

**NMED AIR QUALITY  
TITLE V RENEWAL AND MINOR  
MODIFICATION APPLICATION  
EL PASO NATURAL GAS COMPANY, L.L.C.  
Washington Ranch Storage Facility**

**Prepared By:**

Adam Erenstein – Manager of Consulting Services

**TRINITY CONSULTANTS**

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

December 2024

Project 243201.0132





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

December 20, 2024

Permit Programs Manager  
NMED Air Quality Bureau  
525 Camino de los Marques, Suite 1  
Santa Fe, NM 87505

*RE: Application for Title V Renewal and Minor Modification  
El Paso Natural Gas Company, L.L.C. – Washington Ranch Storage Facility*

Dear Permit Programs Manager:

On behalf of El Paso Natural Gas Company, L.L.C., we are submitting this application for a Title V Renewal and Minor Modification for the Washington Ranch Storage Facility. This facility is located approximately 9.1 miles southwest of Whites City, New Mexico in Eddy County and stores pipeline quality natural gas for dehydration and transportation. Washington Ranch Storage Facility is currently authorized to operate under NSR Permit 0428-M7-R6 and Title V Operating Permit P-064-R4.

The format and content of this application are consistent with the Bureau's current policy regarding Title V applications; it is a complete application package using the most current application forms. Enclosed is one hard copy and one working copy of the application, including the original certification page, electronic files, and an application check. Please feel free to contact me at (505) 266-6611 or by email at [aerenstein@trinityconsultants.com](mailto:aerenstein@trinityconsultants.com) if you have any questions regarding this application. Alternatively, you may contact Richard Duarte with El Paso Natural Gas Company, L.L.C. at (505) 269-2794 or by email at [Ricardo\\_Duarte@kindermorgan.com](mailto:Ricardo_Duarte@kindermorgan.com).

Sincerely,

TRINITY CONSULTANTS

Adam Erenstein  
Manager of Consulting Services

cc: Richard Duarte (El Paso Natural Gas Company, L.L.C.)  
Trinity Project File 243201.0132

## HEADQUARTERS

12700 Park Central Dr, Ste 600, Dallas, TX 75251 / P 800.229.6655 / P 972.661.8100 / F 972.385.9203



## Air Permit Application Compliance History Disclosure Form

Pursuant to Subsection 74-2-7(S) of the New Mexico Air Quality Control Act ("AQCA"), NMSA §§ 74-2-1 to -17, the New Mexico Environment Department ("Department") may deny any permit application or revoke any permit issued pursuant to the AQCA if, within ten years immediately preceding the date of submission of the permit application, the applicant met any one of the criteria outlined below. In order for the Department to deem an air permit application administratively complete, or issue an air permit for those permits without an administrative completeness determination process, the applicant must complete this Compliance History Disclosure Form as specified in Subsection 74-2-7(P). An existing permit holder (permit issued prior to June 18, 2021) shall provide this Compliance History Disclosure Form to the Department upon request.

| Permittee/Applicant Company Name                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Expected Application Submittal Date                                 |
|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| El Paso Natural Gas Company, L.L.C.                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | December 20, 2024                                                   |
| Permittee/Company Contact                                                                                               | Phone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Email                                                               |
| Richard Duarte                                                                                                          | (505) 831-7763                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Ricardo_Duarte@kindermorgan.com                                     |
| <b>Within the 10 years preceding the expected date of submittal of the application, has the permittee or applicant:</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                     |
| 1                                                                                                                       | Knowingly misrepresented a material fact in an application for a permit?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 2                                                                                                                       | Refused to disclose information required by the provisions of the New Mexico Air Quality Control Act?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 3                                                                                                                       | Been convicted of a felony related to environmental crime in any court of any state or the United States?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 4                                                                                                                       | Been convicted of a crime defined by state or federal statute as involving or being in restraint of trade, price fixing, bribery, or fraud in any court of any state or the United States?                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 5a                                                                                                                      | Constructed or operated any facility for which a permit was sought, including the current facility, without the required air quality permit(s) under 20.2.70 NMAC, 20.2.72 NMAC, 20.2.74 NMAC, 20.2.79 NMAC, or 20.2.84 NMAC?                                                                                                                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 5b                                                                                                                      | <p>If "No" to question 5a, go to question 6.</p> <p>If "Yes" to question 5a, state whether each facility that was constructed or operated without the required air quality permit met at least one of the following exceptions:</p> <p>a. The unpermitted facility was discovered after acquisition during a timely environmental audit that was authorized by the Department; or</p> <p>b. The operator of the facility estimated that the facility's emissions would not require an air permit, <b>and</b> the operator applied for an air permit within 30 calendar days of discovering that an air permit was required for the facility.</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No            |
| 6                                                                                                                       | Had any permit revoked or permanently suspended for cause under the environmental laws of any state or the United States?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 7                                                                                                                       | For each "yes" answer, please provide an explanation and documentation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                     |

|                                                                                                                                                                                                                                                                                                      |                                                                                    |                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------|
| <b>Mail Application To:</b><br><br>New Mexico Environment Department<br>Air Quality Bureau<br>Permits Section<br>525 Camino de los Marquez, Suite 1<br>Santa Fe, New Mexico, 87505<br><br>Phone: (505) 476-4300<br>Fax: (505) 476-4375<br><a href="http://www.env.nm.gov/aqb">www.env.nm.gov/aqb</a> |  | <b>For Department use only:</b> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------|

## 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.

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

### Acknowledgements:

- ☒ I acknowledge that a pre-application meeting is available to me upon request. ☐ Title V Operating, Title IV Acid Rain, and NPR applications have no fees.
- ☐ \$500 NSR application Filing Fee enclosed **OR** ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).
- ☐ Check No.: 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.
- ☒ I acknowledge there is an annual fee for permits in addition to the permit review fee: [www.env.nm.gov/air-quality/permit-fees-2/](http://www.env.nm.gov/air-quality/permit-fees-2/).
- ☐ This facility qualifies for the small business fee reduction per 20.2.75.11.C. NMAC. The full \$500.00 filing fee is included with this application and I understand the fee reduction will be calculated in the balance due invoice. The Small Business Certification Form has been previously submitted or is included with this application. (Small Business Environmental Assistance Program Information: [www.env.nm.gov/air-quality/small-biz-eap-2/](http://www.env.nm.gov/air-quality/small-biz-eap-2/).)

**Citation:** Please provide the **low level citation** under which this application is being submitted:

**20.2.70.300.B(2) NMAC and 20.2.70.404.B(1) NMAC**

(e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

## Section 1 – Facility Information

### Section 1-A: Company Information

|   |                                                                                                                                                                                                                                                                |                                                                          |                                         |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------|
| 1 | Facility Name: Washington Ranch Storage Facility                                                                                                                                                                                                               | AI # if known (see 1 <sup>st</sup> 3 to 5 #s of permit IDEA ID No.): 220 | Updating Permit/NOI #: Title V: P064-R4 |
|   |                                                                                                                                                                                                                                                                | Plant primary SIC Code (4 digits): 4922                                  |                                         |
| a | Facility Street Address (If no facility street address, provide directions from a prominent landmark): Take US-180 W for 5.4 miles from Whites City. Turn right onto Co Rd 418, Washington Ranch Road. Stay on Co Rd 418, Washington Ranch Road for 5.1 miles. | Plant NAIC code (6 digits): 486210                                       |                                         |
|   |                                                                                                                                                                                                                                                                |                                                                          |                                         |
| 2 | Plant Operator Company Name: El Paso Natural Gas Company, L.L.C.                                                                                                                                                                                               | Phone/Fax: (505) 831-7763 / (505) 831-7734                               |                                         |

|   |                                                                                                                                 |                                            |
|---|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| a | Plant Operator Address: 2 N. Nevada Ave., Colorado Springs, CO 80903                                                            |                                            |
| b | Plant Operator's New Mexico Corporate ID or Tax ID: 152793                                                                      |                                            |
| 3 | Plant Owner(s) name(s): El Paso Natural Gas Company                                                                             | Phone/Fax: (505) 831-7763 / (505) 831-7734 |
| a | Plant Owner(s) Mailing Address(s): 2 N. Nevada Ave., Colorado Springs, CO 80903                                                 |                                            |
| 4 | Bill To (Company): El Paso Natural Gas Company                                                                                  | Phone/Fax: (505) 831-7763 / (505) 831-7734 |
| a | Mailing Address: 5151 E. Broadway, Suite 1680, Tucson, AZ 85711                                                                 | E-mail: Ricardo_Duarte@kindermorgan.com    |
| 5 | <input type="checkbox"/> Preparer:<br><input checked="" type="checkbox"/> Consultant: Adam Erenstein                            | Phone/Fax: (505) 266-6611                  |
| a | Mailing Address: 9400 Holly Ave NE, Bldg 3, Ste B, Albuquerque, NM 87122                                                        | E-mail: aerenstein@trinityconsultants.com  |
| 6 | Plant Operator Contact: Richard Najera                                                                                          | Phone/Fax: (575) 234-5407 / N/A            |
| a | Address: 4305 National Park Highway, Carlsbad, NM 88220                                                                         | E-mail: Richard_Najera@kindermorgan.com    |
| 7 | Air Permit Contact: Richard Duarte                                                                                              | Title: Sr. EHS engineer                    |
| a | E-mail: Ricardo_Duarte@kindermorgan.com                                                                                         | Phone/Fax: (505) 831-7763 / (505) 831-7734 |
| b | Mailing Address: 100 Sun Ave, Suite 650, Albuquerque, NM 87109                                                                  |                                            |
| c | The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau. |                                            |

## Section 1-B: Current Facility Status

|     |                                                                                                                                                                                                                             |                                                                                                                                                                                                                |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.a | Has this facility already been constructed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                             | 1.b If yes to question 1.a, is it currently operating in New Mexico? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                       |
| 2   | If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No           | If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 3   | Is the facility currently shut down? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                    | If yes, give month and year of shut down (MM/YY): N/A                                                                                                                                                          |
| 4   | Was this facility constructed before 8/31/1972 and continuously operated since 1972? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                    |                                                                                                                                                                                                                |
| 5   | If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972?<br><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A |                                                                                                                                                                                                                |
| 6   | Does this facility have a Title V operating permit (20.2.70 NMAC)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                   | If yes, the permit No. is: P-064-R4                                                                                                                                                                            |
| 7   | Has this facility been issued a No Permit Required (NPR)?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                            | If yes, the NPR No. is: N/A                                                                                                                                                                                    |
| 8   | Has this facility been issued a Notice of Intent (NOI)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                 | If yes, the NOI No. is: N/A                                                                                                                                                                                    |
| 9   | Does this facility have a construction permit (20.2.72/20.2.74 NMAC)?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                | If yes, the permit No. is: 0428-M7-R6                                                                                                                                                                          |
| 10  | Is this facility registered under a General permit (GCP-1, GCP-2, etc.)?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                             | If yes, the register No. is: N/A                                                                                                                                                                               |

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

|   |                                                                                                                                            |                       |                   |                           |
|---|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------|---------------------------|
| 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: 10.4 MMSCF/hr | Daily: 250 MMSCFD | Annually: 92,000 MMSCF/yr |
| b | Proposed                                                                                                                                   | Hourly: 10.4 MMSCF/hr | Daily: 250 MMSCFD | Annually: 92,000 MMSCF/yr |
| 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 | Current  | Hourly: 10.4 MMSCF/hr | Daily: 250 MMSCFD | Annually: 92,000 MMSCF/yr |
| b | Proposed | Hourly: 10.4 MMSCF/hr | Daily: 250 MMSCFD | Annually: 92,000 MMSCF/yr |

### Section 1-D: Facility Location Information

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |               |                                                                                                                   |                       |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------|-------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1  | Section: 34                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Range: 24E | Township: 25S | County: Eddy                                                                                                      | Elevation (ft): 3,717 |
| 2  | UTM Zone: <input type="checkbox"/> 12 or <input checked="" type="checkbox"/> 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |               | Datum: <input type="checkbox"/> NAD 27 <input type="checkbox"/> NAD 83 <input checked="" type="checkbox"/> WGS 84 |                       |
| a  | UTM E (in meters, to nearest 10 meters): 548,630 m E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |               | UTM N (in meters, to nearest 10 meters): 3,549,580 m N                                                            |                       |
| b  | AND Latitude (deg., min., sec.): 32° 4' 53.846"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |               | Longitude (deg., min., sec.): -104° 29' 3.523"                                                                    |                       |
| 3  | Name and zip code of nearest New Mexico town: Whites City 88268                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |               |                                                                                                                   |                       |
| 4  | Detailed Driving Instructions from nearest NM town (attach a road map if necessary): Take US-180 W for 5.4 miles from Whites City. Turn right onto Co Rd 418, Washington Ranch Road. Stay on Co Rd 418, Washington Ranch Road for 5.1 miles.                                                                                                                                                                                                                                                                                                                             |            |               |                                                                                                                   |                       |
| 5  | The facility is 9.1 miles southwest of Whites City.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |               |                                                                                                                   |                       |
| 6  | Status of land at facility (check one): <input checked="" type="checkbox"/> Private <input type="checkbox"/> Indian/Pueblo <input type="checkbox"/> Federal BLM <input type="checkbox"/> Federal Forest Service <input type="checkbox"/> Other (specify)                                                                                                                                                                                                                                                                                                                 |            |               |                                                                                                                   |                       |
| 7  | List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: N/A - This application is being submitted under 20.2.70 NMAC                                                                                                                                                                                                                                                                                                                  |            |               |                                                                                                                   |                       |
| 8  | <b>20.2.72 NMAC applications only:</b> Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see <a href="http://www.env.nm.gov/air-quality/modeling-publications/">www.env.nm.gov/air-quality/modeling-publications/</a> )? <input type="checkbox"/> Yes <input type="checkbox"/> No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: N/A - This application is being submitted under 20.2.70 NMAC                |            |               |                                                                                                                   |                       |
| 9  | Name nearest Class I area: Carlsbad Caverns National Park                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |               |                                                                                                                   |                       |
| 10 | Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 5.5 km                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |               |                                                                                                                   |                       |
| 11 | Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: 340 m                                                                                                                                                                                                                                                                                                                                   |            |               |                                                                                                                   |                       |
| 12 | Method(s) used to delineate the Restricted Area: Continuous Fencing<br><br>"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 | Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>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 | Will this facility operate in conjunction with other air regulated parties on the same property? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes<br>If yes, what is the name and permit number (if known) of the other facility?                                                                                                                                                                                                                                                                                                                     |            |               |                                                                                                                   |                       |

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

|   |                                                                                                                                     |                                          |                                                            |                                                                        |
|---|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------|------------------------------------------------------------------------|
| 1 | Facility <b>maximum</b> operating ( $\frac{\text{hours}}{\text{day}}$ ): 24                                                         | ( $\frac{\text{days}}{\text{week}}$ ): 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                        |                                          | <input type="checkbox"/> AM<br><input type="checkbox"/> PM | End: N/A<br><input type="checkbox"/> AM<br><input type="checkbox"/> PM |
| 3 | Month and year of anticipated start of construction: N/A – No construction is proposed.                                             |                                          |                                                            |                                                                        |
| 4 | Month and year of anticipated construction completion: N/A – No construction is proposed.                                           |                                          |                                                            |                                                                        |
| 5 | Month and year of anticipated startup of new or modified facility: N/A – No construction is proposed.                               |                                          |                                                            |                                                                        |
| 6 | Will this facility operate at this site for more than one year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, specify: N/A                                                                                                                                                                                          |                      |                                                |
| a | If yes, NOV date or description of issue: N/A                                                                                                                                                                                                                                                                                                                                                                                  | NOV Tracking No: N/A |                                                |
| b | Is this application in response to any issue listed in 1-F, 1 or 1a above? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, provide the 1c & 1d info below:                                                                                                                                                                                                                                         |                      |                                                |
| c | Document Title: N/A                                                                                                                                                                                                                                                                                                                                                                                                            | Date: N/A            | Requirement # (or page # and paragraph #): N/A |
| d | Provide the required text to be inserted in this permit: N/A                                                                                                                                                                                                                                                                                                                                                                   |                      |                                                |
| 2 | Is air quality dispersion modeling or modeling waiver being submitted with this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                               |                      |                                                |
| 3 | Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                 |                      |                                                |
| 4 | Will this facility be a source of federal Hazardous Air Pollutants (HAP)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                                                                  |                      |                                                |
| a | If Yes, what type of source? <input checked="" type="checkbox"/> <b>Major</b> ( <input checked="" type="checkbox"/> $\geq 10$ tpy of any single HAP <b>OR</b> <input checked="" type="checkbox"/> $\geq 25$ tpy of any combination of HAPS) <b>OR</b> <input type="checkbox"/> <b>Minor</b> ( <input type="checkbox"/> $< 10$ tpy of any single HAP <b>AND</b> <input type="checkbox"/> $< 25$ tpy of any combination of HAPS) |                      |                                                |
| 5 | Is any unit exempt under 20.2.72.202.B.3 NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                                                                                             |                      |                                                |
| a | If yes, include the name of company providing commercial electric power to the facility: <u>Xcel Energy</u><br>Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.                                                                                                                                                  |                      |                                                |

**Section 1-G: Streamline Application** (This section applies to 20.2.72.300 NMAC Streamline applications only)

|   |                                                                                                                                                                                |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <input type="checkbox"/> I have filled out Section 18, "Addendum for Streamline Applications." <input checked="" type="checkbox"/> 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 20.2.74/20.2.79 NMAC (Major PSD/NNSR applications), and/or 20.2.70 NMAC (Title V))

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                    |                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------|
| 1 | Responsible Official (R.O.)<br>(20.2.70.300.D.2 NMAC): Steve Romano                                                                                                                                                                                                                                                                                                                                                                       |                                                    | Phone: (713) 420-6244 |
| a | R.O. Title: Vice President of Operations                                                                                                                                                                                                                                                                                                                                                                                                  | R.O. e-mail: steven_romano@kindermorgan.com        |                       |
| b | R. O. Address: 1001 Louisiana, Houston, TX 77002                                                                                                                                                                                                                                                                                                                                                                                          |                                                    |                       |
| 2 | Alternate Responsible Official<br>(20.2.70.300.D.2 NMAC): Eddie Carreon                                                                                                                                                                                                                                                                                                                                                                   |                                                    | Phone: (806) 354-3108 |
| a | A. R.O. Title: Director of Operations                                                                                                                                                                                                                                                                                                                                                                                                     | A. R.O. e-mail: heriberto_carreon@kindermorgan.com |                       |
| b | A. R. O. Address: 4711 S Western, Amarillo, TX 79109                                                                                                                                                                                                                                                                                                                                                                                      |                                                    |                       |
| 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, L.L.C. 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 name of the organization that owns the company to be permitted wholly or in part.): Kinder Morgan, Inc.                                                                                                                                                                                                                                                                        |                                                    |                       |
| a | Address of Parent Company: 1001 Louisiana Street; Suite 1000, Houston, TX 77002                                                                                                                                                                                                                                                                                                                                                           |                                                    |                       |
| 5 | Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): N/A – 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:<br>Richard Najera (575) 234-5407                                                                                                                                                                                                                                                                                                        |                                                    |                       |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7 | Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers: N/A |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Section 1-I – Submittal Requirements

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

### Hard Copy Submittal Requirements:

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

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

☐ CD/DVD attached to paper application

☒ secure electronic transfer. Air Permit Contact Name Adam Erenstein, Email aerenstein@trinityconsultants.com  
Phone number (505) 266-6611.

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

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

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

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

- 1) All required electronic documents shall be submitted as 2 separate CDs or submitted through the AQB secure file transfer service.

Submit a single PDF document of the entire application as submitted and the individual documents comprising the application.

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

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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 Number <sup>1</sup> | Source Description               | Make               | Model #    | Serial # | Manufact-urer's Rated Capacity <sup>3</sup><br>(Specify Units) | Requested Permitted Capacity <sup>3</sup><br>(Specify Units) | Date of Manufacture <sup>2</sup>                  | Controlled by Unit #        | Source Classification Code (SCC) | For Each Piece of Equipment, Check One                                                                                                         | RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) <sup>4</sup>                                                                     | Replacing Unit No. |
|--------------------------|----------------------------------|--------------------|------------|----------|----------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------|-----------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------|
|                          |                                  |                    |            |          |                                                                |                                                              | Date of Construction/ Reconstruction <sup>2</sup> | Emissions vented to Stack # |                                  |                                                                                                                                                |                                                                                                                                |                    |
| 1                        | Compressor Engine                | Cooper-Bessemer    | 12Q155 HC2 | 48833    | 4,500 hp                                                       | 4,500 hp                                                     | Unknown                                           | N/A                         | 20200202                         | <input checked="" type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              | 6/1/1982                                          | 1                           |                                  |                                                                                                                                                |                                                                                                                                |                    |
| 2                        | Compressor Engine                | Cooper-Bessemer    | 12Q155 HC2 | 48834    | 4,500 hp                                                       | 4,500 hp                                                     | Unknown                                           | N/A                         | 20200202                         | <input checked="" type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              | 6/1/1982                                          | 2                           |                                  |                                                                                                                                                |                                                                                                                                |                    |
| 3a                       | Glycol Dehydrator Reboiler       | Lakota Eng Systems | N/A        | 4150-02  | 3 MMBtu/hr                                                     | 3 MMBtu/hr                                                   | Unknown                                           | N/A                         | 31000228                         | <input checked="" type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              | 6/1/1982                                          | 3a                          |                                  |                                                                                                                                                |                                                                                                                                |                    |
| 3b                       | Glycol Dehydrator Regenerator    | N/A                | N/A        | N/A      | 250 MMscf/d                                                    | 250 MMscf/d                                                  | Unknown                                           | 6                           | 31000227                         | <input checked="" type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              | N/A                                               | 3b                          |                                  |                                                                                                                                                |                                                                                                                                |                    |
| 4                        | Gas Heater                       | Lakota Eng Systems | N/A        | 2116-01  | 6 MMBtu/hr                                                     | 6 MMBtu/hr                                                   | Unknown                                           | N/A                         | 31000404                         | <input checked="" type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              | 6/1/1982                                          | 4                           |                                  |                                                                                                                                                |                                                                                                                                |                    |
| 6                        | Process Flare                    | Flare Industries   | 660        | N/A      | 710.9 lb/hr                                                    | 710.9 lb/hr                                                  | 2002                                              | N/A                         | 30600903                         | <input checked="" type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              | 7/1/2004                                          | 6                           |                                  |                                                                                                                                                |                                                                                                                                |                    |
| FUG                      | Facility-Wide Fugitive Emissions | N/A                | N/A        | N/A      | N/A                                                            | N/A                                                          | N/A                                               | N/A                         | 31088811                         | <input checked="" type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              | N/A                                               | N/A                         |                                  |                                                                                                                                                |                                                                                                                                |                    |
| SSM/M<br>1               | Startup, Shutdown                | N/A                | N/A        | N/A      | N/A                                                            | N/A                                                          | N/A                                               | N/A                         | 31088811                         | <input checked="" type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              | N/A                                               | N/A                         |                                  |                                                                                                                                                |                                                                                                                                |                    |
|                          |                                  |                    |            |          |                                                                |                                                              |                                                   |                             |                                  | <input type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified            | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              |                                                   |                             |                                  |                                                                                                                                                |                                                                                                                                |                    |
|                          |                                  |                    |            |          |                                                                |                                                              |                                                   |                             |                                  | <input type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified            | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              |                                                   |                             |                                  |                                                                                                                                                |                                                                                                                                |                    |
|                          |                                  |                    |            |          |                                                                |                                                              |                                                   |                             |                                  | <input type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified            | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              |                                                   |                             |                                  |                                                                                                                                                |                                                                                                                                |                    |
|                          |                                  |                    |            |          |                                                                |                                                              |                                                   |                             |                                  | <input type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified            | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              |                                                   |                             |                                  |                                                                                                                                                |                                                                                                                                |                    |
|                          |                                  |                    |            |          |                                                                |                                                              |                                                   |                             |                                  | <input type="checkbox"/> Existing (unchanged)<br><input type="checkbox"/> New/Additional<br><input type="checkbox"/> To Be Modified            | <input type="checkbox"/> To be Removed<br><input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To be Replaced |                    |
|                          |                                  |                    |            |          |                                                                |                                                              |                                                   |                             |                                  |                                                                                                                                                |                                                                                                                                |                    |

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

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

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

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

## Table 2-B: Insignificant Activities<sup>1</sup> (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 20.2.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](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 <https://www.env.nm.gov/wp-content/uploads/sites/2/2017/10/InsignificantListTitleV.pdf>. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

| Unit Number | Source Description | Manufacturer | Model No.  | Max Capacity   | List Specific 20.2.72.202 NMAC Exemption<br>(e.g. 20.2.72.202.B.5) | Date of Manufacture /Reconstruction <sup>2</sup> | For Each Piece of Equipment, Check One                                                                                                                                                                                                                       |
|-------------|--------------------|--------------|------------|----------------|--------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                    |              | Serial No. | Capacity Units | Insignificant Activity citation (e.g. IA List Item #1.a)           | Date of Installation /Construction <sup>2</sup>  |                                                                                                                                                                                                                                                              |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
|             |                    |              |            |                |                                                                    |                                                  | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed<br><input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit<br><input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |

<sup>1</sup> 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.

<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.

[illegible]

List each control device on a separate line. For each control device, list all emission units controlled by the control device.



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

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

| Unit No.        | NOx   |        | CO    |        | VOC   |        | SOx      |          | PM <sup>1</sup> |        | PM10 <sup>1</sup> |        | PM2.5 <sup>1</sup> |        | H <sub>2</sub> S |        | Lead  |        |
|-----------------|-------|--------|-------|--------|-------|--------|----------|----------|-----------------|--------|-------------------|--------|--------------------|--------|------------------|--------|-------|--------|
|                 | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr    | ton/yr   | lb/hr           | ton/yr | lb/hr             | ton/yr | lb/hr              | ton/yr | lb/hr            | ton/yr | lb/hr | ton/yr |
| 1               | 27.28 | 119.50 | 27.28 | 119.5  | 19.84 | 86.91  | 0.48     | 2.08     | -               | -      | 1.12              | 4.92   | 1.12               | 4.92   | -                | -      | -     | -      |
| 2               | 27.28 | 119.50 | 27.28 | 119.5  | 19.84 | 86.91  | 0.48     | 2.08     | -               | -      | 1.12              | 4.92   | 1.12               | 4.92   | -                | -      | -     | -      |
| 3a              | 0.31  | 1.37   | 0.26  | 1.15   | 0.017 | 0.075  | 0.045    | 0.20     | -               | -      | 0.024             | 0.10   | 0.024              | 0.10   | -                | -      | -     | -      |
| 3b <sup>2</sup> | -     | -      | -     | -      | -     | -      | -        | -        | -               | -      | -                 | -      | -                  | -      | -                | -      | -     | -      |
| 4               | 0.63  | 2.78   | 0.53  | 2.33   | 0.035 | 0.15   | 0.091    | 0.40     | -               | -      | 0.048             | 0.21   | 0.048              | 0.21   | -                | -      | -     | -      |
| 6               | 0.10  | 0.44   | 0.20  | 0.88   | 0.22  | 0.98   | 6.29E-04 | 2.75E-03 | -               | -      | -                 | -      | -                  | -      | -                | -      | -     | -      |
| FUG             | -     | -      | -     | -      | *     | 1.11   | -        | -        | -               | -      | -                 | -      | -                  | -      | -                | -      | -     | -      |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
|                 |       |        |       |        |       |        |          |          |                 |        |                   |        |                    |        |                  |        |       |        |
| Totals          | 55.61 | 243.58 | 55.56 | 243.36 | 39.96 | 176.13 | 1.09     | 4.76     | -               | -      | 2.32              | 10.15  | 2.32               | 10.15  | -                | -      | -     | -      |

<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 it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

<sup>2</sup> Dehydrator condenser still vent vapors are routed to the process flare (Unit 6) for destruction; emissions are represented at that unit. Dehydrator flash tank emissions are routed to the reboiler to be used as fuel. In a controlled scenario, there are no emissions from unit 3b.

"\*" Denotes an hourly emission rate is not appropriate for this unit.

All applications for facilities that have emissions during routine or 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](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).

<sup>3</sup> Consideration of SSM emissions according to NMED guidance (Implementation Guidance for Permitting SSM Emissions and Excess Emissions, June 7, 2012) demonstrates that consolidating VOC emissions from SSM and upset/malfunction conditions to a maximum 10 tpy per pollutant would not trigger any additional requirements. Kinder Morgan has requested that both routine and predictable startup and shutdown events and malfunction events be combined with a limit of 10 tpy of VOC.

**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.

[illegible]

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:

\* Dehydrator condenser still vent vapors are routed to the process flare (Unit 6) for destruction; emissions are represented at that unit. Dehydrator flash tank emissions are routed to the reboiler to be used as fuel. In a controlled scenario, there are no emission from unit 3b.

