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BUTCH TONGATE  
CABINET SECRETARY

**AIR QUALITY BUREAU  
NEW SOURCE REVIEW PERMIT  
Issued under 20.2.72 NMAC**

Certified Mail No: 7017 1450 0001 2818 8748  
Return Receipt Requested

<b>NSR Permit No:</b>	3275-M2
<b>Facility Name:</b>	Four Peaks Energy LLC
<b>Owner:</b>	Four Peaks Energy LLC
<b>Operator:</b>	ENERGYneering Solutions Inc
<b>Mailing Address:</b>	15820 Barclay Drive Sisters, OR 97759
<b>TEMPO/IDEA ID No:</b>	24483-PRN20180001
<b>AIRS No:</b>	35 0130046
<b>Permitting Action:</b>	Significant Permit Revision
<b>Source Classification:</b>	Title V Facility
<b>Facility Location:</b>	1000 Camino Real Rd, Sunland Park, NM
<b>County:</b>	Doña Ana
<b>Air Quality Bureau Contact Main AQB Phone No.</b>	Cember Hardison (505) 476-4300

Liz Bisbey-Kuehn  
Bureau Chief  
Air Quality Bureau

SEP 28 2018

Date



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**PART A FACILITY SPECIFIC REQUIREMENTS**

**A100 Introduction**

- A. This permit, NSR 3275-M2, supersedes all portions of Air Quality Permit NSR 3275M1R1 issued 12-28-2006.

**A101 Permit Duration (expiration)**

- A. The term of this permit is permanent unless withdrawn or cancelled by the Department.

**A102 Facility: Description**

- A. The function of the facility is to generate up to 3.2 MW of commercial electric power using landfill gas to fuel two Caterpillar engine-run generators.
- B. This facility is located at 1000 Camino Real Blvd, Sunland Park, Doña Ana County, New Mexico.
- C. Purpose of Permit Application: The existing permit requires a control device, called an oxidation catalyst, that is used to reduce Carbon Monoxide (CO) emissions from the engines. However, oxidation catalysts don't work when landfill gas is used as fuel. Therefore, they are requesting to remove the requirement to reduce CO emissions with a control device which will result in an increase in CO emission limits. The emission limits of the other pollutants are lower based on more accurate information. The facility also has a new owner and operator, Four Peaks Energy LLC and ENERGYneering Solutions Inc who specialize in this industry.
- D. Tables 102.A and Table 102.B show the total potential emission rates (PER) from this facility for information only. This is not an enforceable condition and excludes emissions from Minor NSR exempt activities per 20.2.72.202 NMAC.

**Table 102.A: Total Potential Emission Rate (PER) from Entire Facility**

<b>Pollutant</b>	<b>Emissions (tons per year)</b>
Nitrogen Oxides (NOx)	39.7
Carbon Monoxide (CO)	182.7
Volatile Organic Compounds (VOC) *	43.3
Sulfur Dioxide (SO <sub>2</sub> )	11.3
Total Suspended Particulates (TSP)	7.6
Particulate Matter 10 microns or less (PM <sub>10</sub> )	7.6
Particulate Matter 2.5 microns or less (PM <sub>2.5</sub> )	7.6

**Table 102.A: Total Potential Emission Rate (PER) from Entire Facility**

Pollutant	Emissions (tons per year)
Hydrogen Sulfide (H <sub>2</sub> S)	0.0
Lead	0.0
Greenhouse Gas (GHG) as CO <sub>2</sub> e	38,058.9

\* Hazardous air pollutants (HAPs) emissions that are also VOCs are included in the VOC emissions listed in Table 102.A.

**Table 102.B: Total Potential Emissions Rate (PER) for Hazardous Air Pollutants (HAPs) that exceed 1.0 ton per year**

Pollutant	Emissions (tons per year)
Total HAPs**	0.25

\*\* Total HAPs emissions listed in Table 102.B do not include HAPs that are also VOCs. HAPs that are also VOCs are included in the VOC emissions in Table 102.A.

**A103 Facility: Applicable Regulations**

- A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A.

**Table 103.A: Applicable Requirements**

Applicable Requirements	Federally Enforceable	Unit No.
20.2.1 NMAC General Provisions	X	Entire Facility
20.2.3 NMAC Ambient Air Quality Standards	X	Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.61 NMAC Smoke and Visible Emissions	X	E1 and E2
20.2.70 NMAC Operating Permits	X	Entire Facility
20.2.71 NMAC Operating Permit Fees	X	Entire Facility
20.2.72 NMAC Construction Permit	X	Entire Facility
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility
20.2.75 NMAC Construction Permit Fees	X	Entire Facility
20.2.77 NMAC New Source Performance	X	Units subject to 40 CFR 60
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Units subject to 40 CFR 63
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility
40 CFR 60, Subpart A, General Provisions	X	Gas Pre-Treatment System
40 CFR 60, Subpart WWW	X	Gas Pre-Treatment System
40 CFR 60, Subpart Cf	X	Gas Pre-Treatment System
40 CFR 63, Subpart A	X	E1 and E2
40 CFR 63, Subpart ZZZZ	X	E1 and E2

**A104 Facility: Regulated Sources**

- A. Table 104.A lists the emission units authorized for this facility. Emission units identified as exempt activities (as defined in 20.2.72.202 NMAC) and/or equipment not regulated pursuant to the Act are not included.

**Table 104.A: Regulated Sources List**

Unit No.	Source Description	Make	Model	Serial No.	Construction/Reconstruction Date	Manufacture Date	Manufacturer Rated Capacity Equals Permitted Capacity
E1	LFG Genset Engine (4SLB)	Caterpillar	3520C	GZJ00180	7-13-2005	7-13-2005	1.6 MW & 2242 hp
E2	LFG Genset Engine (4SLB)	Caterpillar	3520C	GZJ00270	8-17-2006	8-17-2006	1.6 MW & 2242 hp

All like-kind engine replacements must be evaluated for applicability to NSPS and MACT requirements.

**A105 40 CFR 60, Subpart WWW and Cf LFG Control Requirements**

- A. The Landfill Gas (LFG) pre-treatment system is an approved LFG control device pursuant to 40 CFR 60, Subpart WWW, to eventually be replaced by Subpart Cf. The permittee shall operate the LFG pre-treatment system pursuant to 60.752(b)(2)(iii)(C) (WWW) or 60.33f(c)(3) and (4) (Cf).

