the records of each test, measurement, or observation and support information for a period of at least five years from the date of the information.

**(F17) ADDITIONAL CAM RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II); Ch 7, Sec 3(i)(ii)]
(Modified May 14, 2015)**

For the CAM monitoring required under conditions F12 and F15(d) the permittee shall:

- (a) **Maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to WAQSR Ch 7, Sec 3(h), any activities undertaken to implement a Quality Improvement Plan (QIP), and other supporting information required to be maintained under WAQSR Ch 7, Sec 3.**
- (b) **Maintain records of the date, time, and duration of any excursions as well as the CAM indicator value(s) during each excursion.**
- (c) **For the thermal oxidizer (unit TO-100), the permittee shall also maintain records of the temperature monitoring required by condition F15(d)(i) and (ii). These records shall include each 24-hour block average combustion temperature calculated based on the average of the valid 1-hour averages.**
- (d) **The permittee shall retain on-site at the facility the records of each test, measurement, or observation and support information for a period of at least five years from the date of the test, measurement, or observation.**

**(F18) MAINTENANCE RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II); WAQSR Ch 6, Sec 2 Waiver AP-8504]
(Modified May 14, 2015)**

- (a) **The permittee shall record all maintenance activities performed on the C-9 and C-10 White Superior 8G-825 compressor engines (units 06 and 07), performed in accordance with the preventative maintenance program described in Appendix D of this permit.**
- (b) **The permittee shall record all maintenance activities on the catalytically controlled Waukesha 7044GSI (units 28 and 29) compressor engines in accordance with the CAM plan contained in Appendix B of this permit.**
- (c) **The permittee shall maintain records of any maintenance or corrective actions required under conditions F13(a)(i) and F13(b).**
- (d) **The record of maintenance activities shall include:**
 - (i) **The maintenance activity performed;**
 - (ii) **The date and place the activity was performed;**
 - (iii) **The company and individual(s) that performed the activity;**
 - (iv) **The purpose of the activity; and**
 - (v) **An explanation for any deviation from the maintenance plans in Appendix B and Appendix D for the engines listed in paragraphs (a) and (b) of this condition, or any deviation from the manufacturer instructions and good air pollution control practices for the engines in paragraph (c).**
- (e) **The permittee shall retain on-site at the facility the records of each maintenance and inspection activity for at least five years from the date of the activity.**

(F19) Reserved

Reporting Requirements

(F20) NOTIFICATION OF START-UP, TESTING, SHUTDOWN AND REMOVAL [WAQSR Ch 6, Sec 2 Permits MD-1439, MD-924A3, MD-5924A2, MD-17014 and Waiver AP-8504] (Modified May 14, 2015)

- (a) **Notification of the test date for the testing and monitoring required by conditions F9, F11(a)-(d), F14(a) and F15(c) shall be provided to the Division at least 15 days prior to testing. For any engine subject to the requirements of 40 CFR 60 Subpart JJJJ, the permittee shall provide test notification as specified in §60.8 of 40 CFR 60.**
- (b) **In accordance with WAQSR Ch 6, Sec 2(i), the permittee shall provide written notification of the anticipated date of initial start-up of the C-7 Caterpillar G3608LE, C-9 Caterpillar G3608LE, C-10 Caterpillar G3516LE (or Caterpillar G3606LE), and C-801B Caterpillar G3612LE engines (units 05, 06, 07 and 20), and the plant #1 amine still vent (unit 32) and Amine #1 heater as permitted under MD-5924A2 and MD-17014; not more than 60 days or less than 30 days prior to such date. Written notification of the actual date of initial start-up for is required within 15 days of start-up in accordance with WAQSR Ch 6, Sec 2(i)(ii). For the engines,**

such notification shall be submitted on a complete Engine Installation/Removal form. With the start-up notification for these engines, the permittee shall address the applicability of 40 CFR 60 Subpart JJJJ. The form can be downloaded from the Air Quality Division website <http://deq.wyoming.gov/aqd/new-source-review/> or obtained from the Air Quality Division.

- (c) Upon shutdown and removal of an engine from the facility, written notification is required within 15 days of removal. Such notification shall be submitted on a complete Engine Installation/Removal form. **The form can be obtained from the Air Quality Division or can be downloaded from the Air Quality Division website <http://deq.wyoming.gov/aqd/new-source-review/>.** Once-removed from the facility, an engine cannot be operated in its place unless authorized by an appropriate permit modification.
- (d) **Notifications may be provided electronically through the Division's IMPACT system (<https://airimpact.wyo.gov>), or in writing to the DEQ Air Quality Contact listed on page 3 of this permit.**

(F21) TEST REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III) and Ch 6, Sec 2 Permits MD-1439, MD-924A3, MD-5924A2, MD-17014 and Waiver AP-8504] (Modified May 14, 2015)

- (a) The permittee shall report the results of the emissions tests required under conditions F9, F11(a)-(d), F14(a), and F15(c), and any additional testing required by the Division under condition F8, within 45 days of completing the tests. For the C-7 White Superior engine (unit 05), the report shall be submitted within 30 days of completing the tests.
 - (i) **However, if testing for any engine shows operation out of compliance, the Division must be notified within 24 hours as indicated under condition F11(e).**
 - (ii) The reports shall include the information indicated in condition F16(a), and, as applicable, evaluation of the CAM indicator ranges as required by conditions F12(b) and F15(d). If the evaluation indicates the CAM range(s) need(s) to be revised, the permittee shall submit a revised CAM plan to the Division, along with a request to administratively amend the CAM plan, within 60 days of completing the test.
- (b) The reports shall reference this permit condition (F21), and be submitted to the Division in accordance with condition G4.

(F22) MONITORING REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III) and Ch 7, Sec 3 (i); WAQSR Ch 6, Sec 2 Permit MD-5924A2, MD-17014 and Waiver AP-8504] (Modified May 14, 2015)

- (a) The following shall be reported to the Division by January 31 and July 31 each year:
 - (i) Documentation that all emissions units are firing natural gas as specified in condition F10(a) of this permit.
 - (ii) Summary results of the **visible emissions monitoring** required under condition F10(b). Only monitoring during which excess emissions are observed and any corrective actions taken shall be included in the report. If no excess visible emissions are observed during the reporting period, this shall be stated in the report.
 - (iii) **Summary results of the monitoring required under condition F15(b) for the flares (units FS-801 and FS-101). If no pilot flame outages occurred during the reporting period, this shall be stated in the report. If there were outages of the pilot flame, the permittee shall report the date(s) and duration of time during active operation when the pilot flame was not present, description of the reason(s) for absence of the pilot flame and steps taken to return the pilot flame to proper operation.**
 - (iv) **The calendar year-to-date operating hours for the Ford emergency engine (unit 34).**
 - (v) Results of the catalyst monitoring required under condition F13(a), including the number, duration, and cause of any excursions from the temperature and pressure drop ranges specified in condition F13(a) for each of the catalytically controlled compressor engines. The report shall include a summary of any maintenance and/or corrective actions taken; if no excursions occurred during the reporting period, this shall be stated in the report.
 - (vi) The results of CAM required under conditions F12 and F15(d) of this permit for the catalytically controlled Waukesha 7044 GSIU compressor engines (units 28 and 29) and the thermal oxidizer (unit TO-100) shall include the following:
 - (A) Summary information on the number, duration, and cause of excursions, as applicable, and the corrective actions taken. **For each excursion from the thermal oxidizer**

CAM temperature indicator, also the date and the 24-hour average operating temperature, as well as each valid 1-hour averages, shall be provided.

- (B) A description of the action taken to implement a QIP (if required) during the reporting period as specified in Chapter 7, Section 3 (h). Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has reduced the likelihood of similar excursions.

(vii) **Reserved**

- (b) All instances of deviations from the conditions of this permit must be clearly identified in each report.
- (c) The semiannual reports shall reference this permit condition (F22) and shall be submitted in accordance with condition G4 of this permit.

(F23) Reserved

(F24) GREENHOUSE GAS REPORTS [W.S. 35-11-110] (Modified May 14, 2015)

The permittee shall submit to the Division a summary of any report(s) required to be submitted to the EPA under 40 CFR Part 98.

- (a) **The reports shall be submitted to the Division within 60 days of submission to EPA, in a format as specified by the Division.**
- (b) **The reports shall be submitted in accordance with condition G4(a)(i) of this permit, to the attention of the Division's Emission Inventory Program. A copy need not be sent to the DEQ Air Quality contact.**

(F25) REPORTING EXCESS EMISSIONS & DEVIATIONS FROM PERMIT REQUIREMENTS

[WAQSR Ch 6, Sec 3(h)(i)(C)(III)]

- (a) General reporting requirements are described under the General Conditions of this permit. The Division reserves the right to require reports as provided under condition G1 of this permit.
- (b) Emissions which exceed the limits specified in this permit and which are not reported under a different condition of this permit shall be reported annually with the emission inventory unless specifically superseded by condition G17, condition G19, or other condition(s) of this permit. The probable cause of such exceedance, the duration of the exceedance, the magnitude of the exceedance, and any corrective actions or preventative measures taken shall be included in this annual report. For sources and pollutants which are not continuously monitored, if at any time emissions exceed the limits specified in this permit by 100 percent, or if a single episode of emission limit exceedance spans a period of 24 hours or more, such exceedance shall be reported to the Division within one working day of the exceedance. (Excess emissions due to an emergency shall be reported as specified in condition G17. Excess emissions due to unavoidable equipment malfunction shall be reported as specified in condition G19.)
- (c) Any other deviation from the conditions of this permit shall be reported to the Division in writing within 30 days of the deviation or discovery of the deviation.

