

**NMED AIR QUALITY BUREAU  
TITLE V MINOR MODIFICATION APPLICATION**

**NATURAL GAS PIPELINE COMPANY OF AMERICA, LLC  
Compressor Station No. 167**

**Prepared By:**

Douglas Hamm – Air Quality Engineer

Kinder Morgan  
2 N Nevada Ave  
Colorado Springs, CO 80903  
(719) 329-5634

Adam Erenstein – Manager of Consulting Services

**TRINITY CONSULTANTS**

9400 Holly Ave NE  
Building 3, Suite 300  
Albuquerque, NM 87122  
(505) 266-6611

April 2022

Project 223201.0019





9400 Holly Ave NE, Bldg 3, Ste 300, Albuquerque, NM 87122 / P 505.266.6611 / [trinityconsultants.com](http://trinityconsultants.com)

April 1, 2022

Melinda Owens  
NMED Air Quality Bureau  
525 Camino de los Marquez Suite 1  
Santa Fe, NM 87505-1816

*RE: Title V Minor Modification of Permit No. P-141-R4  
Natural Gas Pipeline Company of America, LLC – Compressor Station No. 167*

Melinda Owens:

On behalf of Natural Gas Pipeline Company of America, LLC, a Kinder Morgan Company, we are submitting this application for a Title V Minor Modification for the Compressor Station No. 167. This submittal is pursuant to 20.2.70.404.B NMAC, to address the Notice of Exemption, filed on September 21, 2021, which replaced the existing Kohler emergency generator with a 30 hp Cummins emergency generator. As requested, a truncated version of the application, including only relevant sections, is being submitted due to the site being a grandfathered facility that does not require a NSR construction permit.

The facility is currently permitted under Title V permit P-0141-R4. The format and content of this application are consistent with the Bureau's current policy regarding Title V Minor Modifications, except as otherwise agreed upon prior to submission.

Enclosed are two hard copies of the application, including an original certification and two discs containing the electronic files. Please feel free to contact either myself at (505) 266-6611 or at [arenstein@trinityconsultants.com](mailto:arenstein@trinityconsultants.com) or Douglas Hamm, Air Quality Engineer with Kinder Morgan, at (719) 329-5634 or at [douglass\\_hamm@kindermorgan.com](mailto:douglass_hamm@kindermorgan.com) if you have any questions regarding this application.

Sincerely,

Adam Erenstein  
Manager of Consulting Services

Cc: Douglas Hamm (Kinder Morgan)

Trinity Project File: 223201.0019

**HEADQUARTERS**

12700 Park Central Dr, Ste 2100, Dallas, TX 75251 / P 800.229.6655 / P 972.661.8100 / F 972.385.9203

<p><b>Mail Application To:</b></p> <p>New Mexico Environment Department          Air Quality Bureau          Permits Section          525 Camino de los Marquez, Suite 1          Santa Fe, New Mexico, 87505</p> <p>Phone: (505) 476-4300          Fax: (505) 476-4375          www.env.nm.gov/aqb</p>		<p><b>For Department use only:</b></p> <p>AIRS No.:</p>
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## Universal Air Quality Permit Application

### Use this application for NOI, NSR, or Title V sources.

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well. **See Section 1-I for submittal instructions for other permits.**

**This application is submitted as** (check all that apply):  Request for a No Permit Required Determination (no fee)  
 **Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required).  
 Construction Status:  Not Constructed  Existing Permitted (or NOI) Facility  Existing Non-permitted (or NOI) Facility  
 Minor Source:  a NOI 20.2.73 NMAC  20.2.72 NMAC application or revision  20.2.72.300 NMAC Streamline application  
 Title V Source:  Title V (new)  Title V renewal  TV minor mod.  TV significant mod. TV Acid Rain:  New  Renewal  
 PSD Major Source:  PSD major source (new)  minor modification to a PSD source  a PSD major modification

**Acknowledgements:**

I acknowledge that a pre-application meeting is available to me upon request.  Title V Operating, Title IV Acid Rain, and NPR applications have no fees.

\$500 NSR application Filing Fee enclosed **OR**  The full permit fee associated with 10 fee points (required w/ streamline applications).

Check No.: [redacted] in the amount of [redacted]

I acknowledge the required submittal format for the hard copy application is printed double sided ‘head-to-toe’, 2-hole punched (except the Sect. 2 landscape tables is printed ‘head-to-head’), numbered tab separators. Incl. a copy of the check on a separate page.

I acknowledge there is an annual fee for permits in addition to the permit review fee: [www.env.nm.gov/air-quality/permit-fees-2/](http://www.env.nm.gov/air-quality/permit-fees-2/).

This facility qualifies for the small business fee reduction per 20.2.75.11.C. NMAC. The full \$500.00 filing fee is included with this application and I understand the fee reduction will be calculated in the balance due invoice. The Small Business Certification Form has been previously submitted or is included with this application. (Small Business Environmental Assistance Program Information: [www.env.nm.gov/air-quality/small-biz-eap-2/](http://www.env.nm.gov/air-quality/small-biz-eap-2/).)

**Citation:** Please provide the **low level citation** under which this application is being submitted: **20.2.70.404.B NMAC** (e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

## Section 1 – Facility Information

<p><b>Section 1-A: Company Information</b></p>		AI # if known (see 1 <sup>st</sup> 3 to 5 #s of permit IDEA ID No.): 667	Updating Permit/NOI #: P-141-R4
1	Facility Name: Compressor Station No. 167	Plant primary SIC Code (4 digits): 4922 Plant NAIC code (6 digits): 237120	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): Head east on US-82E out of Maljamar for 8.7 miles. Turn left onto Co Road 118. Take an immediate slight right onto Natural Road. After 0.3 miles, the facility is on the right.		
2	Plant Operator Company Name: Natural Gas Pipeline Company of America	Phone/Fax: (719) 329-5634 / (719) 329-5732	

a	Plant Operator Address: 2 North Nevada, Colorado Springs, CO 80903	
b	Plant Operator's New Mexico Corporate ID or Tax ID: 1535060	
3	Plant Owner(s) name(s): Natural Gas Pipeline Company of America	Phone/Fax: (719) 329-5634 / (719) 329-5732
a	Plant Owner(s) Mailing Address(s): 2 North Nevada, Colorado Springs, CO 80903	
4	Bill To (Company): Natural Gas Pipeline Company of America	Phone/Fax: (719) 329-5634 / (719) 329-5732
a	Mailing Address: 2 North Nevada, Colorado Springs, CO 80903	E-mail: <a href="mailto:Douglas_Hamm@KinderMorgan.com">Douglas_Hamm@KinderMorgan.com</a>
5	<input checked="" type="checkbox"/> Preparer: Adam Erenstein <input checked="" type="checkbox"/> Consultant: Trinity Consultants	Phone/Fax: (505) 266-6611
a	Mailing Address: 9400 Holly Blvd NE, Building 3, Suite 300 Albuquerque, NM 87122	E-mail: <a href="mailto:aerenstein@trinityconsultants.com">aerenstein@trinityconsultants.com</a>
6	Plant Operator Contact: Shawn Murphy	Phone/Fax: (575) 676-2640 / N/A
a	Address: HCR 71 Box 170, Maljamar, NM 88264	E-mail: <a href="mailto:shawn_murphy@kindermorgan.com">shawn_murphy@kindermorgan.com</a>
7	Air Permit Contact: Douglas Hamm	Title: Air Quality Engineer
a	E-mail: <a href="mailto:Douglas_Hamm@KinderMorgan.com">Douglas_Hamm@KinderMorgan.com</a>	Phone/Fax: (719) 329-5634 / (719) 329-5732
b	Mailing Address: 2 North Nevada, Colorado Springs, CO 80903	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

### Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.b If yes to question 1.a, is it currently operating in New Mexico? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3	Is the facility currently shut down? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, give month and year of shut down (MM/YY): N/A
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: P-141-R4
7	Has this facility been issued a No Permit Required (NPR)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the NPR No. is: N/A
8	Has this facility been issued a Notice of Intent (NOI)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the NOI No. is: N/A
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the permit No. is: N/A
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, the register No. is: N/A

### Section 1-H: Current Title V Information - Required for all applications from TV Sources

(Title V-source required information for all applications submitted pursuant to 20.2.72 NMAC (Minor Construction Permits), or 20.2.74/20.2.79 NMAC (Major PSD/NNSR applications), and/or 20.2.70 NMAC (Title V))

1	Responsible Official (20.2.70.300.D.2 NMAC): Heriberto (Eddie) Carreon	Phone: 806-354-3108
a	R.O. Title: Operations Director	R.O. e-mail: <a href="mailto:heriberto_carreon@kindermorgan.com">heriberto_carreon@kindermorgan.com</a>
b	R. O. Address: 4711 S. Western, Amarillo, TX 79109	

2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): Steve Romano		Phone: 713-420-6244
a	A. R.O. Title: Vice President - Operations	A. R.O. e-mail: <a href="mailto:steven_romano@kindermorgan.com">steven_romano@kindermorgan.com</a>	
b	A. R. O. Address: 1001 Louisiana, Houston, TX 77002		
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship): N/A		
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): Kinder Morgan, Inc.		
a	Address of Parent Company: 1001 Louisiana St, Suite 1000, Houston, TX 77002		
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): N/A – Natural Gas Pipeline Company of America has no subsidiaries.		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: Douglas Hamm – (719) 329-5634		
7	Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers: Texas – 53 km		

## Section 1-I – Submittal Requirements

Each 20.2.73 NMAC (NOI), a 20.2.70 NMAC (Title V), a 20.2.72 NMAC (NSR minor source), or 20.2.74 NMAC (PSD) application package shall consist of the following:

### Hard Copy Submittal Requirements:

- 1) One hard copy **original signed and notarized application package printed double sided ‘head-to-toe’ 2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be **head-to-head**. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required. **Please include a copy of the check on a separate page.**
- 2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This **copy** should be printed in book form, 3-hole punched, and **must be double sided**. Note that this is in addition to the head-to-toe 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.
- 3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two CD** copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a **single CD** submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB’s secure file transfer service.

### Electronic files sent by (check one):

CD/DVD attached to paper application

secure electronic transfer. Air Permit Contact Name \_\_\_\_\_

Email \_\_\_\_\_

Phone number \_\_\_\_\_

a. If the file transfer service is chosen by the applicant, after receipt of the application, the Bureau will email the applicant with instructions for submitting the electronic files through a secure file transfer service. Submission of the electronic files through the file transfer service needs to be completed within 3 business days after the invitation is received, so the applicant should ensure that the files are ready when sending the hard copy of the application. The applicant will not need a password to complete the transfer. **Do not use the file transfer service for NOIs, any type of GCP, or technical revisions to NSR permits.**

- 4) Optionally, the applicant may submit the files with the application on compact disk (CD) or digital versatile disc (DVD) following the instructions above and the instructions in 5 for applications subject to PSD review.
- 5) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver** and/or electronic air dispersion modeling report, input, and output files. The dispersion modeling **summary report only** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau.
- 6) If the applicant submits the electronic files on CD and the application is subject to PSD review under 20.2.74 NMAC (PSD) or NNSR under 20.2.79 NMC include,
  - a. one additional CD copy for US EPA,
  - b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
  - c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

If the application is submitted electronically through the secure file transfer service, these extra CDs do not need to be submitted.