**A106 Facility: Emission Limits**

- A. The following Section lists the emission units and their allowable emission limits. (40 CFR 50; 40 CFR 60, Subparts A, WWW, and Cf; 40 CFR 63, Subparts A and ZZZZ; and 20.2.72.210.A and B.1 NMAC).

**Table 106.A: Allowable Emissions**

Unit No.	NO <sub>x</sub> <sup>1</sup> pph	NO <sub>x</sub> <sup>1</sup> tpy	CO pph	CO tpy	VOC pph	VOC tpy	SO <sub>2</sub> pph	SO <sub>2</sub> tpy	TSP pph	TSP tpy	PM <sub>10</sub> pph	PM <sub>10</sub> tpy	PM <sub>2.5</sub> pph	PM <sub>2.5</sub> tpy	H <sub>2</sub> S pph / tpy
E1	4.5	20.0	20.9	91.4	4.9	21.7	1.3	5.6	0.9	3.8	0.9	3.8	0.9	3.8	0
E2	4.5	20.0	20.9	91.4	4.9	21.7	1.3	5.6	0.9	3.8	0.9	3.8	0.9	3.8	0

- 1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO<sub>2</sub>
- 2 For Title V facilities, the Title V annual fee assessments are based on the sum of the ton per year emission limits in Section A106.
- 3 To report excess emissions for sources with no pound per hour and/or ton per year emission limits, see condition B110F.

- B. Engine Units E1 and E2 are subject to emissions standards at 40 CFR 63.6603(a), Table 2.d, requirement 13. The permittee shall ensure that the units comply with these emissions standards in 40 CFR 63, Subpart ZZZZ.

**A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) pph and tpy Limits**

- A. Neither pound per hour nor ton per year SSM emission limits are required for this facility since emission rates during SSM events are equal to or less than the limits in Table 106.A. The permittee shall meet the requirements Condition B109.C(1) and (4) for emission limits listed in Table 106A.

**A108 Limits on Operating Hours – Not Applicable**

- A. This facility is authorized for continuous operation. Monitoring, recordkeeping, and reporting are not required to demonstrate compliance with continuous operation.

**A109 Facility: Reporting Schedules**

- A. The permittee shall report according to the Specific Conditions and General Conditions of this permit.

**A110 Facility: Fuel and Fuel Sulfur Requirements – See Section A601**

**A111 Facility: 20.2.61 NMAC Opacity**

- A. 20.2.61 NMAC Opacity Limit (Units E1 and E2)

<p><b>Requirement:</b> Visible emissions from Units E1 and E2 emission stacks shall not equal or exceed an opacity of 20 percent in accordance with the requirements at 20.2.61.109 NMAC.</p>
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**Monitoring:**

- |  |
|--|
| <ul style="list-style-type: none"> <li>(1) Any time visible emissions are observed from an engine’s emissions stack after startup mode, the permittee shall monitor for visible emissions from each engine’s combustion stack for 2 minutes during at least a 12-minute observation according to EPA Method 22 in 40 CFR 60, Appendix A or the permittee shall monitor the percent opacity using EPA Reference Method 9 in 40 CFR 60, Appendix A for at least 10 minutes pursuant to 20.2.61.114 NMAC.</li> <li>(2) Alternative to completing an EPA Method 22 or 9 observation, if visible emissions are observed after completion of engine startup, the operator may shut down the unit to perform maintenance or repair to eliminate the visible emissions. <ul style="list-style-type: none"> <li>(a) Following completion of equipment maintenance or repair, the operator shall conduct visible emission observations for at least 12 minutes using EPA Method 22 or measure opacity using EPA Method 9 for at least 10 minutes.</li> </ul> </li> <li>(3) For the purposes of this condition, <i>Startup mode</i> is defined as the startup period that is described in the facility’s startup plan.</li> </ul> |
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**Recordkeeping:**

- |  |
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| <ul style="list-style-type: none"> <li>(1) The permittee shall keep records in accordance with the requirements of Section B109 and as follows: <ul style="list-style-type: none"> <li>(a) For any visible emissions observations conducted in accordance with EPA Method 22,</li> </ul> </li> </ul> |
|--|

<p>record the information on the form referenced in EPA Method 22, Section 11.2.</p> <p>(b) For any opacity observations conducted in accordance with the requirements of EPA Method 9, record the information on the form referenced in EPA Method 9, Sections 2.2 and 2.4.</p> <p>(c) Anytime an engine is shut down for maintenance or repair when visible emissions are observed.</p>
<p><b>Reporting:</b> The permittee shall report in accordance with Section B110.</p>

## **EQUIPMENT SPECIFIC REQUIREMENTS**

### **LANDFILL GAS TO ENERGY FACILITY**

#### **A600 Landfill Gas to Energy Facility (LFGTE)**

- A. This section applies to common equipment found at Landfill Gas to Energy Facilities (SIC-4911).

#### **A601 Generator Engines**

- A. 40 CFR 63, Subpart ZZZZ (Units E1 and E2)

##### **Requirement:**

- (1) Engines E1 and E2 are subject to the following MACT ZZZZ emissions standards at 63.6603(a), Table 2.d, item 13 and the permittee shall ensure compliance with these standards:
  - (a) Change oil and filter every 1,440 hours of operation or annually, whichever comes first;
  - (b) Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and
  - (c) Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.
- (2) The permittee shall develop a work or management practices plan (i) according to the manufacturer's emission related operating and maintenance; or (ii) develop and follow your own maintenance plan per the requirements in 63.6640, Table 6, number 9.
- (3) The permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes (63.6625(h)).
- (4) The permittee has the option of using oil analysis program in place of changing oil at the frequency listed footnote 1 of Table 2d of Subpart ZZZZ if the permittee meets the requirements at 40 CFR 63.6625(j).

**Monitoring:** The permittee shall comply with all applicable monitoring requirements of 40 CFR 63, Subpart A and Subpart ZZZZ, including at 63.6625(c) that states



“if you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel.

In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.”

**Recordkeeping:** The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart ZZZZ, including but not limited to 63.10, 63.6655, and 63.6660.

