

# NMED AIR QUALITY APPLICATION TITLE V RENEWAL APPLICATION

El Paso Natural Gas Company, LLC Pecos River Compressor Station

Prepared By:

Kinder Morgan 1001 Louisiana, Suite 1000 Houston, TX 77002 (713) 420-1841

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

July 2019

Project 193201.0128



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July XX, 2019

Mr. Ted Schooley NMED Air Quality Bureau 525 Camino de los Marquez, Suite 1 Santa Fe, NM 87505

RE: Application for Title V Renewal El Paso Natural Gas Company LLC – Pecos River Compressor Station

Dear Mr. Schooley:

On behalf of El Paso Natural Gas Company LLC, we are submitting an application for a Title V Renewal for the Pecos River Compressor Station. The facility is located approximately 11.5 miles southeast of Malaga, New Mexico. The facility is currently authorized to operate under NSR Permit 3260-M1; the Title V Operating Permit being updated is P129-R3M1.

The format and content of this application are consistent with the Bureau's current policy regarding Title V applications. Title V Permit P129-R3M1 expires on July 10, 2020. This application is being submitted in accordance with 20.2.70.300.B.2 NMAC, which requires that a timely application for a Title V renewal to be submitted at least 12 months prior to the date of permit expiration.

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 Zainab Naqvi, Air Permitting and Compliance of El Paso Natural Gas LLC, at (713) 420-1841 if you have any questions regarding this application.

Sincerely,

Adam Erenstein

Manager of Consulting Services

Cc: Zainab Nagvi

Trinity Project File 193201.0128

### **Mail Application To:**

New Mexico Environment Department Air Quality Bureau Permits Section 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505

Phone: (505) 476-4300 Fax: (505) 476-4375 www.env.nm.gov/aqb



For Department use only:

AIRS No.:

# **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.

**This application is submitted as** (check all that apply): 

Request for a No Permit Required Determination (no fee)

| □ <b>Updating</b> an application currently under NMED review. Include this page and all pages that are being updated (no fee required).     |
|---|
| Construction Status: ☐ Not Constructed  |
| 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.  |
| $\square$ \$500 NSR application Filing Fee enclosed OR $\square$ The full permit fee associated with 10 fee points (required w/ streamline) |
| applications).  |
| ☐ Check No.: N/A in the amount of N/A   |
| ☑ 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.     |
| ☐ This facility qualifies to receive assistance from the Small Business Environmental Assistance program (SBEAP) and qualifies for          |
| 50% of the normal application and permit fees. Enclosed is a check for 50% of the normal application fee which will be verified with        |
| the Small Business Certification Form for your company.   |
| ☐ This facility qualifies to receive assistance from the Small Business Environmental Assistance Program (SBEAP) but does not               |
| qualify for 50% of the normal application and permit fees. To see if you qualify for SBEAP assistance and for the small business            |
| certification form go to https://www.env.nm.gov/aqb/sbap/small_business_criteria.html ).  |
| Citation: Please provide the low level citation under which this application is being submitted: 20.2.70.300.B(2)                           |
| (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**

| Sec | tion 1-A: Company Information  | 3 to 5 #s of permit IDEA ID No.): 194 | P-129R3M1             |
|-----|--|---------------------------------------|-----------------------|
| 1   | Facility Name: Pecos River Compressor Station  | Plant primary SIC Code                | e (4 digits): 4922    |
| 1   |  | Plant NAIC code (6 dig                | gits): 486210         |
| a   | Facility Street Address (If no facility street address, provide directions from south on Hwy 285, approximately 12.5 miles, and turn east at mile marker east; the facility will be on the left. |                                       | <u> </u>              |
| 2   | Plant Operator Company Name: El Paso Natural Gas Company, LLC  | Phone/Fax: (520) 663-4                | 4200 / (520) 663-4259 |
| a   | Plant Operator Address: 5151 E. Broadway Blvd., Suite 1680, Tucson, AZ   | 85711                                 |                       |

| b | Plant Operator's New Mexico Corporate ID or Tax ID: 46-0809216                                   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|
| 3 | Plant Owner(s) name(s): El Paso Natural Gas Company, LLC  Phone/Fax: (520) 663-4200 / (520) 663- |  |  |  |  |  |  |
| a | Plant Owner(s) Mailing Address(s): 5151 E. Broadway Blvd., Suite 1680,                           | Tucson, AZ 85711                                     |  |  |  |  |  |
| 4 | Bill To (Company): El Paso Natural Gas Company, LLC Phone/Fax: (713) 420-1841                    |  |  |  |  |  |  |
| a | Mailing Address: 1001 Louisiana, Suite 1000, Houston, TX 77002                                   | E-mail: Zainab_Naqvi@kindermorgan.com                |  |  |  |  |  |
| 5 | ☑ Preparer: Adam Erenstein ☑ Consultant: Trinity Consultants                                     | Phone/Fax: (505) 266-6611                            |  |  |  |  |  |
| a | Mailing Address: 9400 Holly Ave NE, Bldg 3, Ste 300<br>Albuquerque, NM 87122                     | E-mail: aerenstein@trinityconsultants.com            |  |  |  |  |  |
| 6 | Plant Operator Contact: Brian Stokes   | Phone/Fax: (432) 333-5501                            |  |  |  |  |  |
| a | Address: 1550 Windway, Odessa, TX 79761  | E-mail: Brian_Stokes@KinderMorgan.com                |  |  |  |  |  |
| 7 | Air Permit Contact: Zainab Naqvi   | Title: Air Permitting and Compliance                 |  |  |  |  |  |
| a | E-mail: Zainab_Naqvi@kindermorgan.com Phone/Fax: (713) 420-1841                                  |  |  |  |  |  |  |
| b | Mailing Address: 1001 Louisiana, Suite 1000, Houston, TX 77002                                   |  |  |  |  |  |  |
| 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** 

| Sec | Section 1-D. Current Facility Status   |   |  |  |  |  |  |  |
|-----|--|---|--|--|--|--|--|--|
| 1.a | Has this facility already been constructed? <b>☑</b> Yes □ No  | 1.b If yes to question 1.a, is it currently operating in New Mexico?   ☑ Yes □ 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?  ☐ Yes ☑ 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?  ✓ Yes □ No |  |  |  |  |  |  |
| 3   | Is the facility currently shut down? ☐ Yes ☑ 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 s   | since 1972? ☑ Yes □ 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?  ☐ Yes ☑ No ☐ N/A              |   |  |  |  |  |  |  |
| 6   | Does this facility have a Title V operating permit (20.2.70 NMAC)?  ✓ Yes □ No   | If yes, the permit No. is: P129-R3M1  |  |  |  |  |  |  |
| 7   | Has this facility been issued a No Permit Required (NPR)?  ☐ Yes ☑ No  | If yes, the NPR No. is: N/A   |  |  |  |  |  |  |
| 8   | Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☑ No   | If yes, the NOI No. is: N/A   |  |  |  |  |  |  |
| 9   | Does this facility have a construction permit (20.2.72 NMAC)?  ✓ Yes □ No  | If yes, the permit No. is: 3260-M1  |  |  |  |  |  |  |
| 10  | Is this facility registered under a General permit (GCP-1, GCP-2, etc.)?  ☐ Yes ☑ No   | If yes, the register No. is: N/A  |  |  |  |  |  |  |

**Section 1-C: Facility Input Capacity & Production Rate** 

| Section 1 6. Tuemty input Subucity & Frouderion Rute |  |                      |                          |                          |  |  |  |  |  |
|--|--|----------------------|--------------------------|--------------------------|--|--|--|--|--|
| 1  | What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)  |                      |                          |                          |  |  |  |  |  |
| a  | Current Hourly: 60,417 Mscf* Daily: 1,450 MMscf* Annually: 529,250 MMscf*  |                      |                          |                          |  |  |  |  |  |
| b  | Proposed   | Hourly: 60,417 Mscf* | Annually: 529,250 MMscf* |                          |  |  |  |  |  |
| 2  | What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required) |                      |                          |                          |  |  |  |  |  |
| a  | a Current Hourly: 60,417 Mscf* Daily: 1,450 MMscf* Annually: 529,250 MMscf*  |                      |                          |                          |  |  |  |  |  |
| b  | Proposed   | Hourly: 60,417 Mscf* | Daily: 1,450 MMscf*      | Annually: 529,250 MMscf* |  |  |  |  |  |

<sup>\*</sup>Provided for informational purposes only; Not intended to be an enforceable condition.

**Section 1-D: Facility Location Information** 

| 1  | Section: 7   | Range: 29E          | Township: 26S   | County: E    | Eddy              |               | Elevation (ft): 2,900                                |  |  |
|----|--|---------------------|---|--------------|-------------------|---------------|--|--|--|
| 2  | UTM Zone:  | 12 or <b>I</b> 13   |   | Datum:       | □ NAD 27          | □ NAD 8       | 33 <b>☑</b> WGS 84                                   |  |  |
| a  | UTM E (in met  | ers, to nearest 10  | meters): 592,660 m E  | UTM N (i     | in meters, to ne  | arest 10 me   | eters): 3,547,910 m N                                |  |  |
| b  | AND Latitude (   | (deg., min., sec.): | 32° 3' 49"  | Longitude    | e (deg., min., se | ec.): -104° 1 | .' 6"  |  |  |
| 3  | Name and zip c   | code of nearest Ne  | ew Mexico town: Malaga, 8   | 38263        |                   |               |  |  |  |
| 4  |  | proximately 12.5    | om nearest NM town (attacl<br>5 miles, and turn east at mil                             |              |                   |               | aga, NM: travel south on approximately 3 miles east; |  |  |
| 5  | The facility is ~  | -11.5 miles SSE o   | of Malaga, NM.  |              |                   |               |  |  |  |
| 6  | Status of land a   | t facility (check o | one): <b>☑</b> Private ☐ Indian/P   | ueblo 🗆 Fe   | deral BLM 🗆 I     | Federal Fore  | est Service   Other (specify)                        |  |  |
| 7  | which the facili   | ty is proposed to   | bes, and counties within a t<br>be constructed or operated<br>X; Reeves County, TX; Cul | Municipa     | lities: None. Ir  |               |  |  |  |
| 8  | than 50 km (31   | miles) to other st  | y: Will the property on whates, Bernalillo County, or ☑ N/A (20.2.72.206.A.7            | a Class I ar | rea (see www.n    | menv.state.   |  |  |  |
| 9  | Name nearest C   | Class I area: Carls | bad Caverns National Park   |              |                   |               |  |  |  |
| 10 | Shortest distance  | ce (in km) from fa  | acility boundary to the bour  | ndary of the | nearest Class 1   | area (to the  | e nearest 10 meters): 35.6 km                        |  |  |
| 11 |  |                     | neter of the Area of Operati<br>den removal areas) to neare                             |              |                   |               |  |  |  |
| 12 | Method(s) used to delineate the Restricted Area: Continuous Fencing  "Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. |                     |   |              |                   |               |  |  |  |
| 13 | A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.   |                     |   |              |                   |               |  |  |  |
| 14 |  |                     | nction with other air regulanit number (if known) of the                                |              |                   | operty?       | ☑ No □ Yes   |  |  |

Section 1-E: Proposed Operating Schedule (The 1-E.1 & 1-E.2 operating schedules may become conditions in the permit.)

|   | zon i zv i roposed operating semedant   | (The I Bit et I Biz operating | serieumes muj s                           | ccome conditions in the                     | Permie, |  |  |  |
|---|---|-------------------------------|---|---|---------|--|--|--|
| 1 | Facility <b>maximum</b> operating $(\frac{\text{hours}}{\text{day}})$ : 24 $(\frac{\text{da}}{\text{we}})$  | <u>ys</u> ): 7                | $(\frac{\text{weeks}}{\text{year}})$ : 52 | $(\frac{\text{hours}}{\text{year}})$ : 8760 |         |  |  |  |
| 2 | Facility's maximum daily operating schedule (if less than $24 \frac{\text{hours}}{\text{day}}$ )? Start: N/A $\square \text{AM} \square \text{PM}$ End: N/A $\square \text{PM}$ |                               |   |   |         |  |  |  |
| 3 | Month and year of anticipated start of construction: N/A  |                               |   |   |         |  |  |  |
| 4 | Month and year of anticipated construction completion: N/A  |                               |   |   |         |  |  |  |
| 5 | Month and year of anticipated startup of new or modified facility: N/A  |                               |   |   |         |  |  |  |
| 6 | Will this facility operate at this site for more than one ye  | ear? <b>☑</b> Yes □ No        |   |   |         |  |  |  |

**Section 1-F: Other Facility Information** 

| 1 | Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility?   Yes  No If yes, specify: N/A |                            |  |  |  |  |  |
|---|---|----------------------------|--|--|--|--|--|
| a | If yes, NOV date or description of issue: N/A   |                            | If yes, NOV date or description of issue: N/A  |  |  |  |  |
| b | Document Title: N/A   |                            |  |  |  |  |  |
| С | Document Title: N/A   | Date: N/A                  | Requirement # (or page # and paragraph #): N/A |  |  |  |  |
| d | Is air quality dispersion modeling being submitted with this  | s application?             | es 🗹 No  |  |  |  |  |
| 2 | Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes ☑ No   |                            |  |  |  |  |  |
| 3 | Will this facility be a source of federal Hazardous Air Pollu   | utants (HAP)? <b>Z</b> Yes | s □ No   |  |  |  |  |
| 4 | If Yes, what type of source? $\square$ Major ( $\square \ge 10$ tpy of an OR $\square$ Minor ( $\square \le 10$ tpy of an   |                            |  |  |  |  |  |
| a | If 4.a is Yes, identify the subparts in 40 CFR 61 & 40 CFR N/A  | 63 that apply to this      | facility (If no subparts apply, enter "N/A."): |  |  |  |  |
| 5 | Document Title: N/A   |                            |  |  |  |  |  |
| a | Provide the required text to be inserted in this permit: N/A  |                            |  |  |  |  |  |

# Section 1-G: Streamline Application (This section applies to 20.2.72.300 NMAC Streamline applications only) 1 □ I have filled out Section 18, "Addendum for Streamline Applications." □ N/A (This is not a Streamline application.)

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

|   | V-source required information for all applications submitted pursuant<br>4/20.2.79 NMAC (Major PSD/NNSR applications), and/or 20.2.70 NMA  |   |  |  |  |  |
|---|--|---|--|--|--|--|
| 1 | Responsible Official (R.O.): Heriberto Carreon (20.2.70.300.D.2 NMAC)  | Phone: (806) 354-3108                                     |  |  |  |  |
| a | R.O. Title: Director-Operations Division 4   | R.O. email: Heriberto_Carreon@kindermorgan.com            |  |  |  |  |
| b | R. O. Address: 4711 S. Western Amarillo, TX 79109  |   |  |  |  |  |
| 2 | Alternate Responsible Official: Joseph E McLaughlin (20.2.70.300.D.2 NMAC)   | Phone: (713) 369-9847                                     |  |  |  |  |
| a | A. R.O. Title: Vice President of Operations  | A. R.O. e-mail: Joe_Mclaughlin@kindermorgan.com           |  |  |  |  |
| b | A. R. O. Address: 1001 Louisiana, Suite 1000, Houston, TX 77002  | 2   |  |  |  |  |
| 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): El Paso Natural Gas Company, LLC was formerly named "El Paso Natural Gas Company" (until 8/6/2012);both names may appear on operating permits, and refer to the same company. |   |  |  |  |  |
| 4 | Name of Parent Company ("Parent Company" means the primary permitted wholly or in part.): Kinder Morgan, Inc   | name of the organization that owns the company to be      |  |  |  |  |
| a | Address of Parent Company: 1001 Louisiana Street; Suite 1000, H  | ouston, 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 – El Paso Natural Gas Company, L.L.C. has no subsidiaries.   |   |  |  |  |  |
| 6 | Telephone numbers & names of the owners' agents and site contacts familiar with plant operations:  Zainab Naqvi (713) 420-1841 (Air Permit Contact)  |   |  |  |  |  |
| 7 | Affected Programs to include Other States, local air pollution conti<br>Will the property on which the facility is proposed to be constructed<br>states, local pollution control programs, and Indian tribes and pueb<br>ones and provide the distances in kilometers: Texas ~7 km   | ed or operated be closer than 80 km (50 miles) from other |  |  |  |  |

# **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' <a href="2-hole punched">2-hole punched</a> as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be head-to-head. Please use <a href="numbered tab separators">numbered tab separators</a> 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 <u>copy</u> should be printed in book form, 3-hole punched, and <u>must be double sided</u>. Note that this is in addition to the head-to-to 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. Upon receipt of the application fee, the Bureau will email the applicant with instructions for submitting the electronic files through a secure file transfer service. Optionally, the applicant may submit the files with the application on compact disk (CD) or digital versatile disc (DVD).
- 4) 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 <u>summary report only</u> should be submitted as hard copy(ies) unless otherwise indicated by the Bureau.
- 5) 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. 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, Universal Application section 3-19, and Universal Application 4, the modeling report) and 1 Excel file of the tables (Universal Application section 2). 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 # (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. The footer information should not be modified by the applicant.

**Section 20:** 

**Section 21:** 

**Section 22:** 

**Other Relevant Information** 

**Certification Page** 

**Addendum for Landfill Applications** 

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### **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                |                        |          |             |          | Manufact-<br>urer's Rated                   | act- Requested Manufacture <sup>2</sup> Unit | Controlled by<br>Unit#                                  | Source Classi-                    |                        | RICE Ignition Type (CI, SI,  | Replacing                         |          |
|---------------------|------------------------|----------|-------------|----------|---|--|---|-----------------------------------|------------------------|--|-----------------------------------|----------|
| Number <sup>1</sup> | Source Description     | Make     | Model #     | Serial # | Capacity <sup>3</sup><br>(Specify<br>Units) | Capacity <sup>3</sup><br>(Specify<br>Units)  | Date of<br>Construction/<br>Reconstruction <sup>2</sup> | Emissions<br>vented to<br>Stack # | fication Code<br>(SCC) | For Each Piece of Equipment, Check One   | 4SLB, 4SRB,<br>2SLB) <sup>4</sup> | Unit No. |
| A-01                | Regenerative Cycle     | General  | M3712R      | 95025    | 7150  | 7150   | 1953  | N/A                               | 20200209               | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               | N/A                               | N/A      |
| A-01                | Turbine                | Electric | W13 / 12 K  | 93023    | 7130  | 7130   | Pre-2006  | A-01                              | 20200209               | ☐ To Be Modified ☐ To be Replaced  | IVA                               | IN/A     |
| A-02                | Regenerative Cycle     | General  | M3712R      | 95053    | 7150  | 7150   | 1953  | N/A                               | 20200209               | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               | N/A                               | N/A      |
| 71 02               | Turbine                | Electric | 1413 / 1210 | 73033    | 7130  | 7130   | Pre-2006  | A-02                              | 2020020)               | ☐ To Be Modified ☐ To be Replaced  | 1,71                              | 14/21    |
| A-03                | Regenerative Cycle     | General  | M3712R      | 95055    | 7150  | 7150   | 1953  | N/A                               | 20200209               | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               | N/A                               | N/A      |
|                     | Turbine                | Electric | 1,10,1121   |          | , 100                                       | , 100  | Pre-2006  | A-03                              | 20200209               | ☐ To Be Modified ☐ To be Replaced  |                                   | 1,712    |
| F-001               | Faciltiy-Wide          | N/A      | N/A         | N/A      | N/A   | N/A  | -   | -                                 | 31088811               | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               | N/A                               | N/A      |
|                     | Fugitives              |          | 1,71        | 1 1/11   | 17/11                                       | 1 1/11                                       | -   | -                                 | 31000011               | ☐ To Be Modified ☐ To be Replaced  |                                   | 1 1/11   |
| SSM/M               | SSM and<br>Malfunction | N/A      | N/A         | N/A      | N/A   | N/A  | -   | -                                 | 31088811               | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               | N/A                               | N/A      |
|                     | Emissions              |          | 1,11        |          | 1,11  | 1,171  | -   | -                                 | 21000011               | ☐ To Be Modified ☐ To be Replaced  |                                   | 1,712    |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ To Be Modified ☐ To be Replaced  |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ To Be Modified ☐ To be Replaced  |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ To Be Modified ☐ To be Replaced  |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ To Be Modified ☐ To be Replaced  |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ To Be Modified ☐ To be Replaced  |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ To Be Modified ☐ To be Replaced  |                                   |          |
|                     |                        |          |             | <u>-</u> |   |  |   |                                   |                        | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit               |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | <ul> <li>□ New/Additional</li> <li>□ To Be Modified</li> <li>□ To be Replaced</li> </ul> |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ Existing (unchanged) ☐ To be Removed   |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   | 1                      | <ul><li>□ New/Additional</li><li>□ To Be Modified</li><li>□ To be Replaced</li></ul>     |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   |                        | ☐ Existing (unchanged) ☐ To be Removed   |                                   |          |
|                     |                        |          |             |          |   |  |   |                                   | 1                      | <ul><li>□ New/Additional</li><li>□ To Be Modified</li><li>□ To be Replaced</li></ul>     |                                   |          |