### Electronic Submittal Requirements [in addition to the required hard copy(ies)]:

- 1) All required electronic documents shall be submitted as 2 separate CDs or submitted through the AQB secure file transfer service. Submit a single PDF document of the entire application as submitted and the individual documents comprising the application.
- 2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible

format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc.), submit these items in hard copy format. We must be able to review the formulas and inputs that calculated the emissions.

- 3) It is preferred that this application form be submitted as 4 electronic files (**3 MSWord docs**: Universal Application section 1 [UA1], Universal Application section 3-19 [UA3], and Universal Application 4, the modeling report [UA4]) and **1 Excel file** of the tables (Universal Application section 2 [UA2]). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.
- 4) The **electronic file names** shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the **core permit number** (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the **section #** (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the **header information** throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision number (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. Do not use special symbols (#, @, etc.) in file names. The footer information should not be modified by the applicant.

## Table of Contents

<b>Section 1:</b>	<b>General Facility Information</b>
<b>Section 2:</b>	<b>Tables</b>
<b>Section 3:</b>	<b>Application Summary</b>
<b>Section 4:</b>	<b>Process Flow Sheet</b>
<b>Section 5:</b>	<b>Plot Plan Drawn to Scale</b>
<b>Section 6:</b>	<b>All Calculations</b>
<b>Section 7:</b>	<b>Information Used to Determine Emissions</b>
<b>Section 8:</b>	<b>Map(s)</b>
<b>Section 9:</b>	<b>Proof of Public Notice</b>
<b>Section 10:</b>	<b>Written Description of the Routine Operations of the Facility</b>
<b>Section 11:</b>	<b>Source Determination</b>
<b>Section 12:</b>	<b>PSD Applicability Determination for All Sources &amp; Special Requirements for a PSD Application</b>
<b>Section 13:</b>	<b>Discussion Demonstrating Compliance with Each Applicable State &amp; Federal Regulation</b>
<b>Section 14:</b>	<b>Operational Plan to Mitigate Emissions</b>
<b>Section 15:</b>	<b>Alternative Operating Scenarios</b>
<b>Section 16:</b>	<b>Air Dispersion Modeling</b>
<b>Section 17:</b>	<b>Compliance Test History</b>
<b>Section 18:</b>	<b>Addendum for Streamline Applications (streamline applications only)</b>
<b>Section 19:</b>	<b>Requirements for the Title V (20.2.70 NMAC) Program (Title V applications only)</b>
<b>Section 20:</b>	<b>Other Relevant Information</b>
<b>Section 21:</b>	<b>Addendum for Landfill Applications</b>
<b>Section 22:</b>	<b>Certification Page</b>

**Table 2-A: Regulated Emission Sources**

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number <sup>1</sup>	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity <sup>3</sup> (Specify Units)	Requested Permitted Capacity <sup>3</sup> (Specify Units)	Date of Manufacture <sup>2</sup>	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) <sup>4</sup>	Replacing Unit No.
							Date of Construction/Reconstruction <sup>2</sup>	Emissions vented to Stack #				
01-ENG	Compressor RICE	Cooper-Bessemer	6V250	47164	2300 hp	2000 hp	2/3/1966	N/A	20200252	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	2SLB	N/A
							5/17/1967	01-ENG-A				
02-ENG	Compressor RICE	Cooper-Bessemer	6V250	47165	2300 hp	2000 hp	5/5/1966	N/A	20200252	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	2SLB	N/A
							5/17/1967	02-ENG-B				
03-ENG	Compressor RICE	Cooper-Bessemer	6V250	47257	2300 hp	2000 hp	1/7/1967	N/A	20200252	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	2SLB	N/A
							11/15/1968	03-ENG-C				
01-BOL	Boiler	Cleaver-Brooks	CR760-125	L-42477	5.23 MMBtu/hr	5.23 MMBtu/hr	7/21/1967	N/A	10200603	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							11/22/1967	01-BOL-A				
01-AIR <sup>5</sup>	Air Compressor	Waukesha	180GKB U	133749	50 hp	50 hp	5/27/1967	N/A	20200253	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SRB	N/A
							6/23/1967	01-AIR				
02-AIR <sup>5</sup>	Air Compressor	Tescorp	5120	90002297	75 hp	75 hp	3/1/2003	N/A	20200253	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SRB	N/A
							3/1/2003	02-AIR				
01-AUX <sup>6</sup>	Emergency Generator	Kohler CO	G2300	18029	60 hp	60 hp	7/4/2004	N/A	20200253	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SRB	N/A
							7/4/2004	01-AUX				
02-AUX <sup>6</sup>	Emergency Generator	Kohler CO	10RM62	311619	22.5 hp	22.5 hp	1969	N/A	20200253	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input checked="" type="checkbox"/> To be Replaced	4SRB	N/A
							1969	02-AUX				
02-AUX <sup>6</sup>	Emergency Generator	Cummins	C20N6H-A062E512	G210961108	30 hp	30 hp	2020	N/A	20200253	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input checked="" type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	4SRB	02-AUX
							12/2/2021	02-AUX				
SSM/M	Startup, Shutdown, Maintenance/Malfunction	N/A	N/A	N/A	N/A	N/A	N/A	N/A	31088811	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							N/A	N/A				
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		

<sup>1</sup> Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.

<sup>2</sup> Specify dates required to determine regulatory applicability.

<sup>3</sup> To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

<sup>4</sup> "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

<sup>5</sup> Both air compressors are exempt under NSR exemption 20.2.72.202.B.5. The air compressors potential emission rates are less than 5 tpy by having a federally enforceable condition limiting the operating hours to 250 hours per year.

<sup>6</sup> Both emergency generators are exempt under NSR exemption 20.2.72.202.B.3.



**Table 2-D: Maximum Emissions** (under normal operating conditions)

**This Table was intentionally left blank because it would be identical to Table 2-E.**

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) & Toxic Air Pollutants (TAPs) in Table 2-I. Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		TSP <sup>1</sup>		PM10 <sup>1</sup>		PM2.5 <sup>1</sup>		H <sub>2</sub> S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
<b>Totals</b>																		

<sup>1</sup> Condensable Particulate Matter: Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

**Table 2-E: Requested Allowable Emissions**

Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E<sup>-4</sup>).

Unit No.	NOx		CO		VOC		SOx		TSP <sup>1</sup>		PM10 <sup>1</sup>		PM2.5 <sup>1</sup>		H <sub>2</sub> S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
01-ENG	35.27	154.50	3.22	14.10	0.10	0.44	0.022	0.095	0.67	2.91	0.67	2.91	0.67	2.91	-	-	-	-
02-ENG	35.27	154.50	3.22	14.10	0.10	0.44	0.022	0.095	0.67	2.91	0.67	2.91	0.67	2.91	-	-	-	-
03-ENG	35.27	154.50	3.22	14.10	0.10	0.44	0.022	0.095	0.67	2.91	0.67	2.91	0.67	2.91	-	-	-	-
01-BOL	0.51	2.22	0.43	1.87	0.028	0.12	0.0030	0.013	0.039	0.17	0.039	0.17	0.039	0.17	-	-	-	-
01-AIR	0.68	0.085	1.12	0.14	0.0089	0.0011	0.0043	5.36E-04	0.0058	7.28E-04	0.0058	7.28E-04	0.0058	7.28E-04	-	-	-	-
02-AIR	1.41	0.18	2.31	0.29	0.018	0.0023	0.0089	0.0011	0.012	0.0030	0.012	0.0030	0.012	0.0030	-	-	-	-
01-AUX	1.29	0.32	2.12	0.53	0.017	0.017	0.0081	0.0081	0.011	0.0050	0.011	0.0050	0.011	0.0050	-	-	-	-
02-AUX	0.22	0.054	10.32	2.58	8.00E-03	2.0E-03	0.0E+00	0.0E+00	4.0E-03	1.0E-03	4.0E-03	1.0E-03	4.0E-03	1.0E-03	-	-	-	-
<b>Totals</b>	<b>109.93</b>	<b>466.35</b>	<b>25.95</b>	<b>47.70</b>	<b>0.38</b>	<b>1.46</b>	<b>0.089</b>	<b>0.31</b>	<b>2.07</b>	<b>8.92</b>	<b>2.07</b>	<b>8.92</b>	<b>2.07</b>	<b>8.92</b>	-	-	-	-

<sup>1</sup> **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

**Table 2-H: Stack Exit Conditions**

Unit and stack numbering must correspond throughout the application package. Include the stack exit conditions for each unit that emits from a stack, including blowdown venting parameters and tank emissions. If the facility has multiple operating scenarios, complete a separate Table 2-H for each scenario and, for each, type scenario name here:

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H=Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
01-ENG-A	01-ENG	V	No	54.1	400	126	N/A	17.5	40.1	2.00
02-ENG-B	02-ENG	V	No	54.1	400	126	N/A	17.5	40.1	2.00
03-ENG-C	03-ENG	V	No	54.1	400	126	N/A	17.5	40.1	2.00
01-BOL-A	01-BOL	V	No	16	750	59.7	N/A	0	43	1.33
01-AIR	01-AIR	V	No	15	~600	~80	N/A	0	12.3	0.67
02-AIR	02-AIR	V	No	15	~600	~110	N/A	0	14.5	0.67
01-AUX	01-AUX	V	No	15	~1150	~200	N/A	0	19.5	0.67
02-AUX	02-AUX	V	No	2	~1490	1.45	N/A	0	66.4	0.17

**Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs**

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year. For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

Stack No.	Unit No.(s)	Total HAPs		Formaldehyde <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Acetaldehyde <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Acrolein <input checked="" type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP		Provide Pollutant Name Here <input type="checkbox"/> HAP or <input type="checkbox"/> TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
01-ENG-A	01-ENG	1.53	6.71	0.58	2.53	0.48	2.10	0.11	0.50										
02-ENG-B	02-ENG	1.53	6.71	0.58	2.53	0.48	2.10	0.11	0.50										
03-ENG-C	03-ENG	1.53	6.71	0.58	2.53	0.48	2.10	0.11	0.50										
01-BOL-A	01-BOL	0.014	0.060	0.0017	0.0017	0.0015	0.0067	-	-										
01-AIR	01-AIR	0.016	0.0020	0.011	0.0014	8.00E-04	1.00E-04	8.00E-04	1.00E-04										
02-AIR	02-AIR	0.0030	0.0030	0.017	0.0021	0.0016	2.00E-04	0.0016	2.00E-04										
01-AUX	01-AUX	0.020	0.0050	0.013	0.0033	0.0012	3.00E-04	0.0012	3.00E-04										
02-AUX	02-AUX	0.010	0.0024	0.0062	0.0015	8.4E-04	2.09E-04	7.9E-04	1.97E-04										
<b>Totals:</b>		<b>4.66</b>	<b>20.21</b>	<b>1.78</b>	<b>7.61</b>	<b>1.44</b>	<b>6.31</b>	<b>0.34</b>	<b>1.49</b>										

### Table 2-J: Fuel

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, ...)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
01-ENG	Natural Gas	Pipeline Quality Natural Gas	1000 Btu/scf	19.0 Mcf	120.6 MMcf*	0.2 gr S/100 scf	N/A
02-ENG	Natural Gas	Pipeline Quality Natural Gas	1000 Btu/scf	19.0 Mcf	120.6 MMcf*	0.2 gr S/100 scf	N/A
03-ENG	Natural Gas	Pipeline Quality Natural Gas	1000 Btu/scf	19.0 Mcf	120.6 MMcf*	0.2 gr S/100 scf	N/A
01-BOL	Natural Gas	Pipeline Quality Natural Gas	1000 Btu/scf	6.9 Mcf	60.1 MMcf	0.2 gr S/100 scf	N/A
01-AIR	Natural Gas	Pipeline Quality Natural Gas	1000 Btu/scf	0.30 Mcf	150 Mcf	5 gr S/100 scf	N/A
02-AIR	Natural Gas	Pipeline Quality Natural Gas	1000 Btu/scf	0.62 Mcf	310 Mcf	5 gr S/100 scf	N/A
01-AUX	Natural Gas	Pipeline Quality Natural Gas	1000 Btu/scf	0.57 Mcf	285 Mcf	5 gr S/100 scf	N/A
02-AUX	Propane	Propane	2570 Btu/scf	116 scf	58 Mscf	0 gr S/100 scf	N/A

\* Fuel usage is based on maximum permitted horsepower (2,000 hp).