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

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

| Stack No.       | Unit No.(s)     | Total HAPs |        | Formaldehyde<br>☑ HAP or ☐ TAP |          | Acrolein<br>☑ HAP or ☐ TAP |        | n-hexane<br>☑ HAP or ☐ TAP |          | Provide Pollutant<br>Name Here<br>☐ HAP or ☐ TAP |        | Provide Pollutant<br>Name Here<br>☐ HAP or ☐ TAP |        | Provide Pollutant<br>Name Here<br>☐ HAP or ☐ TAP |        | Provide Pollutant<br>Name Here<br>☐ HAP or ☐ TAP |        | Provide Pollutant<br>Name Here<br>☐ HAP 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 |
| 1               | 1               | 3.67       | 16.09  | 3.22                           | 14.10    | 0.22                       | 0.98   | 0.029                      | 0.13     |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
| 2               | 2               | 3.67       | 16.09  | 3.22                           | 14.10    | 0.22                       | 0.98   | 0.029                      | 0.13     |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
| 3a              | 3a              | 5.39E-03   | 0.024  | 1.31E-03                       | 5.75E-03 | -                          | -      | 1.20E-03                   | 5.25E-03 |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
| 3b <sup>1</sup> | 3b <sup>1</sup> | -          | -      | -                              | -        | -                          | -      | -                          | -        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
| 4               | 4               | 0.11       | 0.47   | 6.34E-03                       | 0.028    | -                          | -      | 0.011                      | 0.046    |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
| 6               | 6               | 0.075      | 0.33   | -                              | -        | -                          | -      | -                          | -        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
| FUG             | FUG             | *          | 0.024  | -                              | -        | -                          | -      | -                          | -        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
|                 |                 |            |        |                                |          |                            |        |                            |          |                                                  |        |                                                  |        |                                                  |        |                                                  |        |                                                  |        |
| <b>Totals:</b>  |                 | 7.53       | 33.03  | 6.45                           | 28.23    | 0.44                       | 1.96   | 0.07                       | 0.31     | 0.00                                             | 0.00   | 0.00                                             | 0.00   | 0.00                                             | 0.00   | 0.00                                             | 0.00   | 0.00                                             | 0.00   |

<sup>1</sup> Dehydrator condenser still vent vapors are routed to the process flare (Unit 6) for destruction; emissions are represented at that unit. Dehydrator flash tank emissions are routed to the reboiler to be used as fuel. In a controlled scenario, there are no emissions from unit 3b.

"\*" Denotes an hourly emission rate is not appropriate for this unit.

Table 2-J: Fuel

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

| Unit No. | Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, ...) | Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other | Specify Units       |              |              |                |       |
|----------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------|--------------|----------------|-------|
|          |                                                                                |                                                                                                                                               | Lower Heating Value | Hourly Usage | Annual Usage | % Sulfur       | % Ash |
| 1        | Natural Gas                                                                    | Pipeline quality sweet natural gas                                                                                                            | 947 Btu/scf         | 33.3 Mscf    | 291.4 MMscf  | 5 gr S/100 scf | Neg.  |
| 2        | Natural Gas                                                                    | Pipeline quality sweet natural gas                                                                                                            | 947 Btu/scf         | 33.3 Mscf    | 291.4 MMscf  | 5 gr S/100 scf | Neg.  |
| 3a       | Natural Gas                                                                    | Pipeline quality sweet natural gas                                                                                                            | 960 Btu/scf         | 3.1 Mscf     | 27.4 MMscf   | 5 gr S/100 scf | Neg.  |
| 4        | Natural Gas                                                                    | Pipeline quality sweet natural gas                                                                                                            | 947 Btu/scf         | 6.3 Mscf     | 55.5 MMscf   | 5 gr S/100 scf | Neg.  |
| 6        | Natural Gas                                                                    | Pipeline quality sweet natural gas                                                                                                            | 947 Btu/scf         | 88 scf       | 0.77 MMscf   | 5 gr S/100 scf | Neg.  |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |
|          |                                                                                |                                                                                                                                               |                     |              |              |                |       |

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.

[illegible]

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

[illegible]

Table 2-L2: Liquid Storage Tank Data Codes Reference Table

| Roof Type                  | Seal Type, Welded Tank Seal Type |                               | Seal Type, Riveted Tank Seal Type |                                  | Roof, Shell Color       | Paint 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         |                 |
|                            |                                  |                               |                                   |                                  | BL: Black               |                 |
|                            |                                  |                               |                                   |                                  | OT: Other (specify)     |                 |

Note: 1.00 bbl = 0.159 M³ = 42.0 gal

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

| Material Processed |                      |                                  |                          | Material Produced |                      |       |                          |
|--------------------|----------------------|----------------------------------|--------------------------|-------------------|----------------------|-------|--------------------------|
| Description        | Chemical Composition | Phase<br>(Gas, Liquid, or Solid) | Quantity (specify units) | Description       | Chemical Composition | Phase | Quantity (specify units) |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |
|                    |                      |                                  |                          |                   |                      |       |                          |

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.

[illegible]

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

[illegible]

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

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

|                 |                   | CO <sub>2</sub><br>ton/yr | N <sub>2</sub> O<br>ton/yr | CH <sub>4</sub><br>ton/yr | SF <sub>6</sub><br>ton/yr | PFC/HFC<br>ton/yr <sup>2</sup> |  |  |  |  |  |  |  |  | Total<br>GHG 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                     |  |  |  |  |  |  |  |  |                                                |                                                   |
| 1               | mass GHG          | 16135                     | 0.030                      | 0.30                      | -                         | -                              |  |  |  |  |  |  |  |  | 16135.33                                       |                                                   |
|                 | CO <sub>2</sub> e | 16135                     | 9.05                       | 7.59                      | -                         | -                              |  |  |  |  |  |  |  |  |                                                | 16151.64                                          |
| 2               | mass GHG          | 16135                     | 0.030                      | 0.30                      | -                         | -                              |  |  |  |  |  |  |  |  | 16135.33                                       |                                                   |
|                 | CO <sub>2</sub> e | 16135                     | 9.05                       | 7.59                      | -                         | -                              |  |  |  |  |  |  |  |  |                                                | 16151.64                                          |
| 3a              | mass GHG          | 1537                      | 2.89E-03                   | 0.029                     | -                         | -                              |  |  |  |  |  |  |  |  | 1537.03                                        |                                                   |
|                 | CO <sub>2</sub> e | 1537                      | 0.86                       | 0.72                      | -                         | -                              |  |  |  |  |  |  |  |  |                                                | 1538.58                                           |
| 3b <sup>6</sup> | mass GHG          | -                         | -                          | -                         | -                         | -                              |  |  |  |  |  |  |  |  |                                                |                                                   |
|                 | CO <sub>2</sub> e | -                         | -                          | -                         | -                         | -                              |  |  |  |  |  |  |  |  |                                                |                                                   |
| 4               | mass GHG          | 3073                      | 5.78E-03                   | 0.058                     | -                         | -                              |  |  |  |  |  |  |  |  | 3073.06                                        |                                                   |
|                 | CO <sub>2</sub> e | 3073                      | 1.72                       | 1.45                      | -                         | -                              |  |  |  |  |  |  |  |  |                                                | 3076.17                                           |
| 6               | mass GHG          | 350                       | 9.50E-04                   | 0.74                      | -                         | -                              |  |  |  |  |  |  |  |  | 350.74                                         |                                                   |
|                 | CO <sub>2</sub> e | 350                       | 0.28                       | 18.48                     | -                         | -                              |  |  |  |  |  |  |  |  |                                                | 368.76                                            |
| FUG             | mass GHG          | -                         | -                          | -                         | -                         | -                              |  |  |  |  |  |  |  |  |                                                |                                                   |
|                 | CO <sub>2</sub> e | -                         | -                          | -                         | -                         | -                              |  |  |  |  |  |  |  |  |                                                |                                                   |
| SSM/M<br>1      | 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 |                           |                            |                           |                           |                                |  |  |  |  |  |  |  |  |                                                |                                                   |
| Total           | mass GHG          | 37230                     | 0.070                      | 1.43                      |                           |                                |  |  |  |  |  |  |  |  | 37231.50                                       |                                                   |
|                 | CO <sub>2</sub> e | 37230                     | 20.96                      | 35.83                     |                           |                                |  |  |  |  |  |  |  |  |                                                | 37286.79                                          |

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

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

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

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

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

<sup>6</sup> Dehydrator condenser still vent vapors are routed to the process flare (Unit 6) for destruction; emissions are represented at that unit. Dehydrator flash tank emissions are routed to the reboiler to be used as fuel. In a controlled scenario, there are no emissions from unit 3b.

# Section 3

## Application Summary

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

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

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

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The Washington Ranch Storage Facility, owned and operated by El Paso Natural Gas Company, L.L.C. (EPNG), a Kinder Morgan Company, is a natural gas storage facility which compresses and injects "sweet" pipeline quality natural gas into underground storage wells and withdraws the gas for delivery into the pipeline. The facility is located approximately 9 miles southwest of Whites City, New Mexico in Eddy County. Equipment at this facility includes two (2) 4,500 Hp Cooper-Bessemer Compressor Engines (Units 1 & 2), one (1) Glycol Dehydrator Reboiler and Regenerator (Units 3a & 3b), one (1) 6 MMBtu/hr Lakota Eng Systems Gas Heater (Unit 4), and one (1) Flare Industries Process Flare (Unit 6). Other regulated emission sources include Facility-Wide Fugitive Emissions (Unit FUG) and Startup/Shutdown Emissions (Unit SSM/M1).

The facility is currently operating under operating permit: P-064-R4 and NSR Permit: 0428-M7-R6. This application is being submitted pursuant to 20.2.70.300.B(2) NMAC and 20.2.70.404.B(1) NMAC. As required by 20.2.70.300.B(2) NMAC, this application for a Title V renewal is being submitted at least twelve (12) months prior to the expiration of the current permit. Title V Permit P064-R4 expires on December 30, 2025. As required by 20.2.70.404.B(1) NMAC, a minor permit modification is being submitted to remove Unit PUMP.

Except for removing and retiring the fire PUMP from service, no modifications or emissions changes have occurred at Washington Ranch Storage facility station since the previous Title V Renewal.

Additionally, Washington Ranch Storage facility recently became subject to the Ozone Precursor rule under 20.2.50 NMAC to reduce ozone precursor emissions. EPNG elected to comply with the emission standards through an Alternative Compliance Plan (ACP) and an Alternate Emission Standard (AES), both of which have been conditionally approved by the department. The ACP and AES address CO and NOx emissions from all subject units in the Kinder Morgan fleet. At Washington Ranch specifically, the two compressor engines address the lowering of CO emissions effective by 01/01/2028 using an oxidation catalyst for an 80% reduction. The NOx rates are retained as they currently meet the Ozone Precursor rule requirements. Per an agreement with the NMED Air Permitting staff, EPNG will be submitting its NSR revision application for Washington Ranch by April 2027. Once the NSR is issued, the changes will be incorporated into the Title V permit within 12-months of the change.

Lastly, EPNG is submitting this application under 20.2.70.404.B(1) NMAC to update the facility reporting schedule in condition A109 of Title V Permit No. P064-R4. The current reporting schedule language and the requested language are below. This permitting action does not involve relaxation of existing monitoring, reporting, or recordkeeping requirements in the permit. No other changes are being requested with this application.

**Current A109 Reporting Schedule Language**

A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The 6-month reporting periods start on September 1st and March 1st of each year.

B. The Annual Compliance Certification Report is due within 30 days of the end of every 12-month reporting period. The 12-month reporting period starts on September 1st of each year.

**Requested A109 Reporting Schedule Language**

A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The 6-month reporting periods start on [January 1st](#) and [July 1st](#) of each year.

B. The Annual Compliance Certification Report is due within 30 days of the end of every 12-month reporting period. The 12-month reporting period starts on [January 1st](#) of each year.

# Section 4

## Process Flow Sheet

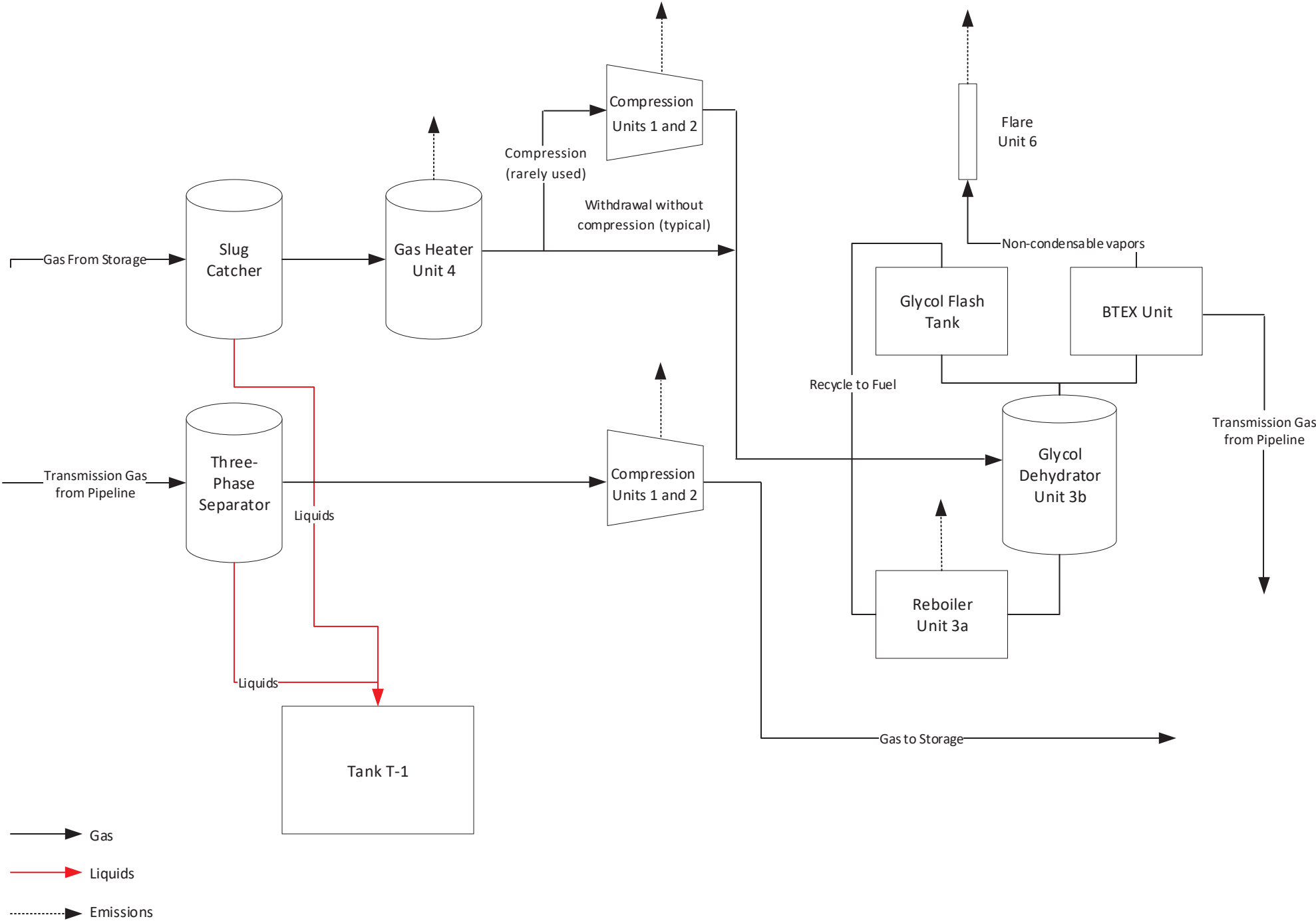
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A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.

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A process flow diagram sheet is included in this section.

# Washington Ranch Storage Facility



# Section 5

## Plot Plan Drawn To Scale

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A **plot plan drawn to scale** 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.

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A plot diagram is included in this section.

# Washington Ranch Storage Facility

Plot Plan

## Legend

-  Fenceline
-  Unit 1 Compressor Engine
-  Unit 2: Compressor Engine
-  Unit 3: Glycol Dehydrator
-  Unit 4: Gas Heater
-  Unit:6 Process Flare



Google Earth

© 2018 Google

200 ft



# Section 6

## All Calculations

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

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

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

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

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

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

### Significant Figures:

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

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

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

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

**Control Devices:** In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the

application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

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Emissions are calculated for the following regulated emission sources:

- Two natural gas fueled compressor engines (Units 1 and 2)
- Glycol Dehydrator Reboiler (Unit 3a)
- Glycol Dehydrator Regenerator (Unit 3b)
- Gas Heater (Unit 4)
- Auxiliary Engine (Unit 5)
- Process Flare (Unit 6, which is the control device for Unit 3b)
- Startup, Shutdown, and Maintenance/Malfunction Emissions (Unit SSM/M1)
- Facility-wide Fugitive Emissions (Unit FUG)

The facility also includes tanks for storage of lubricating oil, used oil, and produced water. All tanks at the facility are considered insignificant actives (see Table 2B for detailed Insignificant Activity information). A auxiliary engine (Unit 5) are subject to MACT ZZZZ, however these emissions are not subject to emission limitations under MACT ZZZZ or permitting under 20.2.72 NMAC. Emission calculation methodologies for all permitted units are the same as represented in previous Title V application except for updating the greenhouse gas emission with the latest Global Warming Potential emission factors.

#### **Units 1 and 2: 4,500 Horsepower Cooper-Bessemer 2-Stroke Lean Burn RICE**

Emissions of NO<sub>x</sub> and CO were based on design for the 2005 LE conversion and emissions of VOC were based on test data. SO<sub>2</sub> emissions were based on a maximum allowable total sulfur content of 5.0 grains per 100 scf in pipeline quality natural gas, and an assumed 100% conversion of total sulfur to SO<sub>2</sub>. PM emissions were based on AP-42 emission factors. All combustion equipment at the facility are fueled with pipeline quality natural gas therefore H<sub>2</sub>S emissions are negligible. Greenhouse gas emissions were estimated using emission factors from 40 CFR 98 Subpart C, Tables C-1 and C-2. Test data is submitted with this application to show the engines are in compliance with the permitted limits.

Formaldehyde emissions from the engines were calculated based on emissions testing data obtained by El Paso Natural Gas in 2010 and presented to NMED by El Paso Natural Gas in a September 14, 2010 letter declaring the facility as a major source of HAP emissions. A 25% safety factor was added to the calculated formaldehyde emission rate. The remaining HAP emissions were based on GRI-HAPCalc with a 10% safety factor added. Previous applications utilized GRI-HAPCalc to calculate all HAP emissions from these units; however, testing data indicated that the units had a higher formaldehyde emission rate than that calculated by GRI HAPCalc.

#### **Unit 3a: Glycol Dehydrator Reboiler**

Emissions of NO<sub>x</sub>, CO, PM, and VOC were based on emission factors from AP-42 Tables 1.4-1 and 1.4-2. SO<sub>2</sub> emissions were based on a maximum allowable total sulfur content of 5.0 grains per 100 scf in pipeline quality natural gas, and an assumed 100% conversion of total sulfur to SO<sub>2</sub>. The reboiler is fueled with flash tank off gas vapors from the glycol dehydrator; therefore, H<sub>2</sub>S emissions are negligible. Greenhouse gas emissions were estimated using emission factors from 40 CFR 98 Subpart C, Tables C-1 and C-2.

#### **Unit 3b: Glycol Dehydrator Regenerator**

Emissions from the glycol dehydrator regenerator were calculated using GRI-GLYCalc. It was assumed that the process flare controls dehydrator condenser off-gas VOC and HAP emissions by 98%. A 100% safety factor was added to the dehydrator condenser off-gas flow rate. The dehydrator flash tank emissions are routed to the reboiler to be used as fuel.

#### **Unit 4: Gas Heater**

Emissions of NO<sub>x</sub>, CO, VOC and PM were based on emission factors from AP-42 Tables 1.4-1 and 1.4-2. SO<sub>2</sub> emissions were based on a maximum allowable total sulfur content of 5.0 grains per 100 scf in pipeline quality natural gas, and an assumed 100% conversion of total sulfur to SO<sub>2</sub>. Total HAP and formaldehyde emissions were calculated using GRI-HAPCalc with a 25% safety factor added for each pollutant. Greenhouse gas emissions were estimated using emission factors from 40 CFR 98 Subpart C, Tables C-1 and C-2.

#### **Unit 5: Auxiliary Engine**

The auxiliary engine calculations were based on an operation time of hours of 500 hours a year. Emissions of NO<sub>x</sub>, CO, VOC, and PM were based on AP-42 emission factors. SO<sub>2</sub> emissions were based on a maximum allowable total sulfur content of 5.0 grains per 100 scf in pipeline quality natural gas, and an assumed 100% conversion of total sulfur to SO<sub>2</sub>. HAP emissions were

calculated using GRI-HAPCalc. Greenhouse gas emissions were estimated using emission factors from 40 CFR 98 Subpart C, Tables C-1 and C-2.

**Unit 6: Process Flare (Control Device for Unit 3b)**

Emissions of NO<sub>x</sub> and CO are based on the highest emission factor from TNRCC RG-109. Emissions of VOCs and HAPs are based on the VOCs and HAPs resulting from the glycol dehydrator condenser off gas. SO<sub>2</sub> emissions were calculated using fuel consumption rates and a fuel gas sulfur content of 5 grains/100 scf. It was assumed that 100% of total sulfur is converted to SO<sub>2</sub>. Greenhouse gas emissions were estimated using calculation methodology from 40 CFR 98.233 – Calculating GHG emissions.

**Unit FUG: Facility-Wide Fugitive Emissions**

Fugitive VOC and HAP emissions were calculated using GRI-HAPCalc with default component counts and EPA average emission factors.

**Unit SSM/M1: Startup, Shutdown, and Maintenance/Malfunction Emissions**

Consideration of SSM emissions according to NMED guidance (Implementation Guidance for Permitting SSM Emissions and Excess Emissions, June 7, 2012) demonstrates that consolidating VOC emissions from SSM and upset/malfunction conditions to a maximum 10 tpy per pollutant would not trigger any additional requirements. EPNG has requested that both routine and predictable startup and shutdown events and malfunction events be combined with a limit of 10 tpy of VOC. These events include natural gas venting after unit shutdown (“unit blowdown”) and natural gas venting scheduled facility shutdowns (“station blowdown”).

# 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 CO<sub>2</sub>e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following ☐ By checking this box, the applicant acknowledges the total CO<sub>2</sub>e emissions are less than 75,000 tons per year.

### Sources for Calculating GHG Emissions:

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

### Global Warming Potentials (GWP):

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

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

### Metric to Short Ton Conversion:

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

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

## Emissions Summary

| Uncontrolled Emissions |                 |        |       |        |       |        |                 |          |       |      |                  |        |                   |       |          |          |          |      |          |          |            |       |
|------------------------|-----------------|--------|-------|--------|-------|--------|-----------------|----------|-------|------|------------------|--------|-------------------|-------|----------|----------|----------|------|----------|----------|------------|-------|
| Unit                   | NO <sub>x</sub> |        | CO    |        | VOC   |        | SO <sub>x</sub> |          | TSP   |      | PM <sub>10</sub> |        | PM <sub>2.5</sub> |       | HCOH     |          | Acrolein |      | n-Hexane |          | Total HAPs |       |
|                        | lb/hr           | tpy    | lb/hr | tpy    | lb/hr | tpy    | lb/hr           | tpy      | lb/hr | tpy  | lb/hr            | tpy    | lb/hr             | tpy   | lb/hr    | tpy      | lb/hr    | tpy  | lb/hr    | tpy      | lb/hr      | tpy   |
| 1                      | 27.28           | 119.50 | 27.28 | 119.50 | 19.84 | 86.91  | 0.48            | 2.08     | -     | -    | 1.1230           | 4.9189 | 1.12              | 4.92  | 3.22     | 14.12    | 0.22     | 0.98 | 0.029    | 0.13     | 3.67       | 16.09 |
| 2                      | 27.28           | 119.50 | 27.28 | 119.50 | 19.84 | 86.91  | 0.48            | 2.08     | -     | -    | 1.1230           | 4.9189 | 1.12              | 4.92  | 3.22     | 14.12    | 0.22     | 0.98 | 0.029    | 0.13     | 3.67       | 16.09 |
| 3a                     | 0.31            | 1.37   | 0.26  | 1.15   | 0.017 | 0.075  | 0.045           | 0.20     | -     | -    | 0.024            | 0.10   | 0.024             | 0.10  | 1.31E-03 | 5.75E-03 | -        | -    | 1.20E-03 | 5.25E-03 | 5.39E-03   | 0.024 |
| 3b <sup>1</sup>        | -               | -      | -     | -      | 19.59 | 85.80  | -               | -        | -     | -    | -                | -      | -                 | -     | -        | -        | -        | -    | 0.30     | 1.33     | 4.29       | 18.80 |
| 4                      | 0.63            | 2.78   | 0.53  | 2.33   | 0.035 | 0.15   | 0.091           | 0.40     | -     | -    | 0.048            | 0.21   | 0.048             | 0.21  | 6.34E-03 | 0.028    | -        | -    | 0.011    | 0.046    | 0.11       | 0.47  |
| 6 <sup>2</sup>         | 0.012           | 0.050  | 0.023 | 0.10   | -     | -      | 6.29E-04        | 2.75E-03 | -     | -    | -                | -      | -                 | -     | -        | -        | -        | -    | -        | -        | -          | -     |
| FUG                    | -               | -      | -     | -      | *     | 1.11   | -               | -        | -     | -    | -                | -      | -                 | -     | -        | -        | -        | -    | -        | -        | *          | 0.024 |
| SSM/M1                 | -               | -      | -     | -      | -     | 10.00  | -               | -        | -     | -    | -                | -      | -                 | -     | -        | -        | -        | -    | -        | -        | -          | -     |
| Total                  | 55.52           | 243.19 | 55.38 | 242.57 | 59.33 | 270.96 | 1.09            | 4.76     | 0.00  | 0.00 | 2.32             | 10.15  | 2.32              | 10.15 | 6.46     | 28.28    | 0.45     | 1.96 | 0.37     | 1.64     | 11.75      | 51.49 |

| Controlled Emissions |                 |        |       |        |       |        |                 |          |       |      |                  |       |                   |       |          |          |          |      |          |          |            |       |
|----------------------|-----------------|--------|-------|--------|-------|--------|-----------------|----------|-------|------|------------------|-------|-------------------|-------|----------|----------|----------|------|----------|----------|------------|-------|
| Unit                 | NO <sub>x</sub> |        | CO    |        | VOC   |        | SO <sub>x</sub> |          | TSP   |      | PM <sub>10</sub> |       | PM <sub>2.5</sub> |       | HCOH     |          | Acrolein |      | n-Hexane |          | Total HAPs |       |
|                      | lb/hr           | tpy    | lb/hr | tpy    | lb/hr | tpy    | lb/hr           | tpy      | lb/hr | tpy  | lb/hr            | tpy   | lb/hr             | tpy   | lb/hr    | tpy      | lb/hr    | tpy  | lb/hr    | tpy      | lb/hr      | tpy   |
| 1                    | 27.28           | 119.50 | 27.28 | 119.50 | 19.84 | 86.91  | 0.48            | 2.08     | -     | -    | 1.1230           | 4.92  | 1.12              | 4.92  | 3.22     | 14.12    | 0.22     | 0.98 | 0.029    | 0.13     | 3.67       | 16.09 |
| 2                    | 27.28           | 119.50 | 27.28 | 119.50 | 19.84 | 86.91  | 0.48            | 2.08     | -     | -    | 1.1230           | 4.92  | 1.12              | 4.92  | 3.22     | 14.12    | 0.22     | 0.98 | 0.029    | 0.13     | 3.67       | 16.09 |
| 3a                   | 0.31            | 1.37   | 0.26  | 1.15   | 0.017 | 0.075  | 0.045           | 0.20     | -     | -    | 0.024            | 0.10  | 0.024             | 0.10  | 1.31E-03 | 5.75E-03 | -        | -    | 1.20E-03 | 5.25E-03 | 5.39E-03   | 0.024 |
| 3b <sup>1</sup>      | -               | -      | -     | -      | -     | -      | -               | -        | -     | -    | -                | -     | -                 | -     | -        | -        | -        | -    | -        | -        | -          | -     |
| 4                    | 0.63            | 2.78   | 0.53  | 2.33   | 0.035 | 0.15   | 0.091           | 0.40     | -     | -    | 0.048            | 0.21  | 0.048             | 0.21  | 6.34E-03 | 0.028    | -        | -    | 0.011    | 0.046    | 0.11       | 0.47  |
| 6                    | 0.10            | 0.44   | 0.20  | 0.88   | 0.22  | 0.98   | 6.29E-04        | 2.75E-03 | -     | -    | -                | -     | -                 | -     | -        | -        | -        | -    | -        | -        | 0.075      | 0.33  |
| FUG                  | -               | -      | -     | -      | *     | 1.11   | -               | -        | -     | -    | -                | -     | -                 | -     | -        | -        | -        | -    | -        | -        | *          | 0.024 |
| SSM/M1               | -               | -      | -     | -      | -     | 10.00  | -               | -        | -     | -    | -                | -     | -                 | -     | -        | -        | -        | -    | -        | -        | -          | -     |
| Total                | 55.61           | 243.58 | 55.56 | 243.36 | 39.96 | 186.13 | 1.09            | 4.76     | 0.00  | 0.00 | 2.32             | 10.15 | 2.32              | 10.15 | 6.46     | 28.28    | 0.45     | 1.96 | 0.07     | 0.31     | 7.53       | 33.02 |

### Notes

"\*" Denotes an hourly emission limit is not appropriate for this source

"-" Denotes emissions of this pollutant are negligible or not expected

Dehydrator condensor still vent vapors are routed to the process flare (Unit 6) for destruction; emissions are represented at that unit. Dehydrator flash tank emissions are routed to the reboiler to be used as fuel. In a controlled <sup>1</sup> scenario, there are no emissions from unit 3b.