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

<sup>&</sup>lt;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>&</sup>lt;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

# **Table 2-B:** Insignificant Activities (20.2.70 NMAC) **OR Exempted Equipment** (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb\_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at

http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pdf. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

| Unit Number | Source Description              | Manufacturar | Model No.  | Max Capacity                           | List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) | Date of Manufacture /Reconstruction <sup>2</sup> | For Each Piece of Equipment, Check Onc   |
|-------------|---------------------------------|--------------|--|--|---|--|--|
| Cint Number | Source Description Manufacturer |              | Date of Installation<br>/Construction <sup>2</sup> | For Each Frece of Equipment, Check One |   |  |  |
| T-001       | Lube Oil Storage Tank           |              | -  | 6,300                                  |   | Unknown  | <ul><li>☑ Existing (unchanged)</li><li>☐ To be Removed</li><li>☐ New/Additional</li><li>☐ Replacement Unit</li></ul> |
| 1-001       | Lube Oil Stolage Talik          | -            | 1  | gal                                    | IA List Item #5   | Jan-53   | ☐ To Be Modified ☐ To be Replaced  |
| T-002       | Used Oil Tank                   |              | -  | 500                                    |   | Unknown  | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit   |
| 1-002       | Osca On Tank                    | _            | -  | gal                                    | IA List Item #5   | Jan-82   | ☐ To Be Modified ☐ To be Replaced  |
| T-003       | Used Oil Tank                   |              | -  | 500                                    |   | Unknown  | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit   |
| 1-003       | Osed Off Talik                  | -            | 1  | gal                                    | IA List Item #5   | Jan-94   | ☐ To Be Modified ☐ To be Replaced  |
| T-004       | Used Oil Tank                   |              | -  | 250                                    |   | Unknown  | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit   |
| 1-004       | Osed Off Talik                  | -            | 1  | gal                                    | IA List Item #5   | Jan-82   | ☐ To Be Modified ☐ To be Replaced  |
| T-005       | Used Oil Tank                   | _            | -  | 2,000                                  |   | Unknown  | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit   |
| 1-003       | Osca On Tank                    | _            | -  | gal                                    | IA List Item #5   | Jan-03   | ☐ To Be Modified ☐ To be Replaced  |
| T-006       | Used Oil Tank                   |              | 1  | 110                                    |   | Unknown  | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit   |
| 1-000       | Osed Off Talik                  | -            | 1  | gal                                    | IA List Item #5   | Jan-53   | ☐ To Be Modified ☐ To be Replaced  |
| T-007       | Used Oil Tank                   |              | 1  | 110                                    |   | Unknown  | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit   |
| 1-007       | Osca On Tank                    | _            | -  | gal                                    | IA List Item #5   | Jan-53   | ☐ To Be Modified ☐ To be Replaced  |
| T-008       | Used Oil Tank                   |              | -  | 110                                    |   | Unknown  | ☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit   |
| 1-000       | Osca Off Tank                   |              | -  | gal                                    | IA List Item #5   | Jan-53   | ☐ To Be Modified ☐ To be Replaced  |
| T-009       | Used Oil Tank                   | _            | -  | 1000                                   |   | -  | □ Existing (unchanged) □ To be Removed □ New/Additional □ Replacement Unit   |
| 1-007       | Osca On Tank                    | _            | -  | gal                                    | IA List Item #5   | -  | ☐ To Be Modified ☐ To be Replaced  |
|             |                                 |              |  |  |   |  | □ Existing (unchanged) □ To be Removed □ New/Additional □ Replacement Unit   |
|             |                                 |              |  |  |   |  | ☐ To Be Modified ☐ To be Replaced  |
|             |                                 |              |  |  |   |  | □ Existing (unchanged) □ To be Removed □ New/Additional □ Replacement Unit   |
|             |                                 |              |  |  |   |  | ☐ To Be Modified ☐ To be Replaced  |
|             |                                 |              |  |  |   |  | □ Existing (unchanged) □ To be Removed □ New/Additional □ Replacement Unit   |
|             |                                 |              |  |  |   |  | ☐ To Be Modified ☐ To be Replaced  |
|             |                                 |              |  |  |   |  | <ul> <li>□ Existing (unchanged)</li> <li>□ New/Additional</li> <li>□ Replacement Unit</li> </ul>                     |
|             |                                 |              |  |  |   |  | ☐ To Be Modified ☐ To be Replaced  |

Insignificant activities exempted due to size or production rate are defined in 20.2.70.300.D.6, 20.2.70.7.Q NMAC, and the NMED/AQB List of Insignificant Activities, dated September 15, 2008. Emissions from these insignificant activities do not need to be reported, unless specifically requested.

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<sup>&</sup>lt;sup>2</sup> Specify date(s) required to determine regulatory applicability.

# **Table 2-C: Emissions Control Equipment**

Unit and stack numbering must correspond throughout the application package. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B. 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.

| Control<br>Equipment<br>Unit No. | Control Equipment Description   | Date<br>Installed | Controlled Pollutant(s)           | Controlling Emissions for Unit<br>Number(s) <sup>1</sup> | Efficiency<br>(% Control by<br>Weight) | Method used to Estimate Efficiency |
|----------------------------------|---|-------------------|-----------------------------------|--|--|------------------------------------|
|                                  |   | N/A - No cont     | rol equipment at this faiclity.   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
|                                  |   |                   |                                   |  |  |                                    |
| <sup>1</sup> List each cor       | ntrol device on a separate line. For each control device, list all en | mission units c   | controlled by the control device. |  |  |                                    |

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# 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. | N(    | Ox     |       | О      | V(    | OC     | SO    | Ox     | PI    | $M^1$  | PM    | $10^1$ | PM    | 2.5 <sup>1</sup> | Н     | $_{2}S$ | Le    | ead    |
|----------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|------------------|-------|---------|-------|--------|
| Unit No. | lb/hr | ton/yr           | lb/hr | ton/yr  | lb/hr | ton/yr |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
|          |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |
| Totals   |       |        |       |        |       |        |       |        |       |        |       |        |       |                  |       |         |       |        |

<sup>&</sup>lt;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 PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but PM is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

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# **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. | NO     | Ox     | C     | 0      | V(    | OC     | SO    | Ox     | PI    | $\mathbf{M}^{1}$ | PM    | $10^1$ | PM    | 2.5 <sup>1</sup> | Н     | $_2$ S | Le    | ead    |
|----------|--------|--------|-------|--------|-------|--------|-------|--------|-------|------------------|-------|--------|-------|------------------|-------|--------|-------|--------|
| Unit No. | 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 |
| A-01     | 53.10  | 232.58 | 8.00  | 35.04  | 0.78  | 3.42   | 0.43  | 1.87   | 0.41  | 1.79             | 0.41  | 1.79   | 0.41  | 1.79             | -     | -      | -     | -      |
| A-02     | 53.10  | 232.58 | 8.00  | 35.04  | 0.78  | 3.42   | 0.43  | 1.87   | 0.41  | 1.79             | 0.41  | 1.79   | 0.41  | 1.79             | -     | -      | -     | -      |
| A-03     | 53.10  | 232.58 | 8.00  | 35.04  | 0.78  | 3.42   | 0.43  | 1.87   | 0.41  | 1.79             | 0.41  | 1.79   | 0.41  | 1.79             | -     | -      | -     | -      |
| F-001    | -      | -      | -     | -      | 0.25  | 1.11   | -     | -      | -     | -                | -     | -      | -     | -                | -     | -      | -     | -      |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
|          |        |        |       |        |       |        |       |        |       |                  |       |        |       |                  |       |        |       |        |
| Totals   | 159.30 | 697.73 | 24.00 | 105.12 | 2.59  | 11.36  | 1.28  | 5.62   | 1.22  | 5.36             | -     | -      | -     | -                | -     | -      | -     | -      |

Tondensable 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 PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

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### Table 2-F: Additional Emissions during Startup, Shutdown, and Routine Maintenance (SSM)

□ This table is intentionally left blank since all emissions at this facility due to routine or predictable startup, shutdown, or scehduled maintenance are no higher than those listed in Table 2-E and a malfunction emission limit is not already permitted or requested. If you are required to report GHG emissions as described in Section 6a, include any GHG emissions during Startup, Shutdown, and/or Scheduled Maintenance (SSM) in Table 2-P. Provide an explanations of SSM emissions in Section 6 and 6a.

All applications for facilities that have emissions during routine our predictable startup, shutdown or scheduled maintenance (SSM)<sup>1</sup>, including NOI applications, must include in this table the Maximum Emissions during routine or predictable startup, shutdown and scheduled maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). In Section 6 and 6a, provide emissions calculations for all SSM emissions reported in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications

(https://www.env.nm.gov/aqb/permit/aqb\_pol.html) for more detailed instructions. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

| (https://www. |       | Ox<br>Ox |       | O1.11(1111) 10 |       | OC     |       | Ox     | PI    | M <sup>2</sup> | PM    | [10 <sup>2</sup> | PM    | 2.5 <sup>2</sup> | H     | $_{2}S$ | Le    | ead    |
|---------------|-------|----------|-------|----------------|-------|--------|-------|--------|-------|----------------|-------|------------------|-------|------------------|-------|---------|-------|--------|
| Unit No.      | 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 |
| SSM/M         | -     | -        | -     | -              | *     | 10.00  | -     | -      | -     | -              | -     | -                | -     | -                | -     | -       | -     | -      |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
|               |       |          |       |                |       |        |       |        |       |                |       |                  |       |                  |       |         |       |        |
| Totals        | -     | -        | -     | -              | *     | 10.00  | -     | -      | -     | -              | -     | -                | -     | -                | -     | -       | -     | -      |

<sup>&</sup>lt;sup>1</sup> For instance, if the short term steady-state Table 2-E emissions are 5 lb/hr and the SSM rate is 12 lb/hr, enter 7 lb/hr in this table. If the annual steady-state Table 2-E emissions are 21.9 TPY, and the number of scheduled SSM events result in annual emissions of 31.9 TPY, enter 10.0 TPY in the table below.

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<sup>&</sup>lt;sup>2</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 PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

# Table 2-G: Stack Exit and Fugitive Emission Rates for Special Stacks

☐ I have elected to leave this table blank because this facility does not have any stacks/vents that split emissions from a single source or combine emissions from more than one source listed in table 2-A. Additionally, the emission rates of all stacks match the Requested allowable emission rates stated in Table 2-E.

Use this table to list stack emissions (requested allowable) from split and combined stacks. List Toxic Air Pollutants (TAPs) and Hazardous Air Pollutants (HAPs) in Table 2-I. List all fugitives that are associated with the normal, routine, and non-emergency operation of the facility. Unit and stack numbering must correspond throughout the application package. Refer to Table 2-E for instructions on use of the "-" symbol and on significant figures.

|           | Serving Unit                | N     | Ox     | C     | O      | V     | OC     | SO    | Ox     | P     | M      | PM    | 110    | PM    | 12.5   | $\Box$ H <sub>2</sub> S o | r 🗆 Lead |
|-----------|-----------------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|---------------------------|----------|
| Stack No. | Number(s) from<br>Table 2-A | lb/hr | ton/yr | lb/hr                     | ton/yr   |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
|           |                             |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |
| ,         | Totals:                     |       |        |       |        |       |        |       |        |       |        |       |        |       |        |                           |          |

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### **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  | Serving Unit Number(s) | Orientation<br>(H-Horizontal | Rain Caps   | Height Above | Temp. | Flow   | Rate    | Moisture by   | Velocity | Inside        |
|--------|------------------------|------------------------------|-------------|--------------|-------|--------|---------|---------------|----------|---------------|
| Number | from Table 2-A         | V=Vertical)                  | (Yes or No) | Ground (ft)  | (F)   | (acfs) | (dscfs) | Volume<br>(%) | (ft/sec) | Diameter (ft) |
| A-01   | A-01                   | V                            | No          | 50           | 580   | 2,545  | N/A     | 5             | 90       | 6.0           |
| A-02   | A-02                   | V                            | No          | 50           | 580   | 2,545  | N/A     | 5             | 90       | 6.0           |
| A-03   | A-03                   | V                            | No          | 50           | 580   | 2,545  | N/A     | 5             | 90       | 6.0           |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |
|        |                        |                              |             |              |       |        |         |               |          |               |

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### 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  |        | Acetal | dehvde | Forma | ldehyde<br>or 🗆 TAP | Provide Name |        |       | Pollutant<br>e Here<br>or   TAP |       | Pollutant<br>Here<br>or   TAP |       | Pollutant<br>e Here<br>or 🗆 TAP |       | Pollutant<br>e Here<br>or 🗆 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 |
| A-01      | A-01        | 0.65   | 2.85   | 0.27   | 1.20   | 0.27  | 1.17                |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
| A-02      | A-02        | 0.65   | 2.85   | 0.27   | 1.20   | 0.27  | 1.17                |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
| A-03      | A-03        | 0.65   | 2.85   | 0.27   | 1.20   | 0.27  | 1.17                |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
| N/A       | F-001       | 0.0054 | 0.024  | -      | -      | -     | -                   |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
| N/A       | SSM/M       | *      | 0.069  | -      | -      | -     | -                   |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
|           |             |        |        |        |        |       |                     |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |
| Tot       | als:        | 1.96   | 8.64   | 0.82   | 3.59   | 0.80  | 3.50                |              |        |       |                                 |       |                               |       |                                 |       |                                 |       |        |

Table 2-J: Fuel

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

|          | Fuel Type (low sulfur Diesel,                   | Fuel Source: purchased commercial,   |                                  | Speci                     | fy Units                   |               |       |
|----------|---|--|----------------------------------|---------------------------|----------------------------|---------------|-------|
| Unit No. | ultra low sulfur diesel,<br>Natural Gas, Coal,) | pipeline quality natural gas, residue<br>gas, raw/field natural gas, process gas<br>(e.g. SRU tail gas) or other | Lower Heating Value<br>(Btu/scf) | Hourly Usage<br>(Mscf/hr) | Annual Usage<br>(MMscf/yr) | % Sulfur      | % Ash |
| A-01     | Natural Gas                                     | Pipeline Quality Sweet Natural Gas   | 1031                             | 59.9                      | 524.9                      | 5 gr S/100scf | Neg.  |
| A-02     | Natural Gas                                     | Pipeline Quality Sweet Natural Gas   | 1031                             | 59.9                      | 524.9                      | 5 gr S/100scf | Neg.  |
| A-03     | Natural Gas                                     | Pipeline Quality Sweet Natural Gas   | 1031                             | 59.9                      | 524.9                      | 5 gr S/100scf | Neg.  |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |
|          |   |  |                                  |                           |                            |               |       |

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### Table 2-K: Liquid Data for Tanks Listed in Table 2-L

For each tank, list the liquid(s) to be stored in each tank. If it is expected that a tank may store a variety of hydrocarbon liquids, enter "mixed hydrocarbons" in the Composition column for that tank and enter the corresponding data of the most volatile liquid to be stored in the tank. If tank is to be used for storage of different materials, list all the materials in the "All Calculations" attachment, run the newest version of TANKS on each, and use the material with the highest emission rate to determine maximum uncontrolled and requested allowable emissions rate. The permit will specify the most volatile category of liquids that may be stored in each tank. Include appropriate tank-flashing modeling input data. Use additional sheets if necessary. Unit and stack numbering must correspond throughout the application package.

|  |          |               |                                    |                 | Vapor               | Average Stor     | age Conditions | Max Storag       | ge Conditions |
|--|----------|---------------|------------------------------------|-----------------|---------------------|------------------|----------------|------------------|---------------|
| N/A - All tanks at this faiclity are insignificant activities. | Tank No. | Material Name | Composition                        |                 | Molecular<br>Weight | Temperature (°F) | Pressure       | Temperature (°F) |               |
|  |          |               | N/A - All tanks at this faiclity a | are insignifica | nt activities.      |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          | <br>          |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
|  |          |               |                                    |                 |                     |                  |                |                  |               |
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### **Table 2-L: Tank Data**

Include appropriate tank-flashing modeling input data. Use an addendum to this table for unlisted data categories. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary. See reference Table 2-L2. Note: 1.00 bbl = 10.159 M3 = 42.0 gal

| Tank No. | Date<br>Installed | Materials Stored | Seal Type<br>(refer to Table 2<br>LR below) | Roof Type (refer to Table 2- LR below) | Cap                 | acity                | Diameter<br>(M)      | Vapor<br>Space | Co<br>(from Ta | olor<br>ble VI-C) | Paint Condition (from Table | Annual<br>Throughput | Turn-<br>overs |
|----------|-------------------|------------------|---|--|---------------------|----------------------|----------------------|----------------|----------------|-------------------|-----------------------------|----------------------|----------------|
|          |                   |                  | LK below)                                   | LK below)                              | (bbl)               | $(M^3)$              |                      | ( <b>M</b> )   | Roof           | Shell             | VI-C)                       | (gal/yr)             | (per year)     |
|          |                   |                  |   | N/A                                    | - All tanks at this | s faiclity are insig | nificant activities. |                |                |                   |                             |                      |                |
|          |                   |                  |   |  |                     |                      |                      |                |                |                   |                             |                      |                |
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# **Table 2-L2: Liquid Storage Tank Data Codes Reference Table**

| Roof Type                                  | Seal Type, W              | elded Tank Seal Type          | Seal Type, Rive              | ted Tank Seal Type               | Roof, Shell Color       | Paint<br>Condition |
|--|---------------------------|-------------------------------|------------------------------|----------------------------------|-------------------------|--------------------|
| FX: Fixed Roof                             | Mechanical Shoe Seal      | Liquid-mounted resilient seal | Vapor-mounted resilient seal | Seal Type                        | WH: White               | Good               |
| IF: Internal Floating Roof                 | A: Primary only           | A: Primary only               | A: Primary only              | A: Mechanical shoe, primary only | AS: Aluminum (specular) | Poor               |
| EF: External Floating Roof                 | B: Shoe-mounted secondary | B: Weather shield             | B: Weather shield            | B: Shoe-mounted secondary        | AD: Aluminum (diffuse)  |                    |
| P: Pressure                                | C: Rim-mounted secondary  | C: Rim-mounted secondary      | C: Rim-mounted secondary     | C: Rim-mounted secondary         | LG: Light Gray          |                    |
|  |                           |                               |                              |                                  | MG: Medium Gray         |                    |
| Note: $1.00 \text{ bbl} = 0.159 \text{ M}$ | $a^3 = 42.0 \text{ gal}$  |                               |                              |                                  | BL: Black               |                    |
|  |                           |                               |                              |                                  | OT: Other (specify)     |                    |

Table 2-M: Materials Processed and Produced (Use additional sheets as necessary.)

|             | Materi               | al Processed                            |   | M                                 | laterial Produced       |       |                          |
|-------------|----------------------|---|---|-----------------------------------|-------------------------|-------|--------------------------|
| Description | Chemical Composition | Phase<br>(Gas, Liquid, or Solid)        | Quantity (specify units)                  | Description                       | Chemical<br>Composition | Phase | Quantity (specify units) |
|             |                      | N/A - This facility is a natural gas co | ompressor station; no material is process | sed or produced at this facility. |                         |       |                          |
|             |                      |   |   |                                   |                         |       |                          |
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# **Table 2-N: CEM Equipment**

Enter Continuous Emissions Measurement (CEM) Data in this table. If CEM data will be used as part of a federally enforceable permit condition, or used to satisfy the requirements of a state or federal regulation, include a copy of the CEM's manufacturer specification sheet in the Information Used to Determine Emissions attachment. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

| Stack No. | Pollutant(s) | Manufacturer | Model No.      | Serial No.              | Sample<br>Frequency | Averaging<br>Time | Range | Sensitivity | Accuracy |
|-----------|--------------|--------------|----------------|-------------------------|---------------------|-------------------|-------|-------------|----------|
|           |              |              | N/A - No CEM 6 | equipment at this facil | lity.               |                   |       |             |          |
|           |              |              |                |                         |                     |                   |       |             |          |
|           |              |              |                |                         |                     |                   |       |             |          |
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# **Table 2-O: Parametric Emissions Measurement Equipment**

Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

| Unit No. | Parameter/Pollutant Measured              | Location of Measurement | Unit of Measure | Acceptable Range | Frequency of Maintenance | Nature of<br>Maintenance | Method of<br>Recording | Averaging<br>Time |  |  |
|----------|---|-------------------------|-----------------|------------------|--------------------------|--------------------------|------------------------|-------------------|--|--|
|          | N/A - No PEM equipement at this facility. |                         |                 |                  |                          |                          |                        |                   |  |  |
|          |   |                         |                 |                  |                          |                          |                        |                   |  |  |
|          |   |                         |                 |                  |                          |                          |                        |                   |  |  |
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### **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  $\Box$  By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

|          |                   | CO <sub>2</sub> ton/yr | N <sub>2</sub> O<br>ton/yr | CH <sub>4</sub><br>ton/yr | SF <sub>6</sub> ton/yr | PFC/HFC ton/yr² |  |  |  |  | <b>Total</b><br><b>GHG</b> Mass<br>Basis ton/yr <sup>4</sup> | Total<br>CO <sub>2</sub> e<br>ton/yr <sup>5</sup> |
|----------|-------------------|------------------------|----------------------------|---------------------------|------------------------|-----------------|--|--|--|--|--|---|
| Unit No. | GWPs <sup>1</sup> | 1                      | 298                        | 25                        | 22,800                 | footnote 3      |  |  |  |  |  |   |
| A-01     | mass GHG          | 31643.47               | 0.060                      | 0.60                      | -                      | -               |  |  |  |  | 31644.12   |   |
| A-01     | CO <sub>2</sub> e | 31643.47               | 17.74                      | 14.88                     | -                      | -               |  |  |  |  |  | 31676.09  |
| A-02     | mass GHG          | 31643.47               | 0.060                      | 0.60                      | -                      | -               |  |  |  |  | 31644.12   |   |
| A-02     | CO <sub>2</sub> e | 31643.47               | 17.74                      | 14.88                     | -                      | -               |  |  |  |  |  | 31676.09  |
| A-03     | mass GHG          |                        | 0.060                      | 0.60                      | -                      | -               |  |  |  |  | 31644.12   |   |
| A-03     | CO <sub>2</sub> e | 31643.47               | 17.74                      | 14.88                     | -                      | -               |  |  |  |  |  | 31676.09  |
| F-001    | mass GHG          | 1.11                   | -                          | 50.81                     |                        |                 |  |  |  |  | 51.92  |   |
| F-001    | CO <sub>2</sub> e | 1.11                   | -                          | 1270.28                   |                        |                 |  |  |  |  |  | 1271.39   |
| SSM/M    | mass GHG          | 10.00                  | =                          | 456.85                    |                        |                 |  |  |  |  | 466.85   |   |
| 331/1/1  | CO <sub>2</sub> e | 10.00                  | -                          | 11421.32                  |                        |                 |  |  |  |  |  | 11431.32  |
|          | 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 |                        |                            |                           |                        |                 |  |  |  |  |  |   |
|          | 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          |                        |                            |                           |                        |                 |  |  |  |  |  |   |
|          | CO2e              |                        |                            |                           |                        |                 |  |  |  |  |  |   |
| Total    | mass GHG          |                        |                            |                           |                        |                 |  |  |  |  | 95451.15   |   |
| Total    | CO <sub>2</sub> e |                        |                            |                           |                        |                 |  |  |  |  |  | 107730.98   |

<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.

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

<sup>&</sup>lt;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>&</sup>lt;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>&</sup>lt;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 <u>Application Summary</u> 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.

<u>Startup, Shutdown, and Maintenance (SSM)</u> 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) for more detailed instructions on SSM emissions.

\_\_\_\_\_

This application is being submitted for the renewal of Operating Permit P129-R3M1 for Pecos River Compressor Station. The facility is owned and operated by El Paso Natural Gas Company, LLC (EPNG), a Kinder Morgan company. This submittal is pursuant to 20.2.70.300.B.2 NMAC, which requires a Title V application to be submitted at least twelve months prior to the expiration of the current permit. Title V Permit P129-R3M1 expires on July 10, 2020.

Pecos River Compressor Station is a compressor station, which compresses natural gas for transportation purposes. Equipment at this facility includes three General Electric M3712R regenerative cycle turbines (A-01, A-02 and A-03). Other regulated emission sources include facility-wide fugitives (F-001) and startup, shutdown and routine maintenance as well as malfunction (SSM/M) emissions. Insignificant activities include eight storage tanks (T-001, T-002, T-003, T-004, T-005, T-006, T-007 and T-008).

This Title V renewal application incorporates changes to SSM/M emissions that were authorized under the previous NSR permit revision (Permit No. 3620-M1). Emissions have been update throughout the application to incorporate new global warming potentials for CH<sub>4</sub> and N<sub>2</sub>O. Additionally, emissions reported throughout Section 2 have been updated to conform to the NMEDs instructions regarding significant figures. Kinder Morgan is also requesting to update the fuel gas heating value from 925 to 1031 btu/scf. An additional 1,000 gal. used oil tank is also being added to the facility. This addition is reflected in Table 2-B. Finally, contact and administrative information has been updated where applicable.

Pecos River Compressor Station is a Title V major facility. The facility is also a major source under the Prevention of Significant Deterioration (PSD) rules. However, the facility has not completed a major modification and, therefore, does not require a PSD permit. There will be no change to the status of the facility under these rules with this renewal. The facility will also remain a minor source of hazardous air pollutants (HAPs).

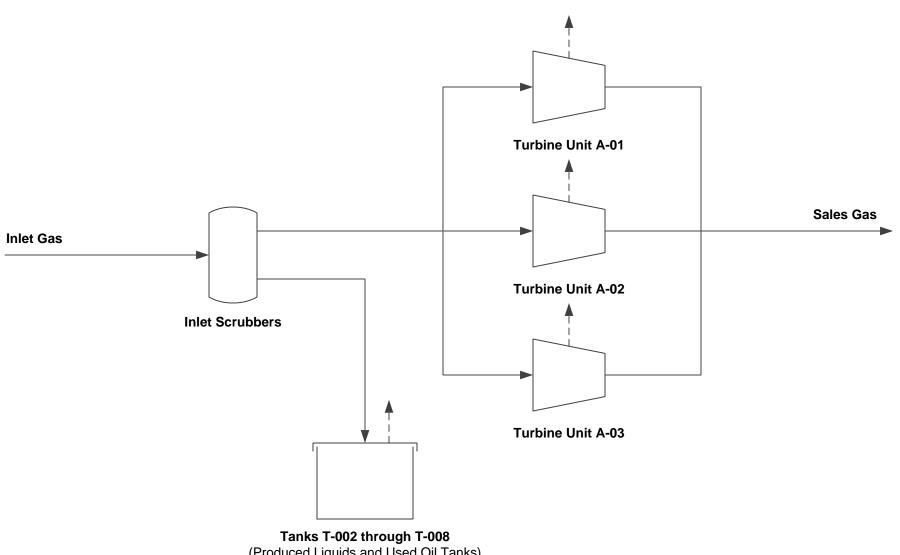
# **Section 4**

# **Process Flow Sheet**

A <u>process flow sheet</u> and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.

A process flow sheet is attached.

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(Produced Liquids and Used Oil Tanks)



# **Section 5**

# Plot Plan Drawn To Scale

A <u>plot plan drawn to scale</u> showing emissions points, roads, structures, tanks, and fences of property owned, leased, or under direct control of the applicant. This plot plan must clearly designate the restricted area as defined in UA1, Section 1-D.12. The unit numbering system should be consistent throughout this application.

\_\_\_\_\_

A plot plan is attached.

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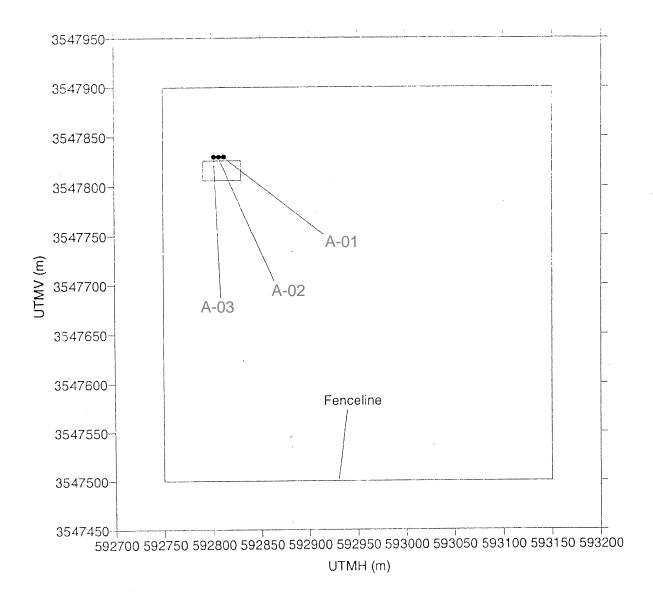


Figure B-1 Pecos River Compressor Station Site Layout

# **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 rational 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) 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.

\_\_\_\_\_

Emission sources at Pecos River Compressor Station include the following:

- Three GE M3712R regenerative cycle turbines
- Facility-wide fugitive emissions
- Startup, shutdown, routine maintenance and malfunction emissions

Emission calculations are reproduced from previous applications for all sources. These emissions have been previously reviewed and approved.

### General Electric M3712R Turbines (A-01, A-02 and A-03)

The emission rates for NO<sub>x</sub>, CO and VOCs were calculated using testing data. Test data was taken from various GE M3712R turbines and used to create an emission factor. The SO<sub>2</sub> emission rate was calculated using a maximum sulfur content in the fuel of 5grains/100scf. HAP emissions were calculated using GRI-HAPCalc 3.01. As a conservative measure, the ISO horsepower was used for these calculations instead of the site-rated horsepower. A safety factor was added to the VOC emission rate as a conservative measure. PM emissions were calculated using the Total PM emission factor in AP-42 Table 3.1-2.

Greenhouse gas emission rates were updated using the current emission factors (in kg/MMBtu) from Tables C-1 and C-2 in 40 CFR 98 Subpart C and the fuel consumption rate of the turbines (in MMBtu/hr).

#### **Fugitives (F-001)**

The fugitive emissions for the facility were calculated using emission factors from Table 2-3 of the 1993 *Protocol for Equipment Leak Emission Estimates (EPA-453/R-93-026)*. These emission factors provide a total organic carbon (TOC) emission rate. A representative gas analysis was used to estimate the VOC, methane, and CO2 emission rates based on the TOC emission rate. Since the available gas analysis for the facility does not include a breakdown of HAP constituents, GRI-HAPCalc was used to determine the fugitive HAP emission rate.

#### Startup, Shutdown and Maintenance/Malfunction (SSM/M)

Facility and turbine blowdown emissions (unit SSM) were calculated using the predicted number of scheduled and unscheduled SSM/M events, the volume of gas blown down per event (based on historical data), and nominal weight percentages. HAP emissions were calculations assuming the same HAP-to-VOC ratio as the fugitive emission calculations. A description of the various SSM/M events may include, but are not limited to:

#### **Unit Blowdowns**

Compressor units are shut down periodically for scheduled maintenance or because market demand or pipeline conditions indicate that the horsepower is not required. When a compressor unit is shut down, the unit piping is vented to the unit blowdown and expansion gas stack.

#### **Turbine Starting Gas**

Prior to start-up, the compressor is purged with natural gas to evacuate any air present. The turbine is then started with a small turbine that uses natural gas (expansion gas). The purge and expansion gas is vented through the unit blowdown and expansion gas stack.

The starting gas volume is measured. The amount of starting gas varies widely based on the duration of the start-up sequence. The calculations were completed with a conservative estimate.

### **Station Blowdown**

During a station Emergency Shutdown (ESD), the station is isolated and all natural gas in the piping must be purged for safety reasons. The natural gas in the station piping is vented through the station ESD stack.

In accordance with Paragraph 2(e) of NMED's *Implementation Guidance for Permitting SSM Emissions and Excess Emissions* [version 7 June 2012], EPNG requests that emissions from both SSM and upset/malfunction be consolidated in the permit with a total limit of 10 tons per year of VOC.

# Section 6.a

# **Green House Gas Emissions**

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

\_\_\_\_\_

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 CO2e 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  $\Box$  By checking this box, the applicant acknowledges the total CO2e 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 <u>Mandatory Green House Gas Reporting</u> 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  $CO_2$  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)

### El Paso Natural Gas Company, LLC

# **Pecos River Compressor Station**

### **Emission Summary**

|        | N      | O <sub>x</sub> | C     | 0      | VC    | C     | SC    | )2   | PI    | VI   | Acetalo | dehyde | Formal | dehyde | Total  | HAPs  | CO₂e      |
|--------|--------|----------------|-------|--------|-------|-------|-------|------|-------|------|---------|--------|--------|--------|--------|-------|-----------|
| Unit   | lb/hr  | tpy            | lb/hr | tpy    | lb/hr | tpy   | lb/hr | tpy  | lb/hr | tpy  | lb/hr   | tpy    | lb/hr  | tpy    | lb/hr  | tpy   | tpy       |
| A-01   | 53.10  | 232.58         | 8.00  | 35.04  | 0.78  | 3.42  | 0.43  | 1.87 | 0.41  | 1.79 | 0.27    | 1.20   | 0.27   | 1.17   | 0.65   | 2.85  | 31676.09  |
| A-02   | 53.10  | 232.58         | 8.00  | 35.04  | 0.78  | 3.42  | 0.43  | 1.87 | 0.41  | 1.79 | 0.27    | 1.20   | 0.27   | 1.17   | 0.65   | 2.85  | 31676.09  |
| A-03   | 53.10  | 232.58         | 8.00  | 35.04  | 0.78  | 3.42  | 0.43  | 1.87 | 0.41  | 1.79 | 0.27    | 1.20   | 0.27   | 1.17   | 0.65   | 2.85  | 31676.09  |
| SSM/M1 | -      | -              | -     | -      | *     | 10.00 | -     | -    | -     | -    | -       | -      | -      | -      | *      | 0.069 | 11431.32  |
| F-001  | -      | -              | -     | -      | 0.25  | 1.11  | -     | -    | -     | -    | -       | -      | -      | -      | 0.0054 | 0.024 | 1271.39   |
| Totals | 159.30 | 697.73         | 24.00 | 105.12 | 2.59  | 21.36 | 1.28  | 5.62 | 1.22  | 5.36 | 0.82    | 3.59   | 0.80   | 3.50   | 1.96   | 8.64  | 107730.98 |

# Notes

<sup>&</sup>quot;\*" Denotes an hourly value is not appropriate for this emission type.

<sup>&</sup>quot;-" Denotes emissions of this pollutant are not expected.

### El Paso Natural Gas Company, LLC - Pecos River Compressor Station

### **Turbines**

Units: A-01, A-02, A-03

Description: GE Regenerative Cycle Turbines (model M3712R)

ISO Rating: 7150 hp
Fuel Heating Value: 1031 Btu/scf
Fuel Consumption: 524.9 MMscf/yr

Heat Input: 61.8 MMBtu/hr Fuel consumption \* Fuel Heating Value \* 1 yr/8760 hours

Heat Input Rate: 8640.2 Btu/hp-hr Heat input / horsepower \* 10<sup>6</sup> Btu/MMBtu

#### **Emission Calculations**

|   | $NO_x^{1}$ | CO1   | VOC1 | $SO_2^2$ | PM <sup>3</sup> | Acetaldehyde <sup>4</sup> | Formaldehyde <sup>4</sup> | Total HAPs <sup>4</sup> |               |                        |
|---|------------|-------|------|----------|-----------------|---------------------------|---------------------------|-------------------------|---------------|------------------------|
|   | 53.1       | 8.0   | 0.13 |          |                 |                           |                           |                         | lb/hr         | Permit limits          |
|   |            |       |      |          | 0.0066          |                           |                           |                         | lb/MMBtu      | <b>Emission Factor</b> |
|   |            |       |      | 5        |                 |                           |                           |                         | grains S/100  | 0 scf                  |
| _ |            |       | 600% |          |                 |                           |                           |                         | _Saftey Facto | or                     |
|   | 53.10      | 8.00  | 0.78 | 0.43     | 0.41            | 0.27                      | 0.27                      | 0.65                    | lb/hr         |                        |
|   | 232.58     | 35.04 | 3.42 | 1.87     | 1.79            | 1.20                      | 1.17                      | 2.85                    | tons/yr       |                        |

<sup>&</sup>lt;sup>1</sup> Emission rates based on statistical analysis of test data. Emission rates have been previously reviewed and approved.

HAP emissions exceed VOC emissions as a result of conservative HAP emission factors

#### **GHG Emission Calculations**

| CO <sub>2</sub> | CH₄      | N₂O      | _                           |
|-----------------|----------|----------|-----------------------------|
| 53.06           | 1.00E-03 | 1.00E-04 | kg / MMBtu                  |
| 28714581.01     | 541      | 54       | kg/yr                       |
| 31643.47        | 0.60     | 0.060    | tons / yr                   |
| 31643.47        | 14.88    | 17.74    | tons / yr CO <sub>2</sub> e |

40 CFR 98, Subpart C, Tables C-1 and C-2

<sup>&</sup>lt;sup>2</sup> SO<sub>2</sub> emission rate based on sulfur content of 5gr S/100scf

<sup>&</sup>lt;sup>3</sup> PM emissions are calculated using AP-42 Table 3.1-2a. (Emission Rate [lb/hr] = EF [lb/MMBtu] \* Heat Input [MMBtu/hr])

<sup>&</sup>lt;sup>4</sup> HAP emissions estimated using GRI-HAPCalc 3.01

# El Paso Natural Gas Company, LLC - Pecos River Compressor Station

# **Facility-Wide Fugitive Emissions**

Unit: F-001

Description: Facility-wide fugitives

| VOC  | Benzene | Toluene | Ethylbenzene | Xylenes  | Total HAPs | _     |               |
|------|---------|---------|--------------|----------|------------|-------|---------------|
| 0.56 | 0.0037  | 0.0062  | 3.00E-04     | 0.0016   | 0.012      | tpy   | GRI-HAPCalc   |
| 100% | 100%    | 100%    | 100%         | 100%     | 100%       | %     | Safety Factor |
| 0.25 | 0.0017  | 0.0028  | 1.37E-04     | 7.31E-04 | 0.0054     | lb/hr |               |
| 1.11 | 0.0074  | 0.012   | 6.00E-04     | 0.0032   | 0.024      | tpy   |               |

### **Greenhouse Gas Emissions**

|           | Weight %  |
|-----------|-----------|
| Component | (nominal) |
| VOC       | 2%        |
| CO2       | 2%        |
| CH4       | 90%       |

| CO2  | CH4     | CO2e    |                          |
|------|---------|---------|--------------------------|
| 1.11 | 50.81   |         | ton/yr <sup>5</sup>      |
| 1    | 25      |         | GWP, 40 CFR 98 Table A-1 |
| 1.11 | 1270.28 | 1271.39 | ton/yr CO2e              |

### SSM/M Emissions

Unit: SSM/M

Description: Facility-wide startup, shutdown, maintenance and malfunction emissions

**Gas Analysis (Typical)** 

VOC weight %:1.97%NominalCO2 weight %:1.97%NominalCH4 weight %:90.00%NominalGas molecular weight:17.00 lb/lb-molNominalGas molar volume:378.61 scf/lb-molConstant

Gas density: 0.0449 lb/scf Gas MW / Molar volume

**Turbine Blowdown Venting (BD-Unit)** 

SSM Emission Rates, Per Event

Event Description: Planned Maintenance and Normal Shutdown
Volume per event: 27 Mscf/event Estimated (varies)

VOC Emissions: 23.9 lb/event lb/scf \* scf/event \* VOC wt %

SSM Emission Rates, Annual

Annual volume: 54 Mscf/yr 2006 volume + 100% saftey factor

VOC Emissions: 0.024 tons/yr lb/scf \* scf/event \* VOC wt % \* ton/2000 lb

**Turbine Starting Gas (BD-Unit)** 

SSM Emission Rates, Per Event

**Event Description:** Normal Startup

Volume per event: 150 Mscf/event Estimated (varies)

VOC Emissions: 133 lb/event lb/scf \* scf/event \* VOC wt %

SSM Emission Rates, Annual

Annual volume: 300 Mscf/yr 2006 volume + 100% saftey factor VOC Emissions: 0.13 tons/yr lb/scf \* scf/event \* VOC wt %

Facility Blowdown Venting (BD-ESD)

SSM Emission Rates, Per Event

Event Description: Station ESD

Volume per event: 481 Mscf/event Estimated (varies)

VOC Emissions: 425 lb/event lb/scf \* scf/event \* VOC wt %

SSM Emission Rates, Annual

Annual volume: 962 Mscf/yr Assumes 1 event per year with 100% Safety factor.