**Reporting:** The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart A and ZZZZ, including but not limited to 63.6650(a), Table 7 number 2, 63.9, and 63.10.

#### B. Periodic Emissions Tests for NO<sub>x</sub> and CO (Units E1 and E2)

**Requirement:** The permittee shall demonstrate compliance with the NO<sub>x</sub> and CO emission limits in Table 106.A by completing periodic emission tests on engines E1 and E2.

**Monitoring:**

- (1) The permittee shall test using a portable analyzer or EPA Reference Methods subject to the requirements and limitations of Section B108, General Monitoring Requirements.
- (2) Emission testing is required for NO<sub>x</sub> and CO.
- (3) Testing frequency shall be once per calendar year.
- (4) The first periodic test shall occur within the first calendar year occurring after completing the initial compliance tests required at A601.C.
- (5) Each periodic test shall occur no closer than three months apart.
- (6) The permittee shall follow the General Testing Procedures of Section B111.

**Recordkeeping:** The permittee shall maintain records in accordance with Section B109, B110, and B111.

**Reporting:** The permittee shall report in accordance with Section B109, B110, and B111.

#### C. Initial Compliance Tests for NO<sub>x</sub>, CO, and VOCs (Units E1 and E2)

**Requirement:**

- (1) By June 1, 2019, the permittee shall demonstrate compliance with the NO<sub>x</sub>, CO, and VOC emission limits in Table 106.A by performing initial compliance tests on Engines E1 and E2. This time frame is needed to allow the gas flow rate to stabilize after completion of the upgrades to Camino Real’s Gas Collection and Control System and time for adjustments and repairs to Engines E1 and E2 necessary to operate on the adjusted gas flow rate and composition.
- (2) Condition B111.A(2) time frame does not apply since these units are operating.
- (3) If an extension to this deadline is needed, the permittee shall submit an administrative permit revision pursuant to 20.2.72.219.A NMAC, requesting approval to extend the testing deadline. This request shall be submitted to the attention of the Permit Programs Manager, before the June 1, 2019 deadline.

**Monitoring:**

- (1) The permittee shall perform initial compliance tests for NO<sub>x</sub>, CO, and VOCs according to the initial compliance and general testing requirements in Section B111.
- (2) The monitoring exemptions of Section B108 do not apply to these compliance test requirements.

**Recordkeeping:** The permittee shall maintain records in accordance with the applicable Sections in B109, B110, and B111.

**Reporting:** The permittee shall report in accordance with the applicable Sections in B109, B110, and B111.

- D. Compliance with Engine SO<sub>x</sub> Emission Limits (Units E1 and E2) – To demonstrate compliance with the SO<sub>x</sub> emission limits in Table 106.A for Units E1 and E2, the permittee shall limit the total reduced fuel sulfur content to the limit required in Condition A602B.

**A602 LFG Pre-Treatment, LFG Fuel Requirements, and Fuel Monitoring, Bypass Valve**

- A. 40 CFR 60, Subparts WWW and Cf (Landfill Gas Pre-Treatment System and LFG Bypass Requirements)

**Requirement:**

- (1) To demonstrate compliance with emission limits for Units E1 and E2 in Table 106.A and 40 CFR 60, Subparts WWW and Cf, the permittee shall meet the requirements of this condition.
- (2) The Landfill Gas (LFG) pre-treatment system is an approved LFG control device pursuant to 40 CFR 60, Subpart WWW, to eventually be replaced by Subpart Cf.
- (3) The permittee shall operate the LFG pre-treatment system pursuant to 60.752(b)(2)(iii)(C) (NSPS WWW) or 60.33f(c)(3) and (4) NSPS (Cf).
- (4) At no time shall the permittee vent LFG directly to the atmosphere. If LFG must be vented, it shall be routed to an LFG control system described in 40 CFR 60.752 (b)(2)(iii) (A) or (B) or 60.33f(c)(1) and (2).
- (5) Pursuant to 60.755(e) The provisions of 40 CFR 60, subpart WWW apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 1 hour for treatment or control devices.

**Monitoring:** The permittee shall meet the monitoring requirements at 40 CFR 60.39f(g).

**Recordkeeping:** These records requirements are found at 40 CFR 60.39f(b)(5) (NSPS Cf) and apply regardless if the LFG pre-treatment system is subject to this regulation.

The permittee shall keep the following records of the LFG pre-treatment system to demonstrate compliance with LFG treatment systems at 60.33f(c)(3) or 60.752(b)(2)(iii)(C):

60.39f(b)(5) (ii) Site-specific treatment monitoring plan, to include:

- (A) Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use

of the treated landfill gas. At a minimum, records should include records of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas.

(B) Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.

(C) Documentation of the monitoring methods and ranges, along with justification for their use.

(D) Identify who is responsible (by job title) for data collection.

(E) Processes and methods used to collect the necessary data.

(F) Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems.

**Reporting:** The permittee shall report according to Section B110. Reports are not required by 40 CFR 60, Subparts WWW or Cf.

#### B. Landfill Gas (LFG) Fuel Sulfur Limit

**Requirement:**

- (1) To demonstrate compliance with the SO<sub>2</sub> emission limits in Table 106.A engines E1 and E2 shall combust only pre-treated landfill gas (LFG) containing no more than 234.5 ppmv of total reduced sulfur (S).
- (2) This permit does not authorize supplemental fuel, such as propane. Only pre-treated LFG shall be used.

**Monitoring:**

- (1) Within 180 days of issuance of permit number 3275-M2, the permittee shall complete a gas analysis of the post-treated LFG that measures the quantity of reduced sulfur compounds.
- (2) Subsequent gas analyses measuring total sulfur content shall be completed at least once every two calendar years.

**Recordkeeping:** Records shall be kept of the LFG fuel gas analyses.

**Reporting:** The permittee shall report in accordance with Section B110.

#### C. LFG Fuel Monitoring

**Requirement:**

- (1) To ensure efficient combustion of the LFG, the pre-treatment system shall be equipped with an electronic data system that measures the flow-rate and methane or heat content of the post-treated LFG.
- (2) Flowrate and methane or heat content shall be recorded at least once every 15 minutes while the pre-treatment skid is in operation.
- (3) Methane or heat content measurements can be made using a hand-held analyzer at least weekly in the event that data from the facility's primary gas analyzer is unavailable.