**Table 2-P: Greenhouse Gas Emissions**

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box  By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Unit No.	GWPs <sup>1</sup>	CO <sub>2</sub> ton/yr	N <sub>2</sub> O ton/yr	CH <sub>4</sub> ton/yr	SF <sub>6</sub> ton/yr	PFC/HFC ton/yr <sup>2</sup>												Total GHG Mass Basis ton/yr <sup>4</sup>	Total CO <sub>2</sub> e ton/yr <sup>5</sup>
01-ENG	mass GHG	7041.43	0.013	0.13														7041.58	
	CO <sub>2</sub> e	7041.43	3.95	3.32															7048.71
02-ENG	mass GHG	7041.43	0.013	0.13														7041.58	
	CO <sub>2</sub> e	7041.43	3.95	3.32															7048.71
03-ENG	mass GHG	7041.43	0.013	0.13														7041.58	
	CO <sub>2</sub> e	7041.43	3.95	3.32															7048.71
01-BOL	mass GHG	2674.03	0.0050	0.050														2674.09	
	CO <sub>2</sub> e	2674.03	1.50	1.26															2676.79
01-AIR	mass GHG	4.07	8.27E-06	8.3E-05														4.07	
	CO <sub>2</sub> e	4.07	0.0025	0.0021															4.08
02-AIR	mass GHG	8.41	1.709E-05	1.71E-04														8.41	
	CO <sub>2</sub> e	8.41	0.0051	0.0043															8.42
01-AUX	mass GHG	15.47	3.1E-05	3.14E-04														15.47	
	CO <sub>2</sub> e	15.47	0.0094	0.0079															15.49
02-AUX	mass GHG	7.96	0.0E+00	0.0E+00														7.96	
	CO <sub>2</sub> e	7.96	0.0E+00	0.0E+00															7.96
	mass GHG																		
	CO <sub>2</sub> e																		
	mass GHG																		
	CO <sub>2</sub> e																		
	mass GHG																		
	CO <sub>2</sub> e																		
	mass GHG																		
	CO <sub>2</sub> e																		
	mass GHG																		
	CO <sub>2</sub> e																		
Total	mass GHG	23834.24	0.045	0.45														23834.74	
	CO <sub>2</sub> e	23834.24	13.38	11.23															23858.85

<sup>1</sup> GWP (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

<sup>2</sup> For HFCs or PFCs describe the specific HFC or PFC compound and use a separate column for each individual compound.

<sup>3</sup> For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

<sup>4</sup> Green house gas emissions on a mass basis is the ton per year green house gas emission before adjustment with its GWP.

<sup>5</sup> CO<sub>2</sub>e means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

# Section 3

## Application Summary

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The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will affect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

The **Process Summary** shall include a brief description of the facility and its processes.

**Startup, Shutdown, and Maintenance (SSM) routine or predictable emissions:** Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications ([http://www.env.nm.gov/aqb/permit/app\\_form.html](http://www.env.nm.gov/aqb/permit/app_form.html)) for more detailed instructions on SSM emissions.

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Compressor Station No. 167 is owned and operated by the Natural Gas Pipeline Company of America (NGPL) and is located in Lea County, New Mexico. The facility is currently authorized to operate under Title V Operating Permit No. 0141-R4.

NGPL is submitting this Title V Minor Permit Modification in accordance with 20.7.404.B NMAC to modify the Title V Permit 0141-R4 by incorporating the changes made through the submittal of a Notice of Exemption, received by the NMED on September 21, 2021.

On December 2, 2021, NGPL replaced the existing 22.5 hp Kohler emergency generator with a 30 hp Cummins emergency generator. This unit is a regulated source and is subject to 40 CFR 60 Subpart JJJJ. This application will add the replacement Cummins emergency generator and remove the Kohler emergency generator.

# Section 6

## All Calculations

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**Show all calculations** used to determine both the hourly and annual controlled and uncontrolled emission rates. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. The "Calculations" tab in the UA2 has been provided to allow calculations to be linked to the emissions tables. Add additional "Calc" tabs as needed. If the UA2 or other spread sheets are used, all calculation spread sheet(s) shall be submitted electronically in Microsoft Excel compatible format so that formulas and input values can be checked. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula. All calculations, including those calculations are imbedded in the Calc tab of the UA2 portion of the application, the printed Calc tab(s), should be submitted under this section.

**Tank Flashing Calculations:** The information provided to the AQB shall include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., NOI, permit, or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

**SSM Calculations:** It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Section 2 SSM and/or Section 22 GHG Tables and the rationale for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications ([http://www.env.nm.gov/aqb/permit/app\\_form.html](http://www.env.nm.gov/aqb/permit/app_form.html)) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

**Glycol Dehydrator Calculations:** The information provided to the AQB shall include the manufacturer's maximum design recirculation rate for the glycol pump. If GRI-Glycalc is used, the full input summary report shall be included as well as a copy of the gas analysis that was used.

**Road Calculations:** Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:

1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

**Significant Figures:**

**A.** All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.

**B.** At least 5 significant figures shall be retained in all intermediate calculations.

**C.** In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

- (1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;
- (2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**
- (3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.
- (4) The final result of the calculation shall be expressed in the units of the standard.



**Control Devices:** In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

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**Emergency Generator (Unit 02-AUX)**

Emission rates for NO<sub>x</sub> and CO emissions were calculated using manufacturer data. Emission rates for PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, SO<sub>2</sub>, and HAPs were based on AP-42 Table 3.2-3. Greenhouse gas emissions were calculated using EPA 40 CFR 98 Subpart C emission factors.

# Section 6.a

## Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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**Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC)** applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>).

### Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO<sub>2</sub>e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO<sub>2</sub>e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO<sub>2</sub>e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO<sub>2</sub>e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following  By checking this box, the applicant acknowledges the total CO<sub>2</sub>e emissions are less than 75,000 tons per year.

### Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at <http://www.epa.gov/ttn/chief/ap42/index.html>
- EPA's Internet emission factor database WebFIRE at <http://cfpub.epa.gov/webfire/>
- 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD applicability.
- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at <http://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases>:

### Global Warming Potentials (GWP):

Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO<sub>2</sub> over a specified time period.

**"Greenhouse gas"** for the purpose of air permit regulations is defined as the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. **(20.2.70.7 NMAC, 20.2.74.7 NMAC)**. You may also find GHGs defined in 40 CFR 86.1818-12(a).

### Metric to Short Ton Conversion:

Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.

1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

**NGPL Station 167 - AUX-02 (Replacement) Calculations**

**02-AUX**

**Natural Gas-Fired 4SRB Reciprocating Internal Combustion Engine**

Unit 02-AUX (Existing)

Emission Factors	02-AUX (Existing)	UOM	Source
CO:	3.72	lb/MMBtu	AP 42 3.2-3 (7/2000)
NOx:	2.27	lb/MMBtu	AP 42 3.2-3 (7/2000)
VOC:	2.96E-02	lb/MMBtu	AP 42 3.2-3 (7/2000)
SOx:	5.88E-04	lb/MMBtu	AP 42 3.2-3 (7/2000)
PM10:	1.94E-02	lb/MMBtu	AP 42 3.2-3 (7/2000)
PM2.5:	1.94E-02	lb/MMBtu	AP 42 3.2-3 (7/2000)
CO2	53.06	kg/MMBtu	40 CFR 98 Subpart C
CH4	0.001	kg/MMBtu	40 CFR 98 Subpart C
N2O	0.0001	kg/MMBtu	40 CFR 98 Subpart C

Unit 02-AUX (Replacement) - Propane

	UOM	Source
211.90	g/kW-hr	Manufacturer data
4.40	g/kW-hr	Manufacturer data
2.96E-02	lb/MMBtu	AP 42 3.2-3 (7/2000)
N/A	lb/MMBtu	AP 42 3.2-3 (7/2000)
1.94E-02	lb/MMBtu	AP 42 3.2-3 (7/2000)
1.94E-02	lb/MMBtu	AP 42 3.2-3 (7/2000)
53.06	kg/MMBtu	40 CFR 98 Subpart C
0.001	kg/MMBtu	40 CFR 98 Subpart C
0.0001	kg/MMBtu	40 CFR 98 Subpart C

Cummins Engine Specifications

22.1 kW	Max Power on propane
2570 btu/scf	Propane heat value
116 scf/hr	Propane use rate

Note: PM10 (2.5) = PM Condensable + PM10 (2.5) Filterable

Criteria Pollutant	Unit 02-AUX	Unit 02-AUX (Replacement)	Project Increase
	TPY	TPY	
Heat Rate (MMBTU/hr)	0.183	0.3	
Hrs	500	500	
CO	0.170	2.581	2.4
NOx	0.104	0.054	-0.1
VOC	0.001	0.002	0.0
Sox	0.000	0.000	0.0
PM10	0.001	0.001	0.0
PM2.5	0.001	0.001	0.0
CO2	4.855	7.959	3.1
CH4	0.000	0.000	0.0
N2O	0.000	0.000	0.0
CO2e	4.860	7.967	3.1

## NGPL Station 167 - AUX-02 (Replacement) Calculations

### 02-AUX HAPs

Emission Unit	02-AUX	02-AUX (Replacement)
Hours of Operation	500	500
Heat Rate (MMBTU/hr):	0.183	0.3