<sup>2</sup> As a conservative measure, uncontrolled flare emissions are represented as pilot-only emissions. Unit 6 routinely flares dehydrator condenser off-gas and does not operate with pilot only.

El Paso Natural Gas Company, LLC - Washington Ranch Storage Facility

Engine Emissions

|                     |                                                                                       |  |  |
|---------------------|---------------------------------------------------------------------------------------|--|--|
| Emission Unit:      | 1 & 2                                                                                 |  |  |
| Source Description: | Natural gas-fired turbocharged reciprocating engines powering natural gas compressors |  |  |
| Manufacturer:       | Cooper-Bessemer                                                                       |  |  |
| Model:              | 12Q155HC2                                                                             |  |  |
| Type                | Clean-burn engines                                                                    |  |  |

|              |      |     |                 |
|--------------|------|-----|-----------------|
| Sea level Hp | 4500 | hp  |                 |
| Elevation    | 3710 | msl |                 |
| Site HP      | 4500 | hp  | No derate taken |

Fuel Consumption

|                   |       |           |                                     |
|-------------------|-------|-----------|-------------------------------------|
| Heat Rate         | 7000  | Btu/hp-hr | Engineering estimate                |
| Fuel heat value   | 947   | Btu/scf   | LHV                                 |
| Heat Input        | 31.5  | MMBtu/hr  | BTU/hp-hr * hp/ 1,000,000 Btu/MMBtu |
| Fuel consumption  | 33.3  | Mscf/hr   | MMBTU/hr / BTU/scf                  |
| Annual fuel usage | 291.4 | MMscf/yr  | Assumes 8760 hrs/yr operation       |

Emission Calculations

| NO <sub>x</sub>           | CO    | VOC                     | SO <sub>2</sub> <sup>(1)</sup> | PM       |                                                                                                     |
|---------------------------|-------|-------------------------|--------------------------------|----------|-----------------------------------------------------------------------------------------------------|
| 2.75                      | 2.75  |                         |                                |          |                                                                                                     |
|                           |       | 1.0                     |                                | 0.036    | g/hp-hr<br>lb/MMBtu<br>Design (2005 LE conversion)<br>AP-42 Table 3.2-1a: (lb/MMscf)*(scf/1020 BTU) |
|                           |       | 100%                    | 0.050                          | gr S/scf | Test data (assumes VOCs as 10% of THC)                                                              |
|                           |       | 2.0                     |                                | %        | Pipeline specification                                                                              |
|                           |       |                         |                                | g/hp-hr  | Safety factor                                                                                       |
|                           |       |                         |                                |          | Includes safety factor                                                                              |
| 27.3                      | 27.3  | 19.8                    | 0.48                           | 1.12     | lb/hr                                                                                               |
| 119.5                     | 119.5 | 86.9                    | 2.1                            | 4.92     | tpy                                                                                                 |
|                           |       |                         |                                |          | Assumes 8760 hrs/yr operation                                                                       |
| Total HAPS <sup>(2)</sup> | HCOH  | Acrolein <sup>(2)</sup> | n-Hexane <sup>(2)</sup>        |          |                                                                                                     |
|                           | 0.26  |                         |                                | g/hp-hr  |                                                                                                     |
| 10%                       | 25%   | 10%                     | 10%                            | %        | Average of 0 Test data, 3/16/2010                                                                   |
|                           | 0.33  |                         |                                | g/hp-hr  | Safety factor                                                                                       |
|                           |       |                         |                                |          | Includes safety factor                                                                              |
| 3.7                       | 3.2   | 0.22                    | 0.029                          | lb/hr    |                                                                                                     |
| 16.1                      | 14.1  | 0.98                    | 0.13                           | tpy      | Assumes 8760 hrs/yr operation                                                                       |

GHG Emission Calculations

| CO <sub>2</sub> | N <sub>2</sub> O | CH <sub>4</sub> |                           |                                          |
|-----------------|------------------|-----------------|---------------------------|------------------------------------------|
| 53.06           | 1.00E-04         | 1.00E-03        | kg/MMBtu                  | 40 CFR 98, Subpart C, Tables C-1 and C-2 |
| 14641376        | 28               | 276             | kg / yr                   |                                          |
| 16134.80        | 0.030            | 0.30            | tons / yr                 |                                          |
| 1.00            | 298.000          | 25.00           | GWP                       |                                          |
| 16134.80        | 9.05             | 7.59            | tons/yr CO <sub>2</sub> e |                                          |

Notes

- (1) (5 gr S/100scf)\*(lb/7000 gr)\*(1000\*Fuel usage scf/hr)\*(64 lb SO<sub>2</sub>/32 lb S)
- (2) Total HAPs = (Total GRI-HAPCalc HAPs)\*(1+10% Safety Factor) - (GRI-HAPCalc HCOH)\*(1+10% Safety Factor) + Test data HCOH
- Acrolein/Hexane emissions = (Total GRI-HAPCalc HAP)\*(1+10% Safety Factor)

**El Paso Natural Gas Company, LLC - Washington Ranch Storage Facility**

**Dehydrator Reboiler Emissions**

Emission Unit: 3a  
Source Description: Dehydrator reboiler

**Fuel Consumption**

|                 |        |          |                                                       |
|-----------------|--------|----------|-------------------------------------------------------|
| Input heat rate | 3      | MMBtu/hr | As permitted (based on engineering estimate)          |
| Fuel heat value | 959.95 | Btu/scf  |                                                       |
| Fuel usage      | 3.13   | Mscf/hr  | Heat Input Rate MMBtu/hr *scf/947 Btu*1000 Mbtu/MMBtu |
| Fuel usage      | 27.4   | MMscf/yr | Fuel usage Mscf/hr*8760 hrs/yr*MMscf/1000 Mscf        |

**Emission Rates**

| NO <sub>x</sub>     | CO                  | VOC                     | SO <sub>2</sub> <sup>(1)</sup> | PM           |              |                                     |
|---------------------|---------------------|-------------------------|--------------------------------|--------------|--------------|-------------------------------------|
| 100                 | 84                  | 5.5                     |                                | 7.6          | lb/MMscf     | AP-42 Tables 1.4-1 and 1.4-2        |
|                     |                     |                         | 0.050                          |              | gr S/scf     | Pipeline specification              |
| <b>0.31</b>         | <b>0.26</b>         | <b>0.017</b>            | <b>0.045</b>                   | <b>0.024</b> | <b>lb/hr</b> |                                     |
| <b>1.4</b>          | <b>1.1</b>          | <b>0.075</b>            | <b>0.20</b>                    | <b>0.10</b>  | <b>tpy</b>   | (lb/hr)*(8760 hrs/yr)*(ton/2000 lb) |
| <b>Total</b>        |                     |                         |                                |              |              |                                     |
| HAPS <sup>(2)</sup> | HCOH <sup>(2)</sup> | Acrolein <sup>(2)</sup> | n-Hexane <sup>(2)</sup>        |              |              |                                     |
| 25%                 | 25%                 | 25%                     | 25%                            |              |              | Safety factor                       |
| <b>0.0054</b>       | <b>0.0013</b>       | -                       | <b>0.0012</b>                  |              |              |                                     |
| <b>0.024</b>        | <b>0.0058</b>       | -                       | <b>0.0053</b>                  |              |              | (lb/hr)*(8760 hrs/yr)*(ton/2000 lb) |

**GHG Emission Calculations**

| CO <sub>2</sub> | N <sub>2</sub> O | CH <sub>4</sub> |                           |                                          |
|-----------------|------------------|-----------------|---------------------------|------------------------------------------|
| 53.06           | 1.00E-04         | 1.00E-03        | kg/MMBtu                  | 40 CFR 98, Subpart C, Tables C-1 and C-2 |
| 1394417         | 3                | 26              | kg / yr                   |                                          |
| 1536.6          | 0.0029           | 0.029           | tons / yr                 |                                          |
| 1.00            | 298.00           | 25.00           | GWP                       |                                          |
| 1536.6          | 0.86             | 0.72            | tons/yr CO <sub>2</sub> e |                                          |

**Notes**

- (1) (2 gr S/100scf)\*(lb/7000 gr)\*(1000\*Fuel usage scf/hr)\*(64 lb SO<sub>2</sub>/32 lb S)  
(2) HAP emissions calculated using GRI-HAPCalc with a 25% safety factor added

|                       |       |        |                                                         |
|-----------------------|-------|--------|---------------------------------------------------------|
| Site Elevation        | 3710  | ft MSL |                                                         |
| Standard Pressure     | 29.92 | in Hg  |                                                         |
| Pressure at Elevation | 26.12 | in Hg  | Hess, Introduction to Theoretical Meteorology, eqn. 6.8 |
| Standard Temperature  | 528   | R      |                                                         |

**Exhaust Parameters**

*Reboiler Stack (3a)*

|                                |        |            |                                                                       |              |
|--------------------------------|--------|------------|-----------------------------------------------------------------------|--------------|
| Exhaust temp                   | 600    | °F         | Engineering estimate                                                  |              |
| Stack height                   | 30     | ft         | As permitted (based on engineering estimate)                          |              |
| Stack diameter                 | 1.0    | ft         | As permitted (based on engineering estimate)                          |              |
| 40 CFR 60 Appendix A Method 19 | 10610  | wscf/MMBtu |                                                                       |              |
| Exhaust flow (Vs)              | 530.5  | scfm       | Heat input*F factor/60                                                | 8.8 scf/sec  |
| Exhaust flow (Va)              | 1219.6 | acfm       | Va = Vs*(Ps/Pa)*(Ta/Ts)                                               | 20.3 acf/sec |
| Exhaust velocity               | 25.9   | ft/sec     | Exhaust flow acfm /(Pi * (stack diameter/2) <sup>2</sup> ) * min/60 s |              |

Glycol Dehydrator

Unit: 3b  
Description: Glycol Dehydrator  
Control Equipment: BTEX Condenser and Flare  
Dry Gas Flow Rate: 250 MMscfd

Pump Circulation Rate: 12.5 gpm

Uncontrolled Emissions<sup>1</sup>

| Unit        | VOC   |       | H <sub>2</sub> S |          | Methane |       | CO <sub>2</sub> |       | Total HAP |       | n-Hexane |      | Benzene |       | Toluene |       | Ethylbenzene |        | Xylenes |       |
|-------------|-------|-------|------------------|----------|---------|-------|-----------------|-------|-----------|-------|----------|------|---------|-------|---------|-------|--------------|--------|---------|-------|
|             | lb/hr | tpy   | lb/hr            | tpy      | lb/hr   | tpy   | lb/hr           | tpy   | lb/hr     | tpy   | lb/hr    | tpy  | lb/hr   | tpy   | lb/hr   | tpy   | lb/hr        | tpy    | lb/hr   | tpy   |
| Flash Tank  | 2.93  | 12.82 | 0.00E+00         | 0.00E+00 | 21.66   | 94.86 | 3.45            | 15.11 | 0.092     | 0.40  | 0.062    | 0.27 | 0.010   | 0.042 | 0.015   | 0.066 | 0.00070      | 0.0031 | 0.0040  | 0.018 |
| Regenerator | 16.66 | 72.98 | 0.00E+00         | 0.00E+00 | 3.74    | 16.38 | 5.28            | 23.13 | 4.20      | 18.40 | 0.24     | 1.06 | 0.83    | 3.65  | 1.81    | 7.94  | 0.14         | 0.62   | 1.17    | 5.13  |

Controlled Emissions<sup>2</sup>

| Unit        | VOC                                                                                                                        |          | H <sub>2</sub> S |          | Methane  |          | CO <sub>2</sub> |          | Total HAP |          | n-Hexane |          | Benzene  |          | Toluene  |          | Ethylbenzene |          | Xylenes  |          |
|-------------|----------------------------------------------------------------------------------------------------------------------------|----------|------------------|----------|----------|----------|-----------------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|--------------|----------|----------|----------|
|             | lb/hr                                                                                                                      | tpy      | lb/hr            | tpy      | lb/hr    | tpy      | lb/hr           | tpy      | lb/hr     | tpy      | lb/hr    | tpy      | lb/hr    | tpy      | lb/hr    | tpy      | lb/hr        | tpy      | lb/hr    | tpy      |
| Flash Tank  | 0.00E+00                                                                                                                   | 0.00E+00 | 0.00E+00         | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00        | 0.00E+00 | 0.00E+00  | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00     | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Regenerator | Regenerator Overheads are controlled by the BTEX condenser and the flare (Unit 6). Emissions are represented at that unit. |          |                  |          |          |          |                 |          |           |          |          |          |          |          |          |          |              |          |          |          |

Notes

<sup>1</sup> Emissions are calculated using GRI-GLYCalc uncontrolled regenerator emissions and flash tank off-gas streams.  
<sup>2</sup> Flash tank off-gas emissions are routed to the reboiler to be used as fuel with a 100% capture efficiency. Regenerator emissions are controlled by a BTEX condenser and flare (Unit 6).

Heater Emissions

Emission Unit: 4  
Source Description: Gas heater

Fuel Consumption

|                 |      |          |                                                       |
|-----------------|------|----------|-------------------------------------------------------|
| Input heat rate | 6    | MMBtu/hr | As permitted (based on engineering estimate)          |
| Fuel heat value | 947  | Btu/scf  |                                                       |
| Fuel usage      | 6.34 | Mscf/hr  | Heat Input Rate MMBtu/hr *scf/947 Btu*1000 Mbtu/MMBtu |
| Fuel usage      | 55.5 | MMscf/yr | Fuel usage Mscf/hr*8760 hrs/yr*MMscf/1000 Mscf        |

Emission Rates

| NO <sub>x</sub>     | CO                  | VOC                     | SO <sub>2</sub> <sup>(1)</sup> | PM    |          |                                     |
|---------------------|---------------------|-------------------------|--------------------------------|-------|----------|-------------------------------------|
| 100                 | 84                  | 5.5                     |                                | 7.6   | lb/MMscf | AP-42 Tables 1.4-1 and 1.4-2        |
|                     |                     |                         | 0.050                          |       | gr S/scf | Pipeline specification              |
| 0.63                | 0.53                | 0.03                    | 0.091                          | 0.048 | lb/hr    |                                     |
| 2.8                 | 2.3                 | 0.15                    | 0.40                           | 0.21  | tpy      | (lb/hr)*(8760 hrs/yr)*(ton/2000 lb) |
| Total               |                     |                         |                                |       |          |                                     |
| HAPS <sup>(2)</sup> | HCOH <sup>(2)</sup> | Acrolein <sup>(2)</sup> | n-Hexane <sup>(2)</sup>        |       |          |                                     |
| 25%                 | 25%                 | 25%                     | 25%                            | %     |          | Safety factor                       |
| 0.11                | 0.0063              | -                       | 0.011                          | lb/hr |          |                                     |
| 0.47                | 0.028               | -                       | 0.046                          | tpy   |          | (lb/hr)*(8760 hrs/yr)*(ton/2000 lb) |

GHG Emission Calculations

| CO <sub>2</sub> | N <sub>2</sub> O | CH <sub>4</sub> |                           |                                          |
|-----------------|------------------|-----------------|---------------------------|------------------------------------------|
| 53.06           | 1.00E-04         | 1.00E-03        | kg/MMBtu                  | 40 CFR 98, Subpart C, Tables C-1 and C-2 |
| 2788834         | 5                | 53              | kg / yr                   |                                          |
| 3073.29         | 0.0058           | 0.058           | tons / yr                 |                                          |
| 1               | 298              | 25              | Global Warming Potential  |                                          |
| 3073.29         | 1.72             | 1.45            | tons/yr CO <sub>2</sub> e |                                          |

Notes

- (1) (5 gr S/100scf)\*(lb/7000 gr)\*(1000\*Fuel usage scf/hr)\*(64 lb SO<sub>2</sub>/32 lb S)  
(2) HAP emissions calculated using GRI-HAPCalc with a 25% safety factor added

Site Data

|                       |       |        |                                                         |
|-----------------------|-------|--------|---------------------------------------------------------|
| Site Elevation        | 3710  | ft MSL |                                                         |
| Standard Pressure     | 29.92 | in Hg  |                                                         |
| Pressure at Elevation | 26.12 | in Hg  | Hess, Introduction to Theoretical Meteorology, eqn. 6.8 |
| Standard Temperature  | 528   | R      |                                                         |

Exhaust Parameters

|                                |        |            |                                                                       |
|--------------------------------|--------|------------|-----------------------------------------------------------------------|
| Exhaust temp                   | 600    | °F         | Engineering estimate                                                  |
| Stack height                   | 60     | ft         | As permitted (based on engineering estimate)                          |
| Stack diameter                 | 2.0    | ft         | As permitted (based on engineering estimate)                          |
| 40 CFR 60 Appendix A Method 19 | 10610  | wscf/MMBtu |                                                                       |
| Exhaust flow (Vs)              | 1061.0 | scfm       | Heat input*F factor/60                                                |
| Exhaust flow (Va)              | 2439.2 | acfm       | Va = Vs*(Ps/Pa)*(Ta/Ts)                                               |
| Exhaust velocity               | 12.9   | ft/sec     | Exhaust flow acfm /(Pi * (stack diameter/2) <sup>2</sup> ) * min/60 s |

Washington Ranch storage Facility

|                     |                                  |                                                                                        |
|---------------------|----------------------------------|----------------------------------------------------------------------------------------|
| Unit:               | 5                                |                                                                                        |
| Description:        | Cummins GTA1710 auxiliary engine |                                                                                        |
| Site Rating:        | 600                              | hp                                                                                     |
| Fuel Heating Value: | 947                              | Btu/scf, nominal                                                                       |
| Fuel Usage:         | 104                              | scm/hr, mfg. data                                                                      |
| Fuel Usage:         | 3673                             | scf/hr      Fuel usage (scm/hr) * 35.3147cf/m <sup>3</sup>                             |
| Fuel Usage:         | 3.5                              | MMBtu/hr    Fuel usage (scf/hr) * Heating value (Btu/scf) * 1MMBtu/10 <sup>6</sup> Btu |
| Operating hours:    | 500                              | hr/yr                                                                                  |

Criteria Pollutant Emission Calculations

|       | NO <sub>x</sub> | CO   | VOC  | SO <sub>2</sub> <sup>1</sup> | PM       | Formaldehyde | Acrolein | n-Hexane | Total HAPs |             |                                     |
|-------|-----------------|------|------|------------------------------|----------|--------------|----------|----------|------------|-------------|-------------------------------------|
|       | 4.08            | 0.56 | 0.12 |                              | 7.71E-05 |              |          |          |            | lb/MMBtu    | AP-42 Table 3.2-2                   |
|       |                 |      |      | 5.00                         |          |              |          |          |            | gr S/100scf |                                     |
|       | 14.2            | 1.9  | 0.41 | 0.052                        | 2.7E-04  |              |          |          |            | lb/hr       | EF (lb/MMBtu) * Rating (MMBtu)      |
|       | 3.5             | 0.48 | 0.10 | 0.013                        | 6.7E-05  |              |          |          |            | tons/yr     | lb/hr * hr/yr * 1ton/2000lb         |
|       |                 |      |      |                              |          | 0.048        | 0.0047   | 0.0010   | 0.065      | tpy         | HAP emissions from GRI-HAPCalc 3.01 |
| Total | 14.19           | 1.94 | 0.41 | 0.052                        | 2.68E-04 | 0.011        | 1.07E-03 | 2.28E-04 | 0.015      | lb/hr       |                                     |
|       | 3.55            | 0.48 | 0.10 | 0.013                        | 6.70E-05 | 0.048        | 4.70E-03 | 1.00E-03 | 0.065      | tons/yr     |                                     |

Footnotes

<sup>1</sup> SO<sub>2</sub> lb/hr = 5grS/100scf \* 1lb/7000gr \* Fuel usage (scf/hr) \* 64gSO<sub>2</sub>/32gS

| CO <sub>2</sub> | N <sub>2</sub> O | CH <sub>4</sub> |                           |                                          |
|-----------------|------------------|-----------------|---------------------------|------------------------------------------|
| 53.06           | 1.00E-04         | 1.00E-03        | kg/MMBtu                  | 40 CFR 98, Subpart C, Tables C-1 and C-2 |
| 92273           | 0.17             | 1.74            | kg / yr                   |                                          |
| 101.69          | 0.00019          | 0.0019          | tons / yr                 |                                          |
| 1               | 298              | 25              | Global Warming Potential  |                                          |
| 101.69          | 0.057            | 0.048           | tons/yr CO <sub>2</sub> e |                                          |

Process Flare

Emission Unit: 6  
Source Description: Uncondensable Regenerator Overheads

VOC Heat Input and Flow Rate Calculation Per Unit

| Parameters                              | Value    | Unit     | Notes                                                           |
|-----------------------------------------|----------|----------|-----------------------------------------------------------------|
| Number of process flares                | 1        | -        |                                                                 |
| VOC Emissions                           | 48.86    | tpy      | Uncondensable Regenerator Overheads                             |
| HAP Emissions                           | 16.51    | tpy      | Uncondensable Regenerator Overheads                             |
| Total Flared Gas Heating Value          | 820.56   | Btu/scf  | Weighted average heating value from all streams                 |
| Total Flared Gas Flow                   | 395.00   | scf/hr   | Total flow from all streams to flare                            |
| Total Flared Gas Heating Rate           | 0.32     | MMBtu/hr | Calculated based on heating value and steady-state flow         |
| Flared Gas Flow Rate with Safety Factor | 100%     | %        | Safety factor                                                   |
|                                         | 790.00   | scf/hr   | Flow with safety factor                                         |
|                                         | 6.92     | MMscf/yr |                                                                 |
| Short-Term Safety Factor                | 0%       | -        | Applied to emissions to account for variations in heat content. |
| Heating Rate                            | 0.65     | MMBtu/hr |                                                                 |
| Flare pilot                             | 44       | scf/hr   | Engineering Estimate                                            |
|                                         | 100%     |          | Safety factor                                                   |
|                                         | 88       | scf/hr   | Pilot flow with safety factor                                   |
| Pipeline Gas HHV                        | 8.80E-05 | MMscf/hr |                                                                 |
|                                         | 947      | Btu/scf  | Facility specification                                          |
| Flare Heat Input                        | 0.083    | MMBtu/hr |                                                                 |
|                                         | 0.77     | MMscf/yr |                                                                 |
| Heating Rate + Pilot                    | 0.73     | MMBtu/hr |                                                                 |

| Emission Rates Per Unit |                 |        |                  |                              |                  |                   |                          |                                     |
|-------------------------|-----------------|--------|------------------|------------------------------|------------------|-------------------|--------------------------|-------------------------------------|
|                         | NO <sub>x</sub> | CO     | VOC <sup>1</sup> | SO <sub>2</sub> <sup>2</sup> | H <sub>2</sub> S | HAPs <sup>1</sup> | Units                    | Notes                               |
| Emission Factors        | 0.1380          | 0.2755 |                  |                              |                  |                   | lb/MMBtu                 | TNRCC RG-109 (high Btu; other)      |
|                         |                 |        |                  | 3.14E-04                     |                  |                   | lb H <sub>2</sub> S/Mscf |                                     |
|                         |                 |        | 48.86            |                              | -                | 16.51             | lb S/hr tpy              | Uncondensable Regenerator Overheads |
| Pilot Emissions         | 0.012           | 0.023  | -                | 6.29E-04                     |                  | -                 | lb/hr                    |                                     |
|                         | 0.050           | 0.10   | -                | 0.0028                       |                  | -                 | tpy                      |                                     |
| Process Emissions       | 0.089           | 0.18   | -                | -                            | -                | -                 | lb/hr                    |                                     |
|                         |                 |        | 0.223            | -                            | -                | 0.075             | lb/hr                    |                                     |
|                         | 0.39            | 0.78   | 0.98             | -                            | -                | 0.330             | tpy                      |                                     |
| Total Emissions         | 0.10            | 0.20   | 0.22             | 0.00063                      | -                | 0.075             | lb/hr                    |                                     |
|                         | 0.44            | 0.88   | 0.98             | 0.0028                       | -                | 0.33              | tpy                      |                                     |

<sup>1</sup> The flare controls the uncondensed regenerator overheads from the condenser stream. 98% DRE

<sup>2</sup> Fuel sulfur content is assumed to be 5 gr/100 Scf

"-" Indicates emissions of this pollutant are not expected.

Flare GHG Emissions - Combustion Stream

\$98.233(n) Flare stack GHG emissions.

Step 1. Calculate contribution of un-combusted CH4 emissions from the regenerator combustion gas vent (actual conditions).

$E_{a,CH4} \text{ (un-combusted)} = V_a * (1 - \eta) * X_{CH4}$  (Equation W-39B)  
where:  
 $E_{a,CH4}$  = contribution of annual un-combusted CH4 emissions from regenerator in cubic feet under actual conditions.  
 $V_a$  = volume of gas sent to combustion unit during the year (cf)  
 $\eta$  = Fraction of gas combusted by a burning flare (or regenerator), default value from Subpart W = 0.98  
For gas sent to an unlit flare,  $\eta$  is zero.  
 $X_{CH4}$  = Mole fraction of CH4 in gas to the flare = 0.2232 (Client gas analysis)

Step 2. Calculate contribution of un-combusted CO2 emissions from the regenerator combustion gas vent (actual conditions).

$E_{a,CO2} = V_a * X_{CO2}$  (Equation W-20)  
where:  
 $E_{a,CO2}$  = contribution of annual un-combusted CO2 emissions from regenerator in cubic feet under actual conditions.  
 $V_a$  = volume of gas sent to combustion unit during the year (cf)  
 $X_{CO2}$  = Mole fraction of CO2 in gas to the flare = 0.115

Step 3. Calculate contribution of combusted CO2 emissions from the regenerator combustion gas vent (actual conditions).

$E_{a,CO2} \text{ (combusted)} = \sum (\eta * V_a * Y_j * R_j)$  (Equation W-21)  
where:  
 $\eta$  = Fraction of gas combusted by a burning flare (or regenerator) = 0.98  
For gas sent to an unlit flare,  $\eta$  is zero.  
 $V_a$  = volume of gas sent to combustion unit during the year (cf)  
 $Y_j$  = mole fraction of gas hydrocarbon constituents j:  
Constituent j, Methane = 0.223 (Client gas analysis)  
Constituent j, Ethane = 0.053  
Constituent j, Propane = 0.023  
Constituent j, Butane = 0.019  
Constituent j, Pentanes Plus = 0.090  
 $R_j$  = number of carbon atoms in the gas hydrocarbon constituent j:  
Constituent j, Methane = 1  
Constituent j, Ethane = 2  
Constituent j, Propane = 3  
Constituent j, Butane = 4  
Constituent j, Pentanes Plus = 5

Step 4. Calculate GHG volumetric emissions at standard conditions (scf).

$E_{s,n} = \frac{E_{a,n} * (459.67 + T_s) * P_a}{(459.67 + T_a) * P_s}$  (Equation W-33)  
where:  
 $E_{s,n}$  = GHG i volumetric emissions at standard temperature and pressure (STP) in cubic feet  
 $E_{a,n}$  = GHG i volumetric emissions at actual conditions (cf)  
 $T_s$  = Temperature at standard conditions (F) = 60 F  
 $T_a$  = Temperature at actual conditions (F) = 76 F (Based on Annual Avg Max Temperature for Hobbs, NM from Western Regional Climate Center)  
 $P_s$  = Absolute pressure at standard conditions (psia) = 14.7 psia  
 $P_a$  = Absolute pressure at actual conditions (psia) = 12.83 psia  
Constant = 459.67 (temperature conversion from F to R)

Step 5. Calculate annual CH4 and CO2 mass emissions (ton).

$Mass_{s,i} = E_{s,i} * \rho_i * 0.0011023$  (Equation W-36)  
where:  
 $Mass_{s,i}$  = GHG i (CO2, CH4, or N2O) mass emissions at standard conditions in tons (tpy)  
 $E_{s,i}$  = GHG i (CO2, CH4, or N2O) volumetric emissions at standard conditions (cf)  
 $\rho_i$  = Density of GHG i. Use:  
CH4: 0.0192 kg/ft³ (at 60F and 14.7 psia)  
CO2: 0.0526 kg/ft³ (at 60F and 14.7 psia)

Step 6. Calculate annual N2O emissions from portable or stationary fuel combustion sources under actual conditions (cf) using Equation W-40 .

$Mass_{N2O} = 0.0011023 * Fuel * HHV * EF$  (Equation W-40)  
where:  
 $Mass_{N2O}$  = annual N2O emissions from combustion of a particular type of fuel ( tons ).  
Fuel = mass or volume of the fuel combusted  
HHV = high heat value of the fuel  
Field gas HHV = 1.235E-03 MMBtu/scf (Default provided in Subpart W Final Amendment;)  
EF = 1.00E-04 kg N2O/MMBtu  
 $10^{-3}$  = conversion factor from kg to metric tons.

