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AIR QUALITY BUREAU
NEW SOURCE REVIEW PERMIT
Issued under 20.2.72 NMAC

Certified Mail No: 7005 1820 0001 5773 4411
Return Receipt Requested

NSR Permit No:	0733-M15-R1
Facility Name:	Sterigenics-Santa Teresa, NM
Permittee Name:	Sterigenics US., LLC
Mailing Address:	2015 Spring Road, Suite 650 Oak Brook, IL 60523
TEMPO/IDEA ID No:	127-PRN20140001
AIRS No:	35-013-0007
Permitting Action:	Technical Permit Revision
Source Classification:	HAP and VOC Synthetic Minor
Facility Location:	31°51'38" N and 106°41'17" W
County:	Dona Ana
Air Quality Bureau Contact	Rhonda Trujillo
Main AQB Phone No.	(505) 476-4300

Richard L. Goodyear, PE
Bureau Chief
Air Quality Bureau

DEC 23 2014
Date

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PART A FACILITY SPECIFIC REQUIREMENTS

A100 Introduction

A. This permit, NSR 0733-M15-R1, supersedes all portions of Air Quality Permit 0733-M15, issued June 13, 2013, except the portion requiring compliance tests. Compliance test conditions from previous permits, if not completed, are still in effect, in addition to compliance test requirements contained in this permit.

B. Fee Requirement: This permit is not effective until the Department receives the permit fee specified in the attached invoice. Pursuant to 20.2.75.12 NMAC, the permittee shall pay this invoice no later than thirty (30) days after the permit issue date (invoicing), unless the Department has granted an extension. The permit fee must be paid by this date regardless of the permittee's intended use or non-use of the permit or of the Department's cancellation of the permit. The permittee's failure to pay this fee when due will automatically void the permit and the Department may initiate enforcement action to collect the fee and assess a civil penalty for non-payment. The permittee shall not construct the new equipment in Table 104 before the date that the Department receives the permit fee in full. The Department may initiate enforcement action for injunctive relief and civil penalties for any construction or operation specified in this technical revision, 0733M15R1, if the permit fee is not paid by the due date.

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A. The term of this permit is permanent unless withdrawn or cancelled by the Department.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 sterilize medical devices and food products by exposure to ethylene oxide and propylene oxide gases.

B. This facility is located approximately 2 miles northwest of Santa Teresa, New Mexico in Dona Ana County.

C. This modification consists of:

(1) Installation of a new 30-pallet sterilization chamber (Chamber 14), including associated process emissions from a new vacuum pump and chamber back vent. The vacuum pump is rated at 550 cfm and will exhaust process emissions from the new chamber directly to the facility's existing Ceilcote scrubber system. The Ceilcote system control efficiency for the new vacuum pump will be $\geq$ 99.3%. The chamber backvent consists of residual Ethylene Oxide (EO) or Propylene Oxide (PO) process emissions produced at the conclusion of each chamber sterilization cycle. The new Chamber 14 backvent will exhaust to the facility's existing Donaldson catalytic oxidizer system via an existing inlet duct. The Donaldson system control efficiency for the Chamber 14 backvent will be $\geq$ 99%.

(2) Increasing the facility's cap on the usage of EO or PO by 20% to accommodate the new chamber mentioned above. The 20% increase will revise the EO/PO usage caps to: 1,692,000 lbs/year and 1,790 lbs/hour.

(3) Rerouting the facility's remaining nine (9) backvent emissions which currently are uncontrolled, to the existing Donaldson catalytic oxidizer for emissions treatment. (Note: The backvents for Chambers 8, 9, 10 and 13 were re-routed to the Donaldson system in 2013. This request entails rerouting backvents for Chambers 1, 2, 3, 4, 5, 6, 7, 11 and 12.) This change will result in all chamber backvents receiving emissions treatment to a minimum control efficiency of 99%.

(4) Updating equipment descriptions in the current permit (shown in Table 104) for several listed emission sources. These revisions pertain only to "like-for-like" equipment replacements made in recent years. The new equipment has the same capacity and/or level of emissions as the replaced equipment.