Accidental Release Prevention

(F26) ACCIDENTAL RELEASE PREVENTION REQUIREMENTS [40 CFR Part 68]

- (a) The permittee shall meet all requirements of 40 CFR Part 68 as they apply to the facility.
- (b) The permittee shall submit, as part of the annual compliance certification submitted under condition C1 of this permit, a certification statement concerning the facility's compliance with all requirements of 40 CFR Part 68, including the registration and submission of a Risk Management Plan.

**WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS) AND
40 CFR 60 SUBPART Dc REQUIREMENTS FOR SMALL INDUSTRIAL-COMMERCIAL-
INSTITUTIONAL STEAM GENERATING UNITS**
(Modified May 14, 2015)

SUBPART Dc REQUIREMENTS

[40 CFR 60 Subparts A and Dc; WAQSR Ch 5, Sec 2]

The permittee shall meet all applicable requirements of 40 CFR 60 Subparts A and Dc and WAQSR Ch 5, Sec 2, as they apply to each steam generating unit as defined under §60.40c, including H-803 heat medium heater and H-901 heat medium heater (units 26 and 33).

**WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS) and
40 CFR 60 SUBPART KKK REQUIREMENTS (FOR EQUIPMENT LEAKS OF VOC FROM ONSHORE
NATURAL GAS PROCESSING PLANTS) and VV (FOR EQUIPMENT LEAKS OF VOC IN THE
SYNTHETIC ORGANIC CHEMICALS MANUFACTURING INDUSTRY)**
(Modified May 14, 2015)

**SUBPART KKK REQUIREMENTS [40 CFR 60 Subparts A, KKK and VV; WAQSR Ch 5, Sec 2 and Ch 6, Sec 2
Permit MD-5924A2]**

The permittee shall meet all applicable requirements of 40 CFR 60 Subparts A, KKK, and VV and WAQSR Ch 5, Sec 2 as they apply to affected facilities in onshore natural gas processing plants as defined under §60.630, including the Patrick Draw Gas Processing Plant.

The subparts are available at <http://www.gpoaccess.gov/cfr/retrieve.html>, or from the Division upon request.

WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS)
AND 40 CFR 60 SUBPART JJJJ REQUIREMENTS
FOR STATIONARY SPARK IGNITION INTERNAL COMBUSTION ENGINES
(Modified May 14, 2015)

SUBPART JJJJ REQUIREMENTS [40 CFR Part 60 Subparts A and JJJJ; WAQSR Ch 5, Sec 2 and Ch 6, Sec 2 Permit MD-5924A2]

The permittee shall meet all requirements of 40 CFR 60 Subparts A and JJJJ and WAQSR Ch 5, Sec 2, as they apply to affected stationary spark ignition (SI) internal combustion engines (ICE). (As required by condition F7(b), if an engine is replaced or reconstructed, subpart applicability will need to be reevaluated and a statement regarding applicability submitted to the Division.) For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. An affected source is defined at §60.4230, and includes the Caterpillar G3612LE engines C-801A, C-801C, C-802A and C-802B (units 19, 21, 23 and 24).

On March 1, 2015 the White Superior 8G-825 engines (units 05, 06, 07, 08, 09 and 10), the Caterpillar G3612LE engines (units 20, 22 and 25), the Waukesha 7044GSI engines (units 28 and 29), and the Ford emergency engine (unit 34) were not subject to Subpart JJJJ according to information submitted to the Division by the permittee. The permittee shall determine the applicability of Subpart JJJJ for the C-7 and C-9 Caterpillar G3608LE engines, the C-10 Caterpillar 3606LE or Caterpillar 3516LE engine, and the C-801B Caterpillar G3612LE engines (units 05, 06, 07, and 20) upon construction of each engine.

WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS) AND
40 CFR 60 SUBPART OOOO REQUIREMENTS FOR CRUDE OIL AND NATURAL GAS
PRODUCTION, TRANSMISSION AND DISTRIBUTION
(Modified May 14, 2015)

SUBPART OOOO REQUIREMENTS

[40 CFR 60 Subparts A and OOOO; and WAQSR Ch 5, Sec 2 and Ch 6, Sec 2 Permit MD-5924A2]
The permittee shall meet all applicable requirements of 40 CFR 60 Subparts A and OOOO and WAQSR Ch 5, Sec 2 as they apply to affected facilities as specified under §60.5365.

The subparts are available at <http://www.gpoaccess.gov/cfr/retrieve.html>, or from the Division upon request.

**WAQSR CHAPTER 5, SECTION 3 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR
POLLUTANTS (NESHAPS) AND 40 CFR 63 SUBPART ZZZZ REQUIREMENTS FOR
STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES**
(Modified May 14, 2015)

**SUBPART ZZZZ REQUIREMENTS [40 CFR 63 Subparts A and ZZZZ; WAQSR Ch 5, Sec 3 and Ch 6,
Sec 2 Permits MD-5924A2 and MD-17014]**

The permittee shall meet all requirements of **40 CFR 63 Subparts A and ZZZZ and WAQSR Ch 5, Sec 3** as they apply to each affected source as indicated in §63.6590(a). An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand. **(As required by condition F7(b), if an engine is replaced or reconstructed, subpart applicability will need to be re-evaluated and a statement regarding applicability submitted to the Division.) This facility is currently identified as an area source of HAP emissions. Affected sources at this facility include all compressor engines (units 05-10, 19-25, 28 and 29) and the emergency engine (unit 34).**

The subparts are available at <http://www.gpoaccess.gov/cfr/retrieve.html>, or from the Division upon request.

WAQSR CHAPTER 7, SECTION 3
COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS
(Modified May 14, 2015)

WAQSR Ch 7, Sec 3 is available at <http://soswy.state.wy.us/Rules/>, or from the Division upon request.

- (CAM-1) COMPLIANCE ASSURANCE MONITORING REQUIREMENTS [WAQSR Ch 7, Sec 3(b) and (c)]
The permittee shall follow the CAM plan attached as Appendix B of this permit and meet all CAM requirements of WAQSR Chapter 7, Section 3 as they apply to the catalytically controlled Waukesha compressor engines (units 28 and 29) as identified in condition **F12** and for the thermal oxidizer (unit **TO-100**) as identified in condition **F15(d)**. Compliance with the source specific monitoring, recordkeeping, and reporting requirements of this permit meets the monitoring, recordkeeping, and reporting requirements of WAQSR Ch 7, Sec 3, except for additional requirements specified under conditions CAM-2 through CAM-5.
- (CAM-2) OPERATION OF APPROVED MONITORING [WAQSR Ch 7, Sec 3(g)]
- (a) At all times, the permittee shall maintain the monitoring under this section, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
 - (b) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities, the permittee shall conduct all monitoring in continuous operation (or at all required intervals) at all times that the pollutant specific emissions unit is operating.
 - (c) Upon detecting an excursion, the permittee shall restore operation of the pollutant-specific emission unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices. The response shall include minimizing the period of any start-up, shutdown or malfunction and taking any corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion.
 - (d) If the permittee identifies a failure to achieve compliance with an emission limit for which the monitoring did not provide an indication of an excursion while providing valid data, or the results of compliance or performance testing documents a need to modify the existing indicator ranges, the permittee shall promptly notify the Division and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes.
- (CAM-3) QUALITY IMPROVEMENT PLAN (QIP) REQUIREMENTS [WAQSR Ch 7, Sec 3(h)]
- (a) If the Division or the EPA Administrator determines, based on available information, that the permittee has used unacceptable procedures in response to an excursion or exceedance, the permittee may be required to develop and implement a Quality Improvement Plan (QIP).
 - (b) If required, the permittee shall maintain a written Quality Improvement Plan (QIP) and have it available for inspection.
 - (c) The plan shall include procedures for conducting one or more of the following:
 - (i) Improved preventative maintenance practices.
 - (ii) Process operation changes.
 - (iii) Appropriate improvements to control methods.
 - (iv) Other steps appropriate to correct control.
 - (v) More frequent or improved monitoring (in conjunction with (i) - (iv) above).
 - (d) If a QIP is required, the permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.
 - (e) Following implementation of a QIP, upon any subsequent determination under paragraph (a) above, the Division may require the permittee to make reasonable changes to the QIP if the QIP failed to address the cause of control device problems, or failed to provide adequate procedures for correcting control device problems as expeditiously as practicable.
 - (f) Implementation of a QIP shall not excuse the permittee from compliance with any existing emission limit(s) or any existing monitoring, testing, reporting, or recordkeeping requirements that may be applicable to the facility.

(CAM-4) SAVINGS PROVISIONS [WAQSR Ch 7, Sec 3(j)]

Nothing in the CAM regulations shall excuse the permittee from compliance with any existing emission limit or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may be applicable to the facility.