VOC Emissions: 0.425 tons/yr lb/event \* event/year \* ton/2000lb

Facility VOC Total: 0.58 tons/yr

**Facility Blowdown Total** 

VOC Emissions: 10.0 tons/yr

HAP emissions: 0.069 tons/yr Assumes same HAP/VOC ratio as fugitives

CO2 Emissions: 10.0 tons/yr VOC Emissions / %VOC \* %CO2 CH4 Emissions: 456.9 tons/yr VOC Emissions / %VOC \* %CH4

CO2e Emissions: 11431.3 tons/yr

Facility-Wide SSM/M Total

**VOC HAP CO2 CH4 CO2e** 10.0 0.069 10.0 456.9 11431.3 tons/yr

### **Information Used To Determine Emissions**

\_\_\_\_\_

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

- ☐ If manufacturer data are used, include specifications for emissions units <u>and</u> 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.

\_\_\_\_\_\_

The following items were used to calculate the emissions for this facility:

- Turbines:
  - o GRI-HAPCalc Output
  - o 40 CFR 98 Subpart C, Tables C-1 and C-2
  - Previous permit limits

Saved Date: 6/15/2020

# GRI-HAPCalc® 3.0 Turbine Report

Facility ID:

**PECOS RIVER** 

Notes:

Operation Type:

COMPRESSOR STATION

Facility Name:

PECOS RIVER COMPRESSOR STATION

User Name:

Units of Measure: U.S. STANDARD

Note: Emissions less than 5.00E-09 tons (or tonnes) per year are considered insignificant and are treated as zero.

These emissions are indicated on the report with a "0".

Emissions between 5.00E-09 and 5.00E-05 tons (or tonnes) per year are represented on the report with "0.0000".

**Turbine Unit** 

Unit Name: S001-003

Hours of Operation:

8,760 Yearly

Rate Power:

;7150 hp

Fuel Type:

NATURAL GAS

Emission Factor Set:

GRI FIELD TEST DATA

Additional EF Set:

-NONE-

### Calculated Emissions (ton/yr)

|          |                        |           | ·                   |                     |
|----------|------------------------|-----------|---------------------|---------------------|
|          | Chemical Name          | Emissions | Emission Factor     | Emission Factor Set |
| <u>H</u> | APs                    |           |                     |                     |
|          | Formaldehyde           | 1.1683    | 0.01693680 g/bhp-hr | GRI Field           |
|          | Acetaldehyde           | 1.1958    | 0.01733570 g/bhp-hr | GRI Field           |
|          | 1,3-Butadiene          | 0.0042    | 0.00006160 g/bhp-hr | GRI Field           |
|          | Acrolein               | 0.0179    | 0.00026000 g/bhp-hr | GRI Field           |
|          | Propional              | 0.0597    | 0.00086500 g/bhp-hr | GRI Field           |
|          | Benzene                | 0.0371    | 0.00053840 g/bhp-hr | GRI Field           |
|          | Toluene                | 0.0284    | 0.00041100 g/bhp-hr | GRI Field           |
|          | Xylenes(m,p,o)         | 0.0858    | 0.00124410 g/bhp-hr | GRI Field           |
|          | 2,2,4-Trimethylpentane | 0.1107    | 0.00160530 g/bhp-hr | GRI Field           |
|          | n-Hexane               | 0.1039    | 0.00150580 g/bhp-hr | GRI Field           |
|          | Phenol                 | 0.0076    | 0.00011010 g/bhp-hr | GRI Field           |
|          | Naphthalene            | 0.0005    | 0.00000760 g/bhp-hr | GRI Field           |
|          | 2-Methylnaphthalene    | 0.0001    | 0.00000130 g/bhp-hr | GRI Field           |
|          | Biphenyl               | 0.0228    | 0.00033050 g/bhp-hr | GRI Field           |
|          | Phenanthrene           | 0.0000    | 0.00000050 g/bhp-hr | GRI Field           |
|          | Chrysene               | 0.0001    | 0.00000100 g/bhp-hr | GRI Field           |
|          | Beryllium              | 0.0000    | 0.00000010 g/bhp-hr | GRI Field           |
|          | Phosphorous            | 0.0045    | 0.00006520 g/bhp-hr | GRI Field           |
|          | Chromium               | 0.0006    | 0.00000820 g/bhp-hr | GRI Field           |
|          | Manganese              | 0.0012    | 0.00001750 g/bhp-hr | GRI Field           |
|          | Nickel                 | 0.0004    | 0.00000610 g/bhp-hr | GRI Field           |
|          | Cobalt                 | 0.0001    | 0.00000160 g/bhp-hr | GRI Field           |
|          | Arsenic                | 0.0000    | 0.00000060 g/bhp-hr | GRI Field           |
|          | Selenium               | 0.0000    | 0.00000030 g/bhp-hr | GRI Field           |
|          | Cadmium                | 0.0000    | 0.00000020 g/bhp-hr | GRI Field           |
| 005      | 16:12:51               | GRI-HAPC  | Calc 3.0            | Page 1 of 2         |

| Utad .                    | 0.0002   | 0.060 <b>00</b> 0340 <b>g/b</b> no-hr | ⊊R! ∄eid  |
|---------------------------|----------|---------------------------------------|-----------|
| Total                     | 2.8501   |                                       |           |
| Criteria Pollutants       |          |                                       |           |
| СО                        | 145.4298 | 2.10828420 g/bhp-hr                   | GRI Field |
| NMHC                      | 13.3737  | 0.19387800 g/bhp-hr                   | GRI Field |
| NOx                       | 86.3744  | 1.25216290 g/bhp-hr                   | GRI Field |
| SO2                       | 0.0709   | 0.00102720 g/bhp-hr                   | GRI Field |
| Other Pollutants          |          |                                       |           |
| Methane                   | 68.0967  | 0.98719230 g/bhp-hr                   | GRI Field |
| Acetylene                 | 0.4943   | 0.00716540 g/bhp-hr                   | GRI Field |
| Ethylene                  | 0.9626   | 0.01395450 g/bhp-hr                   | GRI Field |
| Ethane                    | 10.3528  | 0.15008370 g/bhp-hr                   | GRI Field |
| Propane                   | 1.1037   | 0.01600000 g/bhp-hr                   | GRI Field |
| Isobutane                 | 0.3311   | 0.00480000 g/bhp-hr                   | GRI Field |
| Butane                    | 0.3587   | 0.00520000 g/bhp-hr                   | GRI Field |
| Cyclopentane              | 0.1139   | 0.00165110 g/bhp-hr                   | GRI Field |
| Butyrald/Isobutyraldehyde | 0.0924   | 0.00134000 g/bhp-hr                   | GRI Field |
| n-Pentane                 | 5.5977   | 0.08115000 g/bhp-hr                   | GRI Field |
| Cyclohexane               | 0.4224   | 0.00612400 g/bhp-hr                   | GRI Field |
| Methylcyclohexane         | 0.6092   | 0.00883120 g/bhp-hr                   | GRI Field |
| n-Octane                  | 0.2200   | 0.00318890 g/bhp-hr                   | GRI Field |
| 1,3,5-Trimethylbenzene    | 0.2069   | 0.00300000 g/bhp-hr                   | GRI Field |
| n-Nonane                  | 0.0367   | 0.00053260 g/bhp-hr                   | GRI Field |
| Vanadium                  | 0.0000   | 0.00000070 g/bhp-hr                   | GRI Field |
| Copper                    | 0.0014   | 0.00002050 g/bhp-hr                   | GRI Field |
| Molybdenum                | 0.0014   | 0.00002030 g/bhp-hr                   | GRI Field |
| Barium                    | 0.0016   | 0.00002290 g/bhp-hr                   | GRI Field |
|                           |          |                                       |           |

# GRI-HAPCalc® 3.0

### **Fugitive Emissions Report**

Facility ID: **PECOS RIVER** Notes:

Operation Type: **COMPRESSOR STATION** 

PECOS RIVER COMPRESSOR STATION Facility Name:

User Name:

Units of Measure: U.S. STANDARD

Note: Emissions less than 5.00E-09 tons (or tonnes) per year are considered insignificant and are treated as zero.

These emissions are indicated on the report with a "0".

Emissions between 5.00E-09 and 5.00E-05 tons (or tonnes) per year are represented on the report with "0.0000".

**Fugitive Emissions** 

**07/15/2005** 

Calculation Method: EPA Average Factors

|                   | User        | Inputs               |                      |
|-------------------|-------------|----------------------|----------------------|
| Component         | Gas Service | Light Liquid Service | Heavy Liquid Service |
| Connections:      | 737         | 0                    | 0                    |
| Flanges           | . 120       | 0                    | 0                    |
| Open-Ended Lines: | 14          | 0                    | 0                    |
| Pumps:            | 0           | 0                    | 0                    |
| Valves:           | 257         | 0                    | 0                    |
| Others:           | 30          | 0                    | 0                    |

### Calculated Emissions (ton/yr)

| Chemical Name       | Emissions |
|---------------------|-----------|
| HAPs                |           |
| Benzene             | 0.0037    |
| Toluene             | 0.0062    |
| Ethylbenzene        | 0.0003    |
| Xylenes(m,p,o)      | 0.0016    |
| Total               | 0.0118    |
| Criteria Pollutants |           |
| NMHC                | 1.2712    |
| NMEHC               | 0.5561    |

#### § 98.8

(13) Method 8015C, Nonhalogenated Organics By Gas Chromatography, Revision 3, February 2007 (Method 8015C). http://www.epa.gov/osw/hazard/

testmethods/sw846/pdfs/8015c.pdf; in EPA Publication No. SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," Third Edition, IBR approved for §98.244(b)(4)(viii).

- (14) AP 42, Section 7.1, Organic Liquid Storage Tanks, November 2006 (AP 42, Section 7.1), http://www.epa.gov/ttn/chief/ap42/ch07/final/c07s01.pdf; in Chapter 7, Liquid Storage Tanks, of AP 42, Compilation of Air Pollutant Emission Factors, 5th Edition, Volume I, IBR approved for §98.253(m)(1) and §98.256(o)(2)(i).
  - (n)-(o) [Reserved]
- (p) The following material is available for purchase from the American Association of Petroleum Geologists, 1444 South Boulder Avenue, Tulsa, Oklahoma 74119, (918) 584–2555, http://www.aapg.org.
- (1) Geologic Note: AAPG-CSD Geologic Provinces Code Map: AAPG Bulletin, Prepared by Richard F. Meyer, Laure G. Wallace, and Fred J. Wagner, Jr., Volume 75, Number 10 (October 1991), pages 1644–1651, IBR approved for §98.238.
- (2) Alaska Geological Province Boundary Map, Compiled by the American Association of Petroleum Geologists Committee on Statistics of Drilling in cooperation with the USGS, 1978, IBR approved for §98.238.
- (q) The following material is available from the Energy Information Administration (EIA), 1000 Independence Ave., SW., Washington, DC 20585, (202) 586–8800, http://www.eia.doe.gov/pub/oil\_gas/natural\_gas/data\_publications/field\_code\_master\_list/current/pdf/fcml\_all.pdf.
- (1) Oil and Gas Field Code Master List 2008, DOE/EIA0370(08), January 2009, IBR approved for §98.238.

#### (2) [Reserved]

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 39759, July 12, 2010; 75 FR 66458, Oct. 28, 2010; 75 FR 74488, Nov. 30, 2010; 75 FR 74816, Dec. 1, 2010; 75 FR 79138, Dec. 17, 2010; 78 FR 68202, Nov. 13, 2013; 78 FR 71948, Nov. 29, 2013; 81 FR 89250, Dec. 9, 2016]

## § 98.8 What are the compliance and enforcement provisions of this part?

Any violation of any requirement of this part shall be a violation of the Clean Air Act, including section 114 (42 U.S.C. 7414). A violation includes but is not limited to failure to report GHG emissions, failure to collect data needed to calculate GHG emissions, failure to continuously monitor and test as required, failure to retain records needed to verify the amount of GHG emissions, and failure to calculate GHG emissions following the methodologies specified in this part. Each day of a violation constitutes a separate violation.

#### §98.9 Addresses.

All requests, notifications, and communications to the Administrator pursuant to this part must be submitted electronically and in a format as specified by the Administrator. For example, any requests, notifications and communications that can be submitted through the electronic GHG reporting tool, must be submitted through that tool. If not specified, requests, notifications or communications shall be submitted to the following address:

- (a) For U.S. mail. Director, Climate Change Division, 1200 Pennsylvania Ave., NW., Mail Code: 6207J, Washington, DC 20460.
- (b) For package deliveries. Director, Climate Change Division, 1310 L St, NW., Washington, DC 20005.

[74 FR 56374, Oct. 30, 2009, as amended at 76 FR 73900, Nov. 29, 2011]

TABLE A-1 TO SUBPART A OF PART 98—GLOBAL WARMING POTENTIALS [100-Year Time Horizon]

| Name           | CAS No.          | Chemical formula | Global<br>warming<br>potential<br>(100 yr.) |
|----------------|------------------|------------------|---|
| Chemic         | cal-Specific GWF | os               |   |
| Carbon dioxide | 124-38-9         | CO <sub>2</sub>  | 1   |

### **Environmental Protection Agency**

[100-Year Time Horizon]

| [100-1   | cai Time Honzon         | 'J   |   |
|--|-------------------------|--|---|
| Name   | CAS No.                 | Chemical formula   | Global<br>warming<br>potential<br>(100 yr.) |
| Methane  | 74-82-8                 | CH <sub>4</sub>  | a 25  |
| Nitrous oxide  | 10024-97-2              | N <sub>2</sub> O   | a 298                                       |
| Fully I  | I<br>Fluorinated GHG    |  |   |
| <u> </u>   |                         |  | <del></del>                                 |
| Sulfur hexafluoride  | 2551-62-4               | SF <sub>6</sub>  | a 22,800                                    |
| Trifluoromethyl sulphur pentafluoride                                | 373–80–8<br>7783–54–2   | SF <sub>5</sub> CF <sub>3</sub>  | 17,700<br>17,200                            |
| PFC-14 (Perfluoromethane)  | 75-73-0                 | CF <sub>4</sub>  | a7,390                                      |
| PFC-116 (Perfluoroethane)  | 76–16–4                 | C <sub>2</sub> F <sub>6</sub>  | a 12,200                                    |
| PFC-218 (Perfluoropropane)   | 76–19–7                 | C <sub>3</sub> F <sub>8</sub>  | a 8,830                                     |
| Perfluorocyclopropane  | 931–91–9                | C-C <sub>3</sub> F <sub>6</sub>  | 17,340                                      |
| PFC-3-1-10 (Perfluorobutane)   | 355-25-9                | C <sub>4</sub> F <sub>10</sub>   | a 8,860                                     |
| PFC-318 (Perfluorocyclobutane)                                       | 115-25-3                | C-C <sub>4</sub> F <sub>8</sub>  | a 10,300                                    |
| PFC-4-1-12 (Perfluoropentane)<br>PFC-5-1-14 (Perfluorohexane, FC-72) | 678–26–2<br>355–42–0    | C <sub>6</sub> F <sub>12</sub>   | <sup>a</sup> 9,160<br><sup>a</sup> 9,300    |
| PFC-6-1-12   | 335-57-9                | C <sub>7</sub> F <sub>16</sub> ; CF <sub>3</sub> (CF <sub>2</sub> ) <sub>5</sub> CF <sub>3</sub> | <sup>b</sup> 7,820                          |
| PFC-7-1-18   | 307–34–6                | C <sub>8</sub> F <sub>18</sub> ; CF <sub>3</sub> (CF <sub>2</sub> ) <sub>6</sub> CF <sub>3</sub> | b7,620                                      |
| PFC-9-1-18   | 306-94-5                | C <sub>10</sub> F <sub>18</sub>  | 7,500                                       |
| PFPMIE (HT-70)   | NA.                     | CF <sub>3</sub> OCF(CF <sub>3</sub> )CF <sub>2</sub> OCF <sub>2</sub> OCF <sub>3</sub>           | 10,300                                      |
| Perfluorodecalin (cis)   | 60433-11-6              | Z-C <sub>10</sub> F <sub>18</sub>  | <sup>b</sup> 7,236                          |
| Perfluorodecalin (trans)   | 60433–12–7              | E-C <sub>10</sub> F <sub>18</sub>  | ь 6,288                                     |
| Saturated Hydrofluorocarbons (HFC                                    | s) With Two or F        | Fewer Carbon-Hydrogen Bonds  |   |
| HFC-23   | 75–46–7                 | CHF <sub>3</sub>   | a 14,800                                    |
| HFC-32   | 75–10–5                 | CH <sub>2</sub> F <sub>2</sub>   | a 675                                       |
| HFC-125  | 354–33–6                | C <sub>2</sub> HF <sub>5</sub>   | a 3,500                                     |
| HFC-134  | 359-35-3                | C <sub>2</sub> H <sub>2</sub> F <sub>4</sub>   | a 1,100                                     |
| HFC-134a   | 811–97–2                | CH <sub>2</sub> FCF <sub>3</sub>   | a 1,430                                     |
| HFC-227ca  | 2252-84-8               | CF <sub>3</sub> CF <sub>2</sub> CHF <sub>2</sub>   | ь 2640                                      |
| HFC-227ea  | 431-89-0                | C <sub>3</sub> HF <sub>7</sub>   | a 3,220                                     |
| HFC 236cb  | 677-56-5                | CH2FCF2CF3   | 1,340                                       |
| HFC-236ea<br>HFC-236fa   | 431–63–0<br>690–39–1    | CHF <sub>2</sub> CHFCF <sub>3</sub>  | 1,370<br>a 9.810                            |
| HFC-329p   | 375–17–7                | CHF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>3</sub>                                 | <sup>b</sup> 2360                           |
| HFC-43-10mee   | 138495-42-8             | CF <sub>3</sub> CFHCFHCF <sub>2</sub> CF <sub>3</sub>  | a 1,640                                     |
| Saturated Hydrofluorocarbons (HFC                                    | s) With Three or        | More Carbon-Hydrogen Bonds   |   |
| ·  | ·                       |  |   |
| HFC-41   | 593-53-3                | CH <sub>3</sub> F  | a 92  |
| HFC-143  | 430-66-0                | C <sub>2</sub> H <sub>3</sub> F <sub>3</sub>   | a 353                                       |
| HFC-143a<br>HFC-152  | 420–46–2<br>624–72–6    | C <sub>2</sub> H <sub>3</sub> F <sub>3</sub><br>CH <sub>2</sub> FCH <sub>2</sub> F               | <sup>a</sup> 4,470<br>53                    |
| HFC-152a   | 75–37–6                 | CH <sub>3</sub> CHF <sub>2</sub>   | a 124                                       |
| HFC-161  | 353–36–6                | CH <sub>3</sub> CH <sub>2</sub> F  | 12  |
| HFC-245ca  | 679-86-7                | C <sub>3</sub> H <sub>3</sub> F <sub>5</sub>   | a 693                                       |
| HFC-245cb  | 1814–88–6               | CF <sub>3</sub> CF <sub>2</sub> CH <sub>3</sub>  | <sup>b</sup> 4620                           |
| HFC-245ea  | 24270-66-4              | CHF2CHFCHF2  | <sup>b</sup> 235                            |
| HFC-245eb  | 431–31–2                | CH <sub>2</sub> FCHFCF <sub>3</sub>  | <sup>6</sup> 290                            |
| HFC-245fa<br>HFC-263fb   | 460–73–1<br>421–07–8    | CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>   | 1,030<br>b76                                |
| HFC-272ca  | 421-07-8                | CH <sub>3</sub> CF <sub>2</sub> CH <sub>3</sub>  | b144  |
| HFC-365mfc   | 406-58-6                | CH <sub>3</sub> CF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>                                  | 794   |
| Saturated Hydrofluoroethers (HFEs) and Hydrocl                       | nlorofluoroethers       | s (HCFEs) With One Carbon-Hydrog   | en Bond                                     |
| HFE-125  | 3822-68-2               | CHF <sub>2</sub> OCF <sub>3</sub>  | 14,900                                      |
| HFE-227ea  | 2356-62-9               | CF <sub>3</sub> CHFOCF <sub>3</sub>  | 1,540                                       |
| HFE-329mcc2  | 134769–21–4             | CF <sub>3</sub> CF <sub>2</sub> OCF <sub>2</sub> CHF <sub>2</sub>                                | 919   |
| HFE-329me3   | 428454-68-6             | CF <sub>3</sub> CFHCF <sub>2</sub> OCF <sub>3</sub>  | b 4,550                                     |
| 1,1,1,2,2,3,3-Heptafluoro-3-(1,2,2,2-tetrafluoroethoxy)-propane.     | 3330–15–2               | CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> OCHFCF <sub>3</sub>                              | <sup>6</sup> 6,490                          |
| Saturated HFEs and HCFE  | s With Two Carl         | bon-Hydrogen Bonds   |   |
| HEE_134 (HG_00)  | 1601 17 4               | CHF <sub>2</sub> OCHF <sub>2</sub>   | 6 300                                       |
| HFE-134 (HG-00)  | 1691–17–4<br>32778–11–3 | CHF <sub>2</sub> OCHF <sub>2</sub>   | 6,320<br>54,240                             |
| HFE-236ca12 (HG-10)  | 78522-47-1              | CHF <sub>2</sub> OCF <sub>2</sub> OCHF <sub>2</sub>  | 2,800                                       |
| HFE-236ea2 (Desflurane)  |                         |  | 989   |
| \ ,  |                         | 2  | 300   |