D. Table 102.A and Table 102.B show the total potential emissions from this facility for information only, not an enforceable condition, excluding exempt sources or activities.

Table 102.A: Total Potential Pollutant Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Nitrogen Oxides (NOx)	9.6
Carbon Monoxide (CO)	8.0
Volatile Organic Compounds (VOC) *	6.6
Sulfur Dioxide (SO_2)	<1
Particulate Matter less than 10 microns (PM_{10})	<1

Table 102.B: Total Potential HAP Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Ethylene Oxide	6.1
Propylene Oxide	
Total HAPs**	6.1

* HAP emissions are already included in the VOC emission total.

** The total HAP emissions may not agree with the sum of individual HAPs because only individual HAPs greater than 1.0 tons per year are listed here.

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	Bx and CD3
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
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Entire Facility
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility
40 CFR 63, Subpart A, General Provisions	X	Sterilization Equipment
40 CFR 63, Subpart O Ethylene Oxide Emissions Standards for Sterilization Facilities	X	Sterilization Equipment

A104 Facility: Regulated Sources

A. Table 104 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: Regulated Sources List

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
S-1	Sterilizer #1 Vacuum Pump	Dekker DV02516 DA2	050926G03	250 cfm	2006	Existing	Controlled by Acid-Water Scrubber (Unit CD-2 or CD-1) at 99.3% reduction efficiency
S-2	Sterilizer #2 Vacuum Pump	Dekker DV02516 DA2	050725G07	250 cfm	2006	Existing	
S-3	Sterilizer #3 Vacuum Pump	Dekker DV0251B DA3	060920G01	250 cfm	TBD	Replacement Unit	
S-4	Sterilizer #4 Vacuum Pump	Dekker DV025OB DA2	12005	250 cfm	TBD	Replacement Unit	
S-5	Sterilizer #5 Vacuum Pump	Dekker DV0251B DA2	060610G03	250 cfm	TBD	Replacement Unit	
S-6	Sterilizer #6 Vacuum Pump	Dekker DV0251B DA3	070129G03	250 cfm	TBD	Replacement Unit	
S-7	Sterilizer #7 Vacuum Pump	Dekker DV0550B KA2	070323G11	550 cfm	TBD	Replacement Unit	
S-8	Sterilizer #8 Vacuum Pumps for 30 Pallet Chamber	Dekker PUMP A&B DV0550B KA3	C02373602/C 02373601	2 @ 550 cfm	TBD	Replacement Unit	
S-9	Sterilizer #9 Vacuum Pumps for 30 Pallet Chamber	Dekker DV0550B KA3/ DV0550B-KA2	060427G05/ C02373609	2 @ 550 cfm	TBD	Replacement Unit	
S-10	Sterilizer #10 Vacuum Pumps for 30 Pallet Chamber	Dekker DVB0550B KA2	071031G06	550 cfm	TBD	Replacement Unit	
S-11	Sterilizer #11 Vacuum Pump for 15 pallet chamber	Dekker DV0550B KA2	050628G02	550 cfm	TBD	Replacement Unit	
S-12	Sterilizer #12 Vacuum Pump for 30 pallet chamber	Sterling SIHI LEHA 900 AB	BFK4SP	550 cfm	2006	Existing	
S-13	Sterilizer #13 Vacuum Pump for 30 Pallet Chamber	Dekker DVO550-KA2	O61031G10	550 cfm	2007	New 2007	