(CAM-5) CAM IMPLEMENTATION PLAN AND SCHEDULE [WAQSR Ch 7, Sec 3(d)(v)]

- (a) Upon startup of the plant #1 amine still vent (unit 32), the permittee shall perform the initial performance testing for the thermal oxidizer (unit TO-100) as specified in condition F9(a)(ii), and re-establish the CAM indicator range that provides reasonable assurance that the thermal oxidizer is in compliance with the control efficiency and VOC emission limits specified in condition F4(d)(ii) and (e)(ii).**
- (b) The permittee shall report the results of the emissions tests as required under condition F21(a). This report shall include the new proposed CAM plan for the thermal oxidizer (unit TO-100) for Division approval of the CAM plan and indicator ranges proposed.**
- (c) The permittee shall apply their proposed CAM plan for the thermal oxidizer upon submission of the plan to the Division.**

COMPLIANCE CERTIFICATION AND SCHEDULE
(Modified May 14, 2015)

Compliance Certification [WAQSR Ch 6, Sec 3(h)(iii)(E)]

- (C1) (a) The permittee shall submit by January 31 each year a certification addressing compliance with the requirements of this permit. The certification shall be submitted as a stand-alone document separate from any monitoring reports required under this permit.
- (b) (i) For visible emissions the permittee shall assess compliance with conditions **F2(a) and (c), as applicable**, by verifying natural gas was the sole fuel source used for the units referred to in **condition F3** of this permit.
- (ii) For visible emissions from the **thermal oxidizer (unit TO-100)**, the permittee shall assess compliance with condition **F2(b)** by conducting the monitoring required by condition **F10(b)**.
- (iii) **For NO_x, CO, VOC and formaldehyde emissions from the engines, the permittee shall assess compliance with condition F3(a) by conducting the monitoring required by F11, F12 and F13, as applicable.**
- (iv) For **NO_x and CO** emissions from the H-1 hot oil heater, H-803 heat medium heater, H-901 heat medium heater (units 16, 26, and 33), the permittee shall assess compliance with conditions **F3(a) and (c)** by conducting the monitoring required by condition **F14**.
- (v) **The permittee shall assess compliance with the operating hours limit in condition F3(e) by conducting the monitoring required by condition F11(d).**
- (vi) For **NO_x, CO, and VOC** emissions from the thermal oxidizer, the permittee shall assess compliance with condition **F4(d) and (e)** by conducting the monitoring required by condition **F15(c) and (d)**.
- (vii) **The permittee shall certify that the plant #2 amine unit flash tank off gas is routed as specified in condition F4(f).**
- (viii) **For the pilot flame on the flares (units FS-801 and FS-101), the permittee shall assess compliance with requirements of conditions F4(g) by conducting the monitoring required by conditions F15(b).**
- (ix) For the maintenance requirements of condition **F5**, the permittee shall assess compliance by reviewing the records kept in accordance with condition **F18**.
- (x) **For greenhouse gas reporting, the permittee shall assess compliance with condition F24 by verifying that reports were submitted in accordance with condition F24(a) and (b).**
- (xi) **For accidental release prevention, the permittee shall submit a certification statement as described in condition F26(b).**
- (xii) **The permittee shall assess compliance with Subpart Dc by conducting any applicable testing and monitoring required by §§60.44c through 60.47c, and reviewing records required by §60.48c(g).**
- (xiii) **For any unit subject to 40 CFR 60, Subpart KKK, the permittee shall assess compliance with 40 CFR 60, Subpart KKK by reviewing the records required by §60.635.**
- (xiv) **For any engine subject to 40 CFR 60, Subpart JJJJ, the permittee shall assess compliance with Subpart JJJJ by conducting any applicable testing and monitoring required by §§60.4237, 60.4243, and 60.4244, and by reviewing the records required by §§60.4245 and 60.4246.**
- (xv) **For any affected facility subject to 40 CFR 60, Subpart OOOO, the permittee shall assess compliance with Subpart OOOO by conducting any applicable testing and monitoring required by §§60.5413 through 60.5417 and by reviewing any applicable records required by §§60.5420, 60.5421, and 60.5423.**
- (xvi) **For the reciprocating internal combustion engines, the permittee shall assess compliance with 40 CFR 63, Subpart ZZZZ by conducting any applicable testing and monitoring required by §§63.6610 through 63.6640 and by reviewing the records required by §§63.6655 and 63.6665.**
- (c) The compliance certification shall include:
- (i) The permit condition or applicable requirement that is the basis of the certification;
- (ii) The current compliance status;
- (iii) Whether compliance was continuous or intermittent; and

- (iv) The methods used for determining compliance.
- (d) For any permit conditions or applicable requirements for which the source is not in compliance, the permittee shall submit with the compliance certification a proposed compliance plan and schedule for Division approval.
- (e) The compliance certification shall be submitted to the Division in accordance with condition G4 of this permit and to the Assistant Regional Administrator, Office of Enforcement, Compliance, and Environmental Justice (8ENF-T), U.S. EPA - Region VIII, 1595 Wynkoop Street, Denver, CO 80202-1129.
- (f) Determinations of compliance or violations of this permit are not restricted to the monitoring requirements listed in paragraph (b) of this condition; other credible evidence may be used.

Compliance Schedule [WAQSR Ch 6, Sec 3(h)(iii)(C) and (D)]

- (C2) The permittee shall continue to comply with the applicable requirements with which the permittee has certified that it is already in compliance.
- (C3) The permittee shall comply in a timely manner with applicable requirements that become effective during the term of this permit.

GENERAL PERMIT CONDITIONS
(Modified May 14, 2015)

Powers of the Administrator: [W.S. 35-11-110]

- (G1) (a) The Administrator may require the owner or operator of any point source to complete plans and specifications for any application for a permit required by the Wyoming Environmental Quality Act or regulations made pursuant thereto and require the submission of such reports regarding actual or potential violations of the Wyoming Environmental Quality Act or regulations thereunder.
- (b) The Administrator may require the owner or operator of any point source to establish and maintain records; make reports; install, use and maintain monitoring equipment or methods; sample emissions, or provide such other information as may be reasonably required and specified.

Permit Renewal and Expiration:

[WAQSR Ch 6, Sec 3(c)(i)(C), (d)(ii), (d)(iv)(B), and (h)(i)(B)] [W.S. 35-11-206(f)]

- (G2) This permit is issued for a fixed term of five years. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted at least six months prior to the date of permit expiration. If the permittee submits a timely and complete application for renewal, the permittee's failure to have an operating permit is not a violation of WAQSR Chapter 6, Section 3 until the Division takes final action on the renewal application. This protection shall cease to apply after a completeness determination if the applicant fails to submit by the deadline specified in writing by the Division any additional information identified as being needed to process the application.

Duty to Supplement: [WAQSR Ch 6, Sec 3(c)(iii)]

- (G3) The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. The permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after this permit is issued.

Submissions: [WAQSR Ch 6, Sec 3(c)(iv)] [W.S. 35-11-206(c)]

- (G4) Any **application form, report, or certification** submitted shall be certified as being true, accurate, and complete by a responsible official.
- (a) Submissions to the Division including reports, certifications, and emission inventories required under this permit shall be submitted **either:**
- (i) **Electronically through the Division's IMPACT system (<https://airimpact.wyo.gov>); or**
 - (ii) **As separate, stand-alone documents sent to:**
 - (A) Administrator, Air Quality Division
122 West 25th Street
Cheyenne, Wyoming 82002
 - (B) **Unless otherwise noted elsewhere in this permit, a copy of each submission shall also be sent to the DEQ Air Quality Contact listed on page 3 of this permit.**
- (b) Submissions to EPA.
- (i) Each certification required under condition C1 of this permit shall also be sent to:
Assistant Regional Administrator
Office of Enforcement, Compliance, and Environmental Justice (8ENF-T)
U.S. EPA - Region VIII
1595 Wynkoop Street
Denver, CO 80202-1129.
 - (ii) All other required submissions to EPA shall be sent to:
Office of Partnerships and Regulatory Assistance
Air and Radiation Program (8P-AR)
U.S. EPA - Region VIII
1595 Wynkoop Street
Denver, CO 80202-1129

Changes for Which No Permit Revision Is Required: [WAQSR Ch 6, Sec 3(d)(iii)]

- (G5) The permittee may change operations without a permit revision provided that:
- (a) The change is not a modification under any provision of title I of the Clean Air Act;
 - (b) The change has met the requirements of Chapter 6, Section 2 of the WAQSR and is not a modification under Chapter 5, Section 2 or Chapter 6, Section 4 of the WAQSR and the changes do not exceed the emissions allowed under the permit (whether expressed therein as a rate of emissions or in terms of total emissions); and
 - (c) The permittee provides EPA and the Division with written notification, **in accordance with condition G4 of this permit**, at least 14 days in advance of the proposed change. The permittee, EPA, and the Division shall attach such notice to their copy of the relevant permit. For each such change, the written notification required shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield, if one exists for this permit, shall not apply to any such change made.

Transfer of Ownership or Operation: [WAQSR Ch 6, Sec 3(d)(v)(A)(IV)]

- (G6) A change in ownership or operational control of this facility is treated as an administrative permit amendment if no other change in this permit is necessary and provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Division.

Reopening for Cause: [WAQSR Ch 6, Sec 3(d)(vii)] [W.S. 35-11-206(f)(ii) and (iv)]

- (G7) The Division will reopen and revise this permit as necessary to remedy deficiencies in the following circumstances:
- (a) Additional applicable requirements under the Clean Air Act or the WAQSR that become applicable to this source if the remaining permit term is three or more years. Such reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended.
 - (b) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit.
 - (c) The Division or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - (d) The Division or EPA determines that the permit must be revised or revoked to assure compliance with applicable requirements.

Annual Fee Payment: [WAQSR Ch 6, Sec 3(f)(i), (ii), and (vi)] [W.S. 35-11-211]

- (G8) The permittee shall, as a condition of continued operations, submit an annual fee to the Division as established in Chapter 6, Section 3 (f) of the WAQSR. The Division shall give written notice of the amount of fee to be assessed and the basis for such fee assessment annually. The assessed fee is due on receipt of the notice unless the fee assessment is appealed pursuant to W.S. 35-11-211(d). If any part of the fee assessment is not appealed it shall be paid to the Division on receipt of the written notice. Any remaining fee which may be due after completion of the appeal is immediately due and payable upon issuance of the Council's decision. Failure to pay fees owed the Division is a violation of Chapter 6, Section 3 (f) and W.S. 35-11-203 and may be cause for the revocation of this permit.