[100-Year Time Horizon]

| Name  | CAS No.                                   | Chemical formula   | Global<br>warming<br>potential<br>(100 yr.)  |
|---|---|--|--|
| HFE-236fa   | 20193-67-3                                | CF <sub>3</sub> CH <sub>2</sub> OCF <sub>3</sub>   | 487  |
| HFE-338mcf2   | 156053-88-2                               | CF <sub>3</sub> CF <sub>2</sub> OCH <sub>2</sub> CF <sub>3</sub>   | 552  |
|   |   |  |  |
| HFE-338mmz1   | 26103-08-2                                | CHF <sub>2</sub> OCH(CF <sub>3</sub> ) <sub>2</sub>  | 380  |
| HFE-338pcc13 (HG-01)  | 188690-78-0                               | CHF <sub>2</sub> OCF <sub>2</sub> CF <sub>2</sub> OCHF <sub>2</sub>  | 1,500  |
| HFE-43-10pccc (H-Galden 1040x, HG-11)   | E1730133                                  | CHF <sub>2</sub> OCF <sub>2</sub> OC <sub>2</sub> F <sub>4</sub> OCHF <sub>2</sub>   | 1,870  |
| HCFE-235ca2 (Enflurane)   | 13838–16–9                                | CHF <sub>2</sub> OCF <sub>2</sub> CHFCI  | <sup>b</sup> 583   |
| HCFE-235da2 (Isoflurane)  | 26675-46-7                                | CHF <sub>2</sub> OCHCICF <sub>3</sub>  | 350  |
| HG-02   | 205367-61-9                               | HF <sub>2</sub> C-(OCF <sub>2</sub> CF <sub>2</sub> ) <sub>2</sub> -OCF <sub>2</sub> H   | <sup>b</sup> 3,825   |
| HG-03   | 173350-37-3                               | HF <sub>2</sub> C-(OCF <sub>2</sub> CF <sub>2</sub> ) <sub>3</sub> -OCF <sub>2</sub> H   | b3,670   |
| HG-20   | 249932-25-0                               | HF <sub>2</sub> C-(OCF <sub>2</sub> ) <sub>2</sub> -OCF <sub>2</sub> H   | <sup>b</sup> 5,300   |
| HG-21   | 249932–26–1                               | HF <sub>2</sub> C-OCF <sub>2</sub> CF <sub>2</sub> OCF <sub>2</sub> OCF <sub>2</sub> O-<br>CF <sub>2</sub> H.                                      | b 3,890  |
| HG-30   | 188690-77-9<br>173350-38-4                | HF2C-(OCF <sub>2</sub> ) <sub>3</sub> -OCF <sub>2</sub> H<br>HCF <sub>2</sub> O(CF <sub>2</sub> CF <sub>2</sub> O) <sub>4</sub> CF <sub>2</sub> H  | <sup>b</sup> 7,330<br><sup>b</sup> 3,630   |
| 1,1,2-Trifluoro-2-(trifluoromethoxy)-ethane   | 84011-06-3                                | CHF <sub>2</sub> CHFOCF <sub>3</sub>   | b 1,240  |
| Trifluoro(fluoromethoxy)methane   | 2261–01–0                                 | CH <sub>2</sub> FOCF <sub>3</sub>  | ♭751   |
| Saturated HFEs and HCFEs Wit  | th Three or More                          | Carbon-Hydrogen Bonds  |  |
| HEE 1420  | 401 14 7                                  | CH OCE   | 750  |
| HFE-143a  | 421–14–7                                  | CH <sub>3</sub> OCF <sub>3</sub>   | 756  |
| HFE-245cb2  | 22410-44-2                                | CH <sub>3</sub> OCF <sub>2</sub> CF <sub>3</sub>   | 708  |
| HFE-245fa1  | 84011–15–4                                | CHF <sub>2</sub> CH <sub>2</sub> OCF <sub>3</sub>  | 286  |
| HFE-245fa2  | 1885-48-9                                 | CHF2OCH2CF3  | 659  |
| HFE-254cb2  | 425-88-7                                  | CH <sub>3</sub> OCF <sub>2</sub> CHF <sub>2</sub>  | 359  |
| HFE-263fb2  | 460-43-5                                  | CF <sub>3</sub> CH <sub>2</sub> OCH <sub>3</sub>   | 11   |
| HFE-263m1; R-E-143a   | 690-22-2                                  | CF <sub>3</sub> OCH <sub>2</sub> CH <sub>3</sub>   | <sup>b</sup> 29  |
| HFE-347mcc3 (HFE-7000)  | 375-03-1                                  | CH <sub>3</sub> OCF <sub>2</sub> CF <sub>2</sub> CF <sub>3</sub>   | 575  |
| HFE-347mcf2   | 171182-95-9                               | CF <sub>3</sub> CF <sub>2</sub> OCH <sub>2</sub> CHF <sub>2</sub>  | 374  |
| HFE-347mmy1   | 22052-84-2                                | CH <sub>3</sub> OCF(CF <sub>3</sub> ) <sub>2</sub>   | 343  |
| HFE-347mmz1 (Sevoflurane)   | 28523-86-6                                | (CF <sub>3</sub> ) <sub>2</sub> CHOCH <sub>2</sub> F   | °216   |
|   |   |  |  |
| HFE-347pcf2   | 406-78-0                                  | CHF <sub>2</sub> CF <sub>2</sub> OCH <sub>2</sub> CF <sub>3</sub>  | 580  |
| HFE-356mec3   | 382-34-3                                  | CH <sub>3</sub> OCF <sub>2</sub> CHFCF <sub>3</sub>  | 101  |
| HFE-356mff2   | 333–36–8                                  | CF <sub>3</sub> CH <sub>2</sub> OCH <sub>2</sub> CF <sub>3</sub>   | b 17   |
| HFE-356mmz1   | 13171–18–1                                | (CF <sub>3</sub> ) <sub>2</sub> CHOCH <sub>3</sub>   | 27   |
| HFE-356pcc3   | 160620-20-2                               | CH <sub>3</sub> OCF <sub>2</sub> CF <sub>2</sub> CHF <sub>2</sub>  | 110  |
| HFE-356pcf2   | 50807-77-7                                | CHF <sub>2</sub> CH <sub>2</sub> OCF <sub>2</sub> CHF <sub>2</sub>   | 265  |
| HFE-356pcf3   | 35042-99-0                                | CHF <sub>2</sub> OCH <sub>2</sub> CF <sub>2</sub> CHF <sub>2</sub>   | 502  |
| HFE-365mcf2   | 22052-81-9                                | CF <sub>3</sub> CF <sub>2</sub> OCH <sub>2</sub> CH <sub>3</sub>   | <sup>b</sup> 58  |
| HFE-365mcf3   | 378-16-5                                  | CF <sub>3</sub> CF <sub>2</sub> CH <sub>2</sub> OCH <sub>3</sub>   | 11   |
| HFE-374pc2  | 512-51-6                                  | CH <sub>3</sub> CH <sub>2</sub> OCF <sub>2</sub> CHF <sub>2</sub>  | 557  |
| HFE-449s1 (HFE-7100) Chemical blend   | 163702-07-6                               | C <sub>4</sub> F <sub>9</sub> OCH <sub>3</sub>   | 297  |
| AFE-44951 (AFE-7 100) Chemical bienu  |   |  | 291  |
|   | 163702-08-7                               | (CF <sub>3</sub> ) <sub>2</sub> CFCF <sub>2</sub> OCH <sub>3</sub> .   |  |
| HFE-569sf2 (HFE-7200) Chemical blend  | 163702-05-4<br>163702-06-5                | C <sub>4</sub> F <sub>9</sub> OC <sub>2</sub> H <sub>5</sub><br>(CF <sub>3</sub> ) <sub>2</sub> CFCF <sub>2</sub> OC <sub>2</sub> H <sub>5</sub> . | 59   |
| HG'-01  | 73287–23–7                                |  | b 222  |
|   |   | CH <sub>3</sub> OCF <sub>2</sub> CF <sub>2</sub> OCH <sub>3</sub>  |  |
| HG'-02  | 485399-46-0                               | CH <sub>3</sub> O(CF <sub>2</sub> CF <sub>2</sub> O) <sub>2</sub> CH <sub>3</sub>  | b 236  |
| HG'-03  | 485399-48-2                               | CH <sub>3</sub> O(CF <sub>2</sub> CF <sub>2</sub> O) <sub>3</sub> CH <sub>3</sub>  | b221   |
| Difluoro(methoxy)methane  | 359-15-9                                  | CH <sub>3</sub> OCHF <sub>2</sub>  | b 144  |
| 2-Chloro-1,1,2-trifluoro-1-methoxyethane  | 425-87-6                                  | CH <sub>3</sub> OCF <sub>2</sub> CHFCI   | b 122  |
| 1-Ethoxy-1,1,2,2,3,3,3-heptafluoropropane   | 22052-86-4                                | CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> OCH <sub>2</sub> CH <sub>3</sub>   | <sup>b</sup> 61  |
| 2-Ethoxy-3,3,4,4,5-pentafluorotetrahydro-2,5-bis[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-furan. | 920979–28–8                               | C <sub>12</sub> H <sub>5</sub> F <sub>19</sub> O <sub>2</sub>  | <sup>b</sup> 56  |
| 1-Ethoxy-1,1,2,3,3,3-hexafluoropropane  | 380-34-7                                  | CF <sub>3</sub> CHFCF <sub>2</sub> OCH <sub>2</sub> CH <sub>3</sub>  | b 23   |
| Fluoro(methoxy)methane  | 460-22-0                                  | CH <sub>3</sub> OCH <sub>2</sub> F   | b 13   |
| 1,1,2,2-Tetrafluoro-3-methoxy-propane; Methyl 2,2,3,3-  | 60598-17-6                                | CHF <sub>2</sub> CF <sub>2</sub> CH <sub>2</sub> OCH <sub>3</sub>  | b 0.5  |
| tetrafluoropropyl ether. 1,1,2,2-Tetrafluoro-1-(fluoromethoxy)ethane                                  | 37031–31–5                                | CH <sub>2</sub> FOCF <sub>2</sub> CF <sub>2</sub> H  | ♭871   |
|   | 461–63–2                                  | CH <sub>2</sub> FOCH <sub>2</sub> CF <sub>2</sub> H  | ₽617   |
| Difluoro(fluoromethoxy)methaneFluoro(fluoromethoxy)methane  | 462-51-1                                  | CH <sub>2</sub> FOCH <sub>2</sub> F  | b 130  |
|   | inated Formates                           |  |  |
|   |   |  |  |
|   | 85358-65-2                                | HCOOCF <sub>3</sub>  | <sup>b</sup> 588   |
| Trifluoromethyl formate   |   |  |  |
| Perfluoroethyl formate  | 313064-40-3                               | HCOOCF <sub>2</sub> CF <sub>3</sub>  |  |
| Perfluoroethyl formate  | 313064–40–3<br>481631–19–0                | HCOOCHFCF <sub>3</sub>   | <sup>b</sup> 470   |
| Perfluoroethyl formate  | 313064-40-3                               |  | b470   |
| Perfluoroethyl formate  | 313064–40–3<br>481631–19–0                | HCOOCHFCF <sub>3</sub>   | <sup>b</sup> 470<br><sup>b</sup> 392   |
| Perfluoroethyl formate  | 313064-40-3<br>481631-19-0<br>197218-56-7 | HCOOCHFCF <sub>3</sub><br>HCOOCF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>3</sub>  | <sup>b</sup> 580<br><sup>b</sup> 470<br><sup>b</sup> 392<br><sup>b</sup> 376<br><sup>b</sup> 333 |

### **Environmental Protection Agency**

[100-Year Time Horizon]

|   | rear Time Horizor        | 1]  |   |
|---|--------------------------|---|---|
| Name  | CAS No.                  | Chemical formula  | Global<br>warming<br>potential<br>(100 yr.) |
| 3,3,3-Trifluoropropyl formate                   | 1344118-09-7             | HCOOCH <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>   | <sup>b</sup> 17                             |
| Fluo  | rinated Acetates         |   |   |
| Methyl 2,2,2-trifluoroacetate                   | 431–47–0                 | CF <sub>3</sub> COOCH <sub>3</sub>  | b 52  |
| 1,1-Difluoroethyl 2,2,2-trifluoroacetate        | 1344118-13-3             | CF <sub>3</sub> COOCF <sub>2</sub> CH <sub>3</sub>  | b 31  |
| Difluoromethyl 2,2,2-trifluoroacetate           | 2024-86-4                | CF <sub>3</sub> COOCHF <sub>2</sub>   | b 27  |
| 2,2,2-Trifluoroethyl 2,2,2-trifluoroacetate     | 407-38-5                 | CF <sub>3</sub> COOCH <sub>2</sub> CF <sub>3</sub>  | b7  |
| Methyl 2,2-difluoroacetate                      | 433-53-4                 | HCF <sub>2</sub> COOCH <sub>3</sub>   | ь3  |
| Perfluoroethyl acetate                          | 343269–97–6              | CH <sub>3</sub> COOCF <sub>2</sub> CF <sub>3</sub>  | b2.1  |
| Trifluoromethyl acetate                         | 74123–20–9               | CH <sub>3</sub> COOCF <sub>3</sub>  | b2.0  |
| Perfluoropropyl acetate                         | 1344118-10-0             | CH <sub>3</sub> COOCF <sub>2</sub> CF <sub>2</sub> CF <sub>3</sub>  | b 1.8                                       |
| Perfluorobutyl acetate                          | 209597-28-4              | CH <sub>3</sub> COOCF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>3</sub><br>CF <sub>3</sub> COOCH <sub>2</sub> CH <sub>3</sub>  | ь1.6<br>ь1.3                                |
| Ethyl 2,2,2-trifluoroacetate                    | 383–63–1                 | CF3COOCH2CH3  | 1.3   |
| Car   | bonofluoridates          |   |   |
| Methyl carbonofluoridate                        | 1538-06-3                | FCOOCH <sub>3</sub>   | <sup>b</sup> 95                             |
| 1,1-Difluoroethyl carbonofluoridate             | 1344118-11-1             | FCOOCF <sub>2</sub> CH <sub>3</sub>   | <sup>b</sup> 27                             |
| Fluorinated Alcohols 0                          | ther Than Fluor          | otelomer Alcohols   |   |
|   |                          |   | 405   |
| Bis(trifluoromethyl)-methanol                   | 920-66-1                 | (CF <sub>3</sub> ) <sub>2</sub> CHOH  | 195   |
| (Octafluorotetramethy-lene) hydroxymethyl group | NA<br>422-05-9           | X-(CF <sub>2</sub> ) <sub>4</sub> CH(OH)-X<br>CF <sub>3</sub> CF <sub>2</sub> CH <sub>2</sub> OH  | 73<br>42                                    |
| 2,2,3,3,4,4,4-Heptafluorobutan-1-ol             | 375-01-9                 | C <sub>3</sub> F <sub>7</sub> CH2OH   | b 25  |
| 2,2,2-Trifluoroethanol                          | 75–89–8                  | CF <sub>3</sub> CH <sub>2</sub> OH  | b 20  |
| 2,2,3,4,4,4-Hexafluoro-1-butanol                | 382-31-0                 | CF <sub>3</sub> CHFCF <sub>2</sub> CH <sub>2</sub> OH   | b 17  |
| 2,2,3,3-Tetrafluoro-1-propanol                  | 76-37-9                  | CHF <sub>2</sub> CF <sub>2</sub> CH <sub>2</sub> OH   | b 13  |
| 2,2-Difluoroethanol                             | 359-13-7                 | CHF <sub>2</sub> CH2OH  | b3  |
| 2-Fluoroethanol                                 | 371-62-0                 | CH <sub>2</sub> FCH <sub>2</sub> OH   | <sup>b</sup> 1.1                            |
| 4,4,4-Trifluorobutan-1-ol                       | 461–18–7                 | CF <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> CH <sub>2</sub> OH  | ь 0.05                                      |
| Unsaturated                                     | Perfluorocarbon          | s (PFCs)  |   |
| PFC-1114; TFE                                   | 116-14-3                 | CF <sub>2</sub> = CF <sub>2</sub> ; C <sub>2</sub> F <sub>4</sub>   | <sup>b</sup> 0.004                          |
| PFC-1216; Dyneon HFP                            | 116-15-4                 | C <sub>3</sub> F <sub>6</sub> ; CF <sub>3</sub> CF = CF <sub>2</sub>  | <sup>b</sup> 0.05                           |
| PFC C-1418                                      | 559-40-0                 | c-C <sub>5</sub> F <sub>8</sub>   | b 1.97                                      |
| Perfluorobut-2-ene                              | 360-89-4                 | CF <sub>3</sub> CF = CFCF <sub>3</sub>  | b 1.82                                      |
| Perfluorobut-1-ene                              | 357–26–6                 | $CF_3CF_2CF = CF_2$   | ь 0.10                                      |
| Perfluorobuta-1,3-diene                         | 685–63–2                 | CF <sub>2</sub> = CFCF = CF <sub>2</sub>  | b 0.003                                     |
| Unsaturated Hydrofluorocarbons (                | HFCs) and Hydro          | ochlorofluorocarbons (HCFCs)  |   |
| HFC-1132a; VF2                                  | 75–38–7                  | C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> , CF <sub>2</sub> = CH <sub>2</sub>  | <sup>b</sup> 0.04                           |
| HFC-1141; VF                                    | 75-02-5                  | C <sub>2</sub> H <sub>3</sub> F, CH <sub>2</sub> = CHF  | <sup>b</sup> 0.02                           |
| (E)-HFC-1225ye                                  | 5595-10-8                | CF <sub>3</sub> CF = CHF(E)   | ь 0.06                                      |
| (Z)-HFC-1225ye                                  | 5528-43-8                | CF <sub>3</sub> CF = CHF(Z)   | <sup>b</sup> 0.22<br><sup>b</sup> 1.34      |
| Solstice 1233zd(E)                              | 102687–65–0<br>754–12–1  | $C_3H_2CIF_3$ ; CHCI = CHCF <sub>3</sub>  | b 0.31                                      |
| HFC-1234yi, HFO-1234yi                          | 1645-83-6                | $C_3H_2F_4$ , $C_3CF = CH_2$  | b 0.97                                      |
| HFC-1234ze(Z)                                   | 29118–25–0               | $C_3H_2F_4$ ; cis-CF <sub>3</sub> CH = CHF; CF <sub>3</sub> CH = CHF.   | b 0.29                                      |
| HFC-1243zf; TFP                                 | 677–21–4                 | C <sub>3</sub> C <sub>3</sub> C <sub>3</sub> C <sub>3</sub> C <sub>3</sub> C <sub>4</sub> C <sub>5</sub> C <sub>4</sub> C <sub>7</sub> | b 0.12                                      |
| (Z)-HFC-1336                                    | 692-49-9                 | CF <sub>3</sub> CH = CHCF <sub>3</sub> (Z)  | b 1.58                                      |
| HFC-1345zfc                                     | 374–27–6                 | $C_2F_5CH = CH_2$   | <sup>b</sup> 0.09                           |
| Capstone 42–U                                   | 19430-93-4               | $C_6H_3F_9$ , $CF_3(CF_2)_3CH = CH_2$   | ь 0.16                                      |
| Capstone 62–U                                   | 25291–17–2<br>21652–58–4 | $C_8H_3F_{13}$ , $CF_3(CF_2)_5CH = CH_2$<br>$C_{10}H_3F_{17}$ , $CF_3(CF_2)_7CH = CH_2$   | <sup>b</sup> 0.11<br><sup>b</sup> 0.09      |
| <u> </u>  | ed Halogenated I         |   |   |
| PMVE; HFE–216                                   | 1187–93–5                | CF <sub>3</sub> OCF = CF <sub>2</sub>   | b 0.17                                      |
| Fluoroxene                                      | 406-90-6                 | CF <sub>3</sub> OCF = CF <sub>2</sub>   | b 0.17                                      |
| Fluor   | inated Aldehyde          | s   |   |
| 3,3,3-Trifluoro-propanal                        | 460-40-2                 | CF <sub>3</sub> CH <sub>2</sub> CHO   | b 0.01                                      |
|   | 1 .55 .6 2               | 2.32.20.0   | 3.01  |