**Monitoring:** The permittee shall monitor the LFG fuel flow rate and the concentrations of methane or the heat content of the fuel.

**Recordkeeping:**

- (1) The permittee shall keep electronic records of
  - (a) the LFG fuel flow rate, and
  - (b) the methane or heat content.
- (2) The permittee shall also keep records of
  - (a) when the methane/heat content is measured using a hand-held analyzer;
  - (b) the dates when the primary gas analyzer is unavailable and the reason(s) why; and
  - (c) records when engines were shut down.

**Reporting:** The permittee shall report in accordance with Section B110.

**PART B      GENERAL CONDITIONS (Attached)**

**PART C      MISCELLANEOUS: Supporting On-Line Documents; Definitions;  
Acronyms (Attached)**

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**GENERAL CONDITIONS AND MISCELLANEOUS**

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**PART B GENERAL CONDITIONS****B100 Introduction**

- A. The Department has reviewed the permit application for the proposed construction/modification/revision and has determined that the provisions of the Act and ambient air quality standards will be met. Conditions have been imposed in this permit to assure continued compliance. 20.2.72.210.D NMAC, states that any term or condition imposed by the Department on a permit is enforceable to the same extent as a regulation of the Environmental Improvement Board.

**B101 Legal**

- A. The contents of a permit application specifically identified by the Department shall become the terms and conditions of the permit or permit revision. Unless modified by conditions of this permit, the permittee shall construct or modify and operate the Facility in accordance with all representations of the application and supplemental submittals that the Department relied upon to determine compliance with applicable regulations and ambient air quality standards. If the Department relied on air quality modeling to issue this permit, any change in the parameters used for this modeling shall be submitted to the Department for review. Upon the Department's request, the permittee shall submit additional modeling for review by the Department. Results of that review may require a permit modification. (20.2.72.210.A NMAC)
- B. Any future physical changes, changes in the method of operation or changes in restricted area may constitute a modification as defined by 20.2.72 NMAC, Construction Permits. Unless the source or activity is exempt under 20.2.72.202 NMAC, no modification shall begin prior to issuance of a permit. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)
- C. Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, will increase the discharge of emissions or affect modeling results. Any such proposed changes shall be submitted as a revision or modification. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)
- D. The permittee shall establish and maintain the property's Restricted Area as identified in plot plan submitted with the application. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)
- E. Applications for permit revisions and modifications shall be submitted to:  
Program Manager, Permits Section  
New Mexico Environment Department

Air Quality Bureau  
525 Camino de los Marquez, Suite 1  
Santa Fe, NM 87505

- F. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.

**B102 Authority**

- A. This permit is issued pursuant to the Air Quality Control Act (Act) and regulations adopted pursuant to the Act including Title 20, Chapter 2, Part 72 of the New Mexico Administrative Code (NMAC), (20.2.72 NMAC), Construction Permits and is enforceable pursuant to the Act and the air quality control regulations applicable to this source.
- B. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the delegation and exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).

**B103 Annual Fee**

- A. The Department will assess an annual fee for this Facility. The regulation 20.2.75 NMAC set the fee amount at \$1,500 through 2004 and requires it to be adjusted annually for the Consumer Price Index on January 1. The current fee amount is available by contacting the Department or can be found on the Department's website. The AQB will invoice the permittee for the annual fee amount at the beginning of each calendar year. This fee does not apply to sources which are assessed an annual fee in accordance with 20.2.71 NMAC. For sources that satisfy the definition of "small business" in 20.2.75.7.F NMAC, this annual fee will be divided by two. (20.2.75.11 NMAC)
- B. All fees shall be remitted in the form of a corporate check, certified check, or money order made payable to the "NM Environment Department, AQB" mailed to the address shown on the invoice and shall be accompanied by the remittance slip attached to the invoice.

**B104 Appeal Procedures**

- A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for hearing before the Environmental Improvement Board. The petition shall be made in writing to the

Environmental Improvement Board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered and attach a copy of the permitting action for which review is sought. Unless a timely request for hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to: (20.2.72.207.F NMAC)

For Mailing:

Administrator, New Mexico Environmental Improvement Board  
P.O. Box 5469  
Santa Fe, NM 87502-5469

For Hand Delivery:

Administrator, New Mexico Environmental Improvement Board  
1190 St. Francis Drive, Harold Runnels Bldg.  
Santa Fe, New Mexico 87505

#### **B105 Submittal of Reports and Certifications**

- A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to [Stacktest.AQB@state.nm.us](mailto:Stacktest.AQB@state.nm.us) or as directed by the Department.
- B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC)
- C. Routine reports shall be submitted to the mailing address below, or as directed by the Department:

Manager, Compliance and Enforcement Section  
New Mexico Environment Department  
Air Quality Bureau  
525 Camino de los Marquez, Suite 1  
Santa Fe, NM 87505

#### **B106 NSPS and/or MACT Startup, Shutdown, and Malfunction Operations**

- A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c), unless specifically exempted in the applicable subpart.



- B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction shall not be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.
- C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart.

**B107 Startup, Shutdown, and Maintenance Operations**

- A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (SSM work practice plan) (20.2.7.14.A NMAC)

**B108 General Monitoring Requirements**

- A. These requirements do not supersede or relax requirements of federal regulations.
- B. The following monitoring requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.
- C. If the emission unit is shutdown at the time when periodic monitoring is due to be completed, the permittee is not required to restart the unit for the sole purpose of conducting the monitoring. Using electronic or written mail, the permittee shall notify the Department's Compliance and Enforcement Section of a delay in emission tests prior to the deadline for completing the tests. Upon recommencing operation, the permittee shall submit pre-test notification(s) to the Department's Compliance and Enforcement Section and shall complete the monitoring.