Annual Emissions Inventories: [WAQSR Ch 6, Sec 3(f)(v)(G)]

- (G9) The permittee shall submit an annual emission inventory for this facility to the Division for fee assessment and compliance determinations within 60 days following the end of the calendar year. The emissions inventory shall be in a format specified by the Division **and be submitted in accordance with condition G4(a) of this permit.**

Severability Clause: [WAQSR Ch 6, Sec 3(h)(i)(E)]

(G10) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Compliance: [WAQSR Ch 6, Sec 3(h)(i)(F)(I) and (II)] [W.S. 35-11-203(b)]

(G11) The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Air Act, Article 2 of the Wyoming Environmental Quality Act, and the WAQSR and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. 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.

Permit Actions: [WAQSR Ch 6, Sec 3(h)(i)(F)(III)] [W.S. 35-11-206(f)]

(G12) This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Property Rights: [WAQSR Ch 6, Sec 3(h)(i)(F)(IV)]

(G13) This permit does not convey any property rights of any sort, or any exclusive privilege.

Duty to Provide Information: [WAQSR Ch 6, Sec 3(h)(i)(F)(V)]

(G14) The permittee shall furnish to the Division, within a reasonable time, any information that the Division 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 Division copies of records required to be kept by the permit, including information claimed and shown to be confidential under W.S. 35-11-1101 (a) of the Wyoming Environmental Quality Act. Upon request by the Division, the permittee shall also furnish confidential information directly to EPA along with a claim of confidentiality.

Emissions Trading: [WAQSR Ch 6, Sec 3(h)(i)(H)]

(G15) No permit revision is 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.

Inspection and Entry: [WAQSR Ch 6, Sec 3(h)(iii)(B)] [W.S. 35-11-206(c)]

(G16) Authorized representatives of the Division, upon presentation of credentials and other documents as may be required by law, shall be given permission to:

- (a) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) have access to and copy at reasonable times any records that must be kept under the conditions of this permit;
- (c) inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) sample or monitor any substances or parameters at any location, during operating hours, for the purpose of assuring compliance with this permit or applicable requirements.

Excess Emissions Due to an Emergency: [WAQSR Ch 6, Sec 3(I)]

(G17) The permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency, as defined in Ch 6, Sec 3(I)(i) of the WAQSR. To do so, the permittee shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (a) an emergency occurred and that the permittee can identify the cause(s) of the emergency;
- (b) the permitted facility was, at the time, being properly operated;
- (c) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit;

- (d) The permittee submitted notice of the emergency to the Division within one working day 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.

Diluting and Concealing Emissions: [WAQSR Ch 1, Sec 4]

- (G18) No person shall cause or permit the installation or use of any device, contrivance, or operational schedule which, without resulting in reduction of the total amount of air contaminant released to the atmosphere, shall dilute or conceal an emission from a source. This condition shall not apply to the control of odors.

Unavoidable Equipment Malfunction: [WAQSR Ch 1, Sec 5]

- (G19) (a) Any source believing that any emissions in excess of established regulation limits or standards resulted from an unavoidable equipment malfunction, shall notify the Division within 24 hours of the incident via telephone, electronic mail, fax, or other similar method. A detailed description of the circumstances of the incident as described in paragraph 5(a)(i)(A) Chapter 1, including a corrective program directed at preventing future such incidents, must be submitted within 14 days of the onset of the incident. The Administrator may extend this 14-day time period for cause.
- (b) The burden of proof is on the owner or operator of the source to provide sufficient information to demonstrate that an unavoidable equipment malfunction occurred.

Fugitive Dust: [WAQSR Ch 3, Sec 2(f)]

- (G20) The permittee shall minimize fugitive dust in compliance with standards in Ch 3, Sec 2(f) of WAQSR for construction/demolition activities, handling and transportation of materials, and agricultural practices.

Carbon Monoxide: [WAQSR Ch 3, Sec 5]

- (G21) The emission of carbon monoxide in stack gases from any stationary source shall be limited as may be necessary to prevent ambient standards from being exceeded.

Asbestos: [WAQSR Ch 3, Sec 8]

- (G22) The permittee shall comply with emission standards for asbestos during abatement, demolition, renovation, manufacturing, spraying and fabricating activities.
- (a) No owner or operator shall build, erect, install, or use any article, machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size.
- (b) All owners and operators conducting an asbestos abatement project, including an abatement project on a residential building, shall be responsible for complying with Federal requirements and State standards for packaging, transportation, and delivery to an approved waste disposal facility as provided in paragraph (m) of Ch 3, Sec 8.
- (c) The permittee shall follow State and Federal standards for any demolition and renovation activities conducted at this facility, including:
- (i) A thorough inspection of the affected facility or part of the facility where the demolition or renovation activity will occur shall be conducted to determine the presence of asbestos, including Category I and Category II non-friable asbestos containing material. The results of the inspection will determine which notification and asbestos abatement procedures are applicable to the activity.
- (ii) The owner or operator shall follow the appropriate notification requirements of Ch 3, Sec 8(i)(ii).
- (iii) The owner or operator shall follow the appropriate procedures for asbestos emissions control, as specified in Chapter 3, Section 8(i)(iii).
- (d) No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this paragraph do not apply to spray-applied insulating materials regulated under paragraph (j) of Ch 3, Sec 8.
- (e) The permittee shall comply with all other requirements of WAQSR Ch 3, Sec 8.

Open Burning Restrictions: [WAQSR Ch 10, Sec 2]

- (G23) The permittee conducting an open burn shall comply with all rules and regulations of the Wyoming Department of Environmental Quality, Division of Air Quality, and with the Wyoming Environmental Quality Act.
- (a) No person shall burn prohibited materials using an open burning method, except as may be authorized by permit. ***“Prohibited materials”*** means substances including, but not limited to; natural or synthetic rubber products, including tires; waste petroleum products, such as oil or used oil filters; insulated wire; plastic products, including polyvinyl chloride (“PVC”) pipe, tubing and connectors; tar, asphalt, asphalt shingles, or tar paper; railroad ties; wood, wood waste, or lumber that is painted or chemically treated; explosives or ammunition; batteries; hazardous waste products; asbestos or asbestos containing materials; or materials which cause dense smoke discharges, excluding refuse and flaring associated with oil and gas well testing, completions and well workovers.
- (b) No person or organization shall conduct or cause or permit open burning for the disposal of trade wastes, for a salvage operation, for the destruction of fire hazards if so designated by a jurisdictional fire authority, or for fire fighting training, except when it can be shown by a person or organization that such open burning is absolutely necessary and in the public interest. Any person or organization intending to engage in such open burning shall file a request to do so with the Division.

Sulfur Dioxide Emission Trading and Inventory Program [WAQSR Ch 14]

- (G24) Any BART (Best Available Retrofit Technology) eligible facility, or facility which has actual emissions of SO₂ greater than 100 tpy in calendar year 2000 or any subsequent year, shall comply with the applicable requirements of WAQSR Ch 14, Sections 1 through 3, with the exceptions described in sections 2(c) and 3(a).

Stratospheric Ozone Protection Requirements: [40 CFR Part 82]

- (G25) The permittee shall comply with all applicable Stratospheric Ozone Protection Requirements, including but not limited to:
- (a) *Standards for Appliances* [40 CFR Part 82, Subpart F]
The permittee shall comply with the standards for recycling and emission reduction pursuant to 40 CFR Part 82, Subpart F - Recycling and Emissions Reduction, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
- (i) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
- (ii) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
- (iii) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
- (iv) Persons disposing of small appliances, MVACs and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. (“MVAC-like appliance” as defined at §82.152).
- (v) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.166.
- (vi) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- (vii) The permittee shall comply with all other requirements of Subpart F.
- (b) *Standards for Motor Vehicle Air Conditioners* [40 CFR Part 82, Subpart B]
If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.

STATE ONLY PERMIT CONDITIONS
(Modified May 14, 2015)

The conditions listed in this section are State only requirements and are not federally enforceable.

Ambient Standards

(S1) The permittee shall operate the emission units described in this permit such that the following ambient standards are not exceeded:

POLLUTANT	STANDARD	CONDITION	WAQSR CH-2, SEC
PM ₁₀ particulate matter	50 micrograms per cubic meter	annual arithmetic mean	2 (a)
	150 micrograms per cubic meter	24-hr average concentration with not more than one exceedance per year	
PM _{2.5} particulate matter	15 micrograms per cubic meter	annual arithmetic mean	2 (b)
	35 micrograms per cubic meter	98 th percentile 24-hour average concentration	
Nitrogen dioxide	53 parts per billion	annual average concentration	3
	100 parts per billion	three-year average of the annual 98 th percentile of the daily maximum 1-hr average concentration	
	0.053 parts per million	annual arithmetic mean	
Sulfur dioxide	75 parts per billion	three-year average of the annual (99 th percentile) of the daily max 1-hr average	4
	0.5 parts per million	3-hr blocks not to be exceeded more than once per calendar year	
Carbon monoxide	10 milligrams per cubic meter	max 8-hr concentration with not more than one exceedance per year	5
	40 milligrams per cubic meter	max 1-hr concentration with not more than one exceedance per year	
Ozone	0.075 parts per million	three-year average of the annual fourth-highest daily maximum 8-hr average concentration	6
Hydrogen sulfide	70 micrograms per cubic meter	½ hour average not to be exceeded more than two times per year	7
	40 micrograms per cubic meter	½ hour average not to be exceeded more than two times in any five consecutive days	
Suspended sulfate	0.25 milligrams SO ₃ per 100 square centimeters per day	maximum annual average	8
	0.50 milligrams SO ₃ per 100 square centimeters per day	maximum 30-day value	
Lead and its compounds	0.15 micrograms per cubic meter	maximum arithmetic 3-month mean concentration for a 3-year period	10

*Exceedances of these standards shall be determined using the procedures in 40 CFR 50.