[100-Year Time Horizon]

| rear Time Honzor   | ·J   |  |
|--|--|--|
| CAS No.  | Chemical formula   | Global<br>warming<br>potential<br>(100 yr.)  |
| rinated Ketones  |  |  |
| 756–13–8   | CF <sub>3</sub> CF <sub>2</sub> C(O)CF (CF3) <sub>2</sub>  | <sup>b</sup> 0.1   |
| otelomer Alcohol   | ls   |  |
| 185689-57-0<br>2240-88-2<br>755-02-2<br>87017-97-8   | CF <sub>3</sub> (CF <sub>2</sub> ) <sub>4</sub> CH <sub>2</sub> CH <sub>2</sub> OH<br>CF <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> OH<br>CF <sub>3</sub> (CF <sub>2</sub> ) <sub>6</sub> CH <sub>2</sub> CH <sub>2</sub> OH<br>CF <sub>3</sub> (CF <sub>2</sub> ) <sub>6</sub> CH <sub>2</sub> CH <sub>2</sub> OH | b 0.43<br>b 0.35<br>b 0.33<br>b 0.19   |
| s With Carbon-lo   | dine Bond(s)   |  |
| 2314–97–8  | CF <sub>3</sub> I  | b0.4   |
| orinated Compo   | unds   |  |
| 75–61–6<br>151–67–7  | CBR <sub>2</sub> F <sub>2</sub>  | <sup>b</sup> 231<br><sup>b</sup> 41  |
| IG Group <sup>d</sup>  |  | Global<br>warming<br>potential<br>(100 yr.)  |
| ich Chemical-Spe   | ecific GWPs Are Not Listed Above   |  |
| ethers (HCFEs) w<br>lsgen bondsllcohols other thar<br>, unsaturated hyd<br>ted esters, fluor | ds   | 10,000<br>3,700<br>930<br>5,700<br>2,600<br>277<br>350<br>30   |
|  | cAS No.  prinated Ketones  756–13–8  potelomer Alcohol  185689–57–0 2240–88–2 755–02–2 87017–97–8  s With Carbon-lo 2314–97–8  porinated Compo  75–61–6 151–67–7  dich Chemical-Spe  pon-hydrogen bond  ethers (HCFEs) wis gen bonds  licohols other than unsaturated hyd ted esters, fluor                          | CAS No. Chemical formula  prinated Ketones  756–13–8 CF <sub>3</sub> CF <sub>2</sub> C(O)CF (CF3) <sub>2</sub> |

 $[79\;\mathrm{FR}\;73779,\,\mathrm{Dec.}\;11,\,2014]$ 

TABLE A-2 TO SUBPART A OF PART 98—UNITS OF MEASURE CONVERSIONS

| To convert from                | То                   | Multiply by                |
|--------------------------------|----------------------|----------------------------|
| Kilograms (kg)                 | Pounds (lbs)         | 2.20462                    |
| Pounds (lbs)                   | Kilograms (kg)       | 0.45359                    |
| Pounds (lbs)                   |                      | 4.53592 × 10 <sup>-4</sup> |
| Short tons                     | Pounds (lbs)         | 2,000                      |
| Short tons                     | Metric tons          | 0.90718                    |
| Metric tons                    | Short tons           | 1.10231                    |
| Metric tons                    | Kilograms (kg)       | 1,000                      |
| Cubic meters (m <sup>3</sup> ) | Cubic feet (ft3)     | 35.31467                   |
| Cubic feet (ft3)               | Cubic meters (m³)    | 0.028317                   |
| Gallons (liquid, US)           |                      | 3.78541                    |
| Liters (I) Liters              | Gallons (liquid, US) | 0.26417                    |
| Barrels of Liquid Fuel (bbl)   | Cubic meters (m³)    | 0.15891                    |
| Cubic meters (m³)              |                      | 6.289                      |
|                                | Gallons (liquid, US) |                            |

a The GWP for this compound was updated in the final rule published on November 29, 2013 [78 FR 71904] and effective on January 1, 2014.

b This compound was added to Table A–1 in the final rule published on December 11, 2014, and effective on January 1, 2015.

c The GWP for this compound was updated in the final rule published on December 11, 2014, and effective on January 1, 2015.

d For electronics manufacturing (as defined in §98.90), the term "fluorinated GHGs" in the definition of each fluorinated GHG group in §98.6 shall include fluorinated heat transfer fluids (as defined in §98.98), whether or not they are also fluorinated GHGs.

#### 40 CFR Ch. I (7-1-19 Edition)

#### Default $CO_2$ Emission Factors and High Heat Values for Various Types of Fuel— Continued

| Fuel type                                 | Default high heat value                           | Default CO <sub>2</sub><br>emission<br>factor |
|---|---|---|
| Natural Gasoline                          | 0.110   | 66.88   |
| Other Oil (>401 deg F)                    | 0.139   | 76.22   |
| Pentanes Plus                             | 0.110   | 70.02   |
| Petrochemical Feedstocks                  | 0.125   | 71.02   |
| Special Naphtha                           | 0.125   | 72.34   |
| Unfinished Oils                           | 0.139   | 74.54   |
| Heavy Gas Oils                            | 0.148   | 74.92   |
| Lubricants                                | 0.144   | 74.27   |
| Motor Gasoline                            | 0.125   | 70.22   |
| Aviation Gasoline                         | 0.120   | 69.25   |
| Kerosene-Type Jet Fuel                    | 0.135   | 72.22   |
| Asphalt and Road Oil                      | 0.158   | 75.36   |
| Crude Oil                                 | 0.138   | 74.54   |
| Orace Oil                                 | 0.100   | 74.54   |
| Petroleum products—solid Petroleum Coke   | mmBtu/short ton 30.00                             | kg CO <sub>2</sub> /mmBtu.<br>102.41.         |
| Petroleum products—gaseous                | mmBtu/scf   | kg CO <sub>2</sub> /mmBtu.                    |
| Propane Gas                               | $2.516 \times 10^{-3}$                            | 61.46.  |
| Other fuels—solid                         | mmBtu/short ton                                   | kg CO₂/mmBtu                                  |
| Municipal Solid Waste                     | 9.95³   | 90.7  |
| Tires                                     | 28.00   | 85.97   |
| Plastics                                  | 38.00   | 75.00   |
| Other fuels—gaseous                       | mmBtu/scf   | kg CO₂/mmBtu                                  |
| Blast Furnace Gas                         | 0.092 × 10 <sup>-3</sup>                          | 274.32  |
| Coke Oven Gas                             | 0.599 × 10 <sup>-3</sup>                          | 46.85   |
| Fuel Gas <sup>4</sup>                     | 1.388 × 10 <sup>-3</sup>                          | 59.00   |
| -   |   |   |
| Biomass fuels—solid                       | mmBtu/short ton                                   | kg CO <sub>2</sub> /mmBtu                     |
| Wood and Wood Residuals (dry basis) 5     | 17.48   | 93.80   |
| Agricultural Byproducts                   | 8.25  | 118.17  |
| Peat                                      | 8.00  | 111.84  |
| Solid Byproducts                          | 10.39   | 105.51  |
| Biomass fuels—gaseous                     | mmBtu/scf   | kg CO <sub>2</sub> /mmBtu                     |
|   |   | 52.07   |
| Landfill Coo                              | 0.405 × 10-3                                      |   |
| Landfill Gas                              | $0.485 \times 10^{-3}$                            |   |
| Landfill Gas                              | $0.485 \times 10^{-3}$<br>$0.655 \times 10^{-3}$  | 52.07   |
|   |   |   |
| Other Biomass Gases                       | $0.655 \times 10^{-3}$ mmBtu/gallon               | 52.07<br>kg CO <sub>2</sub> /mmBtu            |
| Other Biomass Gases                       | 0.655 × 10 <sup>-3</sup><br>mmBtu/gallon<br>0.084 | 52.07<br>kg CO <sub>2</sub> /mmBtu<br>68.44   |
| Other Biomass Gases  Biomass Fuels—Liquid | $0.655 \times 10^{-3}$ mmBtu/gallon               | 52.07<br>kg CO <sub>2</sub> /mmBtu            |

 $[78 \; \mathrm{FR} \; 71950, \; \mathrm{Nov.} \; 29, \; 2013, \; \mathrm{as} \; \mathrm{amended} \; \mathrm{at} \; 81 \; \mathrm{FR} \; 89252, \; \mathrm{Dec.} \; 9, \; 2016]$ 

Table C–2 to Subpart C of Part 98—Default  $CH_4$  and  $N_2O$  Emission Factors FOR VARIOUS TYPES OF FUEL

| Fuel type                                   | Default CH <sub>4</sub> emission factor (kg CH <sub>4</sub> / mmBtu) | Default N <sub>2</sub> O emission factor (kg N <sub>2</sub> O/ mmBtu) |
|---|--|---|
| Coal and Coke (All fuel types in Table C–1) | 1 1 × 10-02  | 1.6 × 10-03   |

¹The HHV for components of LPG determined at 60 °F and saturation pressure with the exception of ethylene. ²Ethylene HHV determined at 41 °F (5 °C) and saturation pressure. ³Use of this default HHV is allowed only for: (a) Units that combust MSW, do not generate steam, and are allowed to use Tier 1; (b) units that derive no more than 10 percent of their annual heat input from MSW and/or tires; and (c) small batch incinerators that combust no more than 1,000 tons of MSW per year. ⁴Reporters subject to subpart X of this part that are complying with §98.243(d) or subpart Y of this part may only use the default HV and the default CO₂ emission factor for fuel gas combustion under the conditions prescribed in §98.243(d)(2)(i) and (d)(2)(ii) and §98.252(a)(1) and (a)(2), respectively. Otherwise, reporters subject to subpart X or subpart Y shall use either Tier 3 (Equation C−5) or Tier 4. ³Custon C−5 or Tier 4. ³Custon C−1: HHV<sub>w</sub> = ((100 − M)/100)\*HHV<sub>d</sub> where HHV<sub>w</sub> = wet basis HHV, M = moisture content (percent) and HHV<sub>d</sub> = dry basis HHV from Table C−1.

| Fuel type  | Default CH <sub>4</sub> emission factor (kg CH <sub>4</sub> / mmBtu) | Default N <sub>2</sub> O emission factor (kg N <sub>2</sub> O/ mmBtu) |
|--|--|---|
| Natural Gas  | 1.0 × 10 <sup>-03</sup>  | 1.0 × 10 <sup>-04</sup>   |
| Petroleum Products (All fuel types in Table C-1)                                   | $3.0 \times 10^{-03}$  | $6.0 \times 10^{-04}$   |
| Fuel Gas   | $3.0 \times 10^{-03}$  | $6.0 \times 10^{-04}$   |
| Other Fuels—Solid  | 3.2 × 10 <sup>-02</sup>  | $4.2 \times 10^{-03}$   |
| Blast Furnace Gas  | 2.2 × 10 <sup>-05</sup>  | $1.0 \times 10^{-04}$   |
| Coke Oven Gas  | $4.8 \times 10^{-04}$  | $1.0 \times 10^{-04}$   |
| Biomass Fuels—Solid (All fuel types in Table C-1, except wood and wood residuals). | 3.2 × 10 <sup>-02</sup>  | 4.2 × 10 <sup>-03</sup>   |
| Wood and wood residuals  | $7.2 \times 10^{-03}$  | $3.6 \times 10^{-03}$   |
| Biomass Fuels—Gaseous (All fuel types in Table C-1)                                | $3.2 \times 10^{-03}$  | $6.3 \times 10^{-04}$   |
| Biomass Fuels—Liquid (All fuel types in Table C-1)                                 | 1.1 × 10 <sup>-03</sup>  | 1.1 × 10 <sup>-04</sup>   |

Note: Those employing this table are assumed to fall under the IPCC definitions of the "Energy Industry" or "Manufacturing Industries and Construction". In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC "Energy Industry" category may employ a value of 1g of CH<sub>4</sub>/mmBtu.

[78 FR 71952, Nov. 29, 2013, as amended at 81 FR 89252, Dec. 9, 2016]

#### **Subpart D—Electricity Generation**

## § 98.40 Definition of the source category.

- (a) The electricity generation source category comprises electricity generating units that are subject to the requirements of the Acid Rain Program and any other electricity generating units that are required to monitor and report to EPA CO<sub>2</sub> mass emissions year-round according to 40 CFR part 75.
- (b) This source category does not include portable equipment, emergency equipment, or emergency generators, as defined in §98.6.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79155, Dec. 17, 2010]

#### § 98.41 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains one or more electricity generating units and the facility meets the requirements of §98.2(a)(1).

#### § 98.42 GHGs to report.

- (a) For each electricity generating unit that is subject to the requirements of the Acid Rain Program or is otherwise required to monitor and report to EPA CO<sub>2</sub> emissions year-round according to 40 CFR part 75, you must report under this subpart the annual mass emissions of CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub> by following the requirements of this subpart.
- (b) For each electricity generating unit that is not subject to the Acid Rain Program or otherwise required to

monitor and report to EPA  $\rm CO_2$  emissions year-round according to 40 CFR part 75, you must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of  $\rm CO_2$ ,  $\rm CH_4$ , and  $\rm N_2O$  by following the requirements of subpart C.

(c) For each stationary fuel combustion unit that does not generate electricity, you must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O by following the requirements of subpart C of this part.

#### § 98.43 Calculating GHG emissions.

- (a) Except as provided in paragraph (b) of this section, continue to monitor and report  $\rm CO_2$  mass emissions as required under §75.13 or section 2.3 of appendix G to 40 CFR part 75, and §75.64. Calculate  $\rm CO_2$ ,  $\rm CH_4$ , and  $\rm N_2O$  emissions as follows:
- (1) Convert the cumulative annual  $CO_2$  mass emissions reported in the fourth quarter electronic data report required under §75.64 from units of short tons to metric tons. To convert tons to metric tons, divide by 1.1023.
- (2) Calculate and report annual  $CH_4$  and  $N_2O$  mass emissions under this subpart by following the applicable method specified in §98.33(c).
- (b) Calculate and report biogenic  $CO_2$  emissions under this subpart by following the applicable methods specified in §98.33(e). The  $CO_2$  emissions (excluding biogenic  $CO_2$ ) for units subject to this subpart that are reported under §§98.3(c)(4)(i) and (c)(4)(iii)(B) shall be calculated by subtracting the biogenic

#### § 98.38

- (31) Total quantity of each liquid fossil fuel combusted in the reporting year, as defined in §98.6 (gallons) (Equation C-13).
- (32) Total quantity of each gaseous fossil fuel combusted in the reporting year, as defined in §98.6 (scf) (Equation C-13).
- (33) High heat value of the each solid fossil fuel (Btu/lb) (Equation C-13).
- (34) High heat value of the each liquid fossil fuel (Btu/gallons) (Equation C-13).
- (35) High heat value of the each gaseous fossil fuel (Btu/scf) (Equation C-13).
- (36) Fuel-specific carbon based F-factor per fuel (scf  $CO_2/mmBtu$ ) (Equation C-13).

[79 FR 63783, Oct. 24, 2014]

#### § 98.38 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Table C–1 to Subpart C of Part 98—Default  ${\rm CO_2}$  Emission Factors and High Heat Values for Various Types of Fuel

DEFAULT CO2 EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

| Fuel type                         | Default high heat value  | Default CO <sub>2</sub><br>emission<br>factor |
|-----------------------------------|--------------------------|---|
| Coal and coke                     | mmBtu/short ton          | kg CO <sub>2</sub> /mmBtu                     |
| Anthracite                        | 25.09                    | 103.69  |
| Bituminous                        |                          | 93.28   |
| Subbituminous                     | 17.25                    | 97.17   |
| Lignite                           |                          | 97.72   |
| Coal Coke                         |                          | 113.67  |
| Mixed (Commercial sector)         |                          | 94.27   |
| Mixed (Industrial coking)         |                          | 93.90   |
| Mixed (Industrial sector)         |                          | 94.67   |
| Mixed (Electric Power sector)     |                          | 95.52   |
| Natural gas                       | mmBtu/scf                | kg CO <sub>2</sub> /mmBtu                     |
| (Weighted U.S. Average)           | 1.026 × 10 <sup>-3</sup> | 53.06   |
| Petroleum products                | mmBtu/gallon             | kg CO <sub>2</sub> /mmBtu                     |
| Distillate Fuel Oil No. 1         | 0.139                    | 73.25   |
| Distillate Fuel Oil No. 2         | 0.138                    | 73.96   |
| Distillate Fuel Oil No. 4         |                          | 75.04   |
| Residual Fuel Oil No. 5           | 0.140                    | 72.93   |
| Residual Fuel Oil No. 6           | 0.150                    | 75.10   |
| Used Oil                          |                          | 74.00   |
| Kerosene                          | 0.135                    | 75.20   |
| Liquefied petroleum gases (LPG) 1 | 0.092                    | 61.71   |
| Propane 1                         |                          | 62.87   |
| Propylene <sup>2</sup>            |                          | 67.77   |
| Ethane 1                          | 0.068                    | 59.60   |
| Ethanol                           | 0.084                    | 68.44   |
| Ethylene <sup>2</sup>             | 0.058                    | 65.96   |
| Isobutane 1                       |                          | 64.94   |
| Isobutylene 1                     |                          | 68.86   |
| Butane 1                          |                          | 64.77   |
| Butylene 1                        |                          | 68.72   |
| Naphtha (<401 deg F)              |                          | 68.02   |
| Natural Gasoline                  |                          | 66.88   |
| Other Oil (>401 deg F)            |                          | 76.22   |
| Pentanes Plus                     |                          | 70.02   |
| Petrochemical Feedstocks          |                          | 71.02   |
| Petroleum Coke                    |                          | 102.41  |
| Special Naphtha                   |                          | 72.34   |
| Unfinished Oils                   |                          | 74.54   |
| Heavy Gas Oils                    |                          | 74.92   |
| Lubricants                        |                          | 74.27   |
| Motor Gasoline                    | -                        | 70.22   |
| Aviation Gasoline                 |                          | 69.25   |
| Kerosene-Type Jet Fuel            |                          | 72.22   |

#### **Environmental Protection Agency**

#### Default $CO_2$ Emission Factors and High Heat Values for Various Types of Fuel— Continued

| Fuel type   | Default high heat value  | Default CO <sub>2</sub><br>emission<br>factor |
|---|--|---|
| Asphalt and Road Oil Crude Oil                                    | 0.158<br>0.138   | 75.36<br>74.54                                |
| Other fuels—solid   | mmBtu/short ton  | kg CO₂/mmBtu                                  |
| Municipal Solid Waste Tires Plastics Petroleum Coke               | 9.95 <sup>3</sup><br>28.00<br>38.00<br>30.00   | 90.7<br>85.97<br>75.00<br>102.41              |
| Other fuels—gaseous   | mmBtu/scf  | kg CO₂/mmBtu                                  |
| Blast Furnace Gas Coke Oven Gas Propane Gas Fuel Gas <sup>4</sup> | 0.092 × 10 <sup>-3</sup><br>0.599 × 10 <sup>-3</sup><br>2.516 × 10 <sup>-3</sup><br>1.388 × 10 <sup>-3</sup> | 274.32<br>46.85<br>61.46<br>59.00             |
| Biomass fuels—solid   | mmBtu/short ton  | kg CO₂/mmBtu                                  |
| Wood and Wood Residuals (dry basis) 5                             | 17.48  | 93.80   |
| Agricultural Byproducts Peat Solid Byproducts                     | 8.25<br>8.00<br>10.39  | 118.17<br>111.84<br>105.51                    |
| Biomass fuels—gaseous   | mmBtu/scf  | kg CO₂/mmBtu                                  |
| Landfill Gas Other Biomass Gases                                  | $0.485 \times 10^{-3} \\ 0.655 \times 10^{-3}$   | 52.07<br>52.07                                |
| Biomass Fuels—Liquid  | mmBtu/gallon   | kg CO₂/mmBtu                                  |
| Ethanol Biodiesel (100%) Rendered Animal Fat Vegetable Oil        | 0.084<br>0.128<br>0.125<br>0.120   | 68.44<br>73.84<br>71.06<br>81.55              |

[78 FR 71950, Nov. 29, 2013]

Table C-2 to Subpart C of Part 98—Default  $CH_4$  and  $N_2O$  Emission Factors FOR VARIOUS TYPES OF FUEL

| Fuel type  | Default CH <sub>4</sub> emission factor (kg CH <sub>4</sub> / mmBtu) | Default N <sub>2</sub> O emission factor (kg N <sub>2</sub> O/ mmBtu) |
|--|--|---|
| Coal and Coke (All fuel types in Table C-1)  | 1.1 × 10 <sup>-02</sup>  | 1.6 × 10 <sup>-03</sup>   |
| Natural Gas  | 1.0 × 10 <sup>-03</sup>  | $1.0 \times 10^{-04}$   |
| Petroleum (All fuel types in Table C-1)  | 3.0 × 10 <sup>-03</sup>  | $6.0 \times 10^{-04}$   |
| Fuel Gas   | 3.0 × 10 <sup>-03</sup>  | $6.0 \times 10^{-04}$   |
| Municipal Solid Waste  | 3.2 × 10 <sup>-02</sup>  | 4.2 × 10 <sup>-03</sup>   |
| Tires  | 3.2 × 10 <sup>-02</sup>  | 4.2 × 10 <sup>-03</sup>   |
| Blast Furnace Gas  | 2.2 × 10 <sup>-05</sup>  | 1.0 × 10 <sup>-04</sup>   |
| Coke Oven Gas  | 4.8 × 10 <sup>-04</sup>  | $1.0 \times 10^{-04}$   |
| Biomass Fuels—Solid (All fuel types in Table C-1, except wood and wood residuals). | 3.2 × 10 <sup>-02</sup>  | 4.2 × 10 <sup>-03</sup>   |
| Wood and wood residuals  | 7.2 × 10 <sup>-03</sup>  | 3.6 × 10 <sup>-03</sup>   |
| Biomass Fuels—Gaseous (All fuel types in Table C-1)                                | 3.2 × 10 <sup>-03</sup>  | 6.3 × 10 <sup>-04</sup>   |

<sup>&</sup>lt;sup>1</sup> The HHV for components of LPG determined at 60 °F and saturation pressure with the exception of ethylene.