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
S-14	Sterilizer #14 Vacuum Pump for 30 Pallet Chamber	TBD	TBD	TBD	TBD	TBD	Controlled by Catalytic Oxidizer (Unit CD-3) at 99% reduction efficiency.
AR 8	Aeration Room 8	Blower	--	9000 cfm	2006	Modified 2007	
AR09	Aeration Room 9	Blower	--	6000 cfm	2010	Modified 2013	
BV-1	Back Vent Exhaust for S-1	Captive Air BI18CARM	455172	3,000 cfm	1986	To be Modified	
BV-2	Back Vent Exhaust for S-2	Captive Air BI18CARM	404418	3,000 cfm	1986	To be Modified	
BV-3	Back Vent Exhaust for S-3	Dayton UK	D2C799A	1,800 cfm	1986	To be Modified	
BV-4	Back Vent Exhaust for S-4	Dayton UK	2C799A	1,800 cfm	1986	To be Modified	
BV-5	Back Vent Exhaust for S-5	Dayton UK	13C074A	1,800 cfm	1986	To be Modified	
BV-6	Back Vent Exhaust for S-6	Dayton UK	D3C074A	1,800 cfm	1986	To be Modified	
BV-7	Back Vent Exhaust for S-7	Dayton UK	10C074A	1,800 cfm	1995	To be Modified	
BV-11	Back Vent Exhaust for S-11	Greenheck 12-BISW-41-10-11	05L11546	1,800 cfm	2005	To be Modified	
BV-12	Back Vent Exhaust for S-12	Greenheck 12-BISW-41-10-11	5647269-12982637	2,000 cfm	3/28/07	To be Modified	
BV-8	Back Vent Exhaust for S-8	Greenheck 12-BISW41-X-10-11	118657780909	1800 cfm	3/16/10	New 2013	
BV-9	Back Vent Exhaust for S-9	Greenheck 12-BISW41-10-11	123271141102	1800 cfm	3/08/11	New 2013	
BV-10	Back Vent Exhaust for S-10	Greenheck 12-BISW41-X-10-11	118724370909	1800 cfm	2/17/10	New 2013	
BV-13	Back Vent Exhaust for S-13	Greenheck 12-BISW-41	07B02982	1,800 cfm	8/13/07	New 2013	
BV-14	Back Vent Exhaust for S-14	TBD	TBD	TBD	TBD	TBD	

Unit No.	Source Description	Make & Model No.	Serial No.	Capacity	Mfr. Date	Status	Controls
CD-1	Acid-Water Scrubber	Deoxx 88-485	None	600 cfm	1989	Existing	Back-up for CD-2
CD-2	Acid-Water Scrubber	Ceilcote SPT-54-240	81318	2500 cfm	2004	Existing	Controls S-1 to S-14
CD-3	Catalytic Oxidizer	Donaldson 20,000 AG EtO Abator	None	20,000 cfm	1991	Existing	Controls AR 08, AR 09, BV 1-14
Bx	Any combination of natural gas boilers not to exceed a manufactures energy input rating of 18 MM Btu/hr	Various	Various	18 MM Btu/hr (Combined Max)	N/A	N/A	N/A

1. All TBD (to be determined) units and like-kind engine replacements must be evaluated for applicability to NSPS and NESHAP requirements.

A105 Facility: Control Equipment

A. Table 105 lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.

Table 105: Control Equipment List:

Control Equipment Unit No.	Control Description	Pollutant being controlled	Control for Unit Number(s)[1]
CD-1	Deoxx Acid-Water Scrubber System	Ethylene Oxide, Propylene Oxide	S-1 – S-14, (Back-up to CD-2)
CD-2	Ceilcote Acid-Water Scrubber System	Ethylene Oxide, Propylene Oxide	S-1- S-14
CD-3	Donaldson 20,000 AG EtO Abator	Ethylene Oxide, Propylene Oxide	AR-08, AR-09, BV-1 – BV-14

1. Control for unit number refers to a unit number from the Regulated Equipment List

A106 Facility: Allowable Emissions

A. The following Section lists the emission units and their allowable emission limits. (40 CFR 50, 40 CFR 63, Subparts A and O, 20.2.72.210.A and B.1 NMAC).