Hydrogen Sulfide: [WAQSR Ch 3, Sec 7]

- (S2) Any exit process gas stream containing hydrogen sulfide which is discharged to the atmosphere from any source shall be vented, incinerated, flared or otherwise disposed of in such a manner that ambient sulfur dioxide and hydrogen sulfide standards are not exceeded.

Odors: [WAQSR Ch 2, Sec 11]

- (S3) (a) The ambient air standard for odors from any source shall be limited to an odor emission at the property line which is undetectable at seven dilutions with odor free air as determined by a scentometer as manufactured by the Barnebey-Cheney Company or any other instrument, device, or technique designated by the Division as producing equivalent results. The occurrence of odors shall be measured so that at least two measurements can be made within a period of one hour, these determinations being separated by at least 15 minutes.
- (b) Odor producing materials shall be stored, transported, and handled in a manner that odors produced from such materials are confined and that accumulation of such materials resulting from spillage or other escape is prevented.

SUMMARY OF SOURCE EMISSION LIMITS AND REQUIREMENTS

(Modified May 14, 2015)

Source ID#: 05 Source Description: C-7 White Superior 8G-825 Engine

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	40% opacity limit [F2]	WAQSR Ch 3, Sec 2	Testing if required [F8]	Verification of natural gas firing [F10]	Record the results of any testing [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	1.0 g/hp-hr, 1.2 lb/hr, 5.4 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-1439	Additional testing if required [F8] Annual emissions test [F11]	Catalyst monitoring & maintenance [F13]	Record monitoring results and testing [F16]	15 days: notification of testing and shutdown [F20] 30 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
CO	2.0 g/hp-hr, 2.5 lb/hr, 10.8 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-1439	Additional testing if required [F8] Annual emissions test [F11]	Catalyst monitoring & maintenance [F13]	Record monitoring results and testing [F16]	15 days: notification of testing and shutdown [F20] 30 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: 06, 07

Source Description: C-9, C-10 White Superior 8G-825 Engines

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20% opacity limit [F2]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Verification of natural gas firing [F10]	Record the results of any testing [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	Permit Limits: Table I [F3] Conduct preventative maintenance [F5]	WAQSR Ch 6, Sec 2 Permits MD-357 and MD-924A3	Additional testing if required [F8] Annual emissions test [F11]	Annual emissions test [F11]	Record monitoring results and testing [F16] Maintenance records [F18]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
CO	Permit Limits: Table I [F3] Conduct preventative maintenance [F5]	WAQSR Ch 6, Sec 2 Permits MD-357 and MD-924A3	Additional testing if required [F8] Annual emissions test [F11]	Annual emissions test [F11]	Record monitoring results and testing [F16] Maintenance records [F18]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: 05, 06 Source Description: C-7, C-9 Caterpillar G3608LE Engines, upon installation

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F2]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Verification of natural gas firing [F10]	Record any test results [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	0.7 g/hp-hr, 3.3 lb/hr, 14.4 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Annual emissions test [F11]	Record monitoring and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
CO	0.25 g/hp-hr, 1.2 lb/hr, 5.1 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring, maintenance, and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
VOC	0.2 g/hp-hr, 1.1 lb/hr, 4.9 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring, maintenance, and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
Formaldehyde	0.16 lb/hr, 0.70 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring, maintenance, and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
Additional NO _x , CO, and VOC	As applicable, WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A & JJJ					
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					

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Source ID#: 07 Source Description: C-10 Caterpillar G3606LE or Caterpillar G3516LE Engine, upon installation

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F2]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Verification of natural gas firing [F10]	Record any test results [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Annual emissions test [F11]	Record monitoring and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
CO	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring, maintenance, and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
VOC	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring, maintenance, and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
Formaldehyde	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring, maintenance, and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
Additional NO _x , CO, and VOC	As applicable, WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A & JJJJ					
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					

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Source ID#: 08, 09, and 10 Source Description: C-12, C-13, C-14 White Superior 8G-825 Engines

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20% opacity limit [F2]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Verification of natural gas firing [F10]	Record the results of any testing [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Annual emissions test [F11]	Catalyst monitoring & maintenance [F13]	Record monitoring results and testing [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
CO	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Annual emissions test [F11]	Catalyst monitoring & maintenance [F13]	Record monitoring results and testing [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					

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Source ID#: 19, 21, 22, 23, 24 and 25 Source Description: C-801A, C-801C, C-801D, C-802A, C-802B, C-802C Caterpillar G3612LE Engines

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20% opacity limit [F2]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Verification of natural gas firing [F10]	Record the results of any testing [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Annual emissions test [F11]	Annual emissions test [F11]	Record monitoring and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
CO	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
VOC	For unit 23 only: 0.25 g/hp-hr 1.6 lb/hr 7.0 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring, maintenance, and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
Formaldehyde	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
Additional NO _x , CO, and VOC	For units 19, 21, 23, 24 only: WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A & JJJJ					
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: 20 Source Description: C-801B White Superior 2416G Engine

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulations	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20% opacity limit [F2]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Verification of natural gas firing [F10]	Record the results of any testing [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permits MD-357 and MD-924A3	Additional testing if required [F8] Annual emissions test [F11]	Annual emissions test [F11]	Record monitoring results and testing [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
CO	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permits MD-357 and MD-924A3	Additional testing if required [F8] Annual emissions test [F11]	Annual emissions test [F11]	Record monitoring results and testing [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: 20 Source Description: C-801B Caterpillar G3612LE, upon installation

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F2]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Verification of natural gas firing [F10]	Record any test results [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	0.7 g/hp-hr, 4.5 lb/hr, 19.6 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Annual emissions test [F11]	Record monitoring and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
CO	0.25 g/hp-hr, 1.6 lb/hr, 7.0 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring, maintenance, and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
VOC	0.25 g/hp-hr 1.6 lb/hr 7.0 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring, maintenance, and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
Formaldehyde	0.22 lb/hr 0.95 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Initial performance testing [F9] Annual emissions test [F11]	Catalyst monitoring and maintenance [F13]	Record monitoring, maintenance, and test results [F16]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report catalyst monitoring and maintenance [F22] Report excess emissions and permit deviations [F25]
Additional NO _x , CO, and VOC	As applicable, WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A & JJJJ					
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: 28 and 29 Source Description: C-101E, C-101F Waukesha 7044 GSI Engines

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20% opacity limit [F2]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Verification of natural gas firing [F10]	Record the results of any testing [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Annual emissions test [F11]	Compliance Assurance Monitoring (CAM) [F12] Catalyst monitoring & maintenance [F13]	Record the results of testing [F16] CAM Records [F17] Maintenance records [F18]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report CAM monitoring [F22] Report excess emissions and permit deviations [F25]
CO	Permit Limits: Table I [F3]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Additional testing if required [F8] Annual emissions test [F11]	Compliance Assurance Monitoring (CAM) [F12] Catalyst monitoring & maintenance [F13]	Record the results of testing [F16] CAM Records [F17] Maintenance records [F18]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report CAM monitoring [F22] Report excess emissions and permit deviations [F25]
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: 34 Source Description: Ford WSG-1068 Emergency Engine

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20% opacity limit [F2]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Verification of natural gas firing [F10]	Record the results of any testing [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	1.0 g/hp-hr, 0.3 lb/hr, and 0.1 TPY [F3] 500 hours of annual operation [F3]	WAQSR Ch 6, Sec 2 Waiver AP-8504	Additional testing if required [F8] Once every three years emissions test [F11]	Monitor the hours of operation [F11] Monitor operation and maintenance [F13]	Record monitoring results and testing [F16] Maintenance records [F18]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report year-to-date operating hours [F22] Report excess emissions and permit deviations [F25]
CO	2.0 g/hp-hr, 0.6 lb/hr, and 0.2 TPY [F3] 500 hours of annual operation [F3]	WAQSR Ch 6, Sec 2 Waiver AP-8504	Additional testing if required [F8] Once every three years emissions test [F11]	Monitor the hours of operation [F11] Monitor operation and maintenance [F13]	Record monitoring results and testing [F16] Maintenance records [F18]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report year-to-date operating hours [F22] Report excess emissions and permit deviations [F25]
VOC	0.7 g/hp-hr, 0.7 lb/hr, and 0.1 TPY [F3] 500 hours of annual operation [F3]	WAQSR Ch 6, Sec 2 Waiver AP-8504	Additional testing if required [F8] Once every three years emissions test [F11]	Monitor the hours of operation [F11] Monitor operation and maintenance [F13]	Record monitoring results and testing [F16] Maintenance records [F18]	15 days: notification of testing and shutdown [F20] 45 days: report test results [F21] Semiannual: report year-to-date operating hours [F22] Report excess emissions and permit deviations [F25]
HAPs	WAQSR Ch 5, Sec 3 and 40 CFR 63 Subparts A & ZZZZ					

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: 16, 26, 33 Source Description: H-1 Hot Oil Heater, H-803 Heat Medium Heater, H-901 Heat Medium Heater