<sup>2</sup> Ethylene HHV determined at 41 °F (5 °C) and saturation pressure.

<sup>3</sup> Use of this default HHV is allowed only for: (a) Units that combust MSW, do not generate steam, and are allowed to use Tier 1; (b) units that derive no more than 10 percent of their annual heat input from MSW and/or tires; and (c) small batch incinerators that combust no more than 1,000 tons of MSW per year.

<sup>4</sup> Reporters subject to subpart X of this part that are complying with §98.243(d) or subpart Y of this part may only use the default HJV and the default CO<sub>2</sub> emission factor for fuel gas combustion under the conditions prescribed in §98.243(d)(2)(i) and (d)(2)(ii) and §98.252(a)(1) and (a)(2), respectively. Otherwise, reporters subject to subpart X or subpart Y shall use either Tier 3 (Equation C–5) or Tier 4.

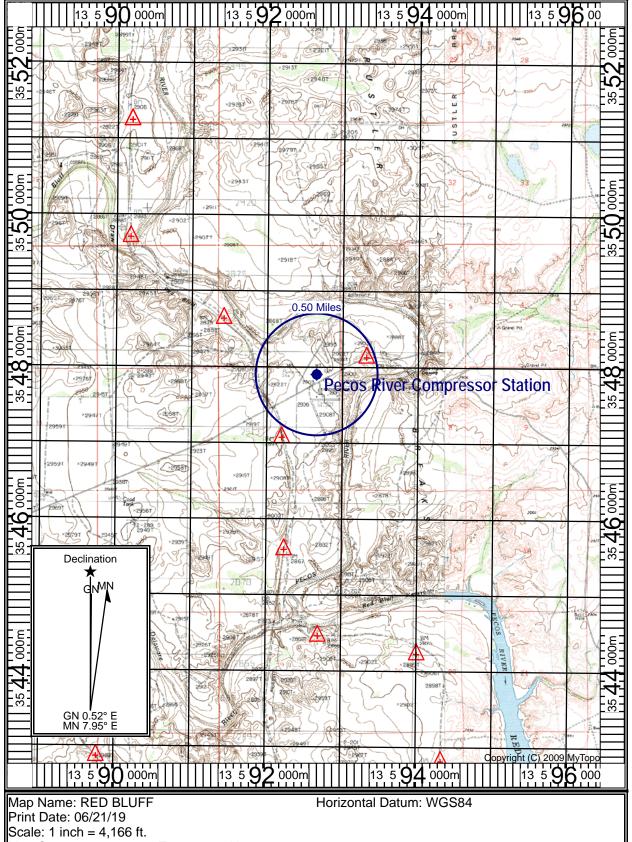
<sup>3</sup> Use the following formula to calculate a wet basis HHV for use in Equation C–1: HHV<sub>w</sub> = ((100 - M)/100)\*HHV<sub>d</sub> where HHV<sub>w</sub> = wet basis HHV, M = moisture content (percent) and HHV<sub>d</sub> = dry basis HHV from Table C–1.

## Map(s)

**<u>A map</u>** such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

| The UTM or Longitudinal coordinate system on both axes | An indicator showing which direction is north      |
|--|--|
| A minimum radius around the plant of 0.8km (0.5 miles) | Access and haul roads                              |
| Topographic features of the area                       | Facility property boundaries                       |
| The name of the map                                    | The area which will be restricted to public access |
| A graphical scale                                      |  |

A topographic map is attached.



Map Center: 13 0592647 E 3547634 N

### **Proof of Public Notice**

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC) (This proof is required by: 20.2.72.203.A.14 NMAC "Documentary Proof of applicant's public notice")

☑ I have read the AQB "Guidelines for Public Notification for Air Quality Permit Applications" This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

Unless otherwise allowed elsewhere in this document, the following items document proof of the applicant's Public Notification. Please include this page in your proof of public notice submittal with checkmarks indicating which documents are being submitted with the application.

New Permit and Significant Permit Revision public notices must include all items in this list.

**Technical Revision** public notices require only items 1, 5, 9, and 10.

|     | Per t | he Guidelines for Public Notification document mentioned above, include:   |
|-----|-------|--|
| 1.  |       | A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)   |
| 2.  |       | A list of the places where the public notice has been posted in at least four publicly accessible and conspicuous places, including the proposed or existing facility entrance. (e.g. post office, library, grocery, etc.)   |
| 3.  |       | A copy of the property tax record (20.2.72.203.B NMAC).  |
| 4.  |       | A sample of the letters sent to the owners of record.  |
| 5.  |       | A sample of the letters sent to counties, municipalities, and Indian tribes.   |
| 6.  |       | A sample of the public notice posted and a verification of the local postings.   |
| 7.  |       | A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.  |
| 8.  |       | A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.  |
| 9.  |       | A copy of the <u>classified or legal</u> ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.                            |
| 10. |       | A copy of the <u>display</u> ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.  |
| 11. |       | A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail. This is necessary for verification that the correct facility boundary was used in determining distance for notifying land owners of record. |

N/A – This application is being submitted under 20.2.70 NMAC.

Saved Date: 6/15/2020

## **Section 10**

## Written Description of the Routine Operations of the Facility

<u>A written description of the routine operations of the facility</u>. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

Pecos River Compressor Station is a natural gas compressor station that compresses natural gas and delivers the compressed gas to a pipeline for mainline transportation. This facility consists primarily of three General Electric Company M3712R regenerative cycle turbines (units A-01, A-02 and A-03), powering the compressors. The facility is designed to compress and transport approximately 1,450 MMscf/day of pipeline quality natural gas.

### **Source Determination**

Source submitting under 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC

Sources applying for a construction permit, PSD permit, or operating permit shall evaluate surrounding and/or associated sources (including those sources directly connected to this source for business reasons) and complete this section. Responses to the following questions shall be consistent with the Air Quality Bureau's permitting guidance, Single Source Determination Guidance, which may be found on the Applications Page in the Permitting Section of the Air Quality Bureau website.

common ownership or control, and that are contiguous or adjacent constitute a single stationary source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes. Submission of your analysis of

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under these factors in support of the responses below is optional, unless requested by NMED. **A.** Identify the emission sources evaluated in this section (list and describe): Please refer to Table 2-A B. Apply the 3 criteria for determining a single source: SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, OR surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source. **✓** Yes  $\square$  No <u>Common Ownership or Control</u>: Surrounding or associated sources are under common ownership or control as this source. **✓** Yes  $\square$  No Contiguous or Adjacent: Surrounding or associated sources are contiguous or adjacent with this source. **☑** Yes  $\square$  No C. Make a determination: The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "YES" boxes should be checked. If in "A" above you evaluated other described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes. The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74

- sources as well, you must check AT LEAST ONE of the boxes "NO" to conclude that the source, as
- NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

### **Section 12.A**

### **PSD Applicability Determination for All Sources**

(Submitting under 20.2.72, 20.2.74 NMAC)

| A PSD applicability    | determination for all sources. For sources applying for a significant permit revision, apply the         |
|------------------------|--|
| applicable requiremen  | ts of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD     |
| source, and whether th | is modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for |
| Determining the Net l  | Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review          |
| Workshop Manual to     | letermine if the revision is subject to PSD review.  |
| A. This faci           | lity is:   |
|                        | a minor PSD source before and after this modification (if so, delete C and D below).                     |
|                        | a major PSD source before this modification. This modification will make this a PSD minor source.        |
|                        | an existing PSD Major Source that has never had a major modification requiring a BACT analysis.          |

- an existing PSD Major Source that has had a major modification requiring a BACT analysis
- ☐ a new PSD Major Source after this modification.
- B. This facility [is or is not] one of the listed 20.2.74.501 Table I PSD Source Categories. The "project" emissions for this modification are [significant or not significant]. [Discuss why.] The "project" emissions listed below [do or do not] only result from changes described in this permit application, thus no emissions from other [revisions or modifications, past or future] to this facility. Also, specifically discuss whether this project results in "de-bottlenecking", or other associated emissions resulting in higher emissions. The project emissions (before netting) for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]:
  - a. NOx: XX.X TPY
  - b. CO: XX.X TPY
  - c. VOC: XX.X TPY
  - d. SOx: XX.X TPY
  - e. PM: XX.X TPY
  - f. **PM10: XX.X TPY**
  - g. PM2.5: XX.X TPY h. Fluorides: XX.X TPY
  - i. Lead: XX.X TPY
  - j. Sulfur compounds (listed in Table 2): XX.X TPY
  - k. GHG: XX.X TPY
- C. Netting [is required, and analysis is attached to this document.] OR [is not required (project is not significant)] OR [Applicant is submitting a PSD Major Modification and chooses not to net.]
- D. BACT is [not required for this modification, as this application is a minor modification.] OR [required, as this application is a major modification. List pollutants subject to BACT review and provide a full top down BACT determination.
- E. If this is an existing PSD major source, or any facility with emissions greater than 250 TPY (or 100 TPY for 20.2.74.501 Table 1 PSD Source Categories), determine whether any permit modifications are related, or could be considered a single project with this action, and provide an explanation for your determination whether a PSD modification is triggered.

N/A- This application is being submitted under 20.2.70 NMAC.

## **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 RELEVENT TO YOUR FACILITY'S NOTICE OF INTENT OR PERMIT.

|  | <br> |  |
|--|------|--|

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

Form-Section 13 last revised: 5/29/2019 Section 13, Page 1 Saved Date: 6/24/2019

### **STATE REGULATIONS:**

|                                       | EGULATIONS   | •                                 |                           |   |
|---------------------------------------|--|-----------------------------------|---------------------------|---|
| STATE<br>REGU-<br>LATIONS<br>CITATION | Title  | Applies?<br>Enter<br>Yes or<br>No | Unit(s)<br>or<br>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<br>Quality Standards<br>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. This facility meets maximum allowable concentrations of TSP, SO <sub>2</sub> , H <sub>2</sub> S, CO, and NO <sub>x</sub> under this regulation.   |
| 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. All Title V major sources are subject to Air Quality Control Regulations, as defined in 20.2.7 NMAC, and are thus subject to the requirements of this regulation. |
| 20.2.23<br>NMAC                       | Fugitive Dust<br>Control                                 | N/A                               | N/A                       | This facility is not authorized under a NOI. This regulation is not applicable.   |
| 20.2.33<br>NMAC                       | Gas Burning<br>Equipment -<br>Nitrogen Dioxide           | N/A                               | N/A                       | Pecos River Compressor Station does not have any existing gas burning equipment with a heat input of greater than 1,000,000 MMBtu/yr. 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.  |
| 20.2.34<br>NMAC                       | Oil Burning<br>Equipment: NO <sub>2</sub>                | N/A                               | N/A                       | This facility does not have any oil burning equipment with a heat input of greater than 1,000,000 MMBtu/yr. 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<br>NMAC                       | Natural Gas<br>Processing Plant –<br>Sulfur              | N/A                               | N/A                       | This regulation establishes sulfur emission standards for natural gas processing plants. This facility does not meet the definition of a "natural gas processing plant", as defined in 20.2.35.7 NMAC.  |
| 20.2.37 and<br>20.2.36<br>NMAC        | Petroleum Processing Facilities and Petroleum Refineries | N/A                               | N/A                       | These regulations were repealed by the Environmental Improvement Board. If you had equipment subject to 20.2.37 NMAC before the repeal, your combustion emission sources are now subject to 20.2.61 NMAC.   |
| 20.2.38<br>NMAC                       | Hydrocarbon<br>Storage Facility                          | N/A                               | N/A                       | This facility is not a tank battery operating in conjunction with a petroleum production or processing facility, as defined in 20.2.38.7 NMAC.  |
| 20.2.39<br>NMAC                       | Sulfur Recovery<br>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 Pecos River Compressor Station does not have a sulfur recovery plant.   |
| 20.2.61.109<br>NMAC                   | Smoke & Visible<br>Emissions                             | Yes                               | A-01,<br>A-02,<br>A-03    | This regulation establishes controls on smoke and visible emissions from certain sources, including stationary combustion equipment. Units A-01, A-02 and A-03 are stationary combustion equipment which comply by using pipeline-quality natural gas.  |
| 20.2.70<br>NMAC                       | Operating Permits  | Yes                               | Facility                  | This regulation establishes requirements for obtaining an operating permit. Pecos River Compressor Station is a major source and is therefore subject to 20.2.70 NMAC.  |
| 20.2.71<br>NMAC                       | Operating Permit<br>Fees                                 | Yes                               | Facility                  | This regulation establishes a schedule of operating permit emission fees. The facility is subject to 20.2.70 NMAC and is therefore subject to requirements of this regulation.  |
| 20.2.72<br>NMAC                       | Construction<br>Permits                                  | Yes                               | Facility                  | This regulation establishes the requirements for obtaining a construction permit. This facility is subject to 20.2.72 NMAC and has been issued NSR Permit 3260-M1.  |
| 20.2.73<br>NMAC                       | NOI & Emissions<br>Inventory<br>Requirements             | Yes                               | Facility                  | This regulation establishes emission inventory requirements. This facility meets the applicability requirements of 20.2.73.300 NMAC. The facility will meet all applicable reporting requirements under 20.2.73.300.B.1 NMAC.   |

| STATE<br>REGU-<br>LATIONS<br>CITATION | Title   | Applies?<br>Enter<br>Yes or<br>No | Unit(s)<br>or<br>Facility           | JUSTIFICATION:   |
|---------------------------------------|---|-----------------------------------|-------------------------------------|--|
| 20.2.74<br>NMAC                       | Permits – Prevention of Significant Deterioration (PSD) | Yes                               | Facility                            | This regulation establishes requirements for obtaining a prevention of significant deterioration permit. Pecos River Compressor Station is an existing PSD major source. The facility has not undergone a major modification and does not currently require a PSD permit.  |
| 20.2.75<br>NMAC                       | Construction<br>Permit Fees                             | N/A                               | Facility                            | This regulation establishes a schedule of operating permit emission fees. The facility is subject to 20.2.71 NMAC (Operating Permit Emission Fees) and, therefore, is not subject to the requirements of this regulation for this permitting action, per 20.2.75.11.E. In the event of an NSR permit action, EPNG would be required to pay the appropriate filing and review fees. |
| 20.2.77<br>NMAC                       | New Source<br>Performance                               | N/A                               | Units<br>subject<br>to 40<br>CFR 60 | This regulation establishes state authority to implement new source performance standards (NSPS) for stationary sources. Pecos River Compressor Station does not have any units subject to a New Source Performance Standard (NSPS). Accordingly, this regulation does not apply.  |
| 20.2.78<br>NMAC                       | Emission<br>Standards for<br>HAPS                       | N/A                               | Units<br>Subject<br>to 40<br>CFR 61 | This regulation establishes state authority to implement emission standards for hazardous air pollutants subject to 40 CFR Part 61. This facility does not emit hazardous air pollutants which are subject to the requirements of 40 CFR Part 61 and is therefore not subject to this regulation.  |
| 20.2.79<br>NMAC                       | Permits –<br>Nonattainment<br>Areas                     | N/A                               | N/A                                 | This regulation establishes the requirements for obtaining a nonattainment area permit. This facility is not located in a non-attainment area and therefore is not subject to this regulation.   |
| 20.2.80<br>NMAC                       | Stack Heights   | N/A                               | N/A                                 | This regulation establishes requirements for the evaluation of stack heights and other dispersion techniques. The units with emissions routed to a stack were constructed before December 31, 1970 and, therefore, are not subject to this regulation (20.2.80.110.A)  |
| 20.2.82<br>NMAC                       | MACT Standards<br>for source<br>categories of<br>HAPS   | N/A                               | N/A                                 | This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63, as amended through January 31, 2009. The facility does not have any units subject to a MACT standard, as amended through December 31, 2010. Pecos River is an area source of HAPs.  |