Table 106.A: Allowable Emissions

Unit No.	NO_x[1] pph	NO_x[1] tpy	CO pph	CO tpy	VOC pph	VOC tpy	EO or PO pph	EO or PO tpy
CD-1 or CD-2	-	-	-	-	*	5.7	*	5.7
CD-3	<	1.7	<	1.4	<	<	0.9	0.4

1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO_2
2 "-" indicates the application represented emissions of this pollutant are not expected.
"<" indicates the application represented uncontrolled emissions are less than 1.0 pph or 1.0 tpy for this pollutant. Allowable limits are not imposed on this level of emissions, except for flares and pollutants with controls.
"*" indicates hourly emission limits are not appropriate for this operating situation.

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions

A. Separate allowable SSM emission limits are not required for this facility since the SSM emissions are predicted to be less than the limits established in Table 106A. The permittee shall maintain records in accordance with Condition B109.C.

A108 Facility: Allowable Operations

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

B. Propylene oxide (PO) may be substituted for ethylene oxide (EO), but the combined maximum charges are limited to the charge rate(s) specified in Condition A108.C and the PO emission shall be routed through the same control equipment as the EO emissions.

C. Ethylene Oxide and Propylene Oxide Charging Rates

Requirement: The combined maximum ethylene oxide gas charge rate(s) to the sterilizer chambers (Units S-1 to S-14) shall not exceed the following limits: (a) 1,790 lbs per hour, hourly average and averaged over a 24-hour period, (b) 1,692,000 lbs per 12 month period, calculated as a monthly rolling 12-month total.
Monitoring: Hourly, the permittee shall monitor the following: (1) EO or PO charge rates for each of the sterilization chambers (Units S-1 to S-14).
Recordkeeping: Records shall include:

(1) Date; (2) EO or PO pounds per hour averaged over a 24 hour period; (3) EO or PO pounds per 12 month period, calculated as a monthly rolling 12-month total.
Reporting: The permittee shall report in accordance with Section B110.

A109 Facility: Reporting Schedules – Not Applicable

A110 Facility: Fuel Sulfur Requirements

A. Fuel and Fuel Sulfur Requirements (CD3 and Bx)

Requirement: All combustion emission units shall combust only natural gas containing no more than 5.0 grains of total sulfur per 100 dry standard cubic feet
Monitoring: None
Recordkeeping: The permittee shall demonstrate compliance with the natural gas or fuel oil limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel gas analysis, specifying the allowable limit or less.
Reporting: The permittee shall report in accordance with Section B110.

A111 Facility: 20.2.61 NMAC Opacity

A. 20.2.61 NMAC Opacity Limit (Units CD3 and Bx)

Requirement: Visible emissions from all stationary combustion emission stacks shall not equal or exceed an opacity of 20 percent.
Monitoring: Use of natural gas fuel constitutes compliance with 20.2.61 NMAC unless opacity equals or exceeds 20% averaged over a 10-minute period. When any visible emissions are observed at or above 20% opacity, during steady state operation, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC
Recordkeeping: The permittee shall record the opacity measures with the corresponding opacity readings in accordance with Method 9 in 40 CFR 60, Appendix A.
Reporting: The permittee shall report in accordance with Section B110.

A112 Facility: Haul Roads – Not Applicable

A113 Facility: Initial Location Requirements – Not Applicable

A114 Facility: Relocation Requirements

A. This facility may not be relocated.

A115 Alternative Operating Scenario – Not required

A116 Compliance Plan – Not Required

A117 Reducing Facility Emissions

A. Within 60 days of permit issuance, the permittee shall come into compliance with the emissions limits in this permit NSR (0733M15R1) by permanently ducting the remaining back vents (BV 1-7, 11, 12, and 14) to the Donaldson catalytic oxidizer.

A200 Oil and Gas Industry – Not Required

A300 Construction Industry – Aggregate – Not Required

A400 Construction Industry – Asphalt – Not Required

A500 Construction Industry – Concrete

A600 Power Generation Industry – Not Required

A700 Solid Waste Disposal (Landfills) Industry– Not Required

STERILIZATION FACILITIES INTRODUCTION

A800 Sterilization Facilities Introduction

A. 40 CFR 63 Subpart O: Ethylene Oxide Emissions Standards for Sterilization Facilities

Requirement: This facility is subject to 40 CFR 63, Subparts A and O and shall comply with all applicable requirements of the regulation.
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40

CFR 63, Subparts A and O.
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subparts A and O.
Reporting: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subparts A and O.