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20% opacity limit [F2]	WAQSR Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Verification of natural gas firing [F10]	Record the results of any testing [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	Permit limits: Table I & lb/MMBtu [F3]	WAQSR Ch 6, Sec 2 Permits MD-357 & MD-5924A2, Waiver 6/30/98	Additional testing if required [F8] Once every two years emissions test [F14]	Once every two years emissions test [F14]	Record monitoring results and testing [F16]	15 days: notification of testing [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
CO	Permit limits: Table I & lb/MMBtu [F3]	WAQSR Ch 6, Sec 2 Permits MD-357 & MD-5924A2, Waiver 6/30/98	Additional testing if required [F8] Once every two years emissions test [F14]	Once every two years emissions test [F14]	Record monitoring results and testing [F16]	15 days: notification of testing [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
SO ₂ , PM	For units 26, 33 only: WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A & Dc					

Source ID#: FS-801 and FS-101 Source Description: Emergency Flares

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Visible emissions	Operate and maintain to be smokeless Automatic ignitor or continuous burning pilot [F2]	WAQSR Ch 3, Sec 6 Ch 6, Sec 2 Permit MD-5924A2	Testing if required [F8]	Monitor for presence of pilot flame with thermocouple or equivalent device [F15]	Record monitoring and any testing results [F16]	Semiannual: report monitoring results [F22] Report excess emissions and permit deviations [F25]
VOC	WAQSR Ch 5, Sec 2 and 40 CFR 60 Subparts A & KKK					

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Source ID#: H-401, N/A Source Description: Dehydrator Regenerator Gas Heater, Amine #1 Heater

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20% opacity limit [F2]	WAQSR Ch 3, Sec 2	Testing if required [F8]	Verification of natural gas firing [F10]	Record the results of any testing [F16]	Semiannual: report type of fuel fired [F22] Report excess emissions and permit deviations [F25]
NO _x	For H-401 heater: 0.17 lb/hr and 0.75 TPY [F3] For amine #1 heater: 0.20 lb/MMBtu [F3]	WAQSR Ch 3, Sec 3; WAQSR Ch 6, Sec 2 Permit MD-357	Testing if required [F8]	None	Record the results of any testing [F16]	Report excess emissions and permit deviations [F25]
CO	For H-401 heater: 0.04 lb/hr and 0.16 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-357	Testing if required [F8]	None	Record the results of any testing [F16]	Report excess emissions and permit deviations [F25]

Source ID#: 27, 32 Source Description: Plant #2 Amine Still Vent (V-801), upon installation Plant #1 Amine Still Vent (V-202)

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
VOC	Control with thermal oxidizer with minimum 95% efficiency; 98% efficiency upon installation of plant #1; Established temperature[F4]	WAQSR Ch 6 Sec 2 Permits MD-5924A2, MD-17014	Testing if required [F8]	Continuously measure thermal oxidizer combustion chamber temperature [F15]	Record monitoring results and any testing [F16]	Semiannual: Monitoring reports of temperature excursions [F22] Report excess emissions and permit deviations [F25]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **TO-100** Source Description: **Thermal Oxidizer**

Pollutant	Emissions Limit Practice Standard	Work	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Visible emissions	Operate and maintain to be smokeless [F2]		WAQSR Ch 6, Sec 2 Permits MD-5924A2, MD-17014	Testing if required [F8]	Monitor date, duration of times when the flares exhibit visible emissions for more than 5 min [F10]	Record monitoring and any testing results [F16]	Semiannual: report monitoring results [F22] Report excess emissions and permit deviations [F25]
NO _x	0.15 lb/MMBtu, 7.0 TPY [F3] 0.14 lb/MMBtu, 1.5 lb/hr upon installation of plant #1 [F3]		WAQSR Ch 6, Sec 2 Permits MD-5924A2, MD-17014	Additional testing if required [F8] Initial performance testing [F9] Emissions test once every five years [F15]	Emissions test once every five years [F15]	Record test results [F16]	15 days: notification of testing [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
CO	0.39 lb/MMBtu, 11.9 TPY [F3] 0.24 lb/MMBtu, 2.7 lb/hr upon installation of plant #1 [F3]		WAQSR Ch 6, Sec 2 Permits MD-5924A2, MD-17014	Additional testing if required [F8] Initial performance testing [F9] Emissions test once every five years [F15]	CO monitoring once every five years [F15]	Record test results [F16]	15 days: notification of testing [F20] 45 days: report test results [F21] Report excess emissions and permit deviations [F25]
VOC	0.9 lb/hr, 3.9 TPY and minimum 95% efficiency [F4] 0.9 lb/hr and minimum 98% efficiency upon installation of plant #1 [F4]		WAQSR Ch 6, Sec 2 Permits MD-5924A2, MD-17014	Additional testing if required [F8] Initial performance testing [F9] Emissions test once every five years [F15]	Compliance Assurance Monitoring (CAM) [F15]	Record test results [F16] CAM Records [F17]	15 days: notification of testing [F20] 45 days: report test results [F21] Semiannual: report CAM monitoring [F22] Report excess emissions and permit deviations [F25]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

ABBREVIATIONS
(Modified May 14, 2015)

ACFM	Actual cubic feet per minute
AFRC	Air-Fuel Ratio Control
AQD	Air Quality Division
BACT	Best available control technology (see Definitions)
Btu	British Thermal Unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
CO	Carbon monoxide
CO_{2e}	Carbon dioxide equivalent
DEQ	Wyoming Department of Environmental Quality
EPA	United States Environmental Protection Agency (see Definitions)
ESP	Electrostatic Precipitator
g/hp-hr	Gram(s) per horsepower hour
gal	Gallon(s)
gr	Grain(s)
H ₂ S	Hydrogen sulfide
HAP(s)	Hazardous air pollutant(s)
hp	Horsepower
hr	Hour(s)
ICE	Internal Combustion Engine
lb	Pound(s)
M	Thousand
MACT	Maximum available control technology (see Definitions)
mfr	Manufacturer
mg	Milligram(s)
MM	Million
MVACs	Motor vehicle air conditioners
NO _x	Oxides of nitrogen
NSCR	Non-Selective Catalytic Reduction
O ₂	Oxygen
PM	Particulate matter
PM ₁₀	Particulate matter less than or equal to a nominal diameter of 10 micrometers
ppmv	Parts per million (by volume, dry basis)
ppmw	Parts per million (by weight)
QIP	Quality Improvement Plan
RICE	Reciprocating Internal Combustion Engine
SCF	Standard cubic foot (feet)
SCFD	Standard cubic foot (feet) per day
SCM	Standard cubic meter(s)
SIC	Standard Industrial Classification
SO ₂	Sulfur dioxide
SO _x	Oxides of sulfur
TPD	Ton(s) per day (1 ton = 2000 pounds, unless otherwise specified)
TPH	Ton(s) per hour (1 ton = 2000 pounds, unless otherwise specified)
TPY	Tons per year (1 ton = 2000 pounds, unless otherwise specified)
U.S.C.	United States Code
µg	Microgram(s)
VOC(s)	Volatile organic compound(s)
W.S.	Wyoming Statute
WAQSR	Wyoming Air Quality Standards & Regulations (see Definitions)

DEFINITIONS

"Act" means the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.*

"Administrator" means Administrator of the Air Quality Division, Wyoming Department of Environmental Quality.

"Applicable requirement" means all of the following as they apply to emissions units at a source subject to Chapter 6, Section 3 of the WAQSR (including requirements with future effective compliance dates that have been promulgated or approved by the EPA or the State through rulemaking at the time of issuance of the operating permit):

- (a) Any standard or other requirement provided for in the Wyoming implementation plan approved or promulgated by EPA under title I of the Act that implements the relevant requirements of the Act, including any revisions to the plan promulgated in 40 C.F.R. Part 52;
- (b) Any standards or requirements in the WAQSR which are not a part of the approved Wyoming implementation plan and are not federally enforceable;
- (c) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D of the Act and including Chapter 5, Section 2 and Chapter 6, Sections 2 and 4 of the WAQSR;
- (d) Any standard or other requirement promulgated under Section 111 of the Act, including Section 111(d) and Chapter 5, Section 2 of the WAQSR;
- (e) Any standard or other requirement under Section 112 of the Act, including any requirement concerning accident prevention under Section 112(r)(7) of the Act and including any regulations promulgated by EPA and the State pursuant to Section 112 of the Act;
- (f) Any standard or other requirement of the acid rain program under title IV of the Act or the regulations promulgated thereunder;
- (g) Any requirements established pursuant to Section 504(b) or Section 114(a)(3) of the Act concerning enhanced monitoring and compliance certifications;
- (h) Any standard or other requirement governing solid waste incineration, under Section 129 of the Act;
- (i) Any standard or other requirement for consumer and commercial products, under Section 183(e) of the Act (having to do with the release of volatile organic compounds under ozone control requirements);
- (j) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under title VI of the Act, unless the EPA has determined that such requirements need not be contained in a title V permit;
- (k) Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, but only as it would apply to temporary sources permitted pursuant to Section 504(e) of the Act; and
- (l) Any state ambient air quality standard or increment or visibility requirement of the WAQSR.
- (m) Nothing under paragraphs (A) through (L) above shall be construed as affecting the allowance program and Phase II compliance schedule under the acid rain provision of Title IV of the Act.

"BACT" or "Best available control technology" means an emission limitation (including a visible emission standard) based on the maximum degree of reduction of each pollutant subject to regulation under the WAQSR or regulation under the Federal Clean Air Act, which would be emitted from or which results for any proposed major emitting facility or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application or production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, he may instead prescribe a design, equipment, work practice or operational standard or combination thereof to satisfy the requirement of Best Available Control Technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation and shall provide for compliance by means

which achieve equivalent results. Application of BACT shall not result in emissions in excess of those allowed under Chapter 5, Section 2 of the WAQSR and any other new source performance standard or national emission standards for hazardous air pollutants promulgated by EPA but not yet adopted by the state.