Pollutant	Emission Factor (lb/MMBTU)	01-AUX (tpy)	02-AUX (tpy)	Project Increase
1,1,2,2-Tetrachloroethane	2.53E-05	1.16E-06	1.90E-06	7.40E-07
1,1,2-Trichloroethane	1.53E-05	7.00E-07	1.15E-06	4.48E-07
1,3-Butadiene	6.63E-04	3.03E-05	4.97E-05	1.94E-05
1,3-Dichloropropene	1.27E-05	5.81E-07	9.53E-07	3.71E-07
Acetaldehyde	2.79E-03	1.28E-04	2.09E-04	8.16E-05
Acrolein	2.63E-03	1.20E-04	1.97E-04	7.69E-05
Benzene	1.58E-03	7.23E-05	1.19E-04	4.62E-05
Carbon Tetrachloride	1.77E-05	8.10E-07	1.33E-06	5.18E-07
Chlorobenzene	1.29E-05	5.90E-07	9.68E-07	3.77E-07
Chloroform	1.37E-05	6.27E-07	1.03E-06	4.01E-07
Ethylbenzene	2.48E-05	1.13E-06	1.86E-06	7.25E-07
Ethylene Dibromide	2.13E-05	9.74E-07	1.60E-06	6.23E-07
Formaldehyde	2.05E-02	9.38E-04	1.54E-03	6.00E-04
Methanol	3.06E-03	1.40E-04	2.30E-04	8.95E-05
Methylene Chloride	4.12E-05	1.88E-06	3.09E-06	1.21E-06
Naphthalene	9.71E-05	4.44E-06	7.28E-06	2.84E-06
n-Hexane	9.71E-05	4.44E-06	7.28E-06	2.84E-06
PAH	1.41E-04	6.45E-06	1.06E-05	4.12E-06
Styrene	1.19E-05	5.44E-07	8.93E-07	3.48E-07
Toluene	5.58E-04	2.55E-05	4.19E-05	1.63E-05
Xylene	1.95E-04	8.92E-06	1.46E-05	5.70E-06
Vinyl Chloride	7.18E-06	3.28E-07	5.39E-07	2.10E-07
<b>Total</b>		<b>1.49E-03</b>	<b>2.44E-03</b>	<b>9.51E-04</b>

Emission Factors provided by AP-42 3.2-3 (7/2000)

# Section 7

## Information Used To Determine Emissions

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### **Information Used to Determine Emissions shall include the following:**

- If manufacturer data are used, include specifications for emissions units and control equipment, including control efficiencies specifications and sufficient engineering data for verification of control equipment operation, including design drawings, test reports, and design parameters that affect normal operation.
  - If test data are used, include a copy of the complete test report. If the test data are for an emissions unit other than the one being permitted, the emission units must be identical. Test data may not be used if any difference in operating conditions of the unit being permitted and the unit represented in the test report significantly effect emission rates.
  - If the most current copy of AP-42 is used, reference the section and date located at the bottom of the page. Include a copy of the page containing the emissions factors, and clearly mark the factors used in the calculations.
  - If an older version of AP-42 is used, include a complete copy of the section.
  - If an EPA document or other material is referenced, include a complete copy.
  - Fuel specifications sheet.
  - If computer models are used to estimate emissions, include an input summary (if available) and a detailed report, and a disk containing the input file(s) used to run the model. For tank-flashing emissions, include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., permit or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.
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### **Emergency Generator (Unit 02-AUX)**

- AP-42 Section 3.2 *Natural Gas-Fired Reciprocating Engines* Table 3.2-3
- Emissions Certification Test #MCRXBM0052927

## Certification Summary Information Report

Engine Family	MCEXB00.9AAA					
<b>Test #2</b>						
Test Incorporated by Reference Indicator (This Test Must Have Been Previously Submitted to Verify in a Different Engine Family Data Set)	No					
Test Engine Number	2	Manufacturer Assigned Test Number				
Verify Assigned Certification Test Number	MCEXBM0052927	Corresponding Engine Configuration Number (Engine Model Name, Engine Code)	null (QSJ999, QSJ999-LPG)			
Test Lab ID	Cummins Power Generation	Test Date	03/03/2016			
Engine Hours Reading at Test Start	14	Emission Sampling Method	Raw-Gas Method (RGM)			
Test Cycle Used	G2	Test Engine Maximum Measured Power (kW)	22.1			
Maximum Test Speed (RPM) Basis for this Test Cycle	3600	Test Engine Maximum Measured Torque (NM)	58.5			
Test Engine Speed (RPM) at which Maximum Measured Power Occurs	3600	Engine Model Rated Power (kW)	22.4			
Test Engine Speed (RPM) at which Maximum Measured Torque Occurs	3600					
Test Result - Mobile/Stationary Identifier	Part 90 Phase 1					
Certification Test Fuel	LPG/Propane					
Certification Test Fuel Justification	--					
	Constituent Name	Constituent Units	Certification Test Result (before Deterioration Factor applied)	Calculated Certification Level	EPA Exhaust Emission Standard	Pass/Fail Indicator
	CO	g/kW-hr	211.9	211.9	519.0	Pass
	NOx	g/kW-hr	4.4	--	--	--
	HC + NOx	g/kW-hr	5.9	5.9	13.4	Pass
	HC (THC)	g/kW-hr	1.5	--	--	--
No data submission for CH4 or N2O Justification	--					
Testing Comments	--					

## 3.2 Natural Gas-fired Reciprocating Engines

### 3.2.1 General<sup>1-3</sup>

Most natural gas-fired reciprocating engines are used in the natural gas industry at pipeline compressor and storage stations and at gas processing plants. These engines are used to provide mechanical shaft power for compressors and pumps. At pipeline compressor stations, engines are used to help move natural gas from station to station. At storage facilities, they are used to help inject the natural gas into high pressure natural gas storage fields. At processing plants, these engines are used to transmit fuel within a facility and for process compression needs (e.g., refrigeration cycles). The size of these engines ranges from 50 brake horsepower (bhp) to 11,000 bhp. In addition, some engines in service are 50 - 60 years old and consequently have significant differences in design compared to newer engines, resulting in differences in emissions and the ability to be retrofitted with new parts or controls.

At pipeline compressor stations, reciprocating engines are used to power reciprocating compressors that move compressed natural gas (500 - 2000 psig) in a pipeline. These stations are spaced approximately 50 to 100 miles apart along a pipeline that stretches from a gas supply area to the market area. The reciprocating compressors raise the discharge pressure of the gas in the pipeline to overcome the effect of frictional losses in the pipeline upstream of the station, in order to maintain the required suction pressure at the next station downstream or at various downstream delivery points. The volume of gas flowing and the amount of subsequent frictional losses in a pipeline are heavily dependent on the market conditions that vary with weather and industrial activity, causing wide pressure variations. The number of engines operating at a station, the speed of an individual engine, and the amount of individual engine horsepower (load) needed to compress the natural gas is dependent on the pressure of the compressed gas received by the station, the desired discharge pressure of the gas, and the amount of gas flowing in the pipeline. Reciprocating compressors have a wider operating bandwidth than centrifugal compressors, providing increased flexibility in varying flow conditions. Centrifugal compressors powered by natural gas turbines are also used in some stations and are discussed in another section of this document.

A compressor in storage service pumps gas from a low-pressure storage field (500 - 800 psig) to a higher pressure transmission pipeline (700 - 1000 psig) and/or pumps gas from a low-pressure transmission line (500 - 800 psig) to a higher pressure storage field (800 - 2000 psig).

Storage reciprocating compressors must be flexible enough to allow operation across a wide band of suction and discharge pressures and volume variations. The compressor must be able to compress at high compression ratios with low volumes and compress at low compression ratios with high volumes. These conditions require varying speeds and load (horsepower) conditions for the reciprocating engine powering the reciprocating compressor.

Reciprocating compressors are used at processing plants for process compression needs (e.g. refrigeration cycles). The volume of gas compressed varies, but the pressure needed for the process is more constant than the other two cases mentioned above.

### 3.2.2 Process Description<sup>1-3</sup>

Natural gas-fired reciprocating engines are separated into three design classes: 2-cycle (stroke) lean-burn, 4-stroke lean-burn, and 4-stroke rich-burn. Two-stroke engines complete the power cycle in a

single crankshaft revolution as compared to the two crankshaft revolutions required for 4-stroke engines. All engines in these categories are spark-ignited.

In a 2-stroke engine, the air-to-fuel charge is injected with the piston near the bottom of the power stroke. The intake ports are then covered or closed, and the piston moves to the top of the cylinder, compressing the charge. Following ignition and combustion, the power stroke starts with the downward movement of the piston. As the piston reaches the bottom of the power stroke, exhaust ports or valves are opened to exhaust, or scavenge, the combustion products, and a new air-to-fuel charge is injected. Two-stroke engines may be turbocharged using an exhaust-powered turbine to pressurize the charge for injection into the cylinder and to increase cylinder scavenging. Non-turbocharged engines may be either blower scavenged or piston scavenged to improve removal of combustion products. Historically, 2-stroke designs have been widely used in pipeline applications. However, current industry practices reflect a decline in the usage of new 2-stroke engines for stationary applications.

Four-stroke engines use a separate engine revolution for the intake/compression cycle and the power/exhaust cycle. These engines may be either naturally aspirated, using the suction from the piston to entrain the air charge, or turbocharged, using an exhaust-driven turbine to pressurize the charge. Turbocharged units produce a higher power output for a given engine displacement, whereas naturally aspirated units have lower initial costs and require less maintenance.

Rich-burn engines operate near the stoichiometric air-to-fuel ratio (16:1) with exhaust excess oxygen levels less than 4 percent (typically closer to 1 percent). Additionally, it is likely that the emissions profile will be considerably different for a rich-burn engine at 4 percent oxygen than when operated closer to stoichiometric conditions. Considerations such as these can impact the quantitative value of the emission factor presented. It is also important to note that while rich-burn engines may operate, by definition, with exhaust oxygen levels as high as 4 percent, in reality, most will operate within plus or minus 1 air-to-fuel ratio of stoichiometry. Even across this narrow range, emissions will vary considerably, sometimes by more than an order of magnitude. Air-to-fuel ratios were not provided in the gathered emissions data used to develop the presented factors.

Lean-burn engines may operate up to the lean flame extinction limit, with exhaust oxygen levels of 12 percent or greater. The air to fuel ratios of lean-burn engines range from 20:1 to 50:1 and are typically higher than 24:1. The exhaust excess oxygen levels of lean-burn engines are typically around 8 percent, ranging from 4 to 17 percent. Some lean-burn engines are characterized as clean-burn engines. The term “clean-burn” technology is a registered trademark of Cooper Energy Systems and refers to engines designed to reduce  $\text{NO}_x$  by operating at high air-to-fuel ratios. Engines operating at high air-to-fuel ratios (greater than 30:1) may require combustion modification to promote stable combustion with the high excess air. These modifications may include a turbo charger or a precombustion chamber (PCC). A turbo charger is used to force more air into the combustion chamber, and a PCC is used to ignite a fuel-rich mixture that propagates into the main cylinder and ignites the very lean combustion charge. Lean-burn engines typically have lower oxides of nitrogen ( $\text{NO}_x$ ) emissions than rich-burn engines.

### 3.2.3 Emissions

The primary criteria pollutants from natural gas-fired reciprocating engines are oxides of nitrogen ( $\text{NO}_x$ ), carbon monoxide (CO), and volatile organic compounds (VOC). The formation of nitrogen oxides is exponentially related to combustion temperature in the engine cylinder. The other pollutants, CO and VOC species, are primarily the result of incomplete combustion. Particulate matter (PM) emissions include trace amounts of metals, non-combustible inorganic material, and condensable,



semi-volatile organics which result from volatilized lubricating oil, engine wear, or from products of incomplete combustion. Sulfur oxides are very low since sulfur compounds are removed from natural gas at processing plants. However, trace amounts of sulfur containing odorant are added to natural gas at city gates prior to distribution for the purpose of leak detection.