Step 7. Calculate total annual emission from flare (regenerator) by summing Equations W-40, W-19, W-20, and W-21.

| Gas Sent to Flare (cf/yr) | CH4 Un-Combusted, $E_{a,CH4}$ (cf) | CO2 Un-Combusted, $E_{a,CO2}$ (cf) | CO2 Combusted, $E_{a,CO2}$ (cf) | CH4 Un-Combusted, $E_{a,CH4}$ (scf) | CO2 Un-Combusted, $E_{a,CO2}$ (scf) | CO2 Combusted, $E_{a,CO2}$ (scf) | CH4 Un-Combusted, $E_{a,CH4}$ (tonne/yr) | CO2 Un-Combusted, $E_{a,CO2}$ (tonne/yr) | CO2 Combusted, $E_{a,CO2}$ (tonne/yr) | N2O Mass Emissions (tonne/yr) | CO2e Mass Emissions (tonne/yr) |
|---------------------------|------------------------------------|------------------------------------|---------------------------------|-------------------------------------|-------------------------------------|----------------------------------|------------------------------------------|------------------------------------------|---------------------------------------|-------------------------------|--------------------------------|
| 6,920,400                 | 30,896                             | 793,479                            | 6,290,069                       | 26,145                              | 671,478                             | 5,322,944                        | 0.50                                     | 35.32                                    | 279.99                                | 0.00085                       | 328.1                          |

Flare GHG Emissions - Pilot

§98.233(n) Flare stack GHG emissions.

Step 1. Calculate contribution of un-combusted CH4 emissions from the regenerator combustion gas vent (actual conditions).

$E_{a,CH4}$  (un-combusted) =  $V_a * (1 - \eta) * X_{CH4}$  (Equation W-39B)  
where:  
 $E_{a,CH4}$  = contribution of annual un-combusted CH4 emissions from regenerator in cubic feet under actual conditions.  
 $V_a$  = volume of gas sent to combustion unit during the year (cf)  
 $\eta$  = Fraction of gas combusted by a burning flare (or regenerator), default value from Subpart W = 0.98  
For gas sent to an unlit flare,  $\eta$  is zero.  
 $X_{CH4}$  = Mole fraction of CH4 in gas to the flare = 0.9468 (Client gas analysis)

Step 2. Calculate contribution of un-combusted CO2 emissions from the regenerator combustion gas vent (actual conditions).

$E_{a,CO2}$  =  $V_a * X_{CO2}$  (Equation W-20)  
where:  
 $E_{a,CO2}$  = contribution of annual un-combusted CO2 emissions from regenerator in cubic feet under actual conditions.  
 $V_a$  = volume of gas sent to combustion unit during the year (cf)  
 $X_{CO2}$  = Mole fraction of CO2 in gas to the flare = 0.007

Step 3. Calculate contribution of combusted CO2 emissions from the regenerator combustion gas vent (actual conditions).

$E_{a,CO2}$  (combusted) =  $\sum (\eta * V_a * Y_j * R_j)$  (Equation W-21)  
where:  
 $\eta$  = Fraction of gas combusted by a burning flare (or regenerator) = 0.98  
For gas sent to an unlit flare,  $\eta$  is zero.  
 $V_a$  = volume of gas sent to combustion unit during the year (cf)  
 $Y_j$  = mole fraction of gas hydrocarbon constituents j:  
Constituent j, Methane = 0.947 (Client gas analysis)  
Constituent j, Ethane = 0.025  
Constituent j, Propane = 0.004  
Constituent j, Butane = 0.001  
Constituent j, Pentanes Plus = 0.001  
 $R_j$  = number of carbon atoms in the gas hydrocarbon constituent j:  
Constituent j, Methane = 1  
Constituent j, Ethane = 2  
Constituent j, Propane = 3  
Constituent j, Butane = 4  
Constituent j, Pentanes Plus = 5

Step 4. Calculate GHG volumetric emissions at standard conditions (scf).

$E_{s,n} = \frac{E_{a,n} * (459.67 + T_s) * P_a}{(459.67 + T_a) * P_s}$  (Equation W-33)  
where:  
 $E_{s,n}$  = GHG i volumetric emissions at standard temperature and pressure (STP) in cubic feet  
 $E_{a,n}$  = GHG i volumetric emissions at actual conditions (cf)  
 $T_s$  = Temperature at standard conditions (F) = 60 F  
 $T_a$  = Temperature at actual conditions (F) = 76 F (Based on Annual Avg Max Temperature for Hobbs, NM from Western Regional Climate Center)  
 $P_s$  = Absolute pressure at standard conditions (psia) = 14.7 psia  
 $P_a$  = Absolute pressure at actual conditions (psia) = 12.83 psia  
Constant = 459.67 (temperature conversion from F to R)

Step 5. Calculate annual CH4 and CO2 mass emissions (ton).

$Mass_{s,i} = E_{s,i} * \rho_i * 0.0011023$  (Equation W-36)  
where:  
 $Mass_{s,i}$  = GHG i (CO2, CH4, or N2O) mass emissions at standard conditions in tons (tpy)  
 $E_{s,i}$  = GHG i (CO2, CH4, or N2O) volumetric emissions at standard conditions (cf)  
 $\rho_i$  = Density of GHG i. Use:  
CH4: 0.0192 kg/ft³ (at 60F and 14.7 psia)  
CO2: 0.0526 kg/ft³ (at 60F and 14.7 psia)

Step 6. Calculate annual N2O emissions from portable or stationary fuel combustion sources under actual conditions (cf) using Equation W-40 .

$Mass_{N2O} = 0.0011023 * Fuel * HHV * EF$  (Equation W-40)  
where:  
 $Mass_{N2O}$  = annual N2O emissions from combustion of a particular type of fuel ( tons ).  
Fuel = mass or volume of the fuel combusted  
HHV = high heat value of the fuel  
Field gas HHV = 1.235E-03 MMBtu/scf (Default provided in Subpart W Final Amendment;)  
EF = 1.00E-04 kg N2O/MMBtu  
 $10^{-3}$  = conversion factor from kg to metric tons.

Step 7. Calculate total annual emission from flare (regenerator) by summing Equations W-40, W-19, W-20, and W-21.

| Gas Sent to Flare (cf/yr) | CH4 Un-Combusted, $E_{a,CH4}$ (cf) | CO2 Un-Combusted, $E_{a,CO2}$ (cf) | CO2 Combusted, $E_{a,CO2}$ (cf) | CH4 Un-Combusted, $E_{a,CH4}$ (scf) | CO2 Un-Combusted, $E_{a,CO2}$ (scf) | CO2 Combusted, $E_{a,CO2}$ (scf) | CH4 Un-Combusted, $E_{a,CH4}$ (tonne/yr) | CO2 Un-Combusted, $E_{a,CO2}$ (tonne/yr) | CO2 Combusted, $E_{a,CO2}$ (tonne/yr) | N2O Mass Emissions (tonne/yr) | CO2e Mass Emissions (tonne/yr) |
|---------------------------|------------------------------------|------------------------------------|---------------------------------|-------------------------------------|-------------------------------------|----------------------------------|------------------------------------------|------------------------------------------|---------------------------------------|-------------------------------|--------------------------------|
| 770,880                   | 14,597                             | 5,126                              | 771,388                         | 12,353                              | 4,338                               | 652,783                          | 0.24                                     | 0.23                                     | 34.34                                 | 0.00010                       | 40.5                           |

***El Paso Natural Gas Company, LLC - Washington Ranch Storage Facility***

**Facility Fugitive Emissions**

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Emission Unit: FUG

Source Description: Facility-wide fugitive emissions

**Emissions**

| <b>VOC</b> | <b>Total HAPs</b> |            |                         |
|------------|-------------------|------------|-------------------------|
| 0.5561     | 0.0118            | tpy        | GRI-HAPCalc 3.01        |
| 100%       | 100%              | %          | Safety factor           |
| <b>1.1</b> | <b>0.024</b>      | <b>tpy</b> | Requested Emission Rate |

Emissions estimated using GRI-HAPCalc with default component counts.

# Section 7

## Information Used To Determine Emissions

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

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

The following information used to determine emissions is included:

- **Units 1 and 2 – Cooper-Bessemer Compressor Engines**
  - o Emission test data, 3/16/2010
  - o GRI-HAPCalc output
  - o AP-42 Table 3.2-1
  - o 40 CFR 98 Subpart C Tables C-1 and C-2
- **Unit 3a – Glycol Dehydrator Reboiler**
  - o AP-42 Tables 1.4-1 and 1.4-2
  - o GRI-HAPCalc output
  - o 40 CFR 98 Subpart C Tables C-1 and C-2
- **Unit 3b – Glycol Dehydrator Regenerator**
  - o GRI-GLYCalc output
  - o Extended contactor inlet gas analysis, dated 10/5/2006
- **Unit 4 – Gas Heater**
  - o AP-42 Tables 1.4-1 and 1.4-2
  - o GRI-HAPCalc output
  - o 40 CFR 98 Subpart C Tables C-1 and C-2
- **Unit 5 – Auxiliary Engine**
  - o AP-42 Table 3.2-2
  - o GRI-HapCalc 3.01
- **Unit 6 – Process Flare (Control device for Unit 3b)**
  - o AP-42 Table 13.5-1
  - o TNRCC RG-109
  - o 40 CFR 98.233 - Calculating GHG Emissions
- **Unit FUG – Facility-wide Fugitive Emissions**
  - o GRI-HAPCalc output
- **20.2.50 NMAC Alternative Compliance Plan (ACP) & Alternative Emission Standard (AES)**

**GRI-HAPCalc ® 3.01**  
**Engines Report**

|                   |                          |        |                                |
|-------------------|--------------------------|--------|--------------------------------|
| Facility ID:      | WASHINGTON RANCH         | Notes: | 1 - Cooper-Bessemer engine     |
| Operation Type:   | COMPRESSOR STATION       |        | 2 - Cooper Bessemer engine     |
| Facility Name:    | WASHINGTON RANCH STORAGE |        | 3 - glycol dehydrator reboiler |
| User Name:        |                          |        | 4 - gas heater                 |
| Units of Measure: | U.S. STANDARD            |        | FUG - fugitive emissions       |

*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".*

**Engine Unit**

Unit Name: COOPER

Hours of Operation: 8,760 Yearly  
 Rate Power: 4,500 hp  
 Fuel Type: NATURAL GAS  
 Engine Type: 2-Stroke, Clean Burn  
 Emission Factor Set: FIELD > EPA > LITERATURE  
 Additional EF Set: 2SCB COOPER

**Calculated Emissions (ton/yr)**

| <u>Chemical Name</u>   | <u>Emissions</u> | <u>Emission Factor</u> | <u>Emission Factor Set</u> |
|------------------------|------------------|------------------------|----------------------------|
| <b>HAPs</b>            |                  |                        |                            |
| Formaldehyde           | 3.9384           | 0.09071633 g/bhp-hr    | 2SCB COOPER                |
| Methanol               | 0.3139           | 0.00723090 g/bhp-hr    | GRI Field                  |
| Acetaldehyde           | 0.3156           | 0.00726900 g/bhp-hr    | GRI Field                  |
| 1,3-Butadiene          | 0.0182           | 0.00042000 g/bhp-hr    | GRI Field                  |
| Acrolein               | 0.8907           | 0.02051540 g/bhp-hr    | GRI Field                  |
| Benzene                | 0.0434           | 0.00100000 g/bhp-hr    | GRI Field                  |
| Toluene                | 0.0391           | 0.00090000 g/bhp-hr    | GRI Field                  |
| Xylenes(m,p,o)         | 0.0178           | 0.00041000 g/bhp-hr    | GRI Field                  |
| 2,2,4-Trimethylpentane | 0.0295           | 0.00068000 g/bhp-hr    | GRI Field                  |
| n-Hexane               | 0.1172           | 0.00270000 g/bhp-hr    | GRI Field                  |
| Naphthalene            | 0.0003           | 0.00000840 g/bhp-hr    | GRI Field                  |
| 2-Methylnaphthalene    | 0.0001           | 0.00000160 g/bhp-hr    | GRI Field                  |
| Acenaphthylene         | 0.0000           | 0.00000040 g/bhp-hr    | GRI Field                  |
| Acenaphthene           | 0.0000           | 0.00000010 g/bhp-hr    | GRI Field                  |
| Fluorene               | 0.0000           | 0.00000020 g/bhp-hr    | GRI Field                  |
| Anthracene             | 0.0000           | 0.00000010 g/bhp-hr    | GRI Field                  |
| Phenanthrene           | 0.0000           | 0.00000070 g/bhp-hr    | GRI Field                  |
| Fluoranthene           | 0.0000           | 0.00000020 g/bhp-hr    | GRI Field                  |
| Pyrene                 | 0.0000           | 0.00000030 g/bhp-hr    | GRI Field                  |
| Chrysene               | 0.0000           | 0.00000010 g/bhp-hr    | GRI Field                  |
| Benzo(e)pyrene         | 0.0000           | 0.00000010 g/bhp-hr    | GRI Field                  |
| Benzo(g,h,i)perylene   | 0.0000           | 0.00000010 g/bhp-hr    | GRI Field                  |
| <b>Total</b>           | <b>5.7242</b>    |                        |                            |

### Criteria Pollutants

|     |          |                     |             |
|-----|----------|---------------------|-------------|
| CO  | 27.1465  | 0.62529156 g/bhp-hr | 2SCB COOPER |
| NOx | 113.7323 | 2.61970850 g/bhp-hr | 2SCB COOPER |

### Other Pollutants

|                        |         |                     |             |
|------------------------|---------|---------------------|-------------|
| Methane                | 73.1807 | 1.68564442 g/bhp-hr | 2SCB COOPER |
| Ethylene               | 1.8360  | 0.04228944 g/bhp-hr | 2SCB COOPER |
| Ethane                 | 16.5408 | 0.38100000 g/bhp-hr | GRI Field   |
| Propane                | 4.3414  | 0.10000000 g/bhp-hr | GRI Field   |
| Cyclopentane           | 0.0156  | 0.00036000 g/bhp-hr | GRI Field   |
| n-Pentane              | 0.2605  | 0.00600000 g/bhp-hr | GRI Field   |
| Methylcyclohexane      | 0.0695  | 0.00160000 g/bhp-hr | GRI Field   |
| n-Octane               | 0.0269  | 0.00062000 g/bhp-hr | GRI Field   |
| 1,2,4-Trimethylbenzene | 0.0054  | 0.00012340 g/bhp-hr | GRI Field   |
| n-Nonane               | 0.0091  | 0.00021000 g/bhp-hr | GRI Field   |

## 40 CFR Appendix Table\_C-1\_to\_subpart\_C\_of\_part\_98 - Default CO<sub>2</sub> Emission Factors and High Heat Values for Various Types of Fuel

CFR

### Table C-1 to Subpart C of Part 98 - Default CO<sub>2</sub> Emission Factors and High Heat Values for Various Types of Fuel

#### DEFAULT CO<sub>2</sub> EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

| Fuel type                     | Default high heat value | Default CO <sub>2</sub> emission factor |
|-------------------------------|-------------------------|-----------------------------------------|
| Coal and coke                 | mmBtu/short ton         | kg CO <sub>2</sub> /mmBtu               |
| Anthracite                    | 25.09                   | 103.69                                  |
| Bituminous                    | 24.93                   | 93.28                                   |
| Subbituminous                 | 17.25                   | 97.17                                   |
| Lignite                       | 14.21                   | 97.72                                   |
| Coal Coke                     | 24.80                   | 113.67                                  |
| Mixed (Commercial sector)     | 21.39                   | 94.27                                   |
| Mixed (Industrial coking)     | 26.28                   | 93.90                                   |
| Mixed (Industrial sector)     | 22.35                   | 94.67                                   |
| Mixed (Electric Power sector) | 19.73                   | 95.52                                   |

| Natural gas                                  | mmBtu/scf              | kg CO <sup>2</sup> /mmBtu |
|----------------------------------------------|------------------------|---------------------------|
| (Weighted U.S. Average)                      | $1.026 \times 10^{-3}$ | 53.06                     |
| Petroleum products - liquid                  | mmBtu/gallon           | kg CO <sup>2</sup> /mmBtu |
| Distillate Fuel Oil No. 1                    | 0.139                  | 73.25                     |
| Distillate Fuel Oil No. 2                    | 0.138                  | 73.96                     |
| Distillate Fuel Oil No. 4                    | 0.146                  | 75.04                     |
| Residual Fuel Oil No. 5                      | 0.140                  | 72.93                     |
| Residual Fuel Oil No. 6                      | 0.150                  | 75.10                     |
| Used Oil                                     | 0.138                  | 74.00                     |
| Kerosene                                     | 0.135                  | 75.20                     |
| Liquefied petroleum gases (LPG) <sup>1</sup> | 0.092                  | 61.71                     |
| Propane <sup>1</sup>                         | 0.091                  | 62.87                     |
| Propylene <sup>2</sup>                       | 0.091                  | 67.77                     |
| Ethane <sup>1</sup>                          | 0.068                  | 59.60                     |
| Ethanol                                      | 0.084                  | 68.44                     |
| Ethylene <sup>2</sup>                        | 0.058                  | 65.96                     |
| Isobutane <sup>1</sup>                       | 0.099                  | 64.94                     |
| Isobutylene <sup>1</sup>                     | 0.103                  | 68.86                     |
| Butane <sup>1</sup>                          | 0.103                  | 64.77                     |
| Butylene <sup>1</sup>                        | 0.105                  | 68.72                     |
| Naphtha (<401 deg F)                         | 0.125                  | 68.02                     |
| 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                     |

|                                                        |                        |                            |
|--------------------------------------------------------|------------------------|----------------------------|
| <b>Special Naphtha</b>                                 | 0.125                  | 72.34                      |
| <b>Unfinished Oils</b>                                 | 0.139                  | 74.54                      |
| <b>Heavy Gas Oils</b>                                  | 0.148                  | 74.92                      |
| <b>Lubricants</b>                                      | 0.144                  | 74.27                      |
| <b>Motor Gasoline</b>                                  | 0.125                  | 70.22                      |
| <b>Aviation Gasoline</b>                               | 0.120                  | 69.25                      |
| <b>Kerosene-Type Jet Fuel</b>                          | 0.135                  | 72.22                      |
| <b>Asphalt and Road Oil</b>                            | 0.158                  | 75.36                      |
| <b>Crude Oil</b>                                       | 0.138                  | 74.54                      |
| <b>Petroleum products - solid</b>                      | mmBtu/short ton        | kg CO <sub>2</sub> /mmBtu. |
| <b>Petroleum Coke</b>                                  | 30.00                  | 102.41.                    |
| <b>Petroleum products - gaseous</b>                    | mmBtu/scf              | kg CO <sub>2</sub> /mmBtu. |
| <b>Propane Gas</b>                                     | $2.516 \times 10^{-3}$ | 61.46.                     |
| <b>Other fuels - solid</b>                             | mmBtu/short ton        | kg CO <sub>2</sub> /mmBtu  |
| <b>Municipal Solid Waste</b>                           | $9.95^3$               | 90.7                       |
| <b>Tires</b>                                           | 28.00                  | 85.97                      |
| <b>Plastics</b>                                        | 38.00                  | 75.00                      |
| <b>Other fuels - gaseous</b>                           | mmBtu/scf              | kg CO <sub>2</sub> /mmBtu  |
| <b>Blast Furnace Gas</b>                               | $0.092 \times 10^{-3}$ | 274.32                     |
| <b>Coke Oven Gas</b>                                   | $0.599 \times 10^{-3}$ | 46.85                      |
| <b>Fuel Gas<sup>4</sup></b>                            | $1.388 \times 10^{-3}$ | 59.00                      |
| <b>Biomass fuels - solid</b>                           | mmBtu/short ton        | kg CO <sub>2</sub> /mmBtu  |
| <b>Wood and Wood Residuals (dry basis)<sup>5</sup></b> | 17.48                  | 93.80                      |
| <b>Agricultural Byproducts</b>                         | 8.25                   | 118.17                     |
| <b>Peat</b>                                            | 8.00                   | 111.84                     |

|                                |                        |                           |
|--------------------------------|------------------------|---------------------------|
| <b>Solid Byproducts</b>        | 10.39                  | 105.51                    |
| <b>Biomass fuels - gaseous</b> | mmBtu/scf              | kg CO <sup>2</sup> /mmBtu |
| <b>Landfill Gas</b>            | $0.485 \times 10^{-3}$ | 52.07                     |
| <b>Other Biomass Gases</b>     | $0.655 \times 10^{-3}$ | 52.07                     |
| <b>Biomass Fuels - Liquid</b>  | mmBtu/gallon           | kg CO <sup>2</sup> /mmBtu |
| <b>Ethanol</b>                 | 0.084                  | 68.44                     |
| <b>Biodiesel (100%)</b>        | 0.128                  | 73.84                     |
| <b>Rendered Animal Fat</b>     | 0.125                  | 71.06                     |
| <b>Vegetable Oil</b>           | 0.120                  | 81.55                     |

<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 HHV and the default CO<sup>2</sup> 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>5</sup> Use the following formula to calculate a wet basis HHV for use in Equation C-1:  $HHV^w = ((100 - M)/100) * HHV^d$  where  $HHV^w$  = wet basis HHV, M = moisture content (percent) and  $HHV^d$  = dry basis HHV from Table C-1.

[78 FR 71950, Nov. 29, 2013, as amended at 81 FR 89252, Dec. 9, 2016]

## 40 CFR Appendix Table\_C-2\_to\_subpart\_C\_of\_part\_98 - Default CH<sub>4</sub> and N<sub>2</sub>O Emission Factors for Various Types of Fuel

CFR

**Table C-2 to Subpart C of Part 98 - Default CH<sub>4</sub> and N<sub>2</sub>O 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)                                         | $1.1 \times 10^{-02}$                                               | $1.6 \times 10^{-03}$                                                |
| Natural Gas                                                                         | $1.0 \times 10^{-03}$                                               | $1.0 \times 10^{-04}$                                                |
| 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                                                                 | $3.2 \times 10^{-02}$                                               | $4.2 \times 10^{-03}$                                                |
| Blast Furnace Gas                                                                   | $2.2 \times 10^{-05}$                                               | $1.0 \times 10^{-04}$                                                |
| 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) | $3.2 \times 10^{-02}$                                               | $4.2 \times 10^{-03}$                                                |
| Wood and wood residuals                                                             | $7.2 \times 10^{-03}$                                               | $3.6 \times 10^{-03}$                                                |

|                                                              |                       |                       |
|--------------------------------------------------------------|-----------------------|-----------------------|
| <b>Biomass Fuels - Gaseous (All fuel types in Table C-1)</b> | $3.2 \times 10^{-03}$ | $6.3 \times 10^{-04}$ |
| <b>Biomass Fuels - Liquid (All fuel types in Table C-1)</b>  | $1.1 \times 10^{-03}$ | $1.1 \times 10^{-04}$ |

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]

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TABLE 3.2-1 UNCONTROLLED EMISSION FACTORS FOR 2-STROKE LEAN-BURN ENGINES<sup>a</sup>  
(SCC 2-02-002-52)

| Pollutant                                   | Emission Factor<br>(lb/MMBtu) <sup>b</sup><br>(fuel input) | Emission Factor<br>Rating |
|---------------------------------------------|------------------------------------------------------------|---------------------------|
| Criteria Pollutants and Greenhouse Gases    |                                                            |                           |
| NO <sub>x</sub> <sup>c</sup> 90 - 105% Load | 3.17 E+00                                                  | A                         |
| NO <sub>x</sub> <sup>c</sup> <90% Load      | 1.94 E+00                                                  | A                         |
| CO <sup>c</sup> 90 - 105% Load              | 3.86 E-01                                                  | A                         |
| CO <sup>c</sup> <90% Load                   | 3.53 E-01                                                  | A                         |
| CO <sub>2</sub> <sup>d</sup>                | 1.10 E+02                                                  | A                         |
| SO <sub>2</sub> <sup>e</sup>                | 5.88 E-04                                                  | A                         |
| TOC <sup>f</sup>                            | 1.64 E+00                                                  | A                         |
| Methane <sup>g</sup>                        | 1.45 E+00                                                  | C                         |
| VOC <sup>h</sup>                            | 1.20 E-01                                                  | C                         |
| PM10 (filterable) <sup>i</sup>              | 3.84 E-02                                                  | C                         |
| PM2.5 (filterable) <sup>i</sup> 3.84        | E-02                                                       | C                         |
| PM Condensable <sup>j</sup>                 | 9.91 E-03                                                  | E                         |
| Trace Organic Compounds                     |                                                            |                           |
| 1,1,2,2-Tetrachloroethane <sup>k</sup>      | 6.63 E-05                                                  | C                         |
| 1,1,2-Trichloroethane <sup>k</sup>          | 5.27 E-05                                                  | C                         |
| 1,1-Dichloroethane                          | 3.91 E-05                                                  | C                         |
| 1,2,3-Trimethylbenzene                      | 3.54 E-05                                                  | D                         |
| 1,2,4-Trimethylbenzene                      | 1.11 E-04                                                  | C                         |
| 1,2-Dichloroethane                          | 4.22 E-05                                                  | D                         |
| 1,2-Dichloropropane                         | 4.46 E-05                                                  | C                         |
| 1,3,5-Trimethylbenzene                      | 1.80 E-05                                                  | D                         |
| 1,3-Butadiene <sup>k</sup>                  | 8.20 E-04                                                  | D                         |
| 1,3-Dichloropropene <sup>k</sup>            | 4.38 E-05                                                  | C                         |
| 2,2,4-Trimethylpentane <sup>k</sup>         | 8.46 E-04                                                  | B                         |
| 2-Methylnaphthalene <sup>k</sup>            | 2.14 E-05                                                  | C                         |
| Acenaphthene <sup>k</sup>                   | 1.33 E-06                                                  | C                         |

Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO<sub>x</sub>) AND CARBON MONOXIDE (CO)  
FROM NATURAL GAS COMBUSTION<sup>a</sup>

| Combustor Type<br>(MMBtu/hr Heat Input)<br>[SCC]                                | NO <sub>x</sub> <sup>b</sup>                |                              | CO                                          |                              |
|---------------------------------------------------------------------------------|---------------------------------------------|------------------------------|---------------------------------------------|------------------------------|
|                                                                                 | Emission Factor<br>(lb/10 <sup>6</sup> scf) | Emission<br>Factor<br>Rating | Emission Factor<br>(lb/10 <sup>6</sup> scf) | Emission<br>Factor<br>Rating |
| Large Wall-Fired Boilers<br>(>100)<br>[1-01-006-01, 1-02-006-01, 1-03-006-01]   |                                             |                              |                                             |                              |
| Uncontrolled (Pre-NSPS) <sup>c</sup>                                            | 280                                         | A                            | 84                                          | B                            |
| Uncontrolled (Post-NSPS) <sup>c</sup>                                           | 190                                         | A                            | 84                                          | B                            |
| Controlled - Low NO <sub>x</sub> burners                                        | 140                                         | A                            | 84                                          | B                            |
| Controlled - Flue gas recirculation                                             | 100                                         | D                            | 84                                          | B                            |
| Small Boilers<br>(≤100)<br>[1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03] |                                             |                              |                                             |                              |
| Uncontrolled                                                                    | 100                                         | B                            | 84                                          | B                            |
| Controlled - Low NO <sub>x</sub> burners                                        | 50                                          | D                            | 84                                          | B                            |
| Controlled - Low NO <sub>x</sub> burners/Flue gas recirculation                 | 32                                          | C                            | 84                                          | B                            |
| Tangential-Fired Boilers<br>(All Sizes)<br>[1-01-006-04]                        |                                             |                              |                                             |                              |
| Uncontrolled                                                                    | 170                                         | A                            | 24                                          | C                            |
| Controlled - Flue gas recirculation                                             | 76                                          | D                            | 98                                          | D                            |
| Residential Furnaces<br>(≤0.3)<br>[No SCC]                                      |                                             |                              |                                             |                              |
| Uncontrolled                                                                    | 94                                          | B                            | 40                                          | B                            |

<sup>a</sup> Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from lb/10<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from lb/10<sup>6</sup> scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

<sup>b</sup> Expressed as NO<sub>2</sub>. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO<sub>x</sub> emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO<sub>x</sub> emission factor.

<sup>c</sup> NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION<sup>a</sup>

| Pollutant                                                | Emission Factor<br>(lb/10 <sup>6</sup> scf) | Emission Factor Rating |
|----------------------------------------------------------|---------------------------------------------|------------------------|
| CO <sub>2</sub> <sup>b</sup>                             | 120,000                                     | A                      |
| Lead                                                     | 0.0005                                      | D                      |
| N <sub>2</sub> O (Uncontrolled)                          | 2.2                                         | E                      |
| N <sub>2</sub> O (Controlled-low-NO <sub>x</sub> burner) | 0.64                                        | E                      |
| PM (Total) <sup>c</sup>                                  | 7.6                                         | D                      |
| PM (Condensable) <sup>c</sup>                            | 5.7                                         | D                      |
| PM (Filterable) <sup>c</sup>                             | 1.9                                         | B                      |
| SO <sub>2</sub> <sup>d</sup>                             | 0.6                                         | A                      |
| TOC                                                      | 11                                          | B                      |
| Methane                                                  | 2.3                                         | B                      |
| VOC                                                      | 5.5                                         | C                      |

<sup>a</sup> Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from lb/10<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. To convert from lb/10<sup>6</sup> scf to 1b/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds.