"Department" means the Wyoming Department of Environmental Quality or its Director.

"Director" means the Director of the Wyoming Department of Environmental Quality.

"Division" means the Air Quality Division of the Wyoming Department of Environmental Quality or its Administrator.

"Emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

"EPA" means the Administrator of the U.S. Environmental Protection Agency or the Administrator's designee.

"Fuel-burning equipment" means any furnace, boiler apparatus, stack, or appurtenances thereto used in the process of burning fuel or other combustible material for the purpose of producing heat or power by indirect heat transfer.

"Fugitive emissions" means those emissions which could not reasonably pass through a stack chimney, vent, or other functionally equivalent opening.

"Insignificant activities" means those activities which are incidental to the facility's primary business activity and which result in emissions of less than one ton per year of a regulated pollutant not included in the Section 112 (b) list of hazardous air pollutants or emissions less than 1000 pounds per year of a pollutant regulated pursuant to listing under Section 112 (b) of the Act provided, however, such emission levels of hazardous air pollutants do not exceed exemptions based on insignificant emission levels established by EPA through rulemaking for modification under Section 112 (g) of the Act.

"MACT" or "Maximum achievable control technology" means the maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory that shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator. Emission standards promulgated for existing sources in a category or subcategory may be less stringent than standards for new sources in the same category or subcategory but shall not be less stringent, and may be more stringent than:

- (a) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emission information), excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate applicable to the source category and prevailing at the time, in the category or subcategory for categories and subcategories with 30 or more sources, or
- (b) the average emission limitation achieved by the best performing five sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory for categories or subcategories with fewer than 30 sources.

"Modification" means any physical change in, or change in the method of operation of, an affected facility which increases the amount of any air pollutant (to which any state standards applies) emitted by such facility or which results in the emission of any such air pollutant not previously emitted.

"Permittee" means the person or entity to whom a Chapter 6, Section 3 permit is issued.

"Potential to emit" means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by EPA and the

Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in title IV of the Act or the regulations promulgated thereunder.

"Regulated air pollutant" means the following:

- (a) Nitrogen oxides (NO_x) or any volatile organic compound;
- (b) Any pollutant for which a national ambient air quality standard has been promulgated;
- (c) Any pollutant that is subject to any standard established in Chapter 5, Section 2 of the WAQSR or Section 111 of the Act;
- (d) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act; or
- (e) Any pollutant subject to a standard promulgated under Section 112 or other requirements established under Section 112 of the Act, including Sections 112(g), (j), and (r) of the Act, including the following:
 - (i) Any pollutant subject to requirements under Section 112(j) of the Act. If EPA fails to promulgate a standard by the date established pursuant to Section 112(e) of the Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to Section 112(e) of the Act; and
 - (ii) Any pollutant for which the requirements of Section 112(g)(2) of the Act have been met, but only with respect to the individual source subject to Section 112(g)(2) requirement.
- (f) Pollutants regulated solely under Section 112(r) of the Act are to be regulated only with respect to the requirements of Section 112(r) for permits issued under this Chapter 6, Section 3 of the WAQSR.

"Renewal" means the process by which a permit is reissued at the end of its term.

"Responsible official" means one of the following:

- (a) For a corporation:
 - (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - (ii) A duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - (A) the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
 - (B) the delegation of authority to such representative is approved in advance by the Division;
- (b) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- (c) For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency; or
- (d) For affected sources:
 - (i) The designated representative or alternate designated representative in so far as actions, standards, requirements, or prohibitions under title IV of the Act or the regulations promulgated thereunder are concerned; and
 - (ii) The designated representative, alternate designated representative, or responsible official under Chapter 6, Section 3 (b)(xxvi) of the WAQSR for all other purposes under this section.

"WAQSR" means the Wyoming Air Quality Standards and Regulations promulgated under the Wyoming Environmental Quality Act, W.S. §35-11-101, *et seq.*

APPENDIX A
Reserved
(Modified May 14, 2015)

APPENDIX B
Compliance Assurance Monitoring Plan
(Modified May 14, 2015)

ANADARKO PETROLEUM CORPORATION

COMPLIANCE ASSURANCE MONITORING PLAN:
RICH BURN NATURAL GAS FIRED COMPRESSOR ENGINES EQUIPPED WITH
CATALYTIC CONVERTERS FOR CONTROL OF NO_x AND CO

PATRICK DRAW GAS PROCESSING PLANT

(Revised December 2009)

I. Background

A. Emissions Units

Description: Rich burn natural gas compressor engines with NSCR catalyst

Identification: C-101E, C-101F (Waukesha 7044)

Facility: Patrick Draw Gas Processing Plant

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: Construction Permit MD-357/AP-RFRO

CAM Emission limits: NO_x: 0.9 g/hp-hr, 3.2 lb/hr, 13.9 tpy

CO: 0.5 g/hp-hr, 1.8 lb/hr, 7.7 tpy

Monitoring requirements: The key elements of the monitoring approach are presented in Table 1.

C. Control Technology, Capture System, Bypass, PTE

Controls: Non-selective catalytic reduction

Capture System: N/A

Bypass: none

PTE after controls: NO_x: 13.9 TPY CO: 7.7 TPY

(Based on manufacturer's stated removal efficiency and original design specifications.)

II. Monitoring Approach

The key elements of the monitoring approach are presented in the attached table.

III. Response to Excursion

- A. Excursions of the inlet temperature range, pressure differential across the catalyst, or NO_x or CO levels during emission testing, will trigger an inspection, corrective action, and reporting. Maintenance personnel will inspect the compressors within 72 hours of receiving notification and make needed repairs as soon as practicable. Operation will return to normal upon completed corrective action.
- B. Quality Improvement Plan (QIP) Threshold: Any excursion of NO_x or CO levels during emission testing, while inlet temperature or pressure differential are within the ranges of this plan, shall trigger a QIP. (Note: Proposing a QIP threshold in the CAM submittal is not required.)

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3-2-026

MONITORING APPROACH: Patrick Draw Gas Processing Plant

	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I. Indicator	Temperature of exhaust gas into the catalyst.	Pressure differential across the catalyst.	NO _x and CO measurement.	Inspection/Preventative Maintenance (IPM) in accordance with PM Plan (see updated Plan attached).
Measurement Approach	Exhaust gas temperature into the catalyst is monitored continuously using in-line thermocouples.	The pressure of the inlet catalyst is measured with a pressure gauge. The outlet catalyst pressure is assumed to be atmospheric.	NO _x and CO are measured using either the Division's portable monitoring protocol or Reference Methods.	Inspections according to the PM Plan. Maintenance performed as needed.
II. Indicator Range	Temperature at the inlet of the catalyst shall be maintained between 750°F and 1250°F.	An excursion is defined as a pressure differential change of more than 2 inches of water as compared to the pressure differential measured during the most recent NO _x and CO emission measurement that showed compliance with limits. The load during the monthly pressure measurement and the most recent emissions test must be similar in order to make an excursion determination.	NO _x and CO above permitted values.	N/A
III. Performance Criteria				
A. Data Representativeness	Temperature is measured at the inlet of the catalyst by a thermocouple. The minimum accuracy of the temperature gauge between the indicator range (750°F and 1250°F) is +/-19°F.	The pressure of the inlet catalyst is measured with a pressure gauge. The gauge has a minimum accuracy of 0.25 inches of water.	Gases are measured at the exhaust of the catalyst under normal operating conditions.	IPM is performed on the engine and catalyst system (engine operations, over temperature system, exhaust temperature (thermocouples), air/fuel ratio controller, oxygen sensors, and emissions monitoring).
B. QA/QC Practices and Criteria	Proper measurement of the thermocouple scanner or other end device is validated at least annually.	Proper measurement of the pressure gauge is validated at least annually. Potential plugging of inlet catalyst down tubes are checked during monthly pressure measurements.	As stated in reference method and portable monitoring protocols.	Qualified personnel perform IPM.
C. Monitoring Frequency	Temperature is monitored continuously. Compliance with temperature indicator range is demonstrated from daily inlet catalyst temperature records.	Pressure differential is monitored at least once per calendar month. No monitoring is required for months when engine is not operated.	Emission testing (frequency specified in the IV permit) to verify compliance with permitted emission limits.	Inspections according to the PM Plan.
Data Collection Procedures	Temperature data will be recorded once per day. No observation required for days when engine is not operated.	Pressure differential data will be recorded at least once per month. A note will be made on months when engine is not operated.	As specified in method and portable monitoring protocols.	Records are maintained to document IPM inspections, and any maintenance performed.
Averaging period	None.	None.	None.	N/A

Revised December 2009

JUSTIFICATION

I. Background

The monitoring approach outlined here applies to the three-way non-selective reduction catalyst system used on the natural gas fired compressor engines. The catalyst system is a passive unit and does not have mechanical components. The reduction reaction does not take place properly if the temperature of the engine exhaust gas into the catalyst system is too low or too high. A significant change in pressure drop across the catalyst may indicate damage or fouling to the catalyst.

II. Rationale for Selection of Performance Indicators

Temperature into the catalyst unit is measured because temperature excursions can indicate problems with engine operation that can prevent the chemical reaction from taking place in the catalyst bed. Too low of an exhaust gas temperature reduces the activity of the intended chemical/catalyst reaction. Too high of an exhaust gas temperature can indicate engine problems which can damage the catalyst unit. Daily monitoring of inlet gas temperature to the catalyst will help assure proper operation of the catalyst. Compliance with the temperature indicator range is demonstrated from daily inlet catalyst temperature records.

Pressure differential across the catalyst may indicate if the catalyst unit is damaged, resulting in channeling or other problems, or if there is fouling/plugging in the catalyst. Both conditions would result in reduced catalyst performance.