B. Oil Seals

Requirement: All pumps in contact with EO or PO shall have closed-loop oil seals. All oil seals shall be maintained to ensure integrity.
Monitoring: The permittee shall inspect the oil seals weekly to ensure proper operations.
Recordkeeping: The permittee shall keep records of the required monitoring and any maintenance performed for EO or PO pump oil seals.
Reporting: The permittee shall report in accordance with Section B110.

C. This Specific Condition (A800.C) supersedes General Condition B111.C.4.:

During emissions tests, pollutant, O_2 concentration and fuel flow rate ***(if fuels are being combusted)*** shall be monitored and recorded. This information shall be included with the test report furnished to the Department.

A801 <u>Sterilization Chamber</u>

A. Sterilization Chambers (S1- S14)

Requirement: The permittee shall not operate any sterilization chambers unless their respective emission control equipment (CD-1 or CD-2) is operated in accordance with manufacturer specifications.
Monitoring: To ensure that the control equipment is operating in accordance with manufacturer specifications, during each day that the sterilization chambers are in use, the permittee shall monitor: (1) The control equipment (CD-1 or CD-2) is operating within the specified parameters in Condition A801.B.
Recordkeeping: The permittee shall maintain records of all daily inspections and record all of the parameters specified in Condition A801.B.
Reporting: The permittee shall report in accordance with Section B110.

B. Acid-Water Scrubber (Unit CD-1 and CD-2)

Requirement: All emissions from Units S-1 – S-14 shall be ducted to the acid-water scrubber CD-1 or CD-2. The permittee shall not operate the units S1- S14 unless the units CD-1 or CD-2 are operating within the specified parameters in this condition. Unit CD-1 may be used as a back-up for Unit CD-2 only when Unit CD-1 has minimum emission reduction efficiency equal to or greater than Unit CD-2. Compliance with this condition demonstrates compliance with the emission limits in Table

106.A for Units CD-1 and CD-2.
Monitoring: Each day, the permittee shall monitor the following parameters for each acid-water scrubber operated in any one calendar day. A) For CD-1, the permittee shall monitor: (1) The gas flow rate shall not exceed 600 ACFM @ 90 degrees Fahrenheit; (2) The liquid temperature shall not exceed 100 degrees Fahrenheit; (3) The liquid pH shall be ≤ 1; and (4) The permittee shall monitor the scrubber spray atomizers and ensure that they are operating. B) For CD-2, the permittee shall monitor: (1) The gas flow rate shall not exceed 2500 SCFM @ 90 degrees Fahrenheit; (2) The liquid temperature shall not exceed 120 degrees Fahrenheit; (3) The liquid pH shall be ≤ 2; and (4) Daily, the permittee shall monitor the scrubber spray atomizers to ensure that they are operating. The permittee shall monitor the date, start time, and end time of any downtime and/or maintenance of the units CD-1 and CD-2.
Recordkeeping: Daily, the permittee shall record: For CD-1 and CD-2, the permittee shall record: (1) The gas flow rate; (2) The gas inlet temperature; (3) The liquid temperature; (4) The liquid pH; and (5) The permittee shall record inspections of the scrubber spray atomizers and the results of the inspections. The permittee shall record the date, start time, and end time of any downtime and/or maintenance of the units CD-1 and CD-2.