VOC = Volatile Organic Compounds.

<sup>b</sup> Based on approximately 100% conversion of fuel carbon to CO<sub>2</sub>. CO<sub>2</sub>[lb/10<sup>6</sup> scf] = (3.67) (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO<sub>2</sub>, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2x10<sup>4</sup> lb/10<sup>6</sup> scf.

<sup>c</sup> All PM (total, condensable, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM<sub>10</sub>, PM<sub>2.5</sub> or PM<sub>1</sub> emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

<sup>d</sup> Based on 100% conversion of fuel sulfur to SO<sub>2</sub>.

Assumes sulfur content is natural gas of 2,000 grains/10<sup>6</sup> scf. The SO<sub>2</sub> emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO<sub>2</sub> emission factor by the ratio of the site-specific sulfur content (grains/10<sup>6</sup> scf) to 2,000 grains/10<sup>6</sup> scf.

Unit Name: REBOILER 3A

Hours of Operation: 8,760 Yearly  
Heat Input: 3.00 MMBtu/hr  
Fuel Type: NATURAL GAS  
Device Type: BOILER  
Emission Factor Set: FIELD > EPA > LITERATURE  
Additional EF Set: -NONE-

### Calculated Emissions (ton/yr)

| <u>Chemical Name</u>           | <u>Emissions</u> | <u>Emission Factor</u> | <u>Emission Factor Set</u> |
|--------------------------------|------------------|------------------------|----------------------------|
| <b>HAPs</b>                    |                  |                        |                            |
| 3-Methylcholanthrene           | 0.0000           | 0.0000000018 lb/MMBtu  | EPA                        |
| 7,12-Dimethylbenz(a)anthracene | 0.0000           | 0.0000000157 lb/MMBtu  | EPA                        |
| Formaldehyde                   | 0.0046           | 0.0003522500 lb/MMBtu  | GRI Field                  |
| Methanol                       | 0.0057           | 0.0004333330 lb/MMBtu  | GRI Field                  |
| Acetaldehyde                   | 0.0038           | 0.0002909000 lb/MMBtu  | GRI Field                  |
| 1,3-Butadiene                  | 0.0000           | 0.0000001830 lb/MMBtu  | GRI Field                  |
| Benzene                        | 0.0001           | 0.0000062550 lb/MMBtu  | GRI Field                  |
| Toluene                        | 0.0001           | 0.0000053870 lb/MMBtu  | GRI Field                  |
| Ethylbenzene                   | 0.0000           | 0.0000000720 lb/MMBtu  | GRI Field                  |
| Xylenes(m,p,o)                 | 0.0000           | 0.0000010610 lb/MMBtu  | GRI Field                  |
| 2,2,4-Trimethylpentane         | 0.0004           | 0.0000323000 lb/MMBtu  | GRI Field                  |
| n-Hexane                       | 0.0042           | 0.0003214790 lb/MMBtu  | GRI Field                  |
| Phenol                         | 0.0000           | 0.0000000950 lb/MMBtu  | GRI Field                  |
| Naphthalene                    | 0.0000           | 0.0000002950 lb/MMBtu  | GRI Field                  |
| 2-Methylnaphthalene            | 0.0000           | 0.0000000700 lb/MMBtu  | GRI Field                  |
| Acenaphthylene                 | 0.0000           | 0.0000000550 lb/MMBtu  | GRI Field                  |
| Biphenyl                       | 0.0000           | 0.0000011500 lb/MMBtu  | GRI Field                  |
| Acenaphthene                   | 0.0000           | 0.0000000800 lb/MMBtu  | GRI Field                  |
| Fluorene                       | 0.0000           | 0.0000000700 lb/MMBtu  | GRI Field                  |
| Anthracene                     | 0.0000           | 0.0000000750 lb/MMBtu  | GRI Field                  |
| Phenanthrene                   | 0.0000           | 0.0000000550 lb/MMBtu  | GRI Field                  |
| Fluoranthene                   | 0.0000           | 0.0000000800 lb/MMBtu  | GRI Field                  |
| Pyrene                         | 0.0000           | 0.0000000750 lb/MMBtu  | GRI Field                  |
| Benz(a)anthracene              | 0.0000           | 0.0000000750 lb/MMBtu  | GRI Field                  |
| Chrysene                       | 0.0000           | 0.0000001000 lb/MMBtu  | GRI Field                  |
| Benzo(a)pyrene                 | 0.0000           | 0.0000000600 lb/MMBtu  | GRI Field                  |
| Benzo(b)fluoranthene           | 0.0000           | 0.0000001350 lb/MMBtu  | GRI Field                  |
| Benzo(k)fluoranthene           | 0.0000           | 0.0000004400 lb/MMBtu  | GRI Field                  |
| Benzo(g,h,i)perylene           | 0.0000           | 0.0000001500 lb/MMBtu  | GRI Field                  |
| Indeno(1,2,3-c,d)pyrene        | 0.0000           | 0.0000001000 lb/MMBtu  | GRI Field                  |
| Dibenz(a,h)anthracene          | 0.0000           | 0.0000000950 lb/MMBtu  | GRI Field                  |
| Lead                           | 0.0000           | 0.0000004902 lb/MMBtu  | EPA                        |
| <b>Total</b>                   | 0.0189           |                        |                            |

### Criteria Pollutants

|                 |        |                       |     |
|-----------------|--------|-----------------------|-----|
| VOC             | 0.0709 | 0.0053921569 lb/MMBtu | EPA |
| PM              | 0.0979 | 0.0074509804 lb/MMBtu | EPA |
| PM, Condensable | 0.0734 | 0.0055882353 lb/MMBtu | EPA |
| PM, Filterable  | 0.0245 | 0.0018627451 lb/MMBtu | EPA |

Case Name: Washington Ranch Storage Facility

File Name: C:\Users\Jaimey.Karacaoglu\Trinity Consultants, Inc\Kinder Morgan - 213201.0167

NSR Tech Rev\06 CALCULATIONS\Washington Ranch GlyCalc\_v0.1\_2021 1129 JMK.ddf

Date: December 10, 2021

## DESCRIPTION:

Description:

Annual Hours of Operation: 8760.0 hours/yr

## WET GAS:

Temperature: 70.00 deg. F

Pressure: 617.00 psig

Wet Gas Water Content: Subsaturated

Specified Wet Gas Water Content: 20.00 lbs. H2O/MMSCF

| Component      | Conc.<br>(vol %) |
|----------------|------------------|
| Carbon Dioxide | 0.6740           |
| Nitrogen       | 1.4890           |
| Methane        | 94.6650          |
| Ethane         | 2.5370           |
| Propane        | 0.3990           |
| Isobutane      | 0.0550           |
| n-Butane       | 0.0820           |
| Isopentane     | 0.0260           |
| n-Pentane      | 0.0200           |
| Cyclopentane   | 0.0110           |
| n-Hexane       | 0.0050           |
| Other Hexanes  | 0.0120           |
| Heptanes       | 0.0120           |
| Benzene        | 0.0010           |
| Toluene        | 0.0020           |
| Ethylbenzene   | 0.0010           |
| Xylenes        | 0.0010           |
| C8+ Heavies    | 0.0100           |

## DRY GAS:

Flow Rate: 250.0 MMSCF/day  
Water Content: 2.3 lbs. H2O/MMSCF

## LEAN GLYCOL:

Glycol Type: TEG  
Water Content: 1.5 wt% H2O  
Flow Rate: 22.0 gpm

## PUMP:

Glycol Pump Type: Electric/Pneumatic

## FLASH TANK:

Flash Control: Recycle/recompression  
Temperature: 170.0 deg. F  
Pressure: 85.0 psig

## REGENERATOR OVERHEADS CONTROL DEVICE:

Control Device: Condenser  
Temperature: 170.0 deg. F  
Pressure: 12.8 psia

## RICH/LEAN ANALYSIS:

| Component    | Rich Glycol<br>(mg/L) | Lean Glycol<br>(mg/L) |
|--------------|-----------------------|-----------------------|
| Benzene      | 81.0                  | 7.00                  |
| Toluene      | 183.0                 | 22.00                 |
| Ethylbenzene | 14.0                  | 0.00                  |
| Xylenes      | 114.0                 | 10.00                 |

## GRI-GLYCalc VERSION 4.0 - EMISSIONS SUMMARY

Case Name: Washington Ranch Storage Facility

File Name: C:\Users\Jaimy.Karacaoglu\Trinity Consultants, Inc\Kinder Morgan - 213201.0167

NSR Tech Rev\06 CALCULATIONS\Washington Ranch GlyCalc\_v0.1\_2021 1129 JMK.ddf

Date: December 10, 2021

## CONTROLLED REGENERATOR EMISSIONS

| Component                   | lbs/hr  | lbs/day | tons/yr |
|-----------------------------|---------|---------|---------|
| Methane                     | 3.7395  | 89.749  | 16.3792 |
| Ethane                      | 1.6800  | 40.319  | 7.3582  |
| Propane                     | 1.0789  | 25.893  | 4.7254  |
| Isobutane                   | 0.3532  | 8.477   | 1.5471  |
| n-Butane                    | 0.7839  | 18.814  | 3.4336  |
| Isopentane                  | 0.3467  | 8.321   | 1.5186  |
| n-Pentane                   | 0.3779  | 9.071   | 1.6554  |
| Cyclopentane                | 1.1078  | 26.588  | 4.8523  |
| n-Hexane                    | 0.2355  | 5.652   | 1.0314  |
| Other Hexanes               | 0.3946  | 9.470   | 1.7283  |
| Heptanes                    | 1.4671  | 35.209  | 6.4257  |
| Benzene                     | 0.8003  | 19.207  | 3.5052  |
| Toluene                     | 1.6572  | 39.772  | 7.2585  |
| Ethylbenzene                | 0.1191  | 2.858   | 0.5216  |
| Xylenes                     | 0.9585  | 23.003  | 4.1981  |
| C8+ Heavies                 | 1.4754  | 35.409  | 6.4621  |
| Total Emissions             | 16.5755 | 397.811 | 72.6006 |
| Total Hydrocarbon Emissions | 16.5755 | 397.811 | 72.6006 |
| Total VOC Emissions         | 11.1560 | 267.743 | 48.8632 |
| Total HAP Emissions         | 3.7705  | 90.492  | 16.5147 |
| Total BTEX Emissions        | 3.5350  | 84.840  | 15.4833 |

## UNCONTROLLED REGENERATOR EMISSIONS

| Component                   | lbs/hr  | lbs/day | tons/yr |
|-----------------------------|---------|---------|---------|
| Methane                     | 3.7405  | 89.771  | 16.3832 |
| Ethane                      | 1.6812  | 40.348  | 7.3634  |
| Propane                     | 1.0816  | 25.959  | 4.7375  |
| Isobutane                   | 0.3547  | 8.512   | 1.5535  |
| n-Butane                    | 0.7880  | 18.913  | 3.4517  |
| Isopentane                  | 0.3502  | 8.405   | 1.5339  |
| n-Pentane                   | 0.3825  | 9.180   | 1.6754  |
| Cyclopentane                | 1.1285  | 27.085  | 4.9430  |
| n-Hexane                    | 0.2413  | 5.791   | 1.0568  |
| Other Hexanes               | 0.4030  | 9.671   | 1.7649  |
| Heptanes                    | 1.5514  | 37.233  | 6.7949  |
| Benzene                     | 0.8333  | 19.998  | 3.6497  |
| Toluene                     | 1.8137  | 43.528  | 7.9438  |
| Ethylbenzene                | 0.1408  | 3.380   | 0.6168  |
| Xylenes                     | 1.1711  | 28.106  | 5.1294  |
| C8+ Heavies                 | 6.4226  | 154.144 | 28.1312 |
| Total Emissions             | 22.0843 | 530.023 | 96.7292 |
| Total Hydrocarbon Emissions | 22.0843 | 530.023 | 96.7292 |
| Total VOC Emissions         | 16.6627 | 399.904 | 72.9826 |

|                      |        |         |                    |
|----------------------|--------|---------|--------------------|
| Total HAP Emissions  | 4.2001 | 100.803 | Page: 2<br>18.3965 |
| Total BTEX Emissions | 3.9588 | 95.012  | 17.3397            |

# FLASH GAS EMISSIONS

Note: Flash Gas Emissions are zero with the  
Recycle/recompression control option.

## FLASH TANK OFF GAS

| Component                   | lbs/hr  | lbs/day | tons/yr  |
|-----------------------------|---------|---------|----------|
| Methane                     | 21.6580 | 519.793 | 94.8622  |
| Ethane                      | 3.1382  | 75.316  | 13.7453  |
| Propane                     | 1.0245  | 24.589  | 4.4874   |
| Isobutane                   | 0.2433  | 5.839   | 1.0656   |
| n-Butane                    | 0.4313  | 10.351  | 1.8890   |
| Isopentane                  | 0.1789  | 4.294   | 0.7836   |
| n-Pentane                   | 0.1613  | 3.872   | 0.7066   |
| Cyclopentane                | 0.1213  | 2.911   | 0.5313   |
| n-Hexane                    | 0.0621  | 1.490   | 0.2720   |
| Other Hexanes               | 0.1319  | 3.167   | 0.5779   |
| Heptanes                    | 0.2154  | 5.169   | 0.9433   |
| Benzene                     | 0.0097  | 0.233   | 0.0425   |
| Toluene                     | 0.0150  | 0.360   | 0.0656   |
| Ethylbenzene                | 0.0007  | 0.017   | 0.0031   |
| Xylenes                     | 0.0040  | 0.097   | 0.0177   |
| C8+ Heavies                 | 0.3279  | 7.870   | 1.4362   |
| Total Emissions             | 27.7236 | 665.366 | 121.4293 |
| Total Hydrocarbon Emissions | 27.7236 | 665.366 | 121.4293 |
| Total VOC Emissions         | 2.9274  | 70.257  | 12.8219  |
| Total HAP Emissions         | 0.0915  | 2.197   | 0.4009   |
| Total BTEX Emissions        | 0.0294  | 0.706   | 0.1289   |

Case Name: Washington Ranch Storage Facility

File Name: C:\Users\Jaimey.Karacaoglu\Trinity Consultants, Inc\Kinder Morgan - 213201.0167

NSR Tech Rev\06 CALCULATIONS\Washington Ranch GlyCalc\_v0.1\_2021 1129 JMK.ddf

Date: December 10, 2021

## DESCRIPTION:

Description:

Annual Hours of Operation: 8760.0 hours/yr

## EMISSIONS REPORTS:

## CONTROLLED REGENERATOR EMISSIONS

| Component                   | lbs/hr  | lbs/day | tons/yr |
|-----------------------------|---------|---------|---------|
| Methane                     | 3.7395  | 89.749  | 16.3792 |
| Ethane                      | 1.6800  | 40.319  | 7.3582  |
| Propane                     | 1.0789  | 25.893  | 4.7254  |
| Isobutane                   | 0.3532  | 8.477   | 1.5471  |
| n-Butane                    | 0.7839  | 18.814  | 3.4336  |
| Isopentane                  | 0.3467  | 8.321   | 1.5186  |
| n-Pentane                   | 0.3779  | 9.071   | 1.6554  |
| Cyclopentane                | 1.1078  | 26.588  | 4.8523  |
| n-Hexane                    | 0.2355  | 5.652   | 1.0314  |
| Other Hexanes               | 0.3946  | 9.470   | 1.7283  |
| Heptanes                    | 1.4671  | 35.209  | 6.4257  |
| Benzene                     | 0.8003  | 19.207  | 3.5052  |
| Toluene                     | 1.6572  | 39.772  | 7.2585  |
| Ethylbenzene                | 0.1191  | 2.858   | 0.5216  |
| Xylenes                     | 0.9585  | 23.003  | 4.1981  |
| C8+ Heavies                 | 1.4754  | 35.409  | 6.4621  |
| Total Emissions             | 16.5755 | 397.811 | 72.6006 |
| Total Hydrocarbon Emissions | 16.5755 | 397.811 | 72.6006 |
| Total VOC Emissions         | 11.1560 | 267.743 | 48.8632 |
| Total HAP Emissions         | 3.7705  | 90.492  | 16.5147 |
| Total BTEX Emissions        | 3.5350  | 84.840  | 15.4833 |

## UNCONTROLLED REGENERATOR EMISSIONS

| Component     | lbs/hr | lbs/day | tons/yr |
|---------------|--------|---------|---------|
| Methane       | 3.7405 | 89.771  | 16.3832 |
| Ethane        | 1.6812 | 40.348  | 7.3634  |
| Propane       | 1.0816 | 25.959  | 4.7375  |
| Isobutane     | 0.3547 | 8.512   | 1.5535  |
| n-Butane      | 0.7880 | 18.913  | 3.4517  |
| Isopentane    | 0.3502 | 8.405   | 1.5339  |
| n-Pentane     | 0.3825 | 9.180   | 1.6754  |
| Cyclopentane  | 1.1285 | 27.085  | 4.9430  |
| n-Hexane      | 0.2413 | 5.791   | 1.0568  |
| Other Hexanes | 0.4030 | 9.671   | 1.7649  |
| Heptanes      | 1.5514 | 37.233  | 6.7949  |

|                             |         |         |         |
|-----------------------------|---------|---------|---------|
| Benzene                     | 0.8333  | 19.998  | 3.6497  |
| Toluene                     | 1.8137  | 43.528  | 7.9438  |
| Ethylbenzene                | 0.1408  | 3.380   | 0.6168  |
| Xylenes                     | 1.1711  | 28.106  | 5.1294  |
| C8+ Heavies                 | 6.4226  | 154.144 | 28.1312 |
| -----                       |         |         |         |
| Total Emissions             | 22.0843 | 530.023 | 96.7292 |
| -----                       |         |         |         |
| Total Hydrocarbon Emissions | 22.0843 | 530.023 | 96.7292 |
| Total VOC Emissions         | 16.6627 | 399.904 | 72.9826 |
| Total HAP Emissions         | 4.2001  | 100.803 | 18.3965 |
| Total BTEX Emissions        | 3.9588  | 95.012  | 17.3397 |

## FLASH GAS EMISSIONS

Note: Flash Gas Emissions are zero with the  
Recycle/recompression control option.

## FLASH TANK OFF GAS

| Component                   | lbs/hr  | lbs/day | tons/yr  |
|-----------------------------|---------|---------|----------|
| -----                       |         |         |          |
| Methane                     | 21.6580 | 519.793 | 94.8622  |
| Ethane                      | 3.1382  | 75.316  | 13.7453  |
| Propane                     | 1.0245  | 24.589  | 4.4874   |
| Isobutane                   | 0.2433  | 5.839   | 1.0656   |
| n-Butane                    | 0.4313  | 10.351  | 1.8890   |
| Isopentane                  | 0.1789  | 4.294   | 0.7836   |
| n-Pentane                   | 0.1613  | 3.872   | 0.7066   |
| Cyclopentane                | 0.1213  | 2.911   | 0.5313   |
| n-Hexane                    | 0.0621  | 1.490   | 0.2720   |
| Other Hexanes               | 0.1319  | 3.167   | 0.5779   |
| Heptanes                    | 0.2154  | 5.169   | 0.9433   |
| Benzene                     | 0.0097  | 0.233   | 0.0425   |
| Toluene                     | 0.0150  | 0.360   | 0.0656   |
| Ethylbenzene                | 0.0007  | 0.017   | 0.0031   |
| Xylenes                     | 0.0040  | 0.097   | 0.0177   |
| C8+ Heavies                 | 0.3279  | 7.870   | 1.4362   |
| -----                       |         |         |          |
| Total Emissions             | 27.7236 | 665.366 | 121.4293 |
| -----                       |         |         |          |
| Total Hydrocarbon Emissions | 27.7236 | 665.366 | 121.4293 |
| Total VOC Emissions         | 2.9274  | 70.257  | 12.8219  |
| Total HAP Emissions         | 0.0915  | 2.197   | 0.4009   |
| Total BTEX Emissions        | 0.0294  | 0.706   | 0.1289   |

## EQUIPMENT REPORTS:

## CONDENSER

Condenser Outlet Temperature: 170.00 deg. F  
Condenser Pressure: 12.80 psia  
Condenser Duty: 1.34e-001 MM BTU/hr  
Hydrocarbon Recovery: 0.44 bbls/day  
Produced Water: 12.59 bbls/day

VOC Control Efficiency: 33.05 %  
 HAP Control Efficiency: 10.23 %  
 BTEX Control Efficiency: 10.71 %  
 Dissolved Hydrocarbons in Water: 108.67 mg/L

| Component      | Emitted | Condensed |
|----------------|---------|-----------|
| Water          | 4.57%   | 95.43%    |
| Carbon Dioxide | 99.77%  | 0.23%     |
| Nitrogen       | 99.99%  | 0.01%     |
| Methane        | 99.98%  | 0.02%     |
| Ethane         | 99.93%  | 0.07%     |
| Propane        | 99.75%  | 0.25%     |
| Isobutane      | 99.58%  | 0.42%     |
| n-Butane       | 99.48%  | 0.52%     |
| Isopentane     | 99.00%  | 1.00%     |
| n-Pentane      | 98.81%  | 1.19%     |
| Cyclopentane   | 98.16%  | 1.84%     |
| n-Hexane       | 97.60%  | 2.40%     |
| Other Hexanes  | 97.92%  | 2.08%     |
| Heptanes       | 94.57%  | 5.43%     |
| Benzene        | 96.04%  | 3.96%     |
| Toluene        | 91.37%  | 8.63%     |
| Ethylbenzene   | 84.56%  | 15.44%    |
| Xylenes        | 81.84%  | 18.16%    |
| C8+ Heavies    | 22.97%  | 77.03%    |

#### ABSORBER

NOTE: Because the Calculated Absorber Stages was below the minimum allowed, GRI-GLYCalc has set the number of Absorber Stages to 1.25 and has calculated a revised Dry Gas Dew Point.

Calculated Absorber Stages: 1.25  
 Calculated Dry Gas Dew Point: 1.51 lbs. H2O/MMSCF  
 Temperature: 70.0 deg. F  
 Pressure: 617.0 psig  
 Dry Gas Flow Rate: 250.0000 MMSCF/day  
 Glycol Losses with Dry Gas: 0.3787 lb/hr  
 Wet Gas Water Content: Subsaturated  
 Specified Wet Gas Water Content: 20.00 lbs. H2O/MMSCF  
 Calculated Lean Glycol Recirc. Ratio: 6.85 gal/lb H2O

| Component      | Remaining<br>in Dry Gas | Absorbed<br>in Glycol |
|----------------|-------------------------|-----------------------|
| Water          | 7.57%                   | 92.43%                |
| Carbon Dioxide | 99.89%                  | 0.11%                 |
| Nitrogen       | 99.99%                  | 0.01%                 |
| Methane        | 99.99%                  | 0.01%                 |
| Ethane         | 99.98%                  | 0.02%                 |
| Propane        | 99.96%                  | 0.04%                 |
| Isobutane      | 99.93%                  | 0.07%                 |
| n-Butane       | 99.91%                  | 0.09%                 |
| Isopentane     | 99.90%                  | 0.10%                 |
| n-Pentane      | 99.86%                  | 0.14%                 |
| Cyclopentane   | 99.41%                  | 0.59%                 |
| n-Hexane       | 99.74%                  | 0.26%                 |
| Other Hexanes  | 99.81%                  | 0.19%                 |
| Heptanes       | 99.47%                  | 0.53%                 |

|              |        |        |
|--------------|--------|--------|
| Benzene      | 89.29% | 10.71% |
| Toluene      | 83.06% | 16.94% |
| Ethylbenzene | 74.65% | 25.35% |
| Xylenes      | 64.48% | 35.52% |
| C8+ Heavies  | 98.56% | 1.44%  |

## FLASH TANK

Flash Control: Recycle/recompression  
Flash Temperature: 170.0 deg. F  
Flash Pressure: 85.0 psig

| Component      | Left in Glycol | Removed in Flash Gas |
|----------------|----------------|----------------------|
| Water          | 99.96%         | 0.04%                |
| Carbon Dioxide | 60.48%         | 39.52%               |
| Nitrogen       | 14.44%         | 85.56%               |
| Methane        | 14.73%         | 85.27%               |
| Ethane         | 34.88%         | 65.12%               |
| Propane        | 51.36%         | 48.64%               |
| Isobutane      | 59.31%         | 40.69%               |
| n-Butane       | 64.63%         | 35.37%               |
| Isopentane     | 66.36%         | 33.64%               |
| n-Pentane      | 70.49%         | 29.51%               |
| Cyclopentane   | 90.34%         | 9.66%                |
| n-Hexane       | 79.63%         | 20.37%               |
| Other Hexanes  | 75.58%         | 24.42%               |
| Heptanes       | 87.87%         | 12.13%               |
| Benzene        | 98.95%         | 1.05%                |
| Toluene        | 99.28%         | 0.72%                |
| Ethylbenzene   | 99.55%         | 0.45%                |
| Xylenes        | 99.69%         | 0.31%                |
| C8+ Heavies    | 95.73%         | 4.27%                |

## REGENERATOR

No Stripping Gas used in regenerator.

| Component      | Remaining in Glycol | Distilled Overhead |
|----------------|---------------------|--------------------|
| Water          | 49.11%              | 50.89%             |
| Carbon Dioxide | 0.00%               | 100.00%            |
| Nitrogen       | 0.00%               | 100.00%            |
| Methane        | 0.00%               | 100.00%            |
| Ethane         | 0.00%               | 100.00%            |
| Propane        | 0.00%               | 100.00%            |
| Isobutane      | 0.00%               | 100.00%            |
| n-Butane       | 0.00%               | 100.00%            |
| Isopentane     | 0.75%               | 99.25%             |
| n-Pentane      | 0.71%               | 99.29%             |
| Cyclopentane   | 0.55%               | 99.45%             |
| n-Hexane       | 0.63%               | 99.37%             |
| Other Hexanes  | 1.32%               | 98.68%             |
| Heptanes       | 0.57%               | 99.43%             |
| Benzene        | 8.47%               | 91.53%             |

|              |        |        |
|--------------|--------|--------|
| Toluene      | 11.79% | 88.21% |
| Ethylbenzene | 10.45% | 89.55% |
| Xylenes      | 8.60%  | 91.40% |
| C8+ Heavies  | 12.54% | 87.46% |

## STREAM REPORTS:

## WET GAS STREAM

Temperature: 70.00 deg. F  
 Pressure: 631.70 psia  
 Flow Rate: 1.04e+007 scfh

| Component        | Conc.<br>(vol%) | Loading<br>(lb/hr) |
|------------------|-----------------|--------------------|
| Water            | 4.21e-002       | 2.08e+002          |
| Carbon Dioxide   | 6.74e-001       | 8.15e+003          |
| Nitrogen         | 1.49e+000       | 1.15e+004          |
| Methane          | 9.46e+001       | 4.17e+005          |
| Ethane           | 2.54e+000       | 2.10e+004          |
| Propane          | 3.99e-001       | 4.83e+003          |
| Isobutane        | 5.50e-002       | 8.78e+002          |
| n-Butane         | 8.20e-002       | 1.31e+003          |
| Isopentane       | 2.60e-002       | 5.15e+002          |
| n-Pentane        | 2.00e-002       | 3.96e+002          |
| Cyclopentane     | 1.10e-002       | 2.12e+002          |
| n-Hexane         | 5.00e-003       | 1.18e+002          |
| Other Hexanes    | 1.20e-002       | 2.84e+002          |
| Heptanes         | 1.20e-002       | 3.30e+002          |
| Benzene          | 3.67e-004       | 7.87e+000          |
| Toluene          | 4.27e-004       | 1.08e+001          |
| Ethylbenzene     | 1.91e-005       | 5.58e-001          |
| Xylenes          | 1.13e-004       | 3.31e+000          |
| C8+ Heavies      | 1.00e-002       | 4.68e+002          |
| Total Components | 100.00          | 4.67e+005          |