It should be emphasized that the actual emissions may vary considerably from the published emission factors due to variations in the engine operating conditions. This variation is due to engines operating at different conditions, including air-to-fuel ratio, ignition timing, torque, speed, ambient temperature, humidity, and other factors. It is not unusual to test emissions from two identical engines in the same plant, operated by the same personnel, using the same fuel, and have the test results show significantly different emissions. This variability in the test data is evidenced in the high relative standard deviation reported in the data set.

#### 3.2.3.1 Nitrogen Oxides -

Nitrogen oxides are formed through three fundamentally different mechanisms. The principal mechanism of  $\text{NO}_x$  formation with gas-fired engines is thermal  $\text{NO}_x$ . The thermal  $\text{NO}_x$  mechanism occurs through the thermal dissociation and subsequent reaction of nitrogen ( $\text{N}_2$ ) and oxygen ( $\text{O}_2$ ) molecules in the combustion air. Most  $\text{NO}_x$  formed through the thermal  $\text{NO}_x$  mechanism occurs in high-temperature regions in the cylinder where combustion air has mixed sufficiently with the fuel to produce the peak temperature fuel/air interface. The second mechanism, called prompt  $\text{NO}_x$ , occurs through early reactions of nitrogen molecules in the combustion air and hydrocarbon radicals from the fuel. Prompt  $\text{NO}_x$  reactions occur within the flame and are usually negligible compared to the level of  $\text{NO}_x$  formed through the thermal  $\text{NO}_x$  mechanism. The third mechanism, fuel  $\text{NO}_x$ , stems from the evolution and reaction of fuel-bound nitrogen compounds with oxygen. Natural gas has negligible chemically bound fuel nitrogen (although some molecular nitrogen is present).

Essentially all  $\text{NO}_x$  formed in natural gas-fired reciprocating engines occurs through the thermal  $\text{NO}_x$  mechanism. The formation of  $\text{NO}_x$  through the prompt  $\text{NO}_x$  mechanism may be significant only under highly controlled situations in rich-burn engines when the thermal  $\text{NO}_x$  mechanism is suppressed. The rate of  $\text{NO}_x$  formation through the thermal  $\text{NO}_x$  mechanism is highly dependent upon the stoichiometric ratio, combustion temperature, and residence time at the combustion temperature. Maximum  $\text{NO}_x$  formation occurs through the thermal  $\text{NO}_x$  mechanism near the stoichiometric air-to-fuel mixture ratio since combustion temperatures are greatest at this air-to-fuel ratio.

#### 3.2.3.2 Carbon Monoxide and Volatile Organic Compounds -

CO and VOC emissions are both products of incomplete combustion. CO results when there is insufficient residence time at high temperature to complete the final step in hydrocarbon oxidation. In reciprocating engines, CO emissions may indicate early quenching of combustion gases on cylinder walls or valve surfaces. The oxidation of CO to carbon dioxide ( $\text{CO}_2$ ) is a slow reaction compared to most hydrocarbon oxidation reactions.

The pollutants commonly classified as VOC can encompass a wide spectrum of volatile organic compounds that are photoreactive in the atmosphere. VOC occur when some of the gas remains unburned or is only partially burned during the combustion process. With natural gas, some organics are carryover, unreacted, trace constituents of the gas, while others may be pyrolysis products of the heavier hydrocarbon constituents. Partially burned hydrocarbons result from poor air-to-fuel mixing prior to, or during, combustion, or incorrect air-to-fuel ratios in the cylinder during combustion due to maladjustment of the engine fuel system. Also, low cylinder temperature may yield partially burned hydrocarbons due to excessive cooling through the walls, or early cooling of the gases by expansion of the combustion volume caused by piston motion before combustion is completed.

### 3.2.3.3 Particulate Matter<sup>4</sup> -

PM emissions result from carryover of noncombustible trace constituents in the fuel and lubricating oil and from products of incomplete combustion. Emission of PM from natural gas-fired reciprocating engines are generally minimal and comprise fine filterable and condensible PM. Increased PM emissions may result from poor air-to-fuel mixing or maintenance problems.

### 3.2.3.4 Carbon Dioxide, Methane, and Nitrous Oxide<sup>5</sup> -

Carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) are referred to as greenhouse gases. Such gases are largely transparent to incoming solar radiation; however, they absorb infrared radiation re-emitted by the Earth. Where available, emission factors for these pollutants are presented in the emission factors tables of this section.

## 3.2.4 Control Technologies

Three generic control techniques have been developed for reciprocating engines: parametric controls (timing and operating at a leaner air-to-fuel ratio); combustion modifications such as advanced engine design for new sources or major modification to existing sources (clean-burn cylinder head designs and prestratified charge combustion for rich-burn engines); and postcombustion catalytic controls installed on the engine exhaust system. Post-combustion catalytic technologies include selective catalytic reduction (SCR) for lean-burn engines, nonselective catalytic reduction (NSCR) for rich-burn engines, and CO oxidation catalysts for lean-burn engines.

### 3.2.4.1 Control Techniques for 4-Cycle Rich-burn Engines<sup>4,6</sup> -

#### Nonselective Catalytic Reduction (NSCR) -

This technique uses the residual hydrocarbons and CO in the rich-burn engine exhaust as a reducing agent for NO<sub>x</sub>. In an NSCR, hydrocarbons and CO are oxidized by O<sub>2</sub> and NO<sub>x</sub>. The excess hydrocarbons, CO, and NO<sub>x</sub> pass over a catalyst (usually a noble metal such as platinum, rhodium, or palladium) that oxidizes the excess hydrocarbons and CO to H<sub>2</sub>O and CO<sub>2</sub>, while reducing NO<sub>x</sub> to N<sub>2</sub>. NO<sub>x</sub> reduction efficiencies are usually greater than 90 percent, while CO reduction efficiencies are approximately 90 percent.

The NSCR technique is effectively limited to engines with normal exhaust oxygen levels of 4 percent or less. This includes 4-stroke rich-burn naturally aspirated engines and some 4-stroke rich-burn turbocharged engines. Engines operating with NSCR require tight air-to-fuel control to maintain high reduction effectiveness without high hydrocarbon emissions. To achieve effective NO<sub>x</sub> reduction performance, the engine may need to be run with a richer fuel adjustment than normal. This exhaust excess oxygen level would probably be closer to 1 percent. Lean-burn engines could not be retrofitted with NSCR control because of the reduced exhaust temperatures.

#### Prestratified Charge -

Prestratified charge combustion is a retrofit system that is limited to 4-stroke carbureted natural gas engines. In this system, controlled amounts of air are introduced into the intake manifold in a specified sequence and quantity to create a fuel-rich and fuel-lean zone. This stratification provides both a fuel-rich ignition zone and rapid flame cooling in the fuel-lean zone, resulting in reduced formation of NO<sub>x</sub>. A prestratified charge kit generally contains new intake manifolds, air hoses, filters, control valves, and a control system.

### 3.2.4.2 Control Techniques for Lean-burn Reciprocating Engines<sup>4,6</sup> -

#### Selective Catalytic Reduction<sup>4,6</sup> -

Selective catalytic reduction is a postcombustion technology that has been shown to be effective in reducing NO<sub>x</sub> in exhaust from lean-burn engines. An SCR system consists of an ammonia storage, feed, and injection system, and a catalyst and catalyst housing. Selective catalytic reduction systems selectively reduce NO<sub>x</sub> emissions by injecting ammonia (either in the form of liquid anhydrous ammonia or aqueous ammonium hydroxide) into the exhaust gas stream upstream of the catalyst. Nitrogen oxides, NH<sub>3</sub>, and O<sub>2</sub> react on the surface of the catalyst to form N<sub>2</sub> and H<sub>2</sub>O. For the SCR system to operate properly, the exhaust gas must be within a particular temperature range (typically between 450 and 850°F). The temperature range is dictated by the catalyst (typically made from noble metals, base metal oxides such as vanadium and titanium, and zeolite-based material). Exhaust gas temperatures greater than the upper limit (850°F) will pass the NO<sub>x</sub> and ammonia unreacted through the catalyst. Ammonia emissions, called NH<sub>3</sub> slip, are a key consideration when specifying a SCR system. SCR is most suitable for lean-burn engines operated at constant loads, and can achieve efficiencies as high as 90 percent. For engines which typically operate at variable loads, such as engines on gas transmission pipelines, an SCR system may not function effectively, causing either periods of ammonia slip or insufficient ammonia to gain the reductions needed.

#### Catalytic Oxidation -

Catalytic oxidation is a postcombustion technology that has been applied, in limited cases, to oxidize CO in engine exhaust, typically from lean-burn engines. As previously mentioned, lean-burn technologies may cause increased CO emissions. The application of catalytic oxidation has been shown to be effective in reducing CO emissions from lean-burn engines. In a catalytic oxidation system, CO passes over a catalyst, usually a noble metal, which oxidizes the CO to CO<sub>2</sub> at efficiencies of approximately 70 percent for 2SLB engines and 90 percent for 4SLB engines.

### 3.2.5 Updates Since the Fifth Edition

The Fifth Edition was released in January 1995. Revisions to this section since that date are summarized below. For further detail, consult the memoranda describing each supplement or the background report for this section. These and other documents can be found on the Clearinghouse for Inventories/Emission Factors (CHIEF) electronic bulletin board (919-541-5742), or on the new Emission Factor and Inventory Group (EFIG) home page (<http://www.epa.gov/ttn/chief>).

#### Supplement A, February 1996

- In the table for uncontrolled natural gas prime movers, the Source Classification Code (SCC) for 4-cycle lean-burn was changed from 2-01-002-53 to 2-02-002-54. The SCC for 4-cycle rich-burn was changed from 2-02-002-54 to 2-02-02-002-53.
- An SCC (2-02-002-53) was provided for 4-cycle rich-burn engines, and the "less than" symbol (<) was restored to the appropriate factors.

#### Supplement B, October 1996

- The introduction section was revised.
- Text was added concerning process description of turbines.

- Text concerning emissions and controls was revised.
- References in various tables were editorially corrected.
- The inconsistency between a CO<sub>2</sub> factor in the table and an equation in the footnote was corrected.

#### Supplement F, July 2000

- Turbines used for natural gas compression were removed from this section and combined with utility turbines in Section 3.1. Section 3.2 now only contains information on natural gas-fired reciprocating engines.
- All emission factors were updated based on emissions data points taken from 70 emission reports containing over 400 source tests. Many new emission factors have been incorporated in this section for speciated organic compounds, including hazardous air pollutants.