### **FEDERAL REGULATIONS:**

| FEDERAL<br>REGU-<br>LATIONS<br>CITATION | Title   | Applies?<br>Enter<br>Yes or<br>No | Unit(s)<br>or<br>Facility | JUSTIFICATION:   |
|---|---|-----------------------------------|---------------------------|--|
| 40 CFR 50                               | NAAQS   | Yes                               | Facility                  | This regulation defines national ambient air quality standards. Pecos River Compressor Station meets all applicable national ambient air quality standards for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , H <sub>2</sub> S, CO, and NO <sub>x</sub> under this regulation. |
| NSPS 40<br>CFR 60,<br>Subpart A         | General Provisions  | N/A                               | N/A                       | This regulation defines general provisions for relevant standards that have been set under this part. The facility is not subject to this regulation because no NSPS Subparts apply.   |
| NSPS 40<br>CFR60.40a,<br>Subpart Da     | Subpart Da, Performance Standards for Electric Utility Steam Generating Units | N/A                               | N/A                       | This regulation establishes standards of performance for electric utility steam generating units. This regulation does not apply because the facility does not operate any electric utility steam generating units.  |
| NSPS 40<br>CFR60.40b<br>Subpart Db      | Electric Utility Steam<br>Generating Units                                    | N/A                               | N/A                       | This regulation establishes standards of performance for industrial-commercial-institutional steam generating units. This regulation does not apply because this facility does not operate any industrial-commercial-institutional steam generating units.                               |

| FEDERAL REGU- LATIONS CITATION            | Title  | Applies?<br>Enter<br>Yes or<br>No | Unit(s)<br>or<br>Facility | JUSTIFICATION:  |
|---|--|-----------------------------------|---------------------------|---|
| 40 CFR<br>60.40c,<br>Subpart Dc           | Standards of Performance for Small Industrial-Commercial- Institutional Steam Generating Units   | N/A                               | N/A                       | This regulation establishes standards of performance for industrial-commercial-institutional steam generating units. This regulation does not apply because this facility does not operate any industrial-commercial-institutional steam generating units.  |
| NSPS<br>40 CFR 60,<br>Subpart Ka          | Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior 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. The capacities of the tanks at the facility are less than 40,000 gallons and are not subject to this regulation. [40 CFR Part 60.110a(a)]               |
| NSPS<br>40 CFR 60,<br>Subpart Kb          | Standards of Performance<br>for Volatile Organic<br>Liquid Storage Vessels<br>(Including Petroleum<br>Liquid Storage Vessels)<br>for Which Construction,<br>Reconstruction, or<br>Modification<br>Commenced After July<br>23, 1984 | N/A                               | N/A                       | This facility does not have any tanks with a storage capacity equal to or greater than 75 cubic meters used to store volatile organic liquids (VOL) for which construction, reconstruction or modification commenced after July 23, 1984.   |
| NSPS<br>40 CFR<br>60.330<br>Subpart GG    | Stationary Gas<br>Turbines   | N/A                               | N/A                       | The General Electric regenerative cycle turbines at Pecos River Compressor Station were constructed prior to October 3, 1977. These turbines have not been modified or reconstructed since October 3, 1977. Accordingly, these units are not subject to this subpart.   |
| NSPS<br>40 CFR 60,<br>Subpart<br>KKK      | Leaks of VOC from<br>Onshore Gas Plants  | N/A                               | N/A                       | This regulation defines standards of performance for equipment leaks of VOC emissions from onshore gas plants for which construction, reconstruction, or modification commenced after January 20, 1984, and on or before August 23, 2011. This regulation does not apply as the facility is not a gas plant.  |
| NSPS<br>40 CFR Part<br>60 Subpart<br>LLL  | Standards of Performance for Onshore Natural Gas Processing: 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 does not apply as this facility is not a natural gas processing plant. |
| NSPS<br>40 CFR Part<br>60 Subpart<br>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                       | This regulation establishes standards of performance for crude oil and natural gas production, transmission and distribution. The facility does not have any affected units that have been modified or reconstructed on or after August 23, 2011. [40 CFR 60.5360 (Subpart OOOO)]   |

| FEDERAL REGU- LATIONS CITATION                               | Title   | Applies?<br>Enter<br>Yes or<br>No | Unit(s)<br>or<br>Facility | JUSTIFICATION:  |
|--|---|-----------------------------------|---------------------------|---|
| NSPS<br>40 CFR Part<br>60 Subpart<br>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                       | This regulation establishes standards of performance for crude oil and natural gas production, transmission and distribution. The facility does not have any affected units that have been modified or reconstructed on or after September 18, 2015.  |
| NSPS 40<br>CFR 60<br>Subpart IIII                            | Standards of<br>performance for<br>Stationary Compression<br>Ignition Internal<br>Combustion Engines  | N/A                               | N/A                       | This regulation establishes standards of performance for stationary combustion ignition engines. This facility does not have any CI units.  |
| NSPS<br>40 CFR Part<br>60 Subpart<br>JJJJ                    | Standards of Performance for Stationary Spark Ignition Internal Combustion Engines  | N/A                               | N/A                       | This regulation establishes standards of performance for stationary spark ignition combustion engines. This facility does not have any RICE units.  |
| NSPS 40<br>CFR 60<br>Subpart<br>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. This regulation does not apply.  |
| NSPS 40<br>CFR 60<br>Subpart<br>UUUU                         | Emissions Guidelines<br>for Greenhouse Gas<br>Emissions and<br>Compliance Times for<br>Electric Utility<br>Generating Units                                 | N/A                               | N/A                       | This facility does not have any electric generating units. This regulation does not apply.  |
| NSPS 40<br>CFR 60,<br>Subparts<br>WWW,<br>XXX, Cc,<br>and Cf | Standards of<br>performance for<br>Municipal Solid Waste<br>(MSW) Landfills   | N/A                               | N/A                       | This facility is not a Municipal Solid Waste Landfill. This regulation does not apply.  |
| NESHAP<br>40 CFR 61<br>Subpart A                             | General Provisions  | Potentially                       | Facility                  | Pecos River Compressor Station does not emit or have threshold quantities of regulated substances at the facility and/or the facility is not involved in the triggering activity. Subpart M could potentially apply and is discussed below.   |
| NESHAP<br>40 CFR 61<br>Subpart E                             | National Emission<br>Standards for Mercury  | N/A                               | N/A                       | This regulation establishes a national emission standard for mercury. The facility does not have 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 [40 CFR Part 61.50]. The facility is not subject to this regulation. |
| NESHAP 40<br>CFR 61<br>Subpart M                             | National Emission<br>Standards for <b>Asbestos</b>  | Potentially                       | Facility                  | Although this standard does not apply to this facility under routine operating conditions, in the case of asbestos demolition, Subpart M would apply.   |
| NESHAP<br>40 CFR 61<br>Subpart V                             | National Emission<br>Standards for<br>Equipment Leaks<br>(Fugitive Emission<br>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<br>40 CFR 63,<br>Subpart A                              | General Provisions  | N/A                               | N/A                       | This regulation defines general provisions for relevant standards that have been set under this part. This facility does not have any units subject to a MACT standard. Pecos River is an area source of HAPs   |

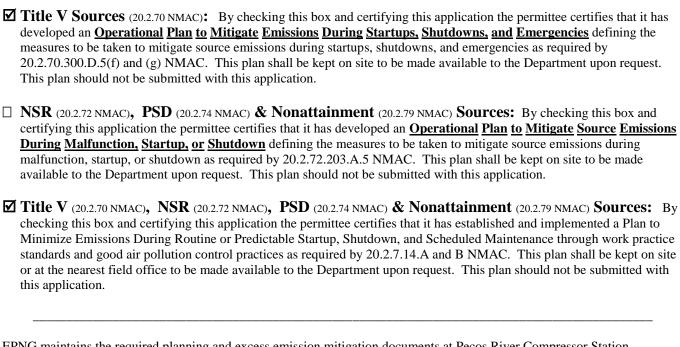
Pecos River Compressor Station

| FEDERAL REGU- LATIONS CITATION         | Title  | Applies?<br>Enter<br>Yes or<br>No | Unit(s)<br>or<br>Facility | JUSTIFICATION:  |
|--|--|-----------------------------------|---------------------------|---|
| MACT<br>40 CFR<br>63.760<br>Subpart HH | Oil and Natural Gas<br>Production Facilities   | N/A                               | N/A                       | This regulation establishes national emission standards for hazardous air pollutants from oil and natural gas production facilities. This facility is not an Oil or Natural Gas Production Facility, as defined by this regulation; therefore, this facility is not subject to this regulation.   |
| MACT<br>40 CFR 63<br>Subpart<br>HHH    | Natural Gas<br>Transmission and<br>Storage Facilities  | N/A                               | N/A                       | Pecos River Compressor Station is not a major source of HAPs, nor does it contain an affected unit. As stated in 63.1270(c), a facility that does not contain an affected source is not subject to the requirements of this subpart.  |
| MACT 40<br>CFR 63<br>Subpart<br>DDDDD  | National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters | N/A                               | N/A                       | This facility does not have any industrial, commercial, or institutional boilers or process heaters. This regulation does not apply.  |
| MACT 40<br>CFR 63<br>Subpart<br>UUUUU  | National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit                        | N/A                               | N/A                       | This facility does not have any coal or oil fired electric utility steam generating units. This regulation does not apply.  |
| MACT<br>40 CFR 63<br>Subpart<br>ZZZZ   | National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)         | N/A                               | N/A                       | This regulation defines national emissions standards for HAPs for stationary Reciprocating Internal Combustion Engines. This facility does not have any RICE units.   |
| 40 CFR 64                              | Compliance<br>Assurance Monitoring   | N/A                               | N/A                       | This regulation defines compliance assurance monitoring Pecos River Compressor Station is a Title V major source. However, none of the units have pre-controlled emissions greater than 100 tpy and are required to use a control device to achieve compliance.   |
| 40 CFR 68                              | Chemical Accident<br>Prevention  | N/A                               | N/A                       | This facility is regulated under DOT Office of Pipeline Safety Regulations (49 CFR 192, 193 and 195); therefore, it is not subject to this regulation. This regulation arises from section 112(r) of the Clean Air Act and establishes thresholds based on inventoried quantities of specific substances in process.  As established at 40 CFR 68.3, the term "stationary source" does not apply to the transportation of any regulated substance or any other extremely hazardous substance under the provisions of this part, provided that such transportation is regulated under 49 CFR parts 192, 193, or 195 (DOT Office of Pipeline Safety Regulations). |
| Title IV –<br>Acid Rain<br>40 CFR 72   | Acid Rain  | N/A                               | N/A                       | This part establishes the acid rain program. This part does not apply because the facility is not covered by this regulation. [40 CFR Part 72.6]  |
| Title IV –<br>Acid Rain<br>40 CFR 73   | Sulfur Dioxide<br>Allowance Emissions  | N/A                               | N/A                       | This regulation establishes sulfur dioxide allowance emissions for certain types of facilities. This part does not apply because the facility is not the type covered by this regulation [40 CFR Part 73.2].  |
| Title IV-Acid<br>Rain 40 CFR<br>75     | Continuous Emissions<br>Monitoring   | N/A                               | N/A                       | This facility does not generate commercial electric power or electric power for sale. This regulation does not apply.   |

| FEDERAL<br>REGU-<br>LATIONS<br>CITATION | Title  | Applies?<br>Enter<br>Yes or<br>No | Unit(s)<br>or<br>Facility | JUSTIFICATION:   |
|---|--|-----------------------------------|---------------------------|--|
| Title IV –<br>Acid Rain<br>40 CFR 76    | Acid Rain Nitrogen<br>Oxides Emission<br>Reduction Program | 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 –<br>40 CFR 82                 | Protection of <b>Stratospheric Ozone</b>                   | N/A                               | N/A                       | EPNG owns appliances containing CFCs and is therefore subject to this requirement. However, this requirement imposes no obligations on the facility beyond those imposed on any individual or corporate owner of such appliances, and is mentioned here only in the interest of being thorough. EPNG uses only certified technicians for the maintenance, service, repair and disposal of appliances and maintains the appropriate records for this requirement. |

### **Operational Plan to Mitigate Emissions**

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)



EPNG maintains the required planning and excess emission mitigation documents at Pecos River Compressor Station.

## **Alternative Operating Scenarios**

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Alternative Operating Scenarios: Provide all information required by the department to define alternative operating scenarios. This includes process, material and product changes; facility emissions information; air pollution control equipment requirements; any applicable requirements; monitoring, recordkeeping, and reporting requirements; and compliance certification requirements. Please ensure applicable Tables in this application are clearly marked to show alternative operating scenario.

Construction Scenarios: When a permit is modified authorizing new construction to an existing facility, NMED includes a condition to clearly address which permit condition(s) (from the previous permit and the new permit) govern during the interval between the date of issuance of the modification permit and the completion of construction of the modification(s). There are many possible variables that need to be addressed such as: Is simultaneous operation of the old and new units permitted and, if so for example, for how long and under what restraints? In general, these types of requirements will be addressed in Section A100 of the permit, but additional requirements may be added elsewhere. Look in A100 of our NSR and/or TV permit template for sample language dealing with these requirements. Find these permit templates at: <a href="https://www.env.nm.gov/aqb/permit/aqb\_pol.html">https://www.env.nm.gov/aqb/permit/aqb\_pol.html</a>. Compliance with standards must be maintained during construction, which should not usually be a problem unless simultaneous operation of old and new equipment is requested.

In this section, under the bolded title "Construction Scenarios", specify any information necessary to write these conditions, such as: conservative-realistic estimated time for completion of construction of the various units, whether simultaneous operation of old and new units is being requested (and, if so, modeled), whether the old units will be removed or decommissioned, any PSD ramifications, any temporary limits requested during phased construction, whether any increase in emissions is being requested as SSM emissions or will instead be handled as a separate Construction Scenario (with corresponding emission limits and conditions, etc.

The term "alternative operating scenario" is not defined by regulation. EPNG understands this term to apply to one or more sources that may routinely operate with alternative fuels or raw materials and/or on a significantly different schedule that may potentially affect emissions. Based on this understanding, Pecos River Compressor Station does not have any alternative operating scenarios.

Units at the facility may be shut down from time to time due to factors including, but not limited to, market demand, maintenance, malfunctions, and emergency shutdowns. Operating in alternative modes and temporary shutdowns are not alternative operating scenarios, as EPNG understands them.

### **Air Dispersion Modeling**

- Minor Source Construction (20.2.72 NMAC) and Prevention of Significant Deterioration (PSD) (20.2.74 NMAC) ambient impact analysis (modeling): Provide an ambient impact analysis as required at 20.2.72.203.A(4) and/or 20.2.74.303 NMAC and as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines found on the Planning Section's modeling website. If air dispersion modeling has been waived for one or more pollutants, attach the AQB Modeling Section modeling waiver approval documentation.
- 2) SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions during routine or predictable startup, shutdown, or maintenance (SSM) using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (<a href="http://www.env.nm.gov/aqb/permit/app">http://www.env.nm.gov/aqb/permit/app</a> form.html) for more detailed instructions on SSM emissions modeling requirements.
- 3) Title V (20.2.70 NMAC) ambient impact analysis: Title V applications must specify the construction permit and/or Title V Permit number(s) for which air quality dispersion modeling was last approved. Facilities that have only a Title V permit, such as landfills and air curtain incinerators, are subject to the same modeling required for preconstruction permits required by 20.2.72 and 20.2.74 NMAC.

| What is the purpose of this application?   | Enter an X for each purpose that applies |
|--|--|
| New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.                     |  |
| New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC).         |  |
| See #1 above. <b>Note:</b> Neither modeling nor a modeling waiver is required for VOC emissions. |  |
| Reporting existing pollutants that were not previously reported.                                 |  |
| Reporting existing pollutants where the ambient impact is being addressed for the first time.    |  |
| Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3     | X  |
| above.   |  |
| Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC)  |  |
| Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit              |  |
| replacements.  |  |
| Other: i.e. SSM modeling. See #2 above.  |  |
| This application does not require modeling since this is a No Permit Required (NPR) application. |  |
| This application does not require modeling since this is a Notice of Intent (NOI) application    |  |
| (20.2.73 NMAC).  |  |
| This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4),       |  |
| 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau's Modeling         |  |
| Guidelines.  |  |

#### Check each box that applies:

|              | See attached, approved modeling waiver for all pollutants from the facility.                              |
|--------------|---|
|              | See attached, approved modeling waiver for some pollutants from the facility.                             |
|              | Attached in Universal Application Form 4 (UA4) is a modeling report for all pollutants from the facility. |
|              | Attached in UA4 is a <b>modeling report for some</b> pollutants from the facility.                        |
| $\checkmark$ | No modeling is required.  |

## **Compliance Test History**

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

To show compliance with existing NSR permits conditions, you must submit a compliance test history. The table below provides an example.

**Compliance Test History Table** 

| Unit No. | Test Description                               | Test Date |
|----------|--|-----------|
| A-01     | Turbine Compliance Test – NO <sub>X</sub> & CO | 4/13/2018 |
| A-01     | Turbine Compliance Test – NO <sub>X</sub> & CO | 7/16/2018 |
| A-02     | Turbine Compliance Test – NO <sub>X</sub> & CO | 7/23/2018 |
| A-03     | Turbine Compliance Test – NO <sub>X</sub> & CO | 7/16/2018 |

Saved Date: 7/5/2019

### **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 <a href="http://www.env.nm.gov/aqb/index.html">http://www.env.nm.gov/aqb/index.html</a>. 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.

Pecos River Compressor Station is a major source, as defined in 20.2.70 NMAC.

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#### 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.

\_\_\_\_\_

After reasonable inquiry, EPNG states that the facility does not meet the applicability requirements of 40 CFR 64.2. Specifically, no sources at the facility are controlled major sources of regulated pollutants. EPNG will submit the necessary items should the facility or requirements change such that this regulation becomes applicable.

\_\_\_\_\_\_

#### **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.

\_\_\_\_\_

EPNG believes that Pecos River Compressor Station is in compliance with each applicable requirement identified in Section 19.2. This belief was formed after reasonable inquiry. In the event that EPNG should discover new information affecting the compliance status of the facility, EPNG will make appropriate notification and/or take corrective action.

Pursuant to Condition A109 of Title V Permit P129-R3M1, EPNG has certified compliance with the terms of conditions of the permit. The most recent certification was submitted by the September 30<sup>th</sup> deadline. Since that time, EPNG has continued to be in compliance with applicable requirements.

\_\_\_\_\_

#### **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.

As described in Section 19.2, after reasonable inquiry EPNG states that Pecos River Compressor Station will continue to operate in compliance with applicable requirements. Additionally, EPNG will meet additional applicable requirements that become effective during the permit term in a timely manner or on such a time schedule as expressly required by the applicable requirement. In the event EPNG should discover new information affecting the compliance status of the facility, EPNG will make appropriate notifications and/or take corrective actions as appropriate.

\_\_\_\_\_\_

#### **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.

\_\_\_\_\_

Condition A109 of Operating Permit P129-R3M1 requires EPNG to submit compliance certification reports to the New Mexico Environment Department (NMED) Air Quality Bureau (AQB) and to the EPA no later than March  $2^{nd}$  (or March  $1^{st}$  in a leap year) of each year.

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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).

\_\_\_\_\_

- 2. Does any air conditioner(s) or any piece(s) of retrigeration equipment contain a retrigeration 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.)

\_\_\_\_\_

EPNG believes that Title VI, Section 608 (National Recycling and Emissions Reduction Program) of the Clean Air Act may apply to this facility. EPNG may own refrigeration equipment containing CFCs meeting the criteria of this Section, specifically 40 CFR 82, Subpart F, which applies to owners of CFC-containing appliances (40 CFR 82.150(b) and 40 CFR 82.152). EPNG may own appliances affected by this subpart and abides by this regulation. EPNG is in compliance with the requirements of this Section.

EPNG does not service motor vehicle air conditioners at this facility and, therefore, Section 609 does not apply.

Pecos River Compressor Station will continue to operate in compliance with the requirements of Title VI, Section 608 of the Clean Air Act, as they apply to this facility.

#### 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 <a href="http://www.env.nm.gov/aqb/index.html">http://www.env.nm.gov/aqb/index.html</a>. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

\_\_\_\_

EPNG states that Pecos River Compressor Station is in compliance with the applicable requirements in this section. No compliance plan, compliance schedule, or compliance reports are required.

### 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.

Pecos River Compressor Station is not subject to the requirements of 40 CFR 68, Chemical Accident Prevention Provisions. The definitions in 40 CFR 68.3 state the term "stationary source" does not apply to transportation of any regulated substance or

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any other extremely hazardous substance under the provisions of this part, provided that such transportation is regulated under 49 CFR Parts 192, 193 or 195 (DOT Office of Pipeline Safety Regulations). Pecos River Compressor Station is regulated under the DOT Office of Pipeline Safety Regulations and, therefore, is not subject to 112(r).

#### 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.)

States: Texas (~7 km)

#### 19.9 - Responsible Official

Responsible Official: Heriberto Carreon R.O. Title: Director-Operations Division 4

R.O. Address: 4711 S. Western Amarillo, TX 79109

Phone: (806) 354-3108

R.O. Email: Heriberto\_Carreon@kindermorgan.com

### **Other Relevant Information**

\_\_\_\_\_

<u>Other relevant information</u>. Use this attachment to clarify any part in the application that you think needs explaining. Reference the section, table, column, and/or field. Include any additional text, tables, calculations or clarifying information.

Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility or language for a new unit, submit the proposed operating condition(s), along with the associated monitoring, recordkeeping, and reporting conditions. In either case, please limit the proposed language to the affected portion of the permit.

\_\_\_\_\_\_

EPNG would like to identify the North American Energy Standards Board (NAESB) Day as the basis for records tracking at Pecos River Compressor Station and other facilities.

The United States uses six different standardized time zones from east to west; the energy industry uses a seventh time zone developed by the NAESB. This Board serves as an industry platform for the development and promotion of industry practices and standards that lead to the seamless marketing of wholesale and retail natural gas and electricity. Since 2003, the NAESB Day has been recognized by its customers, the business community, participants, and federal and state regulatory entities. As such, a NAESB Day is a 24-hour period derived from a uniform time zone that occurs simultaneously nationwide and is the basis of EPNG's COMET data acquisition system "day" data. Unit information defined and stored according to the NAESB Day includes monitored gas flows or volumes, hours of operation, maintenance and repair activities, and routine emissions.

Data obtained from outside agencies (including test reports and summaries) or submitted pursuant to 20.2.7 NMAC reporting requirements is based on the "day" as defined by the local time zone.

# **Section 22: Certification**

| Company Name:   |   |
|---|---|
| I, <u>Fddie</u> Correco, hereby certify that the information and as accurate as possible, to the best of my knowledge and professional expe |   |
| Signed this 3 day of Oly ,7019, upon my oath or affirm  | mation, before a notary of the State of |
| Texas.  |   |
| Signature C   | 7/3/19<br>Date                          |
| Eddle Carreon Printed Name  | Director of Operations Title            |
| Scribed and sworn before me on this 8 day of 110  | 2015.                                   |
| My authorization as a notary of the State of  | expires on the                          |
| 11 day of April , 2022.   |   |
| Notary's Signature  | 7   8   9<br>Date                       |
| 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.