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

C. Interlock Systems for Acid-Water Scrubber (Unit CD-1 and CD-2)

Requirement: Units CD-1 and CD-2 shall be equipped with an interlock system to prevent emission discharges to the atmosphere any time the scrubber system experiences a control parameter malfunction. Set points for the sterilization system interlock shall be specified by the control device (CD-1 or CD-2) manufacturer and compliance test results (as applicable) for the unit. Upon request by Department personnel during an onsite inspection, the permittee shall demonstrate to the inspector that the interlock systems are operating within the set points.
Monitoring: The permittee shall monitor: 1. Daily, the permittee shall monitor for the parameters in Condition A 801.B to demonstrate that the interlock system is operating within the set points as specified by the control device (CD-1 or CD-2). 2. The permittee shall monitor each time the Interlock System is used.
Recordkeeping: 1. Daily, the permittee shall record that the interlock system is operating within the set points as specified in Condition A801.B for the control device (CD-1 or CD-2). 2. The permittee shall record each time the Interlock System is used.
Reporting: The permittee shall report in accordance with Section B110.

D. Acid-Water Scrubber Shut down Alarm (Unit CD-1 and CD-2)

Requirement: The shutdown alarm on the acid-water scrubber shall be set to maintain at least a thirty (30) minute average residence time to ensure ethylene glycol formation during the scrubber operation.
Monitoring: The permittee shall monitor the alarm on the acid-water scrubber to ensure at least (30) minutes average residence time, each time the scrubber is operating.
Recordkeeping: The permittee shall record each time the average residence time fails to maintain at least 30 minutes average residence time.
Reporting: The permittee shall report in accordance with Section B110.

A802 <u>Aerating Rooms, Backvents, and Catalytic Oxidizer</u>

A. Operational and Control Requirements for Units AR-08, AR-09, and Units BV1-BV14)

Requirement: A.) All emissions from aeration rooms AR-08 and AR-09 shall be ducted to the catalytic oxidizer (Unit CD-3). Emissions from Units BV1- BV14 shall be vented to (Unit CD-3). B.) All untreated process emissions from the aeration rooms (AR-08 and AR-09) must be isolated and the chamber back vents (BV1- BV14) must not operate whenever the catalytic oxidizer (CD-3) is not within operating temperatures. C.) The permittee shall ensure that a continuous strip chart recorder or data acquisition system

for monitoring the catalytic bed temperature is continuously operated at all times the catalytic control system is in operation. E.) Compliance with this condition demonstrates compliance with the emission limits for Unit CD-3 in Table 106.A.
Monitoring: (1) The permittee shall continuously monitor the temperature at the outlet of the catalyst bed. (2) Monthly, the permittee shall monitor the pressure drop across the catalyst bed. (3) In the event of a malfunction of the continuous recorder, manual temperature recordings of the inlet temperature to the catalyst bed shall be taken hourly. The continuous temperature recorder shall be repaired within seven calendar days. (4) The permittee shall monitor the date, start time, and end time of any downtime and/or maintenance of the unit CD-3.
Recordkeeping: (1) The permittee shall keep a monthly record of the data from the continuous strip chart recorder or data acquisition system for monitoring the catalytic bed temperature. (2) Monthly, the permittee shall record the pressure drop across the catalyst bed. (3) The permittee shall record the date, start time, and end time of any downtime and/or maintenance of the unit CD-3.
Reporting: The permittee shall report in accordance with Section B110.

B. Interlock Systems for Catalytic Oxidizer (Unit CD-3)

Requirement: Unit CD-3 shall be equipped with an interlock system to prevent emission discharges to the atmosphere any time the catalytic system experiences a control parameter malfunction. Set points for the sterilization system interlock shall be specified by the control device, CD-3, manufacturer and compliance test results (as appropriate) for the unit. Upon request by Department personnel during an onsite inspection, the permittee shall demonstrate to the inspector that the interlock systems are operating within the set points.
Monitoring: (1) Daily, the permittee shall monitor (CD-3) operating temperature to ensure it is operating within the temperature set points as specified for the control device (CD-3) from the manufacturer specification sheet and compliance test results (as appropriate). (2) Monthly, the permittee shall monitor the pressure drop across the catalyst bed of (CD-3) and ensure that it meets the manufacturer's specification. (3) The permittee shall monitor each time the Interlock System is used.
Recordkeeping: (1) Daily, the permittee shall record that the interlock system is operating within the temperature set points as specified by the manufacturer specifications and compliance test

results (as appropriate) for the control device (CD-3). (2) Monthly, the permittee shall record the pressure drop across the catalyst bed of (CD-3). (3) The permittee shall record each time the Interlock System is used. (4) The permittee shall maintain a copy of the manufacturer specification sheet on the premises and provide it to the Department's inspector upon request.
Reporting: The permittee shall report in accordance with Section B110.