Table 3.2-3. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE RICH-BURN  
 ENGINES<sup>a</sup>  
 (SCC 2-02-002-53)

Pollutant	Emission Factor (lb/MMBtu) <sup>b</sup> (fuel input)	Emission Factor Rating
Criteria Pollutants and Greenhouse Gases		
NO <sub>x</sub> <sup>c</sup> 90 - 105% Load	2.21 E+00	A
NO <sub>x</sub> <sup>c</sup> <90% Load	2.27 E+00	C
CO <sup>c</sup> 90 - 105% Load	3.72 E+00	A
CO <sup>c</sup> <90% Load	3.51 E+00	C
CO <sub>2</sub> <sup>d</sup>	1.10 E+02	A
SO <sub>2</sub> <sup>e</sup>	5.88 E-04	A
TOC <sup>f</sup>	3.58 E-01	C
Methane <sup>g</sup>	2.30 E-01	C
VOC <sup>h</sup>	2.96 E-02	C
PM10 (filterable) <sup>i,j</sup>	9.50 E-03	E
PM2.5 (filterable) <sup>j</sup>	9.50 E-03	E
PM Condensable <sup>k</sup>	9.91 E-03	E
Trace Organic Compounds		
1,1,2,2-Tetrachloroethane <sup>l</sup>	2.53 E-05	C
1,1,2-Trichloroethane <sup>l</sup>	<1.53 E-05	E
1,1-Dichloroethane	<1.13 E-05	E
1,2-Dichloroethane	<1.13 E-05	E
1,2-Dichloropropane	<1.30 E-05	E
1,3-Butadiene <sup>l</sup>	6.63 E-04	D
1,3-Dichloropropene <sup>l</sup>	<1.27 E-05	E
Acetaldehyde <sup>l,m</sup>	2.79 E-03	C
Acrolein <sup>l,m</sup>	2.63 E-03	C
Benzene <sup>l</sup>	1.58 E-03	B
Butyr/isobutyraldehyde	4.86 E-05	D
Carbon Tetrachloride <sup>l</sup>	<1.77 E-05	E

Table 3.2-3. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE RICH-BURN ENGINES  
(Concluded)

Pollutant	Emission Factor (lb/MMBtu) <sup>b</sup> (fuel input)	Emission Factor Rating
Chlorobenzene <sup>1</sup>	<1.29 E-05	E
Chloroform <sup>1</sup>	<1.37 E-05	E
Ethane <sup>n</sup>	7.04 E-02	C
Ethylbenzene <sup>1</sup>	<2.48 E-05	E
Ethylene Dibromide <sup>1</sup>	<2.13 E-05	E
Formaldehyde <sup>1,m</sup>	2.05 E-02	A
Methanol <sup>1</sup>	3.06 E-03	D
Methylene Chloride <sup>1</sup>	4.12 E-05	C
Naphthalene <sup>1</sup>	<9.71 E-05	E
PAH <sup>1</sup>	1.41 E-04	D
Styrene <sup>1</sup>	<1.19 E-05	E
Toluene <sup>1</sup>	5.58 E-04	A
Vinyl Chloride <sup>1</sup>	<7.18 E-06	E
Xylene <sup>1</sup>	1.95 E-04	A

<sup>a</sup> Reference 7. Factors represent uncontrolled levels. For NO<sub>x</sub>, CO, and PM-10, “uncontrolled” means no combustion or add-on controls; however, the factor may include turbocharged units. For all other pollutants, “uncontrolled” means no oxidation control; the data set may include units with control techniques used for NO<sub>x</sub> control, such as PCC and SCR for lean burn engines, and PSC for rich burn engines. Factors are based on large population of engines. Factors are for engines at all loads, except as indicated. SCC = Source Classification Code. TOC = Total Organic Compounds. PM10 = Particulate Matter ≤ 10 microns (μm) aerodynamic diameter. A “<” sign in front of a factor means that the corresponding emission factor is based on one-half of the method detection limit.

<sup>b</sup> Emission factors were calculated in units of (lb/MMBtu) based on procedures in EPA Method 19. To convert from (lb/MMBtu) to (lb/10<sup>6</sup> scf), multiply by the heat content of the fuel. If the heat content is not available, use 1020 Btu/scf. To convert from (lb/MMBtu) to (lb/hp-hr) use the following equation:

$$\text{lb/hp-hr} = (\text{lb/MMBtu}) (\text{heat input, MMBtu/hr}) (1/\text{operating HP, 1/hp})$$

<sup>c</sup> Emission tests with unreported load conditions were not included in the data set.

<sup>d</sup> Based on 99.5% conversion of the fuel carbon to CO<sub>2</sub>. CO<sub>2</sub> [lb/MMBtu] = (3.67)(%CON)(C)(D)(1/h), where %CON = percent conversion of fuel carbon to CO<sub>2</sub>,

C = carbon content of fuel by weight (0.75), D = density of fuel, 4.1 E+04 lb/10<sup>6</sup> scf, and h = heating value of natural gas (assume 1020 Btu/scf at 60°F).

<sup>e</sup> Based on 100% conversion of fuel sulfur to SO<sub>2</sub>. Assumes sulfur content in natural gas of 2,000 gr/10<sup>6</sup> scf.

<sup>f</sup> Emission factor for TOC is based on measured emission levels from 6 source tests.

<sup>g</sup> Emission factor for methane is determined by subtracting the VOC and ethane emission factors from the TOC emission factor.

<sup>h</sup> VOC emission factor is based on the sum of the emission factors for all speciated organic compounds. Methane and ethane emissions were not measured for this engine category.

<sup>i</sup> No data were available for uncontrolled engines. PM10 emissions are for engines equipped with a PCC.

<sup>j</sup> Considered  $\leq 1 \mu\text{m}$  in aerodynamic diameter. Therefore, for filterable PM emissions, PM10(filterable) = PM2.5(filterable).

<sup>k</sup> No data were available for condensable emissions. The presented emission factor reflects emissions from 4SLB engines.

<sup>l</sup> Hazardous Air Pollutant as defined by Section 112(b) of the Clean Air Act.

<sup>m</sup> For rich-burn engines, no interference is suspected in quantifying aldehyde emissions. The presented emission factors are based on FTIR and CARB 430 emissions data measurements.

<sup>n</sup> Ethane emission factor is determined by subtracting the VOC emission factor from the NMHC emission factor.

## References For Section 3.2

1. *Engines, Turbines, And Compressors Directory*, American Gas Association, Catalog #XF0488.
2. *Standards Support And Environmental Impact Statement, Volume I: Stationary Internal Combustion Engines*, EPA-450/2-78-125a, U. S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, July 1979.
3. *Alternative Control Techniques Document - NO<sub>x</sub> Emissions From Stationary Reciprocating Engines*, EPA-453/R-93-032, July 1993.
4. *Handbook - Control Technologies For Hazardous Air Pollutants*, EPA-625/6-91-014, June 1991.
5. *Limiting Net Greenhouse Gas Emissions In The United States, Volume II: Energy Responses*, Report for the Office of Environmental Analysis, Office of Policy, Planning and Analysis, Department of Energy (DOE), DOE/PE-0101 Volume II, September 1991.
6. C. Castaldini, *NO<sub>x</sub> Reduction Technologies For Natural Gas Industry Prime Movers*, GRI-90/0215, Gas Research Institute, Chicago, IL, August 1990.
7. *Emission Factor Documentation for AP-42 Section 3.2, Natural Gas-Fired Reciprocating Engines*, EPA Contract No. 68-D2-0160, Alpha-Gamma Technologies, Inc., Raleigh, North Carolina, July 2000.



# Section 13

## Determination of State & Federal Air Quality Regulations

**This section lists each state and federal air quality regulation that may apply to your facility and/or equipment that are stationary sources of regulated air pollutants.**

Not all state and federal air quality regulations are included in this list. Go to the Code of Federal Regulations (CFR) or to the Air Quality Bureau's regulation page to see the full set of air quality regulations.

### **Required Information for Specific Equipment:**

For regulations that apply to specific source types, in the 'Justification' column **provide any information needed to determine if the regulation does or does not apply. For example**, to determine if emissions standards at 40 CFR 60, Subpart IIII apply to your three identical stationary engines, we need to know the construction date as defined in that regulation; the manufacturer date; the date of reconstruction or modification, if any; if they are or are not fire pump engines; if they are or are not emergency engines as defined in that regulation; their site ratings; and the cylinder displacement.

### **Required Information for Regulations that Apply to the Entire Facility:**

See instructions in the 'Justification' column for the information that is needed to determine if an 'Entire Facility' type of regulation applies (e.g. 20.2.70 or 20.2.73 NMAC).

### **Regulatory Citations for Regulations That Do Not, but Could Apply:**

If there is a state or federal air quality regulation that does not apply, but you have a piece of equipment in a source category for which a regulation has been promulgated, you must **provide the low level regulatory citation showing why your piece of equipment is not subject to or exempt from the regulation. For example** if you have a stationary internal combustion engine that is not subject to 40 CFR 63, Subpart ZZZZ because it is an existing 2 stroke lean burn stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, your citation would be 40 CFR 63.6590(b)(3)(i). **We don't want a discussion of every non-applicable regulation, but if it is possible a regulation could apply, explain why it does not. For example**, if your facility is a power plant, you do not need to include a citation to show that 40 CFR 60, Subpart OOO does not apply to your non-existent rock crusher.

### **Regulatory Citations for Emission Standards:**

**For each unit that is subject to an emission standard in a source specific regulation, such as 40 CFR 60, Subpart OOO or 40 CFR 63, Subpart HH, include the low level regulatory citation of that emission standard.** Emission standards can be numerical emission limits, work practice standards, or other requirements such as maintenance. **Here are examples:** a glycol dehydrator is subject to the general standards at 63.764C(1)(i) through (iii); an engine is subject to 63.6601, Tables 2a and 2b; a crusher is subject to 60.672(b), Table 3 and all transfer points are subject to 60.672(e)(1)

### **Federally Enforceable Conditions:**

All federal regulations are federally enforceable. All Air Quality Bureau State regulations are federally enforceable except for the following: affirmative defense portions at 20.2.7.6.B, 20.2.7.110(B)(15), 20.2.7.11 through 20.2.7.113, 20.2.7.115, and 20.2.7.116; 20.2.37; 20.2.42; 20.2.43; 20.2.62; 20.2.63; 20.2.86; 20.2.89; and 20.2.90 NMAC. Federally enforceable means that EPA can enforce the regulation as well as the Air Quality Bureau and federally enforceable regulations can count toward determining a facility's potential to emit (PTE) for the Title V, PSD, and nonattainment permit regulations.

INCLUDE ANY OTHER INFORMATION NEEDED TO COMPLETE AN APPLICABILITY DETERMINATION OR THAT IS RELEVANT TO YOUR FACILITY'S NOTICE OF INTENT OR PERMIT.