## DRY GAS STREAM

Temperature: 70.00 deg. F  
 Pressure: 631.70 psia  
 Flow Rate: 1.04e+007 scfh

| Component      | Conc.<br>(vol%) | Loading<br>(lb/hr) |
|----------------|-----------------|--------------------|
| Water          | 3.19e-003       | 1.58e+001          |
| Carbon Dioxide | 6.74e-001       | 8.14e+003          |
| Nitrogen       | 1.49e+000       | 1.15e+004          |
| Methane        | 9.47e+001       | 4.17e+005          |
| Ethane         | 2.54e+000       | 2.09e+004          |
| Propane        | 3.99e-001       | 4.83e+003          |
| Isobutane      | 5.50e-002       | 8.77e+002          |
| n-Butane       | 8.20e-002       | 1.31e+003          |
| Isopentane     | 2.60e-002       | 5.15e+002          |
| n-Pentane      | 2.00e-002       | 3.96e+002          |

|                  |           |           |
|------------------|-----------|-----------|
| Cyclopentane     | 1.09e-002 | 2.11e+002 |
| n-Hexane         | 4.99e-003 | 1.18e+002 |
| Other Hexanes    | 1.20e-002 | 2.84e+002 |
| Heptanes         | 1.19e-002 | 3.29e+002 |
| Benzene          | 3.28e-004 | 7.03e+000 |
| Toluene          | 3.54e-004 | 8.97e+000 |
| Ethylbenzene     | 1.43e-005 | 4.17e-001 |
| Xylenes          | 7.32e-005 | 2.13e+000 |
| C8+ Heavies      | 9.86e-003 | 4.61e+002 |
| -----            |           |           |
| Total Components | 100.00    | 4.67e+005 |

## LEAN GLYCOL STREAM

Temperature: 70.00 deg. F  
Flow Rate: 2.20e+001 gpm

| Component        | Conc.<br>(wt%) | Loading<br>(lb/hr) |
|------------------|----------------|--------------------|
| -----            |                |                    |
| TEG              | 9.85e+001      | 1.22e+004          |
| Water            | 1.50e+000      | 1.86e+002          |
| Carbon Dioxide   | 7.05e-012      | 8.74e-010          |
| Nitrogen         | 6.07e-013      | 7.52e-011          |
| Methane          | 6.89e-018      | 8.53e-016          |
| Ethane           | 1.84e-008      | 2.27e-006          |
| Propane          | 6.92e-010      | 8.57e-008          |
| Isobutane        | 1.45e-010      | 1.79e-008          |
| n-Butane         | 2.44e-010      | 3.02e-008          |
| Isopentane       | 2.15e-005      | 2.66e-003          |
| n-Pentane        | 2.21e-005      | 2.73e-003          |
| Cyclopentane     | 5.07e-005      | 6.28e-003          |
| n-Hexane         | 1.23e-005      | 1.52e-003          |
| Other Hexanes    | 4.36e-005      | 5.40e-003          |
| Heptanes         | 7.17e-005      | 8.88e-003          |
| Benzene          | 6.23e-004      | 7.71e-002          |
| Toluene          | 1.96e-003      | 2.42e-001          |
| Ethylbenzene     | 1.33e-004      | 1.64e-002          |
| Xylenes          | 8.89e-004      | 1.10e-001          |
| C8+ Heavies      | 7.43e-003      | 9.21e-001          |
| -----            |                |                    |
| Total Components | 100.00         | 1.24e+004          |

## RICH GLYCOL STREAM

Temperature: 70.00 deg. F  
Pressure: 631.70 psia  
Flow Rate: 2.25e+001 gpm  
NOTE: Stream has more than one phase.

| Component      | Conc.<br>(wt%) | Loading<br>(lb/hr) |
|----------------|----------------|--------------------|
| -----          |                |                    |
| TEG            | 9.65e+001      | 1.22e+004          |
| Water          | 2.99e+000      | 3.78e+002          |
| Carbon Dioxide | 6.91e-002      | 8.74e+000          |
| Nitrogen       | 5.95e-003      | 7.51e-001          |
| Methane        | 2.01e-001      | 2.54e+001          |
| Ethane         | 3.81e-002      | 4.82e+000          |
| Propane        | 1.67e-002      | 2.11e+000          |
| Isobutane      | 4.73e-003      | 5.98e-001          |

|                  |           |           |
|------------------|-----------|-----------|
| n-Butane         | 9.65e-003 | 1.22e+000 |
| Isopentane       | 4.21e-003 | 5.32e-001 |
| n-Pentane        | 4.32e-003 | 5.47e-001 |
| Cyclopentane     | 9.94e-003 | 1.26e+000 |
| n-Hexane         | 2.41e-003 | 3.05e-001 |
| Other Hexanes    | 4.27e-003 | 5.40e-001 |
| Heptanes         | 1.40e-002 | 1.78e+000 |
| Benzene          | 7.28e-003 | 9.20e-001 |
| Toluene          | 1.64e-002 | 2.07e+000 |
| Ethylbenzene     | 1.25e-003 | 1.58e-001 |
| Xylenes          | 1.02e-002 | 1.29e+000 |
| C8+ Heavies      | 6.07e-002 | 7.67e+000 |
| -----            |           |           |
| Total Components | 100.00    | 1.26e+004 |

## FLASH TANK OFF GAS STREAM

-----

Temperature: 170.00 deg. F  
Pressure: 99.70 psia  
Flow Rate: 6.11e+002 scfh

| Component        | Conc.<br>(vol%) | Loading<br>(lb/hr) |
|------------------|-----------------|--------------------|
| -----            |                 |                    |
| Water            | 4.62e-001       | 1.34e-001          |
| Carbon Dioxide   | 4.87e+000       | 3.45e+000          |
| Nitrogen         | 1.42e+000       | 6.43e-001          |
| Methane          | 8.38e+001       | 2.17e+001          |
| Ethane           | 6.48e+000       | 3.14e+000          |
| Propane          | 1.44e+000       | 1.02e+000          |
| Isobutane        | 2.60e-001       | 2.43e-001          |
| n-Butane         | 4.60e-001       | 4.31e-001          |
| Isopentane       | 1.54e-001       | 1.79e-001          |
| n-Pentane        | 1.39e-001       | 1.61e-001          |
| Cyclopentane     | 1.07e-001       | 1.21e-001          |
| n-Hexane         | 4.47e-002       | 6.21e-002          |
| Other Hexanes    | 9.50e-002       | 1.32e-001          |
| Heptanes         | 1.33e-001       | 2.15e-001          |
| Benzene          | 7.70e-003       | 9.70e-003          |
| Toluene          | 1.01e-002       | 1.50e-002          |
| Ethylbenzene     | 4.15e-004       | 7.09e-004          |
| Xylenes          | 2.36e-003       | 4.04e-003          |
| C8+ Heavies      | 1.19e-001       | 3.28e-001          |
| -----            |                 |                    |
| Total Components | 100.00          | 3.20e+001          |

## FLASH TANK GLYCOL STREAM

-----

Temperature: 170.00 deg. F  
Flow Rate: 2.24e+001 gpm

| Component      | Conc.<br>(wt%) | Loading<br>(lb/hr) |
|----------------|----------------|--------------------|
| -----          |                |                    |
| TEG            | 9.68e+001      | 1.22e+004          |
| Water          | 3.00e+000      | 3.78e+002          |
| Carbon Dioxide | 4.19e-002      | 5.28e+000          |
| Nitrogen       | 8.61e-004      | 1.09e-001          |
| Methane        | 2.97e-002      | 3.74e+000          |
| Ethane         | 1.33e-002      | 1.68e+000          |

|                  |           |           |
|------------------|-----------|-----------|
| Propane          | 8.58e-003 | 1.08e+000 |
| Isobutane        | 2.81e-003 | 3.55e-001 |
| n-Butane         | 6.25e-003 | 7.88e-001 |
| Isopentane       | 2.80e-003 | 3.53e-001 |
| n-Pentane        | 3.06e-003 | 3.85e-001 |
| Cyclopentane     | 9.00e-003 | 1.13e+000 |
| n-Hexane         | 1.93e-003 | 2.43e-001 |
| Other Hexanes    | 3.24e-003 | 4.08e-001 |
| Heptanes         | 1.24e-002 | 1.56e+000 |
| Benzene          | 7.22e-003 | 9.10e-001 |
| Toluene          | 1.63e-002 | 2.06e+000 |
| Ethylbenzene     | 1.25e-003 | 1.57e-001 |
| Xylenes          | 1.02e-002 | 1.28e+000 |
| C8+ Heavies      | 5.82e-002 | 7.34e+000 |
| -----            |           |           |
| Total Components | 100.00    | 1.26e+004 |

## FLASH GAS EMISSIONS

-----

Control Method: Recycle/recompression  
Control Efficiency: 100.00

Note: Flash Gas Emissions are zero with the  
Recycle/recompression control option.

## REGENERATOR OVERHEADS STREAM

-----

Temperature: 212.00 deg. F  
Pressure: 14.70 psia  
Flow Rate: 4.28e+003 scfh

| Component        | Conc.<br>(vol%) | Loading<br>(lb/hr) |
|------------------|-----------------|--------------------|
| -----            |                 |                    |
| Water            | 9.48e+001       | 1.93e+002          |
| Carbon Dioxide   | 1.06e+000       | 5.28e+000          |
| Nitrogen         | 3.44e-002       | 1.09e-001          |
| Methane          | 2.07e+000       | 3.74e+000          |
| Ethane           | 4.96e-001       | 1.68e+000          |
| Propane          | 2.17e-001       | 1.08e+000          |
| Isobutane        | 5.41e-002       | 3.55e-001          |
| n-Butane         | 1.20e-001       | 7.88e-001          |
| Isopentane       | 4.30e-002       | 3.50e-001          |
| n-Pentane        | 4.70e-002       | 3.83e-001          |
| Cyclopentane     | 1.43e-001       | 1.13e+000          |
| n-Hexane         | 2.48e-002       | 2.41e-001          |
| Other Hexanes    | 4.15e-002       | 4.03e-001          |
| Heptanes         | 1.37e-001       | 1.55e+000          |
| Benzene          | 9.46e-002       | 8.33e-001          |
| Toluene          | 1.75e-001       | 1.81e+000          |
| Ethylbenzene     | 1.18e-002       | 1.41e-001          |
| Xylenes          | 9.78e-002       | 1.17e+000          |
| C8+ Heavies      | 3.34e-001       | 6.42e+000          |
| -----            |                 |                    |
| Total Components | 100.00          | 2.20e+002          |

## CONDENSER VENT GAS STREAM

-----

Temperature: 170.00 deg. F

Pressure: 12.80 psia  
 Flow Rate: 3.95e+002 scfh

| Component        | Conc.<br>(vol%) | Loading<br>(lb/hr) |
|------------------|-----------------|--------------------|
| Water            | 4.70e+001       | 8.80e+000          |
| Carbon Dioxide   | 1.15e+001       | 5.27e+000          |
| Nitrogen         | 3.72e-001       | 1.09e-001          |
| Methane          | 2.24e+001       | 3.74e+000          |
| Ethane           | 5.37e+000       | 1.68e+000          |
| Propane          | 2.35e+000       | 1.08e+000          |
| Isobutane        | 5.84e-001       | 3.53e-001          |
| n-Butane         | 1.30e+000       | 7.84e-001          |
| Isopentane       | 4.62e-001       | 3.47e-001          |
| n-Pentane        | 5.04e-001       | 3.78e-001          |
| Cyclopentane     | 1.52e+000       | 1.11e+000          |
| n-Hexane         | 2.63e-001       | 2.35e-001          |
| Other Hexanes    | 4.40e-001       | 3.95e-001          |
| Heptanes         | 1.41e+000       | 1.47e+000          |
| Benzene          | 9.85e-001       | 8.00e-001          |
| Toluene          | 1.73e+000       | 1.66e+000          |
| Ethylbenzene     | 1.08e-001       | 1.19e-001          |
| Xylenes          | 8.68e-001       | 9.58e-001          |
| C8+ Heavies      | 8.33e-001       | 1.48e+000          |
| Total Components | 100.00          | 3.08e+001          |

## CONDENSER PRODUCED WATER STREAM

Temperature: 170.00 deg. F  
 Flow Rate: 3.67e-001 gpm

| Component        | Conc.<br>(wt%) | Loading<br>(lb/hr) | (ppm)    |
|------------------|----------------|--------------------|----------|
| Water            | 1.00e+002      | 1.84e+002          | 999832.  |
| Carbon Dioxide   | 5.92e-003      | 1.09e-002          | 59.      |
| Nitrogen         | 4.41e-006      | 8.11e-006          | 0.       |
| Methane          | 2.61e-004      | 4.80e-004          | 3.       |
| Ethane           | 1.24e-004      | 2.29e-004          | 1.       |
| Propane          | 1.04e-004      | 1.91e-004          | 1.       |
| Isobutane        | 1.76e-005      | 3.24e-005          | 0.       |
| n-Butane         | 4.92e-005      | 9.05e-005          | 0.       |
| Isopentane       | 1.44e-005      | 2.64e-005          | 0.       |
| n-Pentane        | 1.64e-005      | 3.01e-005          | 0.       |
| Cyclopentane     | 2.88e-004      | 5.29e-004          | 3.       |
| n-Hexane         | 7.75e-006      | 1.42e-005          | 0.       |
| Other Hexanes    | 1.08e-005      | 1.99e-005          | 0.       |
| Heptanes         | 2.53e-005      | 4.64e-005          | 0.       |
| Benzene          | 2.84e-003      | 5.22e-003          | 28.      |
| Toluene          | 4.48e-003      | 8.23e-003          | 45.      |
| Ethylbenzene     | 2.27e-004      | 4.16e-004          | 2.       |
| Xylenes          | 2.40e-003      | 4.41e-003          | 24.      |
| C8+ Heavies      | 4.36e-006      | 8.02e-006          | 0.       |
| Total Components | 100.00         | 1.84e+002          | 1000000. |

## CONDENSER RECOVERED OIL STREAM

Temperature: 170.00 deg. F  
 Flow Rate: 1.29e-002 gpm

| Component        | Conc.<br>(wt%) | Loading<br>(lb/hr) |
|------------------|----------------|--------------------|
| -----            | -----          | -----              |
| Water            | 3.43e-002      | 1.89e-003          |
| Carbon Dioxide   | 2.29e-002      | 1.26e-003          |
| Nitrogen         | 3.95e-005      | 2.17e-006          |
| Methane          | 8.08e-003      | 4.44e-004          |
| Ethane           | 1.77e-002      | 9.70e-004          |
| Propane          | 4.67e-002      | 2.56e-003          |
| Isobutane        | 2.62e-002      | 1.44e-003          |
| n-Butane         | 7.34e-002      | 4.03e-003          |
| Isopentane       | 6.34e-002      | 3.48e-003          |
| n-Pentane        | 8.26e-002      | 4.54e-003          |
| Cyclopentane     | 3.68e-001      | 2.02e-002          |
| n-Hexane         | 1.05e-001      | 5.78e-003          |
| Other Hexanes    | 1.52e-001      | 8.35e-003          |
| Heptanes         | 1.53e+000      | 8.42e-002          |
| Benzene          | 5.05e-001      | 2.78e-002          |
| Toluene          | 2.70e+000      | 1.48e-001          |
| Ethylbenzene     | 3.88e-001      | 2.13e-002          |
| Xylenes          | 3.79e+000      | 2.08e-001          |
| C8+ Heavies      | 9.01e+001      | 4.95e+000          |
| -----            | -----          | -----              |
| Total Components | 100.00         | 5.49e+000          |



## LABORATORY SERVICE REPORT

---

**REQUESTOR:** Ginest, Chad O.  
Carlsbad, NM

**REPORT DATE:** 10/5/2006  
**REQUEST NO:** 2006060776  
**APPROVED BY:** Campbell, Darrell

**DISTRIBUTION:** Barta, George; Charlet, Larry; Thompson, Glenn; Whitney, Mark; Ryan, Bill

**PERFORMED BY:** EP-Hockly Gas Lab

---

Request Description: Washington Ranch Dehy Contactor Inlet and Outlet  
Date Received: 6/14/2006  
Date Completed: 10/5/2006

---

Sample No: 1                      Sampled By: Lorenzo Hernandez                      Sample Date: 6/14/2005 10:30:00 AM

Description:

Analysis: WP Gas Analysis, Extended SPL  
Purpose: Disposal/Environmental Concerns  
Matrix: Gas  
Location: EPNG - Midland - Carlsbad - 6595 - 0+0 - Washington Ranch CS - Contactor Inlet

Field Data:

Field Comments: H2S = <0.25 ppm  
RSH = 0.5 ppm  
H2O = 4 lbs/MMSCF  
Glycol circulation Rate 10.5 GPM  
Lean Glycol Temperature = 360F Rich Glycol Temperature = Approx 110F  
Gas Flow Rate = 51 mmscf/d

Sample No: 2                      Sampled By: Lorenzo Hernandez                      Sample Date: 6/14/2005 10:35:00 AM

Description:

Analysis: WP Gas Analysis, Extended SPL  
Purpose: Disposal/Environmental Concerns  
Matrix: Gas  
Location: EPNG - Midland - Carlsbad - 6595 - 0+0 - Washington Ranch CS - Contactor Outlet

Field Data:

Field Comments: H2S = <0.25 ppm  
RSH = 0.5 ppm  
H2O = 2 lbs/MMSCF

---

Data: See attached sheet(s).

Comments:

| <u>Sample:</u>                                | <u>1</u> | <u>2</u> |
|-----------------------------------------------|----------|----------|
| <b><u>Extended Gas Analysis</u></b>           |          |          |
| Nitrogen (Mol %)                              | 1.489    | 1.468    |
| Methane (Mol %)                               | 94.665   | 94.678   |
| Carbon Dioxide (Mol %)                        | 0.674    | 0.665    |
| Ethane (Mol %)                                | 2.537    | 2.538    |
| Propane (Mol %)                               | 0.399    | 0.399    |
| Isobutane (Mol %)                             | 0.055    | 0.056    |
| n-Butane (Mol %)                              | 0.082    | 0.082    |
| Isopentane (Mol %)                            | 0.026    | 0.028    |
| n-Pentane (Mol %)                             | 0.020    | 0.023    |
| i-Hexane (Mol %)                              | 0.012    | 0.013    |
| n-Hexane (Mol %)                              | 0.011    | 0.008    |
| Benzene (Mol %)                               | 0.001    | 0.002    |
| Cyclohexane (Mol %)                           | 0.005    | 0.005    |
| i-Heptanes (Mol %)                            | 0.008    | 0.009    |
| n-Heptane (Mol %)                             | 0.004    | 0.004    |
| Toluene (Mol %)                               | 0.002    | 0.003    |
| i-Octanes (Mol %)                             | 0.008    | 0.013    |
| n-Octane (Mol %)                              | 0.002    | 0.003    |
| Ethylbenzene (Mol %)                          | < 0.001  | < 0.001  |
| m,o,&p-Xylene (Mol %)                         | < 0.001  | < 0.001  |
| i-Nonanes (Mol %)                             | < 0.001  | 0.002    |
| n-Nonane (Mol %)                              | < 0.001  | 0.001    |
| i-Decanes (Mol %)                             | < 0.001  | < 0.001  |
| n-Decane (Mol %)                              | < 0.001  | < 0.001  |
| Undecanes (Mol %)                             | < 0.001  | < 0.001  |
| Dodecanes (Mol %)                             | < 0.001  | < 0.001  |
| Tridecanes (Mol %)                            | < 0.001  | < 0.001  |
| Tetradecanes Plus (Mol %)                     | < 0.001  | < 0.001  |
| <b><u>Gallons per Thousand Cubic Feet</u></b> |          |          |
| Nitrogen (GPM)                                | 0.163    | 0.161    |
| Methane (GPM)                                 | 15.995   | 15.997   |
| Carbon Dioxide (GPM)                          | 0.114    | 0.112    |
| Ethane (GPM)                                  | 0.676    | 0.677    |
| Propane (GPM)                                 | 0.109    | 0.109    |
| Isobutane (GPM)                               | 0.018    | 0.018    |
| n-Butane (GPM)                                | 0.026    | 0.026    |
| Isopentane (GPM)                              | 0.009    | 0.010    |
| n-Pentane (GPM)                               | 0.007    | 0.008    |
| i-Hexane (GPM)                                | 0.005    | 0.005    |
| n-Hexane (GPM)                                | 0.003    | 0.003    |
| Benzene (GPM)                                 | < 0.001  | < 0.001  |
| Cyclohexane (GPM)                             | 0.002    | 0.002    |
| i-Heptanes (GPM)                              | 0.003    | 0.004    |
| n-Heptane (GPM)                               | 0.002    | 0.002    |
| Toluene (GPM)                                 | 0.001    | 0.001    |
| i-Octanes (GPM)                               | 0.005    | 0.006    |
| n-Octane (GPM)                                | 0.001    | 0.001    |
| Ethylbenzene (GPM)                            | < 0.001  | < 0.001  |

**Request:** 2006060776

| <b><u>Sample:</u></b>   | <b><u>1</u></b> | <b><u>2</u></b> |
|-------------------------|-----------------|-----------------|
| m,o,&p-Xylene (GPM)     | < 0.001         | < 0.001         |
| i-Nonanes (GPM)         | < 0.001         | 0.001           |
| n-Nonane (GPM)          | < 0.001         | 0.001           |
| i-Decanes (GPM)         | < 0.001         | < 0.001         |
| n-Decane (GPM)          | < 0.001         | < 0.001         |
| Undecanes (GPM)         | < 0.001         | < 0.001         |
| Dodecanes (GPM)         | < 0.001         | < 0.001         |
| Tridecanes (GPM)        | < 0.001         | < 0.001         |
| Tetradecanes Plus (GPM) | < 0.001         | < 0.001         |

**Natural Gas Mixture Properties, Calculated**

|                                       |        |        |
|---------------------------------------|--------|--------|
| Real Gas Specific Gravity             | 0.5879 | 0.5881 |
| Real Gross Heating Value (BTU/SCF60F) | 1024.4 | 1025.4 |

Table 3.2-2. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE LEAN-BURN ENGINES<sup>a</sup>  
(SCC 2-02-002-54)

| Pollutant                                   | Emission Factor<br>(lb/MMBtu) <sup>b</sup><br>(fuel input) | Emission Factor<br>Rating |
|---------------------------------------------|------------------------------------------------------------|---------------------------|
| Criteria Pollutants and Greenhouse Gases    |                                                            |                           |
| NO <sub>x</sub> <sup>c</sup> 90 - 105% Load | 4.08 E+00                                                  | B                         |
| NO <sub>x</sub> <sup>c</sup> <90% Load      | 8.47 E-01                                                  | B                         |
| CO <sup>c</sup> 90 - 105% Load              | 3.17 E-01                                                  | C                         |
| CO <sup>c</sup> <90% Load                   | 5.57 E-01                                                  | B                         |
| CO <sub>2</sub> <sup>d</sup>                | 1.10 E+02                                                  | A                         |
| SO <sub>2</sub> <sup>e</sup>                | 5.88 E-04                                                  | A                         |
| TOC <sup>f</sup>                            | 1.47 E+00                                                  | A                         |
| Methane <sup>g</sup>                        | 1.25 E+00                                                  | C                         |
| VOC <sup>h</sup>                            | 1.18 E-01                                                  | C                         |
| PM10 (filterable) <sup>i</sup>              | 7.71 E-05                                                  | D                         |
| PM2.5 (filterable) <sup>i</sup>             | 7.71 E-05                                                  | D                         |
| PM Condensable <sup>j</sup>                 | 9.91 E-03                                                  | D                         |
| Trace Organic Compounds                     |                                                            |                           |
| 1,1,2,2-Tetrachloroethane <sup>k</sup>      | <4.00 E-05                                                 | E                         |
| 1,1,2-Trichloroethane <sup>k</sup>          | <3.18 E-05                                                 | E                         |
| 1,1-Dichloroethane                          | <2.36 E-05                                                 | E                         |
| 1,2,3-Trimethylbenzene                      | 2.30 E-05                                                  | D                         |
| 1,2,4-Trimethylbenzene                      | 1.43 E-05                                                  | C                         |
| 1,2-Dichloroethane                          | <2.36 E-05                                                 | E                         |
| 1,2-Dichloropropane                         | <2.69 E-05                                                 | E                         |
| 1,3,5-Trimethylbenzene                      | 3.38 E-05                                                  | D                         |
| 1,3-Butadiene <sup>k</sup>                  | 2.67E-04                                                   | D                         |
| 1,3-Dichloropropene <sup>k</sup>            | <2.64 E-05                                                 | E                         |
| 2-Methylnaphthalene <sup>k</sup>            | 3.32 E-05                                                  | C                         |
| 2,2,4-Trimethylpentane <sup>k</sup>         | 2.50 E-04                                                  | C                         |
| Acenaphthene <sup>k</sup>                   | 1.25 E-06                                                  | C                         |

Table 3.2-2. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE LEAN-BURN ENGINES  
(Continued)

| Pollutant                         | Emission Factor<br>(lb/MMBtu) <sup>b</sup><br>(fuel input) | Emission Factor<br>Rating |
|-----------------------------------|------------------------------------------------------------|---------------------------|
| Acenaphthylene <sup>k</sup>       | 5.53 E-06                                                  | C                         |
| Acetaldehyde <sup>k,l</sup>       | 8.36 E-03                                                  | A                         |
| Acrolein <sup>k,l</sup>           | 5.14 E-03                                                  | A                         |
| Benzene <sup>k</sup>              | 4.40 E-04                                                  | A                         |
| Benzo(b)fluoranthene <sup>k</sup> | 1.66 E-07                                                  | D                         |
| Benzo(e)pyrene <sup>k</sup>       | 4.15 E-07                                                  | D                         |
| Benzo(g,h,i)perylene <sup>k</sup> | 4.14 E-07                                                  | D                         |
| Biphenyl <sup>k</sup>             | 2.12 E-04                                                  | D                         |
| Butane                            | 5.41 E-04                                                  | D                         |
| Butyr/Isobutyraldehyde            | 1.01 E-04                                                  | C                         |
| Carbon Tetrachloride <sup>k</sup> | <3.67 E-05                                                 | E                         |
| Chlorobenzene <sup>k</sup>        | <3.04 E-05                                                 | E                         |
| Chloroethane                      | 1.87 E-06                                                  | D                         |
| Chloroform <sup>k</sup>           | <2.85 E-05                                                 | E                         |
| Chrysene <sup>k</sup>             | 6.93 E-07                                                  | C                         |
| Cyclopentane                      | 2.27 E-04                                                  | C                         |
| Ethane                            | 1.05 E-01                                                  | C                         |
| Ethylbenzene <sup>k</sup>         | 3.97 E-05                                                  | B                         |
| Ethylene Dibromide <sup>k</sup>   | <4.43 E-05                                                 | E                         |
| Fluoranthene <sup>k</sup>         | 1.11 E-06                                                  | C                         |
| Fluorene <sup>k</sup>             | 5.67 E-06                                                  | C                         |
| Formaldehyde <sup>k,l</sup>       | 5.28 E-02                                                  | A                         |
| Methanol <sup>k</sup>             | 2.50 E-03                                                  | B                         |
| Methylcyclohexane                 | 1.23 E-03                                                  | C                         |
| Methylene Chloride <sup>k</sup>   | 2.00 E-05                                                  | C                         |
| n-Hexane <sup>k</sup>             | 1.11 E-03                                                  | C                         |
| n-Nonane                          | 1.10 E-04                                                  | C                         |

Since flares do not lend themselves to conventional emission testing techniques, only a few attempts have been made to characterize flare emissions. Recent EPA tests using propylene as flare gas indicated that efficiencies of 98 percent can be achieved when burning an offgas with at least 11,200 kJ/m<sup>3</sup> (300 Btu/ft<sup>3</sup>). The tests conducted on steam-assisted flares at velocities as low as 39.6 meters per minute (m/min) (130 ft/min) to 1140 m/min (3750 ft/min), and on air-assisted flares at velocities of 180 m/min (617 ft/min) to 3960 m/min (13,087 ft/min) indicated that variations in incoming gas flow rates have no effect on the combustion efficiency. Flare gases with less than 16,770 kJ/m<sup>3</sup> (450 Btu/ft<sup>3</sup>) do not smoke.

Table 13.5-1 presents flare emission factors, and Table 13.5-2 presents emission composition data obtained from the EPA tests.<sup>1</sup> Crude propylene was used as flare gas during the tests. Methane was a major fraction of hydrocarbons in the flare emissions, and acetylene was the dominant intermediate hydrocarbon species. Many other reports on flares indicate that acetylene is always formed as a stable intermediate product. The acetylene formed in the combustion reactions may react further with hydrocarbon radicals to form polyacetylenes followed by polycyclic hydrocarbons.<sup>2</sup>

In flaring waste gases containing no nitrogen compounds, NO is formed either by the fixation of atmospheric nitrogen (N) with oxygen (O) or by the reaction between the hydrocarbon radicals present in the combustion products and atmospheric nitrogen, by way of the intermediate stages, HCN, CN, and OCN.<sup>2</sup> Sulfur compounds contained in a flare gas stream are converted to SO<sub>2</sub> when burned. The amount of SO<sub>2</sub> emitted depends directly on the quantity of sulfur in the flared gases.

Table 13.5-1 (English Units). EMISSION FACTORS FOR FLARE OPERATIONS<sup>a</sup>

EMISSION FACTOR RATING: B

| Component                       | Emission Factor<br>(lb/10 <sup>6</sup> Btu) |
|---------------------------------|---------------------------------------------|
| Total hydrocarbons <sup>b</sup> | 0.14                                        |
| Carbon monoxide                 | 0.37                                        |
| Nitrogen oxides                 | 0.068                                       |
| Soot <sup>c</sup>               | 0 - 274                                     |

<sup>a</sup> Reference 1. Based on tests using crude propylene containing 80% propylene and 20% propane.