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)

Secretary, New Mexico Environmental Improvement Board
1190 St. Francis Drive, Runnels Bldg. Rm. N2153
Santa Fe, New Mexico 87502

B105 Submittal of Reports and Certifications

A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to 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 <u>Startup, Shutdown, and Maintenance Operations</u>

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 <u>General Monitoring Requirements</u>

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 accomplished, the permittee is not required to restart the unit for the sole purpose of performing 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 accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the

current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish 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.

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:

(1) equipment identification (include make, model and serial number for all tested equipment and emission controls);

(2) date(s) and time(s) of sampling or measurements;

(3) date(s) analyses were performed;

(4) the qualified entity that performed the analyses;

(5) analytical or test methods used;

(6) results of analyses or tests; and

(7) operating conditions existing at the time of sampling or measurement.

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 <u>General Reporting Requirements</u>
(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.

B111 <u>General Testing Requirements</u>

A. Compliance Tests

(1) 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) 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) Unless otherwise indicated by Specific Conditions or regulatory requirements, 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, subject to the approval of the Department.

(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

(1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of 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 TSP

(c) Method 6C and 19 for SO_2

(d) Method 7E for NO_X (test results shall be expressed as nitrogen dioxide (NO_2) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO_2 is equivalent to 1.194 x 10-7 lb/SCF)

(e) Method 9 for opacity

(f) Method 10 for CO

(g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter).

(h) Method 7E or 20 for Turbines per 60.335 or 60.4400

(i) Method 29 for Metals

(j) Method 201A for filterable PM_{10} and $PM_{2.5}$

(k) Method 202 for condensable PM

(l) Method 320 for organic Hazardous Air Pollutants (HAPs)

(m) Method 25A for VOC reduction efficiency

(n) Method 30B for Mercury

(2) Alternative test method(s) may be used if the Department approves the change

C. Periodic Monitoring and Portable Analyzer Requirements

(1) Periodic emissions tests (periodic monitoring) 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 ASTM D 6522-00. 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) Unless otherwise indicated by Specific Conditions or regulatory requirements, 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, O_2 concentration and fuel flow rate shall be monitored and recorded. This information shall be included with the test report furnished to the Department.

(5) Pollutant emission rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) and fuel heating value (Btu/scf) obtained during the test.

D. Test Procedures:

(1) The permittee shall notify 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.

(2) 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.

(3) 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.

(4) 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.

(5) 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 Method 1 or ASTM D 6522-00 as applicable.

(6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed

(7) Unless otherwise indicated by Specific Conditions or regulatory requirements, 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 REPLACMENT ENGINE

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

Where
g = gravitational constant = 32.2 ft/sec^2
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 NOx 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 IIII and JJJJ 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 NOx 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 NOx 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 NOx 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 IIII and JJJJ 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

(3) SOP for Use of Portable Analyzers in Performance Tests

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. **"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.

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

D. **"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.

E. **"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)

F. **"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)

G. **"Natural Gas Liquids"** means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas. (40 CFR 60.631)

H. **"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.

I. **"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/).

J. **"Night Operation** or **Operation at Night"** is operating a source of emissions at night.

K. **"NO2"** 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 NOx or NO_2. (20.2.2 NMAC)

L. "**NOx**" see NO_2

M. "**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.

N. **"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.

O. "**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.

P. **"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.

Q. **"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.

R. **"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_2S ..... 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 Statues Annotated
NOx ..... 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_{10} ..... particulate matter 10 microns and less in diameter
$PM_{2.5}$ ..... 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_2 ..... 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