**EPA Applicability Determination Index for 40 CFR 60, 61, 63, etc:** <http://cfpub.epa.gov/adi/>

**Table for STATE REGULATIONS:**

<u>STATE REGULATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
20.2.1 NMAC	General Provisions	Yes	Facility	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	Facility	20.2.3 NMAC is a SIP approved regulation that limits the maximum allowable concentration of Total Suspended Particulates, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC.
20.2.7 NMAC	Excess Emissions	Yes	Facility	This regulation establishes requirements for the facility if operations at the facility result in any excess emissions. The owner or operator will operate the source at the facility having an excess emission, to the extent practicable, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions. The facility will also notify the NMED of any excess emission per 20.2.7.110 NMAC.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	N/A	N/A	This facility does not have gas burning equipment (external combustion emission sources, such as gas fired boilers and heaters) having a heat input of greater than 1,000,000 million British Thermal Units per year per unit. The facility is not subject to this regulation and does not have emission sources that meet the applicability requirements under 20.2.33.108 NMAC.
20.2.34 NMAC	Oil Burning Equipment: NO <sub>2</sub>	N/A	N/A	This facility does not have oil burning equipment (external combustion emission sources, such as oil fired boilers and heaters) having a heat input of greater than 1,000,000 million British Thermal Units per year per unit. The facility is not subject to this regulation and does not have emission sources that meet the applicability requirements under 20.2.34.108 NMAC.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	N/A	N/A	This regulation establishes sulfur emission standards for natural gas processing plants. This facility is not a natural gas processing plant. The facility is not subject to this regulation.
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	N/A	N/A	The purpose of these regulations is to minimize emissions from petroleum or natural gas processing facilities. This facility is not a petroleum processing facility. The facility is not subject to this regulation.
<a href="#">20.2.38</a> NMAC	Hydrocarbon Storage Facility	N/A	N/A	This facility does not have any storage vessels with a capacity of 20,000 gallons or a throughput of 30,000 gallons/week.
<a href="#">20.2.39</a> NMAC	Sulfur Recovery Plant - Sulfur	N/A	N/A	This regulation establishes sulfur emission standards for sulfur recovery plants which are not part of petroleum or natural gas processing facilities. This regulation does not apply to the facility because this facility does not have a sulfur recovery plant.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	01-ENG, 02-ENG, 03-ENG, 01-AIR, 02-AIR, 01-AUX, 02-AUX, 01-BOL	This regulation establishes controls on smoke and visible emissions from certain sources. This regulation does not apply to other stationary combustion equipment on-site because they are insignificant activities as defined in 20.2.70 NMAC. This exclusion is listed in 20.2.61.111.
20.2.70 NMAC	Operating Permits	Yes	Facility	This regulation establishes requirements for obtaining an operating permit. Facility is major for NOx. The existing permit number is P141-R4.
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	This facility is subject to 20.2.70 NMAC and, as such, is subject to 20.2.71 NMAC.
20.2.72 NMAC	Construction Permits	N/A	N/A	This regulation establishes the requirements for obtaining a construction permit. This facility was built before August 31, 1972 and has operated continuously without any physical or operational change. Therefore, the facility does not require a NSR permit.

<u>STATE REGULATIONS CITATION</u>	<b>Title</b>	<b>Applies? Enter Yes or No</b>	<b>Unit(s) or Facility</b>	<b>JUSTIFICATION:</b>
20.2.73 NMAC	NOI & Emissions Inventory Requirements	N/A	N/A	This facility was built before August 31, 1972 and has operated continuously without any physical or operational change. Therefore, the facility does not require an NOI.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	Yes	Facility	This facility is PSD major as it is a stationary source not listed in Table 1 of this Part (20.2.74.501 NMAC) and which emits or has the potential to emit two hundred fifty (250) tons per year or more of any regulated pollutant.  However, no major modifications have been completed, so the facility is not subject to PSD permitting requirements.
20.2.75 NMAC	Construction Permit Fees	N/A	N/A	This facility is not subject to 20.2.72 and, therefore, is not subject to 20.2.75.
20.2.77 NMAC	New Source Performance	Yes	02-AUX	This regulation establishes state authority to implement new source performance standards (NSPS) for stationary sources. Unit 02-AUX is subject to this regulation because it is subject to 40 CFR 60 Subpart JJJJ.
20.2.78 NMAC	Emission Standards for HAPS	N/A	N/A	This regulation establishes state authority to implement emission standards for hazardous air pollutants subject to 40 CFR Part 61. This facility is not subject to any regulations in 40 CFR 61, and is therefore not subject to 20.2.78.
20.2.79 NMAC	Permits – Nonattainment Areas	N/A	N/A	This regulation establishes the requirements for obtaining a nonattainment area permit. The facility will not be located in a non-attainment area and therefore is not subject to this regulation.
20.2.80 NMAC	Stack Heights	N/A	N/A	This regulation establishes requirements for the evaluation of stack heights and other dispersion techniques. This regulation does not apply as all stacks at the facility will follow good engineering practice.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	01-ENG, 02-ENG, 03-ENG, 01-AIR, 02-AIR, 01-AUX, 02-AUX	This regulation established state authority to implement MACT Standards for source categories of HAPs. The units listed are subject to 40 CFR 63 Subparts A and ZZZZ, as amended though January 15, 2017.

**Table for Applicable FEDERAL REGULATIONS:**

<u>FEDERAL REGULATIONS CITATION</u>	<b>Title</b>	<b>Applies? Enter Yes or No</b>	<b>Unit(s) or Facility</b>	<b>JUSTIFICATION:</b>
40 CFR 50	NAAQS	Yes	Facility	This regulation defines national ambient air quality standards. The facility meets all applicable national ambient air quality standards for NOx, CO, SO2, H2S, PM10, and PM2.5 under this regulation.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	02-AUX	This regulation defines general provisions for relevant standards that have been set under this part. Unit 02-AUX is subject to 40 CFR 60 Subpart JJJJ, therefore this regulation applies.
NSPS 40 CFR 60.40 a, Subpart Da	Subpart Da, Performance Standards for Electric Utility Steam Generating Units	N/A	N/A	The facility does not have a steam generating unit and is therefore not subject to this regulation.

<u>FEDERAL REGU- LATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
NSPS 40 CFR60.40b Subpart Db	Electric Utility Steam Generating Units	N/A	N/A	The facility does not have a steam generating unit and is therefore not subject to this regulation.
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	N/A	N/A	The facility does not have a steam generating unit and is therefore not subject to this regulation.
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for <b>Storage Vessels for Petroleum Liquids</b> for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and <b>Prior</b> to July 23, 1984	N/A	N/A	This regulation establishes performance standards for storage vessels for petroleum liquids for which construction, reconstruction, or modification commenced after May 18, 1978, and prior to July 23, 1984. This facility does not have any storage vessels with a capacity greater than 40,000 gallons that were constructed, reconstructed or modified after May 18, 1978.
NSPS 40 CFR 60, Subpart Kb	Standards of Performance for <b>Volatile Organic Liquid Storage Vessels</b> (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced <b>After</b> July 23, 1984	N/A	N/A	This regulation establishes performance standards for volatile organic liquid storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction, or modification commenced after July 23, 1984. This facility does not have any storage vessels with a capacity greater than or equal to 75 cubic meters that were constructed, reconstructed or modified after July 23, 1984.
NSPS 40 CFR 60.330 Subpart GG	<b>Stationary Gas Turbines</b>	N/A	N/A	This regulation establishes standards of performance for stationary gas turbines with a heat input at a peak load equal to or greater than 10 MMBtu/hr based on the lower heating value of the fuel fired and have commenced construction, modification, or reconstruction after October 3, 1977. This regulation is not applicable, as this facility will not have any stationary gas turbines.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from <b>Onshore Gas Plants</b>	N/A	N/A	This regulation defines standards of performance for equipment leaks of VOC emissions from onshore natural gas processing plants for which construction, reconstruction, or modification commenced after January 20, 1984, and on or before August 23, 2011. The facility is not subject to this regulation because the facility is not a gas plant.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for <b>Onshore Natural Gas Processing</b> : SO <sub>2</sub> Emissions	N/A	N/A	This regulation establishes standards of performance for SO <sub>2</sub> emissions from onshore natural gas processing for which construction, reconstruction, or modification of the amine sweetening unit commenced after January 20, 1984 and on or before August 23, 2011. This regulation is not applicable as the facility is not a natural gas processing plant.

<u>FEDERAL REGU- LATIONS CITATION</u>	<b>Title</b>	<b>Applies? Enter Yes or No</b>	<b>Unit(s) or Facility</b>	<b>JUSTIFICATION:</b>
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015	N/A	N/A	The rule applies to “affected” facilities that are constructed, modified, or reconstructed after Aug 23, 2011 (40 CFR 60.5365): gas wells, including fractured and hydraulically refractured wells, centrifugal compressors, reciprocating compressors, pneumatic controllers, certain equipment at natural gas processing plants, sweetening units at natural gas processing plants, and storage vessels. No units at the facility are subject to this regulation.
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	N/A	N/A	The rule applies to “affected” facilities that are constructed, modified, or reconstructed after September 18, 2015 (40 CFR 60.5365): gas wells, including fractured and hydraulically refractured wells, centrifugal compressors, reciprocating compressors, pneumatic controllers, certain equipment at natural gas processing plants, sweetening units at natural gas processing plants, and storage vessels. No units at the facility are subject to this regulation.
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	N/A	N/A	This regulation establishes standards of performance for compression ignition engines. This facility does not have any engines that were constructed, modified or reconstructed on or after the applicability dates listed in NSPS IIII.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	Yes	02-AUX	This regulation establishes standards of performance for stationary spark ignition combustion engines. Unit 02-AUX is subject to this regulation.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	N/A	N/A	This facility does not have any Electric Generating Units and is thus not subject to this regulation.
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	N/A	N/A	This facility does not have any Electric Utility Generating Units and is thus not subject to this regulation.
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	N/A	N/A	This facility is not a Municipal Solid Waste Landfills and is thus not subject.
NESHAP 40 CFR 61 Subpart A	General Provisions	N/A	N/A	This part applies to the owner or operator of any stationary source for which a standard is prescribed under this part. The regulation does not apply as the facility is not subject to any 40 CFR 61 standards.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for Mercury	N/A	N/A	The provisions of this subpart are applicable to those stationary sources, which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge. The facility does not process mercury and is not subject to this regulation.