- D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke the monitoring period exemption at B108.D(2), hours of operation shall be monitored and recorded.
- (1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.
  - (2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.
  - (3) If invoking the monitoring **period** exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during any five-year period.
- E. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.
- F. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.
- G. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance.
- H. Unless otherwise indicated by Specific Conditions or regulatory requirements, all instrumentation used to measure parameters including but not limited to flow, temperature, pressure and chemical composition, or used to continuously monitor

emission rates and/or other process operating parameters, shall be subject to the following requirements:

- (1) The owner or operator shall install, calibrate, operate and maintain monitoring instrumentation (monitor) according to the manufacturer's procedures and specifications and the following requirements.
  - (a) The monitor shall be located in a position that provides a representative measurement of the parameter that is being monitored.
  - (b) At a minimum, the monitor shall complete one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.
  - (c) At a minimum, the monitor shall be spanned to measure the normal range +/- 5% of the parameter that is being monitored.
  - (d) At least semi-annually, perform a visual inspection of all components of the monitor for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion.
  - (e) Recalibrate the monitor in accordance with the manufacturer's procedures and specifications at the frequency specified by the manufacturer, or every two years, whichever is less.
- (2) Except for malfunctions, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments), the permittee shall operate and maintain all monitoring equipment at all times that the emissions unit or the associated process is operating.
- (3) The monitor shall measure data for a minimum of 90 percent of the time that the emissions unit or the associated process is in operation, based on a calendar monthly average.
- (4) The owner or operator shall maintain records in accordance with Section B109 to demonstrate compliance with the requirements in B108H (1)-(3) above, as applicable.

### **B109 General Recordkeeping Requirements**

- A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any other applicable requirements that become effective after permit issuance. The minimum information to be included in these records is as follows:
  - (1) Records required for testing and sampling:
    - (a) equipment identification (include make, model and serial number for all tested equipment and emission controls)
    - (b) date(s) and time(s) of sampling or measurements
    - (c) date(s) analyses were performed

- (d) the qualified entity that performed the analyses
  - (e) analytical or test methods used
  - (f) results of analyses or tests
  - (g) operating conditions existing at the time of sampling or measurement
- (2) Records required for equipment inspections and/or maintenance required by this permit:
- (a) equipment identification number (including make, model and serial number)
  - (b) date(s) and time(s) of inspection, maintenance, and/or repair
  - (c) date(s) any subsequent analyses were performed (if applicable)
  - (d) name of the person or qualified entity conducting the inspection, maintenance, and/or repair
  - (e) copy of the equipment manufacturer's or the owner or operator's maintenance or repair recommendations (if required to demonstrate compliance with a permit condition)
  - (f) description of maintenance or repair activities conducted
  - (g) all results of any required parameter readings
  - (h) a description of the physical condition of the equipment as found during any required inspection
  - (i) results of required equipment inspections including a description of any condition which required adjustment to bring the equipment back into compliance and a description of the required adjustments
- B. Except as provided in the Specific Conditions, records shall be maintained on-site or at the permittee's local business office for a minimum of two (2) years from the time of recording and shall be made available to Department personnel upon request. Sources subject to 20.2.70 NMAC "Operating Permits" shall maintain records on-site for a minimum of five (5) years from the time of recording.
- C. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine or predictable emissions during startup, shutdown, and scheduled maintenance (SSM):
- (1) The owner or operator of a source subject to a permit shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC

- Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC.
- (2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies.
  - (3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.
  - (4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

**B110 General Reporting Requirements**

(20.2.72 NMAC Sections 210 and 212)

- A. Records and reports shall be maintained on-site or at the permittee's local business office unless specifically required to be submitted to the Department or EPA by another condition of this permit or by a state or federal regulation. Records for unmanned sites may be kept at the nearest business office.
- B. The permittee shall notify the Department's Compliance Reporting Section using the current Submittal Form posted to NMED's Air Quality web site under Compliance and

Enforcement/Submittal Forms in writing of, or provide the Department with (20.2.72.212.A and B):

- (1) the anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date. Notification may occur prior to issuance of the permit, but actual startup shall not occur earlier than the permit issuance date;
  - (2) after receiving authority to construct, the equipment serial number as provided by the manufacturer or permanently affixed if shop-built and the actual date of initial startup of each new or modified source within fifteen (15) days after the startup date; and
  - (3) the date when each new or modified emission source reaches the maximum production rate at which it will operate within fifteen (15) days after that date.
- C. The permittee shall notify the Department's Permitting Program Manager, in writing of, or provide the Department with (20.2.72.212.C and D):
- (1) any change of operators or any equipment substitutions within fifteen (15) days of such change;
  - (2) any necessary update or correction no more than sixty (60) days after the operator knows or should have known of the condition necessitating the update or correction of the permit.
- D. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format.
- E. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC.
- F. Allowable Emission Limits for Excess Emissions Reporting for Flares and Other Regulated Sources with No Pound per Hour (pph) and/or Ton per Year (tpy) Emission Limits.
- (1) When a flare has no allowable pph and/or tpy emission limits in Sections A106 and/or A107, the authorized allowable emissions include only the combustion of pilot and/or purge gas. Compliance is demonstrated by limiting the gas stream to the flare to only pilot and/or purge gas.
  - (2) For excess emissions reporting as required by 20.2.7 NMAC, the allowable emission limits are 1.0 pph and 1.0 tpy for each regulated air pollutant (except for H<sub>2</sub>S) emitted by that source as follows:

- (a) For flares, when there are no allowable emission limits in Sections A106 and/or A107.
  - (b) For regulated sources with emission limits in Sections A106 or A107 represented by the less than sign (“<”).
  - (c) For regulated sources that normally would not emit any regulated air pollutants, including but not limited to vents, pressure relief devices, connectors, etc.
- (3) For excess emissions reporting as required by 20.2.7 NMAC for H<sub>2</sub>S, the allowable limits are 0.1 pph and 0.44 tpy for each applicable scenario addressed in paragraph (2) above.

### **B111 General Testing Requirements**

Unless otherwise indicated by Specific Conditions or regulatory requirements, the permittee shall conduct testing in accordance with the requirements in Sections B111A, B, C, D and E, as applicable.

#### **A. Initial Compliance Tests**

The permittee shall conduct initial compliance tests in accordance with the following requirements:

- (1) Initial compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)
- (2) Initial compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.
- (3) The default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Department approval, be determined using the arithmetic mean of the results of the two other runs.

- (4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate
- (5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.
- (6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

B. EPA Reference Method Tests

The test methods in Section B111.B(1) shall be used for all initial compliance tests and all Relative Accuracy Test Audits (RATAs), and shall be used if a permittee chooses to use EPA test methods for periodic monitoring. Test methods that are not listed in Section B111.B(1) may be used in accordance with the requirements at Section B111.B(2).