Implementation of the Inspection/Preventative Maintenance (IPM) Plan related to the operation of the engines and catalyst system provides assurance that they are in good repair and operating properly. Items on the IPM checklist include checking engine operation for proper operation, testing of the over temperature system, checking the temperature of the exhaust (the thermocouples are stable instruments and are to be validated annually), inspecting the fuel/air ratio controller and oxygen sensors, and testing of emissions of the engine exhaust.

NO_x and CO emissions testing (frequency specified in the TV permit) will demonstrate continued compliance with emission limits and the possible link between the temperature indicator range, pressure differential, implementation of the IPM plan, and proper operation of the engines and catalyst.

III. Rationale for Selection of Indicator Ranges

An exhaust gas temperature range of 750°F to 1250°F has been selected based upon the catalyst manufacturer's suggested operating parameters for optimal chemical reaction and this company's field experience. This is also the temperature range that is a required operating limitation for rich burn, catalytically controlled engines subject to the reciprocating internal combustion engine (RICE) NESHAP. A pressure differential change of more than 2 inches of water is based on information from the catalyst vendor which indicated that such a change should trigger catalyst inspection for damage or fouling. (The load during the monthly pressure measurement and the most recent emissions test must be similar in order to make an excursion determination.) This indicator range is also consistent with operating limitations in the RICE NESHAP. The IPM checklist was developed based on manufacturer's recommendations and the company's operating experience with similar units.

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ANADARKO PETROLEUM CORPORATION
COMPLIANCE ASSURANCE MONITORING PLAN:
PLANT #1 AND PLANT #2 AMINE STILL VENTS
VOC CONTROL DEVICE – THERMAL OXIDIZER (TO-100)
(Revised February 2015)

I. Background

A. Emissions Units

Description: Thermal Oxidizer controlling VOC Emissions from Plant #1 and #2 Amine Still Vents

Identification: TO-100

Facility: Patrick Draw Gas Processing Plant

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: MD-16751

CAM Emission limits: VOC: 0.9 lb/hr, 3.9 TPY, 98% destruction

Monitoring requirements: The key elements of the monitoring approach are presented below.

C. Control Technology, Capture System, Bypass, PTE

Controls: Thermal Oxidizer

Capture System: N/A

Bypass: none

Uncontrolled PTE Plant #1: Uncontrolled emissions will be measured during the initial performance test.

Uncontrolled PTE Plant #2: VOC: 168.1 lb/hr 846.5 TPY

(Plant #2 uncontrolled PTE based on source test of unit TO-100 9/17/2008 NMEOC test results.)

II. Monitoring Approach

A. Indicators

Combustion chamber temperature will be used as the indicator for the performance of the thermal oxidizer (TO-100). An electronic fire detector monitors the presence of a pilot flame in the combustor, and will automatically shut the unit down if a flame is not present.

B. Measurement Approach

The temperature of the combustion chamber shall be monitored by a thermocouple and the temperature of the oxidizer shall be recorded continuously. The data will be recorded in DeltaV, the plant operations control system that has historical data capability. The Asset and Compliance Tracking System (ACTS) will send plant personnel alert reminders to ensure the averages are being recorded in DeltaV.

C. Indicator Range

A minimum combustion chamber temperature of 1,440 °F is required for proper thermal destruction of VOC's. The upper limit of the chamber temperature is 1,500 °F, which automatically shuts the unit down. Currently only Plant #2 is in operation. A new combustion chamber temperature limit will be established during the initial performance test as required by MD-16571 Condition 8. This minimum temperature limit will control VOC's from both Plant #1 and Plant #2 amine still vents.

D. Performance Criteria

Compliance with the minimum operating temperature of the thermal oxidizer shall be based on the 24-hour block average combustion temperature as measured by the thermocouple. The 24-hour block average shall be calculated based on the average of the valid 1-hour averages. Valid data shall meet the requirements of WAQSR, Chapter 5, Section 2(j).

FEB 13 2015

III. Response to Excursion

- A. Excursions are defined as any 24-hr block average combustion temperature, based on the average of the valid 1-hr averages, below the minimum temperature of 1,440 °F.
- B. Upon noting a 24-hour block average combustion temperature below the minimum operating temperature of 1,440 °F, the plant operator will immediately notify maintenance to inspect the thermal oxidizer. Maintenance personnel will inspect and make needed repairs or adjustments as soon as practicable.
- C. Anadarko Petroleum Corporation shall submit excess emission reports within 30 days following each calendar half or as specified in Chapter 6, Section 3 permit listing each excursion of the minimum operating temperature. For each excursion, the date and the 24-hour average operating temperature shall be provided.

IV. Justification

A. Background

Thermal oxidizers are combustion systems that control VOC, volatile HAP, and CO emissions by combusting them to carbon dioxide and water. The rate at which VOC compounds, volatile HAP, and CO are oxidized is greatly affected by temperature; the higher the temperature, the faster the oxidation reaction proceeds. Because inlet gas concentrations are well below the lower explosive limit (LEL) to prevent pre-ignition explosions in ducting the stream from the process to the oxidizer, the gas must be heated with auxiliary fuel above the auto-ignition temperature.

B. Rationale for Selection of Performance Indicators

The design of an incineration system is dependent on the pollutant concentration in the waste gas stream, type of pollutant, presence of other gases, level of oxygen, stability of processes vented to the system, and degree of control required. Important design factors include temperature (a temperature high enough to ignite the organic constituents in the waste gas stream), residence time (sufficient time for the combustion reaction to occur), and turbulence or mixing of the combustion air with waste gas. Time, temperature, degree of mixing, and sufficient oxygen concentration govern the completeness of the combustion reaction. Of these, only temperature and oxygen concentration can be significantly controlled after construction. The minimum operating temperature of 1,440 °F was determined by conducting emission performance tests September 17, 2008. A new minimum operating temperature limit will be established during the initial performance test, once Plant #1 is in operation, as required by MD-16571 Condition 8.

C. Rationale for Selection of Indicator Range

Based on the September 17, 2008, thermal oxidizer emission tests, a 99.8% NMEOC destruction efficiency was achieved at an operating temperature of 1,440 °F. At this operating temperature, the permitted VOC limit of 0.9 lb/hr and 3.9 TPY was tested at 0.3 lb/hr and 1.2 TPY. In addition, the NOx performance test results of 0.9 lb/hr and 3.9 TPY showed compliance with the permitted limits of 1.6 lb/hr and 7.0 TPY. The CO performance test results of 1.6 lb/hr and 6.8 TPY showed compliance with the permitted limits of 2.8 lb/hr and 11.9 TPY.

Within 30 days of achieving the maximum design rate of Plant #1 a performance test will be conducted per condition #8 of MD-16571. The initial performance test will establish temperature limit as per condition #11 of MD-1657, and will verify compliance with NOx, CO, and VOC emission limits and the required destruction efficiency. A revised CAM plan will be submitted as a modification to the Title V operating permit to reflect the results of the initial performance test.

A VOC emission performance test will be conducted once every 5 years to verify the operating temperature and destruction efficiency is within the required permitted limits.

FEB 13 2011

APPENDIX C
Reserved
(Modified May 14, 2015)

APPENDIX D
Preventative Maintenance Plan

ANADARKO PETROLEUM CORPORATION

RICH BURN NATURAL GAS FIRED ENGINES WITH CATALYTIC CONVERTERS PREVENTATIVE MAINTENANCE PLAN - WYOMING (Revised October 2009)

The following is a Preventative Maintenance (PM) plan for all rich burn, natural gas fired compressor engines equipped with catalytic converters in Wyoming. The PM plan will ensure optimum operations of the converters, avoid situations that could cause converter damage, and identify problems in a timely manner.

ENGINE OPERATIONS

Proper engine operation is critical to the performance of catalytic converters. If an engine misfires, it produces high catalyst temperatures because the unburned air/fuel mixture burns when it contacts the catalyst. Several misfiring cylinders can produce enough heat to cause permanent damage to the catalyst.

Preventative Maintenance: Each engine will be checked weekly for proper operations.

OVER TEMPERATURE SYSTEM

Each converter is equipped with an over temperature system which protects the catalyst from excessive temperature conditions caused by misfires.

Preventative Maintenance: The catalyst over temperature system will be tested annually to ensure it is working. This consists of grounding the switch and creating an alarm on the control panel.

EXHAUST TEMPERATURE

For efficient converter operations, the exhaust gas must be above 750° F at all times, with a maximum of 1250° F.

Preventative Maintenance: The temperature of the exhaust gas will be checked after every 2190 hours of operation.

AIR/FUEL RATIO CONTROLLER

The air/fuel ratio controllers are used in conjunction with catalytic converters to control emissions. The air/fuel ratio controllers are set to control emissions at the allowable rates.

Preventative Maintenance: The air/fuel ratio set points will be checked annually and adjusted accordingly. The controller will be checked weekly to ensure it is operating, and that there are no alarms of the engine exceeding the limits of the controller. Oxygen sensors that are located in the exhaust manifold will be replaced every 2190 hours of operation. Oxygen sensors that are not located in the exhaust manifold will be replaced on an annual basis, or as needed.

PERFORMANCE MONITORING

To track performance of the converters and to detect early signs of converter problems NO_x and CO emissions will be monitored in the exhaust stream.

Preventative Maintenance: Following the applicable State/Federal protocol for portable analyzers, a portable analyzer test will be performed annually (or at the frequency indicated in the air permit) to determine NO_x and CO emission rates in the exhaust gas.

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APPENDIX E through I
Reserved
(Modified May 14, 2015)