<sup>b</sup> Measured as methane equivalent.

<sup>c</sup> Soot in concentration values: nonsmoking flares, 0 micrograms per liter (µg/L); lightly smoking flares, 40 µg/L; average smoking flares, 177 µg/L; and heavily smoking flares, 274 µg/L.



October 2000  
RG-109 (Draft)

## Air Permit Technical Guidance for Chemical Sources:

# Flares and Vapor Oxidizers

printed on  
recycled paper

Air Permits Division

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TEXAS NATURAL RESOURCE CONSERVATION COMMISSION



**Barry R. McBee, Chairman**  
**R. B. "Ralph" Marquez, Commissioner**  
**John M. Baker, Commissioner**

**Jeffrey A. Saitas, P.E., Executive Director**

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Published and distributed by:  
Texas Natural Resource Conservation Commission  
P.O. Box 13087  
Austin, Texas 78711-3087

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## Technical Disclaimer

This document is intended as guidance to explain the specific requirements for new source review permitting of flares and vapor oxidizers; it does not supersede or replace any state or federal law, regulation, or rule. References to abatement equipment technologies are not intended to represent minimum or maximum levels of Best Available Control Technology (BACT). Determinations of BACT are made on a case-by-case basis as part of the New Source Review of permit applications. BACT determinations are always subject to adjustment in consideration of specific process requirements, air quality concerns, and recent developments in abatement technology. Additionally, specific health effects concerns may indicate stricter abatement than required by the BACT determination.

The represented calculation methods are intended as an aid in the completion of acceptable submittals; alternate calculation methods may be equally acceptable if they are based upon, and adequately demonstrate, sound engineering assumptions or data.

These guidelines are applicable as of this document's publication date but are subject to revision during the permit application preparation and review period. It is the responsibility of the applicants to remain abreast of any guideline or regulation developments that may affect their industries.

The electronic version of this document may not contain attachments or forms (such as the PI-1, Standard Exemptions, or tables) that can be obtained electronically elsewhere on the TNRCC Web site.

The special conditions included with these guidelines are for purposes of example only. Special conditions included in an actual permit are written by the reviewing engineer to address specific permit requirements and operating conditions.

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## Chapter 2—Types of Flare and Oxidizer Systems

This document provides guidance for two classes of vapor combustion control devices: flares and vapor oxidizers. While there may be some overlap between the two, flares have generally been treated separately by the EPA and the TNRCC, in large part because flares have an open flame and often cannot be sampled, so emissions are estimated based on the results of flare testing performed in the early 1980s. Each of the two classes will be dealt with separately in each of the chapters of this document.

***Combustion Control Devices NOT Discussed.*** This document will not cover permitting of RCRA or BIF units because the requirements for these units often go beyond the requirements for state air permitting. Incinerators used to treat solid wastes are covered in another technical guidance document, *Incinerators*. Guidance for combustion control devices associated with spray paint booths, coatings operations, and semiconductor facilities should be obtained by calling the TNRCC New Source Review Permits Division at (512) 239-1250.

### Flares

Flare systems generally are open-flame control devices used for disposing of waste gas streams during both routine process and emergency or upset conditions. In addition to simple, unassisted flares, typical smokeless flare systems include, but are not limited to, the following:

- ***Enclosed Flares/Vapor Combustors.*** Enclosed flares are used in disposing of waste gas streams in instances where a visible flame is unacceptable. Applications include chemical processing, petroleum refining and production, and municipal waste gas treatment. These may be referred to as vapor combustors and can have more than one burner in the stack.
- ***Steam-Assisted Flares.*** Steam-assisted flares are used in disposing of low-pressure waste gas streams when steam is available and practical to minimize smoking from the flare. Applications are similar to those of enclosed flares. Flares might also be assisted with natural gas if readily available on site; these flares would undergo a case-by-case review.
- ***Air-Assisted Flares.*** Air-assisted flares are used in disposing of low-pressure waste gas streams when practical or when steam utilities are not available to minimize smoking from the flare. Applications include chemical processing, petroleum refining and production, and pipeline transportation.
- ***Sonic Flares.*** Sonic flares are used in disposing of high-pressure waste gas streams. Applications include gas production, pipeline transportation, and treatment plants.

- ***Multipoint Flare Systems.*** Multipoint flare systems are used in disposing of both high- and low-pressure waste gas streams. Multiple burner tips in conjunction with a staged control system provide for controlled combustion. Applications are similar to those of air-assisted flares.

## Vapor Oxidizers

These devices generally do not have an open flame but have an exhaust stack which allows for sampling and monitoring of exhaust emissions. The most common type, thermal, relies on the combustion heat of the waste gas and assist fuel (if required) to oxidize the waste gas air contaminants. Other types include:

- ***Recuperative.*** In this case, the waste gas is directed to a heat exchanger to be preheated by the exhaust gas, to minimize the need for additional assist fuel. Recuperative oxidizers are considered a subset of thermal oxidizers in this document.
- ***Regenerative.*** Combustion takes place in a chamber with a heat sink, such as ceramic saddles, which retains the heat of combustion, allowing for combustion of more dilute vapor streams (which have a low heat of combustion) at a lower cost. These units generally have multiple chambers, which allow for the preheat of one chamber by exhaust gases while combustion takes place in another chamber.
- ***Catalytic.*** Combustion takes place over a catalyst that allows for combustion at a lower temperature (in the range of 600 to 800°F as opposed to greater than 1400°F for many thermal oxidizers). Catalytic oxidizers function best with a waste stream with constant flow and composition.

## Chapter 5—Emission Factors, Efficiencies, and Calculations

This chapter provides detailed instructions for the calculations necessary to verify BACT and estimate emissions from flares and vapor oxidizers. Flares must be checked to determine whether they will satisfy the flow and thermal requirements of 40 CFR § 60.18, and their emissions are determined by the use of emission factors. Example calculations are provided for these flare calculations.

Oxidizer emissions are determined by using previous sampling results or emission factors from the manufacturer or AP-42. These calculations are very similar to the flare calculations and are only discussed in general terms.

### Flares: Introduction

Although emissions from emergency flares are not included in a permit when it is issued, emissions should be estimated for both routine process flares and emergency flares. Sometimes, emissions of routine pilot gas combustion may be included in an issued permit for emergency flares (although not required).

In this section, the *flare* emission factors and destruction efficiencies are presented first. This information is followed by sample *calculations* that demonstrate how to ensure that the requirements of 40 CFR § 60.18 are satisfied and how to estimate emissions from a flare. Flare data in Attachment B (typical refinery flare) will be used as a basis in most of the following calculations. Flare data in Attachment C (acid gas flare) will be used as a basis in the example calculations for SO<sub>2</sub> emissions.

### Flare Emission Factors

The usual flare destruction efficiencies and emission factors are provided in Table 4. The high-Btu waste streams referred to in the table have a heating value greater than 1,000 Btu/scf.

### Flare Destruction Efficiencies

Claims for destruction efficiencies greater than those listed in Table 4 will be considered on a case-by-case basis. The applicant may make one of the three following demonstrations to justify the higher destruction efficiency: (1) general method, (2) 99.5 percent justification, or (3) flare stack sampling.

**Table 4. Flare Factors**

| Waste Stream            | Destruction/Removal Efficiency (DRE)                                                                                                                                                                                                                   |                     |                                    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------|
| VOC                     | 98 percent (generic)<br><br>99 percent for compounds containing no more than 3 carbons that contain no elements other than carbon and hydrogen in addition to the following compounds: methanol, ethanol, propanol, ethylene oxide and propylene oxide |                     |                                    |
| H <sub>2</sub> S        | 98 percent                                                                                                                                                                                                                                             |                     |                                    |
| NH <sub>3</sub>         | case by case                                                                                                                                                                                                                                           |                     |                                    |
| CO                      | case by case                                                                                                                                                                                                                                           |                     |                                    |
| Air Contaminants        | Emission Factors                                                                                                                                                                                                                                       |                     |                                    |
| thermal NO <sub>x</sub> | steam-assist:                                                                                                                                                                                                                                          | high Btu<br>low Btu | 0.0485 lb/MMBtu<br>0.068 lb/MMBtu  |
|                         | other:                                                                                                                                                                                                                                                 | high Btu<br>low Btu | 0.138 lb/MMBtu<br>0.0641 lb/MMBtu  |
| fuel NO <sub>x</sub>    | NO <sub>x</sub> is 0.5 wt percent of inlet NH <sub>3</sub> , other fuels case by case                                                                                                                                                                  |                     |                                    |
| CO                      | steam-assist:                                                                                                                                                                                                                                          | high Btu<br>low Btu | 0.3503 lb/MMBtu<br>0.3465 lb/MMBtu |
|                         | other:                                                                                                                                                                                                                                                 | high Btu<br>low Btu | 0.2755 lb/MMBtu<br>0.5496 lb/MMBtu |
| PM                      | none, required to be smokeless                                                                                                                                                                                                                         |                     |                                    |
| SO <sub>2</sub>         | 100 percent S in fuel to SO <sub>2</sub>                                                                                                                                                                                                               |                     |                                    |

\*The only exception of this is if inorganics might be emitted from the flare. In the case of landfills, the AP-42 PM factor may be used. In other cases, the emissions should be based on the composition of the waste stream routed to the flare.

Table 3.3-1. EMISSION FACTORS FOR UNCONTROLLED GASOLINE AND DIESEL INDUSTRIAL ENGINES<sup>a</sup>

| Pollutant                    | Gasoline Fuel<br>(SCC 2-02-003-01, 2-03-003-01) |                                               | Diesel Fuel<br>(SCC 2-02-001-02, 2-03-001-01)   |                                               | EMISSION<br>FACTOR<br>RATING |
|------------------------------|-------------------------------------------------|-----------------------------------------------|-------------------------------------------------|-----------------------------------------------|------------------------------|
|                              | Emission Factor<br>(lb/hp-hr)<br>(power output) | Emission Factor<br>(lb/MMBtu)<br>(fuel input) | Emission Factor<br>(lb/hp-hr)<br>(power output) | Emission Factor<br>(lb/MMBtu)<br>(fuel input) |                              |
| NO <sub>x</sub> 0.011        |                                                 | 1.63                                          | 0.031                                           | 4.41                                          | D                            |
| CO                           | 6.96 E-03 <sup>d</sup>                          | 0.99 <sup>d</sup>                             | 6.68 E-03                                       | 0.95                                          | D                            |
| SO <sub>x</sub>              | 5.91 E-04                                       | 0.084                                         | 2.05 E-03                                       | 0.29                                          | D                            |
| PM-10 <sup>b</sup>           | 7.21 E-04                                       | 0.10                                          | 2.20 E-03                                       | 0.31                                          | D                            |
| CO <sub>2</sub> <sup>c</sup> | 1.08                                            | 154                                           | 1.15                                            | 164                                           | B                            |
| Aldehydes 4.85               | E-04                                            | 0.07                                          | 4.63 E-04                                       | 0.07                                          | D                            |
| TOC                          |                                                 |                                               |                                                 |                                               |                              |
| Exhaust                      | 0.015                                           | 2.10                                          | 2.47 E-03                                       | 0.35                                          | D                            |
| Evaporative                  | 6.61 E-04                                       | 0.09                                          | 0.00                                            | 0.00                                          | E                            |
| Crankcase                    | 4.85 E-03                                       | 0.69                                          | 4.41 E-05                                       | 0.01                                          | E                            |
| Refueling                    | 1.08 E-03                                       | 0.15                                          | 0.00                                            | 0.00                                          | E                            |

<sup>a</sup> References 2,5-6,9-14. When necessary, an average brake-specific fuel consumption (BSFC) of 7,000 Btu/hp-hr was used to convert from lb/MMBtu to lb/hp-hr. To convert from lb/hp-hr to kg/kw-hr, multiply by 0.608. To convert from lb/MMBtu to ng/J, multiply by 430. SCC = Source Classification Code. TOC = total organic compounds.

<sup>b</sup> PM-10 = particulate matter less than or equal to 10 µm aerodynamic diameter. All particulate is assumed to be ≤ 1 µm in size.

<sup>c</sup> Assumes 99% conversion of carbon in fuel to CO<sub>2</sub> with 87 weight % carbon in diesel, 86 weight % carbon in gasoline, average BSFC of 7,000 Btu/hp-hr, diesel heating value of 19,300 Btu/lb, and gasoline heating value of 20,300 Btu/lb.

<sup>d</sup> Instead of 0.439 lb/hp-hr (power output) and 62.7 lb/mmBtu (fuel input), the correct emissions factors values are 6.96 E-03 lb/hp-hr (power output) and 0.99 lb/mmBtu (fuel input), respectively. This is an editorial correction. March 24, 2009

Table 3.3-2. SPECIATED ORGANIC COMPOUND EMISSION  
FACTORS FOR UNCONTROLLED DIESEL ENGINES<sup>a</sup>

EMISSION FACTOR RATING: E

| Pollutant                              | Emission Factor<br>(Fuel Input)<br>(lb/MMBtu) |
|----------------------------------------|-----------------------------------------------|
| Benzene <sup>b</sup>                   | 9.33 E-04                                     |
| Toluene <sup>b</sup>                   | 4.09 E-04                                     |
| Xylenes <sup>b</sup>                   | 2.85 E-04                                     |
| Propylene                              | 2.58 E-03                                     |
| 1,3-Butadiene <sup>b,c</sup>           | <3.91 E-05                                    |
| Formaldehyde <sup>b</sup>              | 1.18 E-03                                     |
| Acetaldehyde <sup>b</sup>              | 7.67 E-04                                     |
| Acrolein <sup>b</sup>                  | <9.25 E-05                                    |
| Polycyclic aromatic hydrocarbons (PAH) |                                               |
| Naphthalene <sup>b</sup>               | 8.48 E-05                                     |
| Acenaphthylene                         | <5.06 E-06                                    |
| Acenaphthene                           | <1.42 E-06                                    |
| Fluorene                               | 2.92 E-05                                     |
| Phenanthrene                           | 2.94 E-05                                     |
| Anthracene                             | 1.87 E-06                                     |
| Fluoranthene                           | 7.61 E-06                                     |
| Pyrene                                 | 4.78 E-06                                     |
| Benzo(a)anthracene                     | 1.68 E-06                                     |
| Chrysene                               | 3.53 E-07                                     |
| Benzo(b)fluoranthene                   | <9.91 E-08                                    |
| Benzo(k)fluoranthene                   | <1.55 E-07                                    |
| Benzo(a)pyrene                         | <1.88 E-07                                    |
| Indeno(1,2,3-cd)pyrene                 | <3.75 E-07                                    |
| Dibenz(a,h)anthracene                  | <5.83 E-07                                    |
| Benzo(g,h,i)perylene                   | <4.89 E-07                                    |
| TOTAL PAH                              | 1.68 E-04                                     |

<sup>a</sup> Based on the uncontrolled levels of 2 diesel engines from References 6-7. Source Classification Codes 2-02-001-02, 2-03-001-01. To convert from lb/MMBtu to ng/J, multiply by 430.

<sup>b</sup> Hazardous air pollutant listed in the *Clean Air Act*.

<sup>c</sup> Based on data from 1 engine.



***Delivering Energy to Improve Lives***

December 16, 2024

*Delivered via E-Mail*  
[Brian.Polgar@env.nm.gov](mailto:Brian.Polgar@env.nm.gov)

Mr. Brian Polgar  
Compliance & Enforcement Section Chief  
Air Quality Bureau  
New Mexico Environment Department  
525 Camino de los Marquez, Suite 1  
Santa Fe, NM 87505

**Re: Kinder Morgan, Inc. Alternative Compliance Plan for Gas Turbines and Engines Subject to the New Mexico Ozone Precursor Rule, Revision**

Dear Mr. Polgar:

Kinder Morgan, Inc. (KM) hereby submits a revision to the subject Alternative Compliance Plan (ACP), previously approved by the Air Quality Bureau on March 22, 2024.

This revision includes the following changes:

| Facility       | County   | Update                                                                                                                                 |
|----------------|----------|----------------------------------------------------------------------------------------------------------------------------------------|
| Eunice         | Lea      | Update NOx standards for two turbine units to reflect manufacturer data for core installations obtained during the permitting process. |
| Station 167    | Lea      | Update CO standard for three engines to include an additional margin of safety.                                                        |
| Monument       | Lea      | Permanent removal of one emission unit from service.                                                                                   |
| San Juan River | San Juan | Update CO standard for three Solar turbines to include an additional margin of safety.                                                 |
| Caprock        | Lea      | Update CO standard for two GE turbines to include an additional margin of safety.                                                      |
| Pecos River    | Eddy     | Update CO standard for three GE turbines to show additional reduction.                                                                 |
| Afton          | Dona Ana | Update CO standard for three GE turbines to show additional reduction.                                                                 |
| Belen          | Valencia | Update CO standard for two GE turbines to include an additional margin of safety.                                                      |
| Rio Vista      | San Juan | Update NOx standard for one turbine unit to reflect manufacturer data for core installation obtained during the project scoping.       |



***Delivering Energy to Improve Lives***

The attached revision to the ACP incorporates these changes. Relative to the prior plan, this revision represents an additional NOx reduction of 39.4 tons, and an equivalent CO reduction, within 0.2 tons of the prior plan.

We appreciate your review of the attached ACP, and we look forward to hearing from you. If you have any questions, please contact me at 713.420.3463 or at [tom\\_mitchell@kindermorgan.com](mailto:tom_mitchell@kindermorgan.com).

Sincerely,

R. Thomas Mitchell  
Manager, EHS

Enclosure



## **New Mexico Ozone Precursor Rule Alternative Compliance Plan**

Submitted to:  
**New Mexico Environmental Department**  
**Air Quality Bureau - Compliance & Enforcement Section**  
**1190 St. Francis Dr. Suite N4050**  
**Santa Fe, NM 87505**

June 2023  
Revision 1: August 2023  
Revision 2: January 2024  
Revision 3: December 2024

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# New Mexico Alternative Compliance Plan

December 2024

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# 1 Executive Summary

The New Mexico Environmental Department (NMED) proposed, and the New Mexico Environment Improvement Board (Board) adopted, the Ozone Precursor rule under 20.2.50 NMAC to reduce ozone precursor emissions—specifically nitrogen oxides (“NO<sub>x</sub>”) and volatile organic compounds (“VOCs”)—at sources causing or contributing to ambient ozone concentrations that exceed ninety-five percent of the national ambient air quality standard for ozone. The Ozone Precursor Rule also sets carbon monoxide (CO) emission limits in conjunction with the NO<sub>x</sub> and VOC limits. In lieu of meeting the emission standards established under 20.2.50.113 for stationary natural gas-fired combustion engines and turbines, owners and operators may elect to comply with the emission standards through an Alternative Compliance Plan (ACP) and/or an Alternate Emission Standard (AES) approved by the department.

Kinder Morgan, Inc. (Kinder Morgan) on behalf of itself and its subsidiaries and affiliates El Paso Natural Gas Company, L.L.C. (EPNG), Natural Gas Pipeline of America (NGPL), and TransColorado Gas Transmission Company LLC (TC) (collectively “Kinder Morgan”) request approval of an ACP for the stationary natural gas-fired combustion engines and turbines identified in Appendix A, attached hereto. The proposed ACP demonstrates that Kinder Morgan will achieve a greater reduction in emissions than if emission standards were applied individually to each engine or turbine separately. The proposed ACP does not include NMNEHC emissions because all units subject to 20.2.50.113 currently meet the NMNEHC standards established under 20.2.50.113 for existing stationary natural gas-fired combustion engines and turbines.

This ACP addresses CO emissions from all subject units in the Kinder Morgan fleet and NO<sub>x</sub> emissions from units not addressed in the separately submitted plan for NO<sub>x</sub> that comply with 20.2.50.113 NMAC through an Alternative Emission Standards, pursuant to 20.2.50.113(B)(11) NMAC.<sup>1</sup> Table 1-1 summarizes the total amount of allowable emissions under the proposed ACP compared to the total allowable emissions under 20.2.50.113 for existing engines and turbines. If approved by NMED Kinder Morgan will meet the total allowable emissions established under the emission standards of 20.2.50.113 by January 1, 2028, for both engines and turbines, a year before the compliance schedule outlined in the rule for engines. Under the proposed ACP, Kinder Morgan will achieve a total NO<sub>x</sub> reduction of 770.7 tons by January 1, 2028. Of which, 93.7% of NO<sub>x</sub> reduction will be in the Permian Basin.

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<sup>1</sup> See Statement of Reasons, at 111 (Section 113 “offers significant flexibility for sources that are unable to meet the emissions standards of Part 50: they may reduce the annual hours of operation, they may seek an Alternative Compliance Plan ACP to meet an equivalent amount of emission reductions, **and/or** they may seek alternative emissions standards if they can demonstrate that they cannot meet the existing standards through an ACP”) (emphasis added).

**Table 1-1 Comparison of Proposed ACP and 20.2.50.113 Total Allowable Emissions**

| Pollutant | Scenario                                           | TPY Total Allowable Emissions | ACP Total Proposed Emissions Meet 20.2.50.113 Total Allowable Emissions? |
|-----------|----------------------------------------------------|-------------------------------|--------------------------------------------------------------------------|
| NOx       | Proposed ACP                                       | 968.1                         | Yes                                                                      |
|           | 20.2.50.113 Total Allowable Emissions <sup>1</sup> | 1,064.6                       |                                                                          |
| CO        | Proposed ACP                                       | 597.4                         | Yes                                                                      |
|           | 20.2.50.113 Total Allowable Emissions <sup>1</sup> | 601.8                         |                                                                          |

1 - To be conservative, Kinder Morgan is using the lower of the current permit limits and the allowable mass emissions under the ozone precursor rule to establish the final allowable NOx and CO emission rates for the ACP.

## 2 Regulatory Background

The Board adopted the Ozone Precursor rule under 20.2.50 NMAC to reduce ozone precursor emissions—specifically nitrogen oxides (“NOx”) and volatile organic compounds (“VOCs”)—at sources causing or contributing to ambient ozone concentrations that exceed ninety-five percent of the national ambient air quality standard for ozone. Sources located in Chaves, Dona Ana, Eddy, Lea, Rio Arriba, Sandoval, San Juan, and Valencia counties are subject to the rule. Kinder Morgan owns and operates multiple stationary natural gas-fired spark ignition engines and stationary natural gas-fired combustion turbines with a maximum design rating equal to or greater than 1,000 hp located at 12 different facilities in counties subject to 20.2.50 NMAC.

Applicable existing portable or stationary natural gas-fired spark ignition engines, compression ignition engines, or natural gas-fired combustion turbines shall meet the emissions standards in 20.2.50.113 listed in Table 2-1 and Table 2-2. Owners or operators shall comply with the emission standards for a specified percentage of all the company’s equipment subject to the standards by the dates specified in Table 2-3 below.

**Table 2-1 Emission Standards for Existing Natural Gas-Fired Spark Ignition Engines**

| Engine Type        | Rated bhp                 | NOx          | CO            | NMNEHC (as propane) |
|--------------------|---------------------------|--------------|---------------|---------------------|
| 2 Stroke Lean Burn | >1,000                    | 3.0 g/bhp-hr | 0.60 g/bhp-hr | 0.70 g/bhp-hr       |
| 4-Stroke Lean Burn | >1,000 bhp and <1,775 bhp | 2.0 g/bhp-hr | 0.60 g/bhp-hr | 0.70 g/bhp-hr       |
| 4-Stroke Lean Burn | ≥1,775 bhp                | 0.5 g/bhp-hr | 0.60 g/bhp-hr | 0.70 g/bhp-hr       |
| Rich Burn          | >1,000 bhp                | 0.5 g/bhp-hr | 0.60 g/bhp-hr | 0.70 g/bhp-hr       |

**Table 2-2 Emission Standards for Existing Stationary Combustion Turbines**

| Turbine Rating (bhp) | NOx (ppmvd @15% O <sub>2</sub> ) | CO (ppmvd @ 15% O <sub>2</sub> ) | NMNEHC (as propane, ppmvd @15% O <sub>2</sub> ) |
|----------------------|----------------------------------|----------------------------------|-------------------------------------------------|
| ≥1,000 and <4,100    | 150                              | 50                               | 9                                               |
| ≥4,100 and <15,000   | 50                               | 50                               | 9                                               |
| ≥15,000              | 50                               | 50 or 93% reduction              | 5 or 50% reduction                              |

**Table 2-3 Engine and Turbine Compliance Schedule**

| Unit     | 30% Compliance Due Date | 65% Compliance Due Date | 100% Compliance Due Date |
|----------|-------------------------|-------------------------|--------------------------|
| Engines  | January 1, 2025         | January 1, 2027         | January 1, 2029          |
| Turbines | January 1, 2024         | January 1, 2026         | January 1, 2028          |

In lieu of meeting the emission standards established under 20.2.50.113 for portable and stationary natural gas-fired combustion engines and turbines, owners and operators may elect to comply with the emission standards through an ACP approved by NMED. In particular, the Board adopted Paragraphs (10) and (11) of Subsection B of 20.2.50.113 NMAC “for the reasons stated in the NMED Rebuttal . . . and the supporting argument by Kinder Morgan.” State of New Mexico, Environmental Improvement Board, Statement of Reasons and Final Order, In the Matter of Proposed New Regulation 20.2.50 NMAC – Oil and Gas Sector – Ozone Precursor Pollutants, No. EIB 21-27, at pp. 111 (June 27, 2022) (hereinafter, Statement of Reasons). In particular, and citing to Kinder Morgan’s supporting argument in the Board rulemaking, the Board stated that “[w]hile the emissions thresholds provided in Tables 1 and 3 for existing engines and turbines are appropriate in most cases, circumstances may exist where it is technically impracticable or economically infeasible to achieve compliance.” Id. at 111. Recognizing these practical limitations, the Board’s final rule “offers significant flexibility for sources that are unable to meet the emissions standards of Part 50: they may reduce the annual hours of operation, they may seek an Alternative Compliance Plan ACP to meet an equivalent amount of emission reductions, and/or they may seek alternative emissions standards if they can demonstrate that they cannot meet the existing standards through an ACP.” Id. at 111 (emphasis added). Thus, an operator may have in place both an AES (or multiple AESs for individual units), and an ACP.

The purpose of this report is to meet the requirement from 20.2.50.113(10) as follows:

*“In lieu of complying with the emission standards for individual engines and turbines established in Subsection B of 20.2.50.113 NMAC, an owner or operator may elect to comply with the emission standards through an Alternative Compliance Plan (ACP) approved by the department. An ACP must include the list of engines or turbines subject to the ACP, and a demonstration that the total allowable emissions for the engines or turbines subject to the ACP will not exceed the total allowable emissions under the emission standards of this Part.”*

### 3 Alternative Compliance Plan

To establish a baseline of equivalent emission reductions per year, Kinder Morgan calculated emissions for each engine or turbine if it were to meet the emissions standard set in the ozone rule (20.2.50.113.B) on a unit-by-unit basis for those units covered by the ACP. The allowable mass emissions under the ozone rule are then compared to the current permit limits. To be conservative, Kinder Morgan is using the lower of the current permit limits and the allowable mass emissions under the ozone precursor rule to establish the final allowable NOx and CO emission rates for the ACP. Using the compliance schedule outlined in 20.2.50.113.B.2 for existing stationary natural gas-fired spark ignition engines and 20.2.50.113.B.7 for stationary natural gas-fired combustion turbines, Kinder Morgan determined the associated emission reductions for each year beginning with current permitted emissions, and projecting through January 1, 2029. This was then compared with the planned ACP schedule of emission control implementations.

Table 3-1 and 3-2 show the current permitted NOx and CO emissions for units addressed in the ACP, annual milestones required by 20.2.50.113 and achieved by the proposed ACP based on the schedules outlined in 20.2.50.113.B.(2) and (7).

**Table 3-1 NOx Compliance Schedule under the Ozone Precursor Rule and the Proposed ACP**

|                                      |                 | <b>Allowable Emissions under 20.2.50.113 (tpy)</b> | <b>ACP Proposed Emissions (tpy)</b> |
|--------------------------------------|-----------------|----------------------------------------------------|-------------------------------------|
| <b>Current Permitted Emissions</b>   |                 | 1738.8                                             | 1738.8                              |
| <b>20.2.50.113 Annual Milestones</b> | <b>1/1/2024</b> | 1718.5                                             | 1652.4                              |
|                                      | <b>1/1/2025</b> | 1536.5                                             | 1431.0                              |
|                                      | <b>1/1/2026</b> | 1512.8                                             | 1353.2                              |
|                                      | <b>1/1/2027</b> | 1300.6                                             | 968.1                               |
|                                      | <b>1/1/2028</b> | 1276.8                                             | 968.1                               |
|                                      | <b>1/1/2029</b> | 1064.6                                             | 968.1                               |
| <b>Final per 20.2.50.113</b>         |                 | 1064.6                                             | 968.1                               |

**Table 3-2 CO Compliance Schedule under the Ozone Precursor Rule and the Proposed ACP**

|                                      |                 | <b>Allowable Emissions (tpy)</b> | <b>ACP Proposed Emissions (tpy)</b> |
|--------------------------------------|-----------------|----------------------------------|-------------------------------------|
| <b>Current</b>                       |                 | 1253.2                           | 1253.2                              |
| <b>20.2.50.113 Annual Milestones</b> | <b>1/1/2024</b> | 1192.2                           | 1183.6                              |
|                                      | <b>1/1/2025</b> | 1057.8                           | 1096.0                              |
|                                      | <b>1/1/2026</b> | 986.7                            | 833.4                               |
|                                      | <b>1/1/2027</b> | 829.8                            | 816.8                               |
|                                      | <b>1/1/2028</b> | 758.7                            | 597.4                               |
|                                      | <b>1/1/2029</b> | 601.8                            | 597.4                               |
| <b>Final per 20.2.50.113</b>         |                 | 601.8                            | 597.4                               |

If approved by NMED, as demonstrated by Tables 3-1 & 3-2, Kinder Morgan will meet the total allowable emissions established under the emission standards of 20.2.50.113 by January 1, 2028, for both engines and turbines, a year before the compliance schedule outlined in the rule for engines and turbines.