- (1) All compliance tests required by this permit shall be conducted in accordance with the requirements of CFR Title 40, Part 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by CFR Title 40, Part 60, Appendix A:
  - (a) Methods 1 through 4 for stack gas flowrate
  - (b) Method 5 for particulate matter (PM) (TSP)
  - (c) Method 6C SO<sub>2</sub>
  - (d) Method 7E for NO<sub>x</sub> (test results shall be expressed as nitrogen dioxide (NO<sub>2</sub>) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO<sub>2</sub> is equivalent to 1.194 x 10<sup>-7</sup> lb/SCF)
  - (e) Method 9 for visual determination of opacity
  - (f) Method 10 for CO
  - (g) Method 19 for particulate, sulfur dioxide and nitrogen oxides emission rates. In addition, Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate. The permittee shall provide a contemporaneous fuel gas analysis (preferably on the day of the test, but no earlier than three months prior to the test date) and a recent fuel flow meter calibration certificate (within the most recent quarter) with the final test report.
  - (h) Method 7E or 20 for Turbines per §60.335 or §60.4400
  - (i) Method 22 for visual determination of fugitive emissions from material sources and smoke emissions from flares
  - (j) Method 25A for VOC reduction efficiency



- (k) Method 29 for Metals
  - (l) Method 30B for Mercury from Coal-Fired Combustion Sources Using Carbon Sorbent Traps
  - (m) Method 201A for filterable PM<sub>10</sub> and PM<sub>2.5</sub>
  - (n) Method 202 for condensable PM
  - (o) Method 320 for organic Hazardous Air Pollutants (HAPs)
- (2) Permittees may propose test method(s) that are not listed in Section B111.B(1). These methods may be used if prior approval is received from the Department.
- C. Periodic Monitoring and Portable Analyzer Requirements for the Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters
- Periodic emissions tests (periodic monitoring) shall be conducted in accordance with the following requirements:
- (1) Periodic emissions tests may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of the current version of ASTM D 6522. However, if a facility has met a previously approved Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.
  - (2) The default time period for each test run shall be **at least** 20 minutes.  
Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.
  - (3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.E.
  - (4) During emissions tests, pollutant and diluent concentration shall be monitored and recorded. Fuel flow rate shall be monitored and recorded if stack gas flow rate is determined utilizing Reference Method 19. This information shall be included with the test report furnished to the Department.
  - (5) Stack gas flow rate shall be calculated in accordance with Reference Method 19 utilizing fuel flow rate (scf) determined by a dedicated fuel flow meter and fuel heating value (Btu/scf). The permittee shall provide a contemporaneous fuel gas analysis (preferably on the day of the test, but no earlier than three months prior to the test date) and a recent fuel flow meter calibration certificate (within the most recent quarter) with the final test report. Alternatively, stack gas flow rate may be determined by using EPA Reference Methods 1-4.

- (6) The permittee shall submit a notification and protocol for periodic emissions tests upon the request of the Department.

D. Initial Compliance Test and RATA Procedures

Permittees required to conduct initial compliance tests and/or RATAs shall comply with the following requirements:

- (1) The permittee shall submit a notification and test protocol to the Department's Program Manager, Compliance and Enforcement Section, at least thirty (30) days before the test date and allow a representative of the Department to be present at the test. Proposals to use test method(s) that are not listed in Section B111.B(1) (if applicable) shall be included in this notification.
- (2) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.
- (3) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.
- (4) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed

E. General Compliance Test Procedures

The following requirements shall apply to all initial compliance and periodic emissions tests and all RATAs:

- (1) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.
- (2) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Reference Method 1 or the current version of ASTM D 6522, as applicable.
- (3) Test reports shall be submitted to the Department no later than 30 days after completion of the test.

**B112 Compliance**

- A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by

date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)

- B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.72.210.B.4 NMAC)
- C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit.

### **B113 Permit Cancellation and Revocation**

- A. The Department may revoke this permit if the applicant or permittee has knowingly and willfully misrepresented a material fact in the application for the permit. Revocation will be made in writing, and an administrative appeal may be taken to the Secretary of the Department within thirty (30) days. Appeals will be handled in accordance with the Department's Rules Governing Appeals From Compliance Orders.
- B. The Department shall automatically cancel any permit for any source which ceases operation for five (5) years or more, or permanently. Reactivation of any source after the five (5) year period shall require a new permit. (20.2.72 NMAC)
- C. The Department may cancel a permit if the construction or modification is not commenced within two (2) years from the date of issuance or if, during the construction or modification, work is suspended for a total of one (1) year. (20.2.72 NMAC)

### **B114 Notification to Subsequent Owners**

- A. The permit and conditions apply in the event of any change in control or ownership of the Facility. No permit modification is required in such case. However, in the event of any such change in control or ownership, the permittee shall notify the succeeding

owner of the permit and conditions and shall notify the Department's Program Manager, Permits Section of the change in ownership within fifteen (15) days of that change. (20.2.72.212.C NMAC)

- B. Any new owner or operator shall notify the Department's Program Manager, Permits Section, within thirty (30) days of assuming ownership, of the new owner's or operator's name and address. (20.2.73.200.E.3 NMAC)

### **B115 Asbestos Demolition**

- A. Before any asbestos demolition or renovation work, the permittee shall determine whether 40 CFR 61 Subpart M, National Emissions Standards for Asbestos applies. If required, the permittee shall notify the Department's Program Manager, Compliance and Enforcement Section using forms furnished by the Department.

### **B116 Short Term Engine Replacement**

- A. The following Alternative Operating Scenario (AOS) addresses engine breakdown or periodic maintenance and repair, which requires the use of a short term replacement engine. The following requirements do not apply to engines that are exempt per 20.2.72.202.B(3) NMAC. Changes to exempt engines must be reported in accordance with 20.2.72.202.B NMAC. A short term replacement engine may be substituted for any engine allowed by this permit for no more than 120 days in any rolling twelve month period per permitted engine. The compliance demonstrations required as part of this AOS are in addition to any other compliance demonstrations required by this permit.
  - (1) The permittee may temporarily replace an existing engine that is subject to the emission limits set forth in this permit with another engine regardless of manufacturer, model, and horsepower without modifying this permit. The permittee shall submit written notification to the Department within 15 days of the date of engine substitution according to condition B110.C(1).
    - (a) The potential emission rates of the replacement engine shall be determined using the replacement engine's manufacturer specifications and shall comply with the existing engine's permitted emission limits.
    - (b) The direction of the exhaust stack for the replacement engine shall be either vertical or the same direction as for the existing engine. The replacement engine's stack height and flow parameters shall be at least as effective in the dispersion of air pollutants as the modeled stack height and flow parameters for the existing permitted engine. The following equation may be used to show that the replacement engine disperses pollutants as well as the existing engine. The value calculated for the replacement engine on the right side of the equation shall be equal to or greater than the value for the

existing engine on the left side of the equation. The permitting page of the Air Quality Bureau website contains a spreadsheet that performs this calculation.