<u>FEDERAL REGU- LATIONS CITATION</u>	<b>Title</b>	<b>Applies? Enter Yes or No</b>	<b>Unit(s) or Facility</b>	<b>JUSTIFICATION:</b>
NESHAP 40 CFR 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources)	N/A	N/A	This regulation establishes national emission standards for equipment leaks (fugitive emission sources). The facility does not have equipment that operates in volatile hazardous air pollutant (VHAP) service [40 CFR Part 61.240]. The regulated activities subject to this regulation do not take place at this facility. The facility is not subject to this regulation.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	Units Subject to 40 CFR 63	MACT ZZZZ applies to 01-ENG, 02-ENG, 03-ENG, 01-AIR, 02-AIR, 01-AUX and 02-AUX; therefore, Subpart A also applies.
MACT 40 CFR 63.760 Subpart HH	Oil and Natural Gas Production Facilities	N/A	N/A	This regulation establishes national emission standards for hazardous air pollutants from oil and natural gas production facilities. The facility is not an Oil or Natural Gas Production Facility.
MACT 40 CFR 63 Subpart HHH		N/A	N/A	This regulation establishes national emission standards for hazardous air pollutants from natural gas transmission and storage facilities. The facility does not have any units that are subject to this regulation.
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	N/A	N/A	This regulation establishes national emission standards for hazardous air pollutants from boilers and heaters at major sources for HAPs. This facility is an area source for HAPs and is therefore not subject to this regulation.
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit	N/A	N/A	This regulation establishes national emission standards for hazardous air pollutants from Coal & Oil Fire Electric Utility Steam Generating Units. The facility does not have any units that are subject to this regulation.
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	Yes	01-ENG, 02-ENG, 03-ENG, 01-AIR, 02-AIR, 01-AUX, 02-AUX	This regulation defines national emissions standards for HAPs for stationary reciprocating Internal Combustion Engines. Units 01-ENG, 02-ENG, 03-ENG, 01-AIR, 02-AIR, and 01-AUX are considered existing sources and are subject to any applicable requirements of MACT ZZZZ. 02-AUX is subject to NSPS JJJJ and will comply with MACT ZZZZ by complying with that subpart.
40 CFR 64	<b>Compliance Assurance Monitoring</b>	N/A	N/A	This regulation defines compliance assurance monitoring. This facility does not have a control device that limits the emission rate below the major source threshold for any pollutant, as required by the applicability in 64.2(a)(3).
40 CFR 68	<b>Chemical Accident Prevention</b>	N/A	N/A	This facility does not have more than a threshold quantity of a regulated substance in a process.
Title IV – Acid Rain 40 CFR 72	<b>Acid Rain</b>	N/A	N/A	This part establishes the acid rain program. This facility is not an acid rain source. This regulation does not apply.
Title IV – Acid Rain 40 CFR 73	<b>Sulfur Dioxide Allowance Emissions</b>	N/A	N/A	This regulation establishes sulfur dioxide allowance emissions for certain types of facilities. This facility is not an acid rain source. This regulation does not apply.
Title IV- Acid Rain 40 CFR 75	<b>Continuous Emissions Monitoring</b>	N/A	N/A	This part establishes the acid rain program. This facility is not an acid rain source. This regulation does not apply.

<u>FEDERAL REGU- LATIONS</u> CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
Title IV – Acid Rain 40 CFR 76	<b>Acid Rain</b> Nitrogen Oxides <b>Emission Reduction Program</b>	N/A	N/A	This regulation establishes an acid rain nitrogen oxides emission reduction program. This regulation applies to each coal-fired utility unit that is subject to an acid rain emissions limitation or reduction requirement for SO2. This part does not apply because the facility does not operate any coal-fired units [40 CFR Part 76.1]..
Title VI – 40 CFR 82	Protection of <b>Stratospheric Ozone</b>	Yes	Various	This facility is equipped with comfort air conditioning units containing R-22 refrigerant. Certified vendors are used to complete work on these units.

# Section 19

## Requirements for Title V Program

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### Who Must Use this Attachment:

- \* Any major source as defined in 20.2.70 NMAC.
  - \* Any source, including an area source, subject to a standard or other requirement promulgated under Section 111 - Standards of Performance for New Stationary Sources, or Section 112 Hazardous Air Pollutants, of the 1990 federal Clean Air Act ("federal Act"). Non-major sources subject to Sections 111 or 112 of the federal Act are exempt from the obligation to obtain an 20.2.70 NMAC operating permit until such time that the EPA Administrator completes rulemakings that require such sources to obtain operating permits. In addition, sources that would be required to obtain an operating permit solely because they are subject to regulations or requirements under Section 112(r) of the federal Act are exempt from the requirement to obtain an Operating Permit.
  - \* Any Acid Rain source as defined under title IV of the federal Act. The Acid Rain program has additional forms. See <http://www.env.nm.gov/aqb/index.html>. Sources that are subject to both the Title V and Acid Rain regulations are encouraged to submit both applications simultaneously.
  - \* Any source in a source category designated by the EPA Administrator ("Administrator"), in whole or in part, by regulation, after notice and comment.
- 

### **19.1 - 40 CFR 64, Compliance Assurance Monitoring (CAM) (20.2.70.300.D.10.e NMAC)**

Any source subject to 40CFR, Part 64 (Compliance Assurance Monitoring) must submit all the information required by section 64.7 with the operating permit application. The applicant must prepare a separate section of the application package for this purpose; if the information is already listed elsewhere in the application package, make reference to that location. Facilities not subject to Part 64 are invited to submit periodic monitoring protocols with the application to help the AQB to comply with 20.2.70 NMAC. Sources subject to 40 CFR Part 64, must submit a statement indicating your source's compliance status with any enhanced monitoring and compliance certification requirements of the federal Act.

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The facility does not have any units that are required to have a CAM plan.

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### **19.2 - Compliance Status (20.2.70.300.D.10.a & 10.b NMAC)**

Describe the facility's compliance status with each applicable requirement at the time this permit application is submitted. This statement should include descriptions of or references to all methods used for determining compliance. This statement should include descriptions of monitoring, recordkeeping and reporting requirements and test methods used to determine compliance with all applicable requirements. Refer to Section 2, Tables 2-N and 2-O of the Application Form as necessary. (20.2.70.300.D.11 NMAC) For facilities with existing Title V permits, refer to most recent Compliance Certification for existing requirements. Address new requirements such as CAM, here, including steps being taken to achieve compliance.

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After reasonable inquiry, NGPL believes that it is in compliance with all state and federal requirements based on the applicability determinations made in Section 13 of this application. In the event that NGPL should discover new information affecting the compliance requirements of the facility, appropriate action will be taken to ensure continuous compliance with any new and existing state and federal regulations.

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### **19.3 - Continued Compliance (20.2.70.300.D.10.c NMAC)**

Provide a statement that your facility will continue to be in compliance with requirements for which it is in compliance at the time of permit application. This statement must also include a commitment to comply with other applicable requirements as they come into effect during the permit term. This compliance must occur in a timely manner or be consistent with such schedule expressly required by the applicable requirement.



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As stated above, in 19.2, NGPL will continue to operate in compliance with any current and future state and federal regulation.

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#### 19.4 - Schedule for Submission of Compliance (20.2.70.300.D.10.d NMAC)

You must provide a proposed schedule for submission to the department of compliance certifications during the permit term. This certification must be submitted annually unless the applicable requirement or the department specifies a more frequent period. A sample form for these certifications will be attached to the permit.

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Compliance Certification is and will be submitted annually, as required by the current Title V Permit P-141-R4.

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#### 19.5 - Stratospheric Ozone and Climate Protection

In addition to completing the four (4) questions below, you must submit a statement indicating your source's compliance status with requirements of Title VI, Section 608 (National Recycling and Emissions Reduction Program) and Section 609 (Servicing of Motor Vehicle Air Conditioners).

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1. Does your facility have any air conditioners or refrigeration equipment that uses CFCs, HCFCs or other ozone-depleting substances?  Yes  No
  2. Does any air conditioner(s) or any piece(s) of refrigeration equipment contain a refrigeration charge greater than 50 lbs?  Yes  No  
(If the answer is yes, describe the type of equipment and how many units are at the facility.)
  3. Do your facility personnel maintain, service, repair, or dispose of any motor vehicle air conditioners (MVACs) or appliances ("appliance" and "MVAC" as defined at 82. 152)?  Yes  No
  4. Cite and describe which Title VI requirements are applicable to your facility (i.e. 40 CFR Part 82, Subpart A through G.)
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This facility has air conditioners, which use HCFCs. Certified vendors are used to complete any work on this equipment. This facility is subject to 40 CFR Part 82, Subpart F as NGPL are appliance owners.

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#### 19.6 - Compliance Plan and Schedule

Applications for sources, which are not in compliance with all applicable requirements at the time the permit application is submitted to the department, must include a proposed compliance plan as part of the permit application package. This plan shall include the information requested below:

**A. Description of Compliance Status:** (20.2.70.300.D.11.a NMAC)

A narrative description of your facility's compliance status with respect to all applicable requirements (as defined in 20.2.70 NMAC) at the time this permit application is submitted to the department.

**B. Compliance plan:** (20.2.70.300.D.11.B NMAC)

A narrative description of the means by which your facility will achieve compliance with applicable requirements with which it is not in compliance at the time you submit your permit application package.

**C. Compliance schedule:** (20.2.70.300D.11.c NMAC)

A schedule of remedial measures that you plan to take, including an enforceable sequence of actions with milestones, which will lead to compliance with all applicable requirements for your source. This schedule of compliance must be at least as stringent as that contained in any consent decree or

administrative order to which your source is subject. The obligations of any consent decree or administrative order are not in any way diminished by the schedule of compliance.

**D. Schedule of Certified Progress Reports:** (20.2.70.300.D.11.d NMAC)

A proposed schedule for submission to the department of certified progress reports must also be included in the compliance schedule. The proposed schedule must call for these reports to be submitted at least every six (6) months.

**E. Acid Rain Sources:** (20.2.70.300.D.11.e NMAC)

If your source is an acid rain source as defined by EPA, the following applies to you. For the portion of your acid rain source subject to the acid rain provisions of title IV of the federal Act, the compliance plan must also include any additional requirements under the acid rain provisions of title IV of the federal Act. Some requirements of title IV regarding the schedule and methods the source will use to achieve compliance with the acid rain emissions limitations may supersede the requirements of title V and 20.2.70 NMAC. You will need to consult with the Air Quality Bureau permitting staff concerning how to properly meet this requirement.

**NOTE:** The Acid Rain program has additional forms. See <http://www.env.nm.gov/aqb/index.html>. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

NGPL believes that it is in compliance with all applicable regulations, as discussed in 19.2, and is not an acid rain source. Accordingly, NGPL is not required to submit the items mentioned in this subsection.

**19.7 - 112(r) Risk Management Plan (RMP)**

Any major sources subject to section 112(r) of the Clean Air Act must list all substances that cause the source to be subject to section 112(r) in the application. The permittee must state when the RMP was submitted to and approved by EPA.

This facility is not subject to CAA Section 112(r) because it does not store a threshold quantity of any regulated substance. Accordingly, a Risk Management Plan is not required.

**19.8 - Distance to Other States, Bernalillo, Indian Tribes and Pueblos**

Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B NMAC)?

(If the answer is yes, state which apply and provide the distances.)

The facility is approximately 53 km from the State of Texas.

**19.9 - Responsible Official**

Provide the Responsible Official as defined in 20.2.70.7.AD NMAC:

RO:	Heriberto (Eddie) Carreon
Title:	Operations Director
Phone:	806-379-2041 x225
Email:	heriberto_carreon@kindermorgan.com
Address:	4711 S. Western, Amarillo, TX 79109

# Section 22: Certification

Company Name: Natural Gas Pipeline Company of America, LLC

I, Heriberto Carreon, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 28 day of March, 2022, upon my oath or affirmation, before a notary of the State of

Texas.

[Signature]  
\*Signature

3/28/22  
Date

Heriberto 'Eddie' Carreon  
Printed Name

Operations Director  
Title

Scribed and sworn before me on this 28 day of March, 2022.

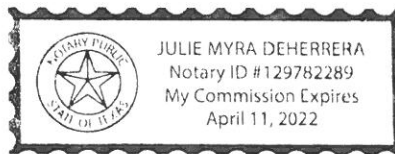
My authorization as a notary of the State of Texas expires on the

11<sup>th</sup> day of April, 2022.

[Signature]  
Notary's Signature

3-28-2022  
Date

Julie Myra DeHerrera  
Notary's Printed Name



\*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.