EXISTING ENGINE

REPLACEMENT ENGINE

$$\frac{[(g) \times (h1)] + [(v1)^2/2] + [(c) \times (T1)]}{q1} \leq \frac{[(g) \times (h2)] + [(v2)^2/2] + [(c) \times (T2)]}{q2}$$

Where

g = gravitational constant = 32.2 ft/sec<sup>2</sup>

h1 = existing stack height, feet

v1 = exhaust velocity, existing engine, feet per second

c = specific heat of exhaust, 0.28 BTU/lb-degree F

T1 = absolute temperature of exhaust, existing engine = degree F + 460

q1 = permitted allowable emission rate, existing engine, lbs/hour

h2 = replacement stack height, feet

v2 = exhaust velocity, replacement engine, feet per second

T2 = absolute temperature of exhaust, replacement engine = degree F + 460

q2 = manufacturer's potential emission rate, replacement engine, lbs/hour

The permittee shall keep records showing that the replacement engine is at least as effective in the dispersion of air pollutants as the existing engine.

- (c) Test measurement of NO<sub>x</sub> and CO emissions from the temporary replacement engine shall be performed in accordance with Section B111 with the exception of Condition B111A(2) and B111B for EPA Reference Methods Tests or Section B111C for portable analyzer test measurements. Compliance test(s) shall be conducted within fifteen (15) days after the unit begins operation, and records of the results shall be kept according to section B109.B. This test shall be performed even if the engine is removed prior to 15 days on site.

- i. These compliance tests are not required for an engine certified under 40CFR60, subparts IIII, or JJJJ, or 40CFR63, subpart ZZZZ if the permittee demonstrates that one of these requirements causes such engine to comply with all emission limits of this permit. The permittee shall submit this demonstration to the Department within 48 hours of placing the new unit into operation. This submittal shall include documentation that the engine is certified, that the engine is within its useful life, as defined and specified in the applicable requirement, and shall include calculations showing that the applicable emissions standards result in compliance with the permit limits.

- ii. These compliance tests are not required if a test was conducted by portable analyzer or by EPA Method test (including any required by 40CFR60, subparts III and JJJ and 40CFR63, subpart ZZZZ) within the last 12 months. These previous tests are valid only if conducted at the same or lower elevation as the existing engine location prior to commencing operation as a temporary replacement. A copy of the test results shall be kept according to section B109.B.
- (d) Compliance tests for NO<sub>x</sub> and CO shall be conducted if requested by the Department in writing to determine whether the replacement engine is in compliance with applicable regulations or permit conditions.
- (e) Upon determining that emissions data developed according to B116.A.1(c) fail to indicate compliance with either the NO<sub>x</sub> or CO emission limits, the permittee shall notify the Department within 48 hours. Also within that time, the permittee shall implement one of the following corrective actions:
  - i. The engine shall be adjusted to reduce NO<sub>x</sub> and CO emissions and tested per B116.A.1(c) to demonstrate compliance with permit limits.
  - ii. The engine shall discontinue operation or be replaced with a different unit.
- (2) Short term replacement engines, whether of the same manufacturer, model, and horsepower, or of a different manufacturer, model, or horsepower, are subject to all federal and state applicable requirements, regardless of whether they are set forth in this permit (including monitoring and recordkeeping), and shall be subject to any shield afforded by this permit.
- (3) The permittee shall maintain a contemporaneous record documenting the unit number, manufacturer, model number, horsepower, emission factors, emission test results, and serial number of any existing engine that is replaced, and the replacement engine. Additionally, the record shall document the replacement duration in days, and the beginning and end dates of the short term engine replacement.
- (4) The permittee shall maintain records of a regulatory applicability determination for each replacement engine (including 40CFR60, subparts III and JJJ and 40CFR63, subpart ZZZZ) and shall comply with all associated regulatory requirements.
- B. Additional requirements for replacement of engines at sources that are major as defined in regulation 20.2.74 NMAC, Permits – Prevention of Significant Deterioration, section 7.AG. For sources that are major under PSD, the total cumulative operating hours of the replacement engine shall be limited using the following procedure:

- (1) Daily, the actual emissions from the replacement engine(s) of each pollutant regulated by this permit for the existing engine shall be calculated and recorded.
  - (2) The sum of the total actual emissions since the commencement of operation of the replacement engine(s) shall not equal or exceed the significant emission rates in Table 2 of 20.2.74 NMAC, section 502 for the time that the replacement engine is located at the facility.
- C. All records required by this section shall be kept according to section B109.

**PART C MISCELLANEOUS****C100 Supporting On-Line Documents**

- A. Copies of the following documents can be downloaded from NMED's web site under Compliance and Enforcement or requested from the Bureau.
- (1) Excess Emission Form (for reporting deviations and emergencies)
  - (2) Universal Stack Test Notification, Protocol and Report Form and Instructions

**C101 Definitions**

- A. **"Daylight"** is defined as the time period between sunrise and sunset, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at <http://aa.usno.navy.mil/>. Alternatively, these times can be obtained from a Farmer's Almanac or from <http://www.almanac.com/rise/>).
- B. **"Decommission"** and **"Decommissioning"** applies to units left on site (not removed) and is defined as the complete disconnecting of equipment, emission sources or activities from the process by disconnecting all connections necessary for operation (i.e. piping, electrical, controls, ductwork, etc.).
- C. **"Exempt Sources"** and **"Exempt Activities"** is defined as those sources or activities that are exempted in accordance with 20.2.72.202 NMAC. Note; exemptions are only valid for most 20.2.72 NMAC permitting actions.
- D. **"Fugitive Emission"** means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.
- E. **"Insignificant Activities"** means those activities which have been listed by the department and approved by the administrator as insignificant on the basis of size, emissions or production rate. Note; insignificant activities are only valid for 20.2.70 NMAC permitting actions.
- F. **"Malfunction"** for the requirements under 20.2.7 NMAC, means any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC)



- G. **“Natural Gas”** is defined as a naturally occurring fluid mixture of hydrocarbons that contains 20.0 grains or less of total sulfur per 100 standard cubic feet (SCF) and is either composed of at least 70% methane by volume or has a gross calorific value of between 950 and 1100 Btu per standard cubic foot. (40 CFR 60.631)
- H. **“Natural Gas Liquids”** means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas. (40 CFR 60.631)
- I. **“National Ambient air Quality Standards”** means, unless otherwise modified, the primary (health-related) and secondary (welfare-based) federal ambient air quality standards promulgated by the US EPA pursuant to Section 109 of the Federal Act.
- J. **“Night”** is the time period between sunset and sunrise, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at <http://aa.usno.navy.mil/>. Alternatively, these times can be obtained from a Farmer’s Almanac or from <http://www.almanac.com/rise/>).
- K. **“Night Operation or Operation at Night”** is operating a source of emissions at night.
- L. **“NO<sub>2</sub>”** or "Nitrogen dioxide" means the chemical compound containing one atom of nitrogen and two atoms of oxygen, for the purposes of ambient determinations. The term "**nitrogen dioxide**," for the purposes of stack emissions monitoring, shall include nitrogen dioxide (the chemical compound containing one atom of nitrogen and two atoms of oxygen), nitric oxide (the chemical compound containing one atom of nitrogen and one atom of oxygen), and other oxides of nitrogen which may test as nitrogen dioxide and is sometimes referred to as NO<sub>x</sub> or NO<sub>2</sub>. (20.2.2 NMAC)
- M. **“NO<sub>x</sub>”** see NO<sub>2</sub>
- N. **“Paved Road”** is a road with a permanent solid surface that can be swept essentially free of dust or other material to reduce air re-entrainment of particulate matter. To the extent these surfaces remain solid and contiguous they qualify as paved roads: concrete, asphalt, chip seal, recycled asphalt and other surfaces approved by the Department in writing.
- O. **“Potential Emission Rate”** means the emission rate of a source at its maximum capacity to emit a regulated air contaminant under its physical and operational design, provided any physical or operational limitation on the capacity of the source to emit a regulated air contaminant, 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 physical and operational design only if the limitation or the effect it would have on emissions is enforceable by the department pursuant to the Air Quality Control Act or the federal Act.

- P. **“Restricted Area”** is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.
- Q. **"Shutdown"** for requirements under 20.2.72 NMAC, means the cessation of operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing out of batch process units.
- R. **"SSM"** for requirements under 20.2.7 NMAC, means routine or predictable startup, shutdown, or scheduled maintenance.
  - (1) **"Shutdown"** for requirements under 20.2.7 NMAC, means the cessation of operation of any air pollution control equipment or process equipment.
  - (2) **"Startup"** for requirements under 20.2.7 NMAC, means the setting into operation of any air pollution control equipment or process equipment.
- S. **"Startup"** for requirements under 20.2.72 NMAC, means the setting into operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing in of batch process units.

**C102 Acronyms**

2SLB .....	2-stroke lean burn
4SLB .....	4-stroke lean burn
4SRB .....	4-stroke rich burn
acfm.....	actual cubic feet per minute
AFR.....	air fuel ratio
AP-42 .....	EPA Air Pollutant Emission Factors
AQB .....	Air Quality Bureau
AQCR .....	Air Quality Control Region
ASTM .....	American Society for Testing and Materials
Btu .....	British thermal unit
CAA .....	Clean Air Act of 1970 and 1990 Amendments
CEM.....	continuous emissions monitoring
cfh .....	cubic feet per hour
cfm .....	cubic feet per minute
CFR.....	Code of Federal Regulation
CI .....	compression ignition
CO.....	carbon monoxides
COMS .....	continuous opacity monitoring system
EIB .....	Environmental Improvement Board

EPA	United States Environmental Protection Agency
gr/100 cf	grains per one hundred cubic feet
gr/dscf	grains per dry standard cubic foot
GRI	Gas Research Institute
HAP	hazardous air pollutant
hp	horsepower
H <sub>2</sub> S	hydrogen sulfide
IC	internal combustion
KW/hr	kilowatts per hour
lb/hr	pounds per hour
lb/MMBtu	pounds per million British thermal unit
MACT	Maximum Achievable Control Technology
MMcf/hr	million cubic feet per hour
MMscf	million standard cubic feet
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NG	natural gas
NGL	natural gas liquids
NMAAQs	New Mexico Ambient Air Quality Standards
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMSA	New Mexico Statutes Annotated
NO <sub>x</sub>	nitrogen oxides
NSCR	non-selective catalytic reduction
NSPS	New Source Performance Standard
NSR	New Source Review
PEM	parametric emissions monitoring
PM	particulate matter (equivalent to TSP, total suspended particulate)
PM <sub>10</sub>	particulate matter 10 microns and less in diameter
PM <sub>2.5</sub>	particulate matter 2.5 microns and less in diameter
pph	pounds per hour
ppmv	parts per million by volume
PSD	Prevention of Significant Deterioration
RATA	Relative Accuracy Test Assessment
RICE	reciprocating internal combustion engine
rpm	revolutions per minute
scfm	standard cubic feet per minute
SI	spark ignition
SO <sub>2</sub>	sulfur dioxide
SSM	Startup Shutdown Maintenance (see SSM definition)
TAP	Toxic Air Pollutant
TBD	to be determined
THC	total hydrocarbons

TSP..... Total Suspended Particulates  
tpy ..... tons per year  
ULSD .....ultra low sulfur diesel  
USEPA..... United States Environmental Protection Agency  
UTM..... Universal Transverse Mercator Coordinate system  
UTMH..... Universal Transverse Mercator Horizontal  
UTMV..... Universal Transverse Mercator Vertical  
VHAP..... volatile hazardous air pollutant  
VOC ..... volatile organic compounds