NOx reductions will be attained by adding low emission combustion (LE) upgrades on selected engines, and exchanging a Solar turbine component with a lower NOx component on selected turbines. The LE upgrades include a software update and tuning on the controls. The Solar turbine component exchange includes installation of the Solar SoloNOx system. CO emissions will be reduced by installing oxidation catalysts on selected engines or submitting permit revision applications to establish lower CO permit limits based upon actual performance. The specific technology to be used on each unit is included in Appendix A.

Note, to be conservative, Kinder Morgan is using the lower of the current permit limits and the allowable mass emissions under the ozone precursor rule to establish the final allowable NOx and CO emission rates for the proposed ACP. In other words, Kinder Morgan is not claiming credit on reductions for existing units whose permitted limits are already below the allowable emission rates under the ozone precursor rule. Additionally, for each unit in the ACP, the proposed emission rate is provided on an hourly mass emission limit or performance limit basis consistent with the expected representation in the operating permits. These emission rates are converted to an annual basis assuming continuous operation (8,760 hr/yr). Emission reductions are calculated as the difference between the current permit limits and the proposed annual emission rate.

The ACP implementation or retrofitting schedule is depicted by the last column of Appendix A, to be completed in advance of the January 1 compliance date of the following calendar year.

## **Appendix A**

### **ACP Control Technology Summary and Implementation Schedule**

| Compressor Station       | Unit ID | Type    | Current Permit Limits<br>TPY |        | Ozone Rule Emission<br>Standards<br>g/hp-hr for engines;<br>ppm for turbines |      | Total Allowable Under<br>Ozone Rule<br>(TPY) |       | Lower of Rule Emissions<br>and Current Permit Limits<br>(TPY) |       | Alternative Compliance Plan Summary                                                                                  | Total Emission Under ACP<br>(PPH) |       | Total Emission<br>Under ACP (TPY) |       | Total Reduction<br>Under ACP (TPY) |       | Implementation<br>Schedule By Year |
|--------------------------|---------|---------|------------------------------|--------|------------------------------------------------------------------------------|------|----------------------------------------------|-------|---------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------|-----------------------------------|-------|------------------------------------|-------|------------------------------------|
|                          |         |         | NOx                          | CO     | NOx                                                                          | CO   | NOx                                          | CO    | NOx                                                           | CO    |                                                                                                                      | NOx                               | CO    | NOx                               | CO    | NOx                                | CO    |                                    |
| Caprock                  | A-01    | Turbine | 201.0                        | 32.9   | 50.0                                                                         | 50.0 | 53.4                                         | 20.1  | 53.4                                                          | 20.1  | Subject to AES for NOx; Lower CO to 6.4 lb/hr 20% of highest test                                                    | --                                | 6.4   | --                                | 28.0  | --                                 | 4.9   | 2024                               |
| Caprock                  | A-02    | Turbine | 172.1                        | 34.5   | 50.0                                                                         | 50.0 | 32.9                                         | 20.1  | 32.9                                                          | 20.1  | Subject to AES for NOx; Lower CO to 6.4 lb/hr 20% of highest test                                                    | --                                | 6.4   | --                                | 28.0  | --                                 | 6.5   | 2024                               |
| Eunice M/L               | B-01    | Turbine | 83.2                         | 26.3   | 50.0                                                                         | 50.0 | 39.2                                         | 18.4  | 39.2                                                          | 18.4  | Solar Taurus 60 component exchange to lower emissions to 25 ppm NOx and 50 ppm CO                                    | 5.8                               | 2.3   | 25.4                              | 10    | 57.8                               | 16.3  | 2023                               |
| Eunice M/L               | C-01    | Turbine | 25.4                         | 30.9   | 50.0                                                                         | 50.0 | 50.8                                         | 28.9  | 25.4                                                          | 28.9  | Solar Taurus 60 component exchange to lower emissions to 9 ppm NOx and 25 ppm CO                                     | 2.51                              | 2.3   | 11.0                              | 10    | 14.4                               | 20.9  | 2024                               |
| Eunice M/L               | C-02    | Turbine | 25.4                         | 30.9   | 50.0                                                                         | 50.0 | 50.8                                         | 30.7  | 25.4                                                          | 30.7  | Solar Taurus 60 component exchange to lower emissions to 9 ppm NOx and 25 ppm CO                                     | 2.51                              | 2.3   | 11.0                              | 10    | 14.4                               | 20.9  | 2023 (CO)<br>2024 (NOx)            |
| Eunice M/L               | C-03    | Engine  | 36.5                         | 9.1    | 0.5                                                                          | 0.6  | 17.1                                         | 20.6  | 17.1                                                          | 9.1   | Install low emission combustion (LE) technology to reduce NOx emissions; Keep current CO permit limits               | 0.5 g/hp-hr                       | 2.1   | 17.1                              | 9.1   | 19.4                               | 0.0   | 2023                               |
| Monument Plant           | A-01    | Engine  | 125.0                        | 11.8   | 3.0                                                                          | 0.6  | 29.0                                         | 5.8   | 29.0                                                          | 5.8   | Install low emission combustion (LE) technology to reduce NOx emissions; Add Oxidation Catalyst for 70% CO reduction | 3.0 g/hp-hr                       | 0.8   | 29.0                              | 3.5   | 96.0                               | 8.3   | 2024                               |
| Monument Plant           | A-02    | Engine  | 125.0                        | 11.8   | 3.0                                                                          | 0.6  | 29.0                                         | 5.8   | 29.0                                                          | 5.8   | Install low emission combustion (LE) technology to reduce NOx emissions; Add Oxidation Catalyst for 70% CO reduction | 3.0 g/hp-hr                       | 0.8   | 29.0                              | 3.5   | 96.0                               | 8.3   | 2026                               |
| Monument Plant           | A-03    | Engine  | 125.0                        | 11.8   | 3.0                                                                          | 0.6  | 29.0                                         | 5.8   | 29.0                                                          | 5.8   | Install low emission combustion (LE) technology to reduce NOx emissions; Add Oxidation Catalyst for 70% CO reduction | 3.0 g/hp-hr                       | 0.8   | 29.0                              | 3.5   | 96.0                               | 8.3   | 2026                               |
| Monument Plant           | A-04    | Engine  | 17.1                         | 19.7   | 3.0                                                                          | 0.6  | 29.0                                         | 5.8   | 17.1                                                          | 5.8   | Keep Current Permit Limits                                                                                           | 3.9                               | 4.50  | 17.1                              | 19.7  | 0.0                                | 0.0   | 2027                               |
| Monument Plant           | A-05    | Engine  | 17.1                         | 19.7   | 3.0                                                                          | 0.6  | 29.0                                         | 5.8   | 17.1                                                          | 5.8   | Keep Current Permit Limits                                                                                           | 3.9                               | 4.50  | 17.1                              | 19.7  | 0.0                                | 0.0   | 2027                               |
| Monument Plant           | B-01    | Engine  | 38.5                         | 44.0   | 3.0                                                                          | 0.6  | 66.0                                         | 13.2  | 38.5                                                          | 13.2  | Remove unit from service in 2025                                                                                     | 0.0                               | 0.0   | 0                                 | 0.0   | 38.5                               | 44.0  | 2025                               |
| Pecos River              | A-01    | Turbine | 233.0                        | 35.0   | 50.0                                                                         | 50.0 | 56.5                                         | 28.4  | 56.5                                                          | 28.4  | Subject to AES for NOx; Lower CO by 0.5 lb/hr                                                                        | --                                | 7.5   | --                                | 32.9  | --                                 | 2.2   | 2025                               |
| Pecos River              | A-02    | Turbine | 233.0                        | 35.0   | 50.0                                                                         | 50.0 | 56.5                                         | 28.4  | 56.5                                                          | 28.4  | Subject to AES for NOx; Lower CO by 0.5 lb/hr                                                                        | --                                | 7.5   | --                                | 32.9  | --                                 | 2.2   | 2025                               |
| Pecos River              | A-03    | Turbine | 233.0                        | 35.0   | 50.0                                                                         | 50.0 | 56.5                                         | 28.4  | 56.5                                                          | 28.4  | Subject to AES for NOx; Lower CO by 0.5 lb/hr                                                                        | --                                | 7.5   | --                                | 32.9  | --                                 | 2.2   | 2025                               |
| Rio Vista                | A-01    | Turbine | 17.5                         | 29.2   | 150.0                                                                        | 50.0 | 17.5                                         | 10.0  | 17.5                                                          | 10.0  | Keep current NOx permit limits; Reduce CO permit limits to actual plus 20%                                           | 4.0                               | 4.5   | 17.5                              | 19.9  | 0.00                               | 9.3   | 2024                               |
| Rio Vista                | A-02    | Turbine | 17.5                         | 29.2   | 150.0                                                                        | 50.0 | 17.5                                         | 10.0  | 17.5                                                          | 10.0  | Keep current NOx permit value and CO actual plus 20%                                                                 | 4.0                               | 4.5   | 17.5                              | 19.9  | 0.00                               | 9.3   | 2024                               |
| Rio Vista                | A-03    | Turbine | 62.2                         | 17.0   | 50.0                                                                         | 50.0 | 38.4                                         | 23.3  | 38.4                                                          | 17.0  | Solar Centaur 50 component exchange to lower emissions to 25 ppm NOx and 50 ppm CO                                   | 25 PPM                            | 50PPM | 22.9                              | 13.6  | 39.3                               | 3.4   | 2025                               |
| Roswell                  | A-01    | Engine  | 78.8                         | 78.8   | 3.0                                                                          | 0.6  | 98.5                                         | 19.7  | 78.8                                                          | 19.7  | Keep current NOx permit limits; Add Oxidation Catalyst for 80% CO reduction                                          | 18.0                              | 2.5   | 78.8                              | 11.2  | 0.0                                | 67.6  | 2025                               |
| Roswell                  | A-02    | Engine  | 78.8                         | 78.8   | 3.0                                                                          | 0.6  | 98.5                                         | 19.7  | 78.8                                                          | 19.7  | Keep current NOx permit limits; Add Oxidation Catalyst for 80% CO reduction                                          | 18.0                              | 2.5   | 78.8                              | 11.2  | 0.0                                | 67.6  | 2025                               |
| Roswell                  | A-03    | Engine  | 78.8                         | 78.8   | 3.0                                                                          | 0.6  | 98.5                                         | 19.7  | 78.8                                                          | 19.7  | Keep current NOx permit limits; Add Oxidation Catalyst for 80% CO reduction                                          | 18.0                              | 2.5   | 78.8                              | 11.2  | 0.0                                | 67.6  | 2025                               |
| San Juan River           | A-01    | Turbine | 17.5                         | 29.2   | 150.0                                                                        | 50.0 | 17.5                                         | 10.0  | 17.5                                                          | 10.0  | Keep current NOx permit limits; Repermit CO to lower permit limits                                                   | 4.0                               | 4.5   | 17.5                              | 19.7  | 0.00                               | 9.5   | 2024                               |
| San Juan River           | A-02    | Turbine | 17.5                         | 29.2   | 150.0                                                                        | 50.0 | 17.5                                         | 10.0  | 17.5                                                          | 10.0  | Keep current NOx permit limits; Repermit CO to lower permit limits                                                   | 4.0                               | 4.5   | 17.5                              | 19.7  | 0.00                               | 9.5   | 2024                               |
| San Juan River           | A-03    | Turbine | 17.5                         | 29.2   | 150.0                                                                        | 50.0 | 17.5                                         | 10.0  | 17.5                                                          | 10.0  | Keep current NOx permit limits; Repermit CO to lower permit limits                                                   | 4.0                               | 4.5   | 17.5                              | 19.7  | 0.00                               | 9.5   | 2024                               |
| Washington Ranch Storage | A-01    | Engine  | 119.5                        | 119.5  | 3.0                                                                          | 0.6  | 130.4                                        | 26.1  | 119.5                                                         | 26.1  | Keep current NOx permit limits; Add Oxidation Catalyst for 80% CO reduction                                          | 27.3                              | 2.2   | 119.5                             | 9.8   | 0.0                                | 109.7 | 2027                               |
| Washington Ranch Storage | B-02    | Engine  | 119.5                        | 119.5  | 3.0                                                                          | 0.6  | 130.4                                        | 26.1  | 119.5                                                         | 26.1  | Keep current NOx permit limits; Add Oxidation Catalyst for 80% CO reduction                                          | 27.3                              | 2.2   | 119.5                             | 9.8   | 0.0                                | 109.7 | 2027                               |
| Maljamar                 | 1       | Engine  | 154.5                        | 14.1   | 3.0                                                                          | 0.6  | 57.9                                         | 11.6  | 57.9                                                          | 11.6  | Install low emission combustion (LE) technology to reduce NOx emissions; Add Oxidation Catalyst for 80% CO reduction | 3.0 g/hp-hr                       | 0.8   | 57.9                              | 3.3   | 96.6                               | 10.8  | 2023 (CO)<br>2024 (NOx)            |
| Maljamar                 | 2       | Engine  | 154.5                        | 14.1   | 3.0                                                                          | 0.6  | 57.9                                         | 11.6  | 57.9                                                          | 11.6  | Install low emission combustion (LE) technology to reduce NOx emissions; Add Oxidation Catalyst for 80% CO reduction | 3.0 g/hp-hr                       | 0.8   | 57.9                              | 3.3   | 96.6                               | 10.8  | 2023 (CO)<br>2026 (NOx)            |
| Maljamar                 | 3       | Engine  | 154.5                        | 14.1   | 3.0                                                                          | 0.6  | 57.9                                         | 11.6  | 57.9                                                          | 11.6  | Install low emission combustion (LE) technology to reduce NOx emissions; Add Oxidation Catalyst for 80% CO reduction | 3.0 g/hp-hr                       | 0.8   | 57.9                              | 3.3   | 96.6                               | 10.8  | 2023 (CO)<br>2026 (NOx)            |
| Blanco                   | 389     | Engine  | 16.0                         | 4.0    | 0.5                                                                          | 0.6  | 11.4                                         | 13.7  | 11.4                                                          | 4.0   | Install low emission combustion (LE) technology to reduce NOx emissions; Keep current CO permit limits               | 0.5 g/hp-hr                       | 0.9   | 11.4                              | 4.0   | 4.6                                | 0.0   | 2023                               |
| Blanco                   | 390     | Engine  | 16.0                         | 4.0    | 0.5                                                                          | 0.6  | 11.4                                         | 13.7  | 11.4                                                          | 4.0   | Install low emission combustion (LE) technology to reduce NOx emissions; Keep current CO permit limits               | 0.5 g/hp-hr                       | 0.9   | 11.4                              | 4.0   | 4.6                                | 0.0   | 2023                               |
| Afton                    | A-1     | Turbine | 224.5                        | 35.7   | 50.0                                                                         | 50.0 | 51.4                                         | 28.6  | 51.4                                                          | 28.6  | Subject to AES for NOx; Lower CO by 0.4 lb/hr                                                                        | --                                | 7.7   | --                                | 33.7  | --                                 | 2.0   | 2025                               |
| Afton                    | A-2     | Turbine | 224.5                        | 35.7   | 50.0                                                                         | 50.0 | 51.4                                         | 28.6  | 51.4                                                          | 28.6  | Subject to AES for NOx; Lower CO by 0.4 lb/hr                                                                        | --                                | 7.7   | --                                | 33.7  | --                                 | 2.0   | 2025                               |
| Afton                    | A-3     | Turbine | 224.5                        | 35.7   | 50.0                                                                         | 50.0 | 51.4                                         | 28.6  | 51.4                                                          | 28.6  | Subject to AES for NOx; Lower CO by 0.4 lb/hr                                                                        | --                                | 7.7   | --                                | 33.7  | --                                 | 2.0   | 2025                               |
| Belen                    | A-1     | Turbine | 169.0                        | 34.5   | 50.0                                                                         | 50.0 | 34.9                                         | 20.1  | 34.9                                                          | 20.1  | Subject to AES for NOx; Keep current CO permit limits                                                                | --                                | 7.9   | --                                | 34.5  | --                                 | 0.0   | 2024                               |
| Belen                    | A-2     | Turbine | 169.0                        | 34.5   | 50.0                                                                         | 50.0 | 34.9                                         | 20.1  | 34.9                                                          | 20.1  | Subject to AES for NOx; Keep current CO permit limits                                                                | --                                | 7.9   | --                                | 34.5  | --                                 | 0.0   | 2024                               |
| Total (TPY)              |         |         | 1738.8                       | 1253.2 |                                                                              |      | 1247.6                                       | 639.0 | 1064.6                                                        | 601.8 |                                                                                                                      |                                   |       | 968.1                             | 597.4 | 770.7                              | 655.8 |                                    |

# Section 8

## Map(s)

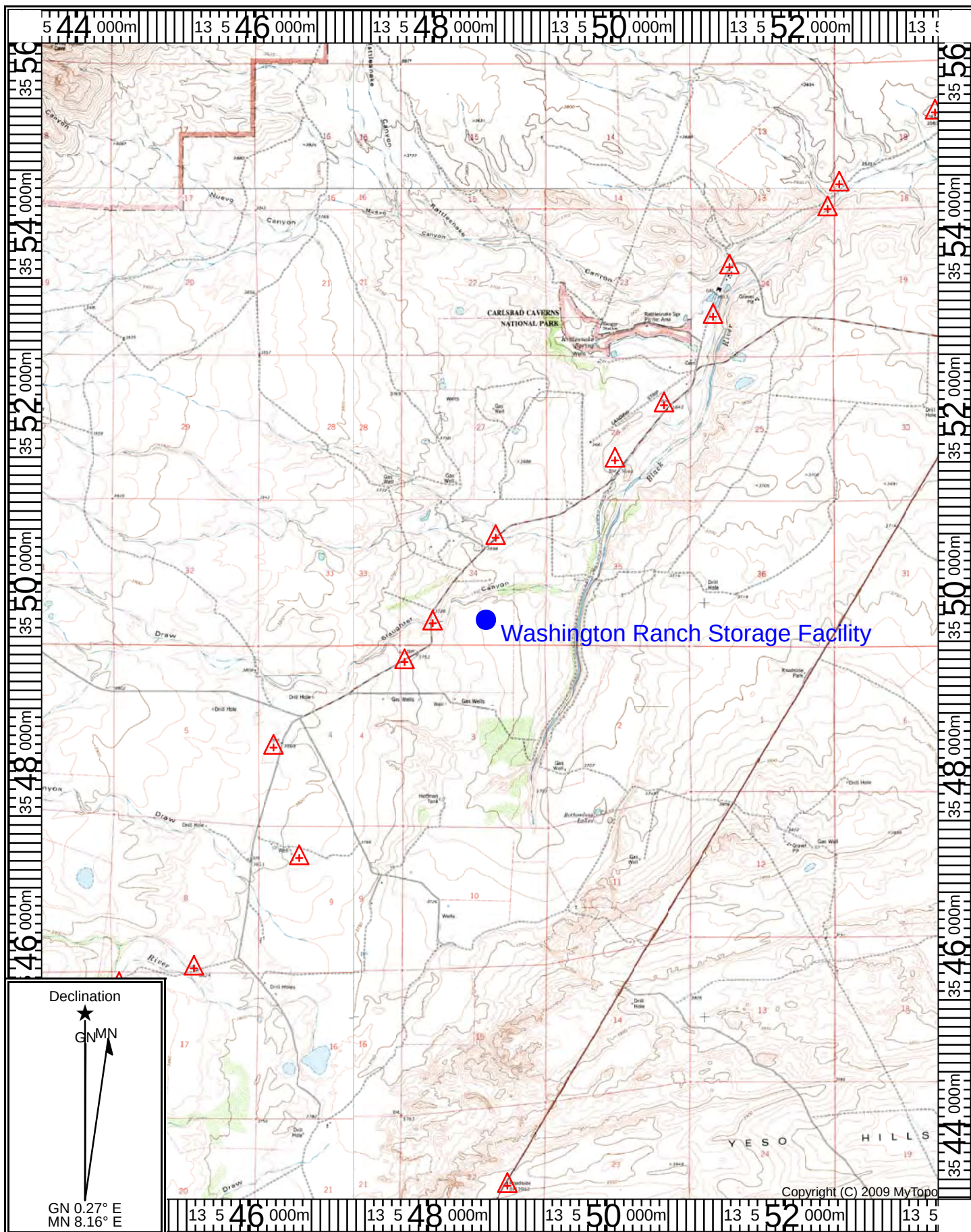
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A map such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

|                                                        |                                                    |
|--------------------------------------------------------|----------------------------------------------------|
| 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                                      |                                                    |

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A topographic map is attached.



Map Name: RATTLESNAKE SPRING  
Print Date: 07/30/13

Scale: 1 inch = 4,761 ft.  
Map Center: 13 0548666 E 3549599 N

Horizontal Datum: WGS84

# Section 9

## 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”)

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☐ **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.

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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 the 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 classified or legal 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 display 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.

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

# Section 10

## Written Description of the Routine Operations of the Facility

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**A written description of the routine operations of the facility.** 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.

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Washington Ranch is a natural gas storage facility which compresses natural gas into underground storage wells and withdraws the gas for delivery into the pipeline. Natural gas is injected or withdrawn from wells using reciprocating gas-fired compressor engines (Units 1 and 2). During natural gas withdrawal operations, the gas is routed through a heater (Unit 4) to prevent hydrate formation then to a triethylene glycol dehydrator (Units 3a and 3b) to remove moisture and hydrocarbons. The process flare (Unit 6) controls emissions from the dehydrator condenser.

Additional sources include a natural gas-fired reciprocating auxiliary engine used up to 500 hours per year (Unit 5), facility-wide fugitive emissions (Unit FUG), and emissions from startup, shutdown, and maintenance/malfunction (Unit SSM/M1).

# Section 11

## 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.

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under 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 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      ☐ No

**Common Ownership or Control:** Surrounding or associated sources are under common ownership or control as this source.

☒ Yes      ☐ No

**Contiguous or Adjacent:** Surrounding or associated sources are contiguous or adjacent with this source.

☒ Yes      ☐ 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 sources as well, you must check **AT LEAST ONE** of the boxes "NO" to conclude that the source, as 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 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

## 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 requirements 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 this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility 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. NO<sub>x</sub>: **XX.X** TPY
- b. CO: **XX.X** TPY
- c. VOC: **XX.X** TPY
- d. SO<sub>x</sub>: **XX.X** TPY
- e. PM: **XX.X** TPY
- f. PM<sub>10</sub>: **XX.X** TPY
- g. PM<sub>2.5</sub>: **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

# Section 13

## Determination of State & Federal Air Quality Regulations

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

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

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

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

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

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

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

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

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

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

### **Federally Enforceable Conditions:**

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

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

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

**Table for State Regulations:**

| <u><a href="#">State Regulation Citation</a></u> | <b>Title</b>                                             | <b>Applies?<br/>Enter<br/>Yes or<br/>No</b> | <b>Unit(s)<br/>or<br/>Facility</b> | <b>Justification:<br/>(You may delete instructions or statements that do not apply in the justification column to shorten the document.)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------|----------------------------------------------------------|---------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20.2.1 NMAC                                      | General Provisions                                       | Yes                                         | Facility                           | General Provisions apply to Notice of Intent, Construction, and Title V permit applications. As this is a Title V permit renewal application, this facility is subject to the general provisions under this regulation and EPNG will comply with all requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 20.2.3 NMAC                                      | Ambient Air Quality Standards NMAAQS                     | Yes                                         | Facility                           | As this is a Title V renewal application, this facility is subject to NMAAQS and EPNG will comply with all requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 20.2.7 NMAC                                      | Excess Emissions                                         | Yes                                         | Facility                           | This facility possesses Units that are subject to excess emission standards under this regulation and EPNG will comply with all requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 20.2.33 NMAC                                     | Gas Burning Equipment - Nitrogen Dioxide                 | No                                          | N/A                                | This facility does not have existing gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit. The facility is not subject to this regulation and does not have emission sources that meet the applicability requirements under 20.2.33.108 NMAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 20.2.34 NMAC                                     | Oil Burning Equipment: NO <sub>2</sub>                   | No                                          | N/A                                | This facility does not have oil burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit. The facility is not subject to this regulation and does not have emission sources that meet the applicability requirements under 20.2.34.108 NMAC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 20.2.35 NMAC                                     | Natural Gas Processing Plant – Sulfur                    | No                                          | N/A                                | This regulation establishes sulfur emission standards for natural gas processing plants. Washington Ranch is not a natural gas processing plant as defined in 20.2.35.7 NMAC; therefore, this regulation does not apply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 20.2.37 and 20.2.36 NMAC                         | Petroleum Processing Facilities and Petroleum Refineries | No                                          | N/A                                | This purpose of this regulation is to minimize emissions from petroleum or natural gas processing facilities. Washington Ranch is not a petroleum processing facility as defined in 20.2.37.7 NMAC; therefore, this regulation does not apply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 20.2.38 NMAC                                     | Hydrocarbon Storage Facility                             | No                                          | N/A                                | This facility is not a “petroleum processing facility” or “petroleum production facility” and does not contain a “tank battery” or a “hydrocarbon storage facility” associated with a “petroleum processing facility”; therefore, this regulation does not apply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 20.2.39 NMAC                                     | Sulfur Recovery Plant - Sulfur                           | No                                          | N/A                                | This facility is not a sulfur recovery plant; therefore, this regulation does not apply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 20.2.50 NMAC                                     | Oil and Gas Sector – Ozone Precursor Pollutants          | Yes                                         | Facility                           | <p>This regulation establishes emission standards for volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) for oil and gas production, processing, compression, and transmission sources. 20.2.50 NMAC subparts below:</p> <p>Include the construction status of applicable units as “New”, “Existing”, “Relocation of Existing”, or “Reconstructed” as defined by this Part in your justification:</p> <p>Check the box for the subparts that are applicable:</p> <p><input checked="" type="checkbox"/> 113 – Engines and Turbines<br/> <input type="checkbox"/> 114 – Compressor Seals<br/> <input checked="" type="checkbox"/> 115 – Control Devices and Closed Vent Systems<br/> <input checked="" type="checkbox"/> 116 – Equipment Leaks and Fugitive Emissions<br/> <input type="checkbox"/> 117 – Natural Gas Well Liquid Unloading<br/> <input type="checkbox"/> 118 – Glycol Dehydrators</p> | <p>113: Units 1 and 2 are applicable Units under this Subpart and EPNG will comply with all requirements.</p> <p>114—N/A—Reciprocating compressors located at transmission compressor stations are not subject to the requirements of 20.2.50.114 NMAC.</p> <p>115: This facility possesses closed vent systems and a process flare (Unit 6) which are applicable under this Subpart and EPNG will comply with all requirements.</p> <p>116: This facility will be permitted to contain facility-wide fugitives (Unit FUG) and EPNG will comply with all requirements.</p> <p>117-N/A- Natural Gas well liquid unloading does not occur at this facility; therefore, this Subpart does not apply.</p> <p>118-N/A-Unit 3b is a glycol dehydrator. However, the PTE is less than two (2)</p> |

| <a href="#">State Regulation Citation</a> | Title                     | Applies?<br>Enter Yes or No | Unit(s) or Facility | Justification:<br>(You may delete instructions or statements that do not apply in the justification column to shorten the document.)                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------|---------------------------|-----------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           |                           |                             |                     | <input type="checkbox"/> 119 – Heaters<br><input checked="" type="checkbox"/> 120 – Hydrocarbon Liquid Transfers<br><input type="checkbox"/> 121 – Pig Launching and Receiving<br><input checked="" type="checkbox"/> 122 – Pneumatic Controllers and Pumps<br><input type="checkbox"/> 123 – Storage Vessels<br><input type="checkbox"/> 124 – Well Workovers<br><input type="checkbox"/> 125 – Small Business Facilities<br><input type="checkbox"/> 126 – Produced Water Management Unit<br><input type="checkbox"/> 127 – Flowback Vessels and Preproduction Operations | <p>119-N/A- Unit 4 is a heater at this facility but is not applicable as it has a heat input less than 20 MMBtu/hr; therefore, this Subpart does not apply.</p> <p>120: Hydrocarbon liquid transfers occurring at this facility are applicable under this Subpart and EPNG will comply with all requirements.</p> <p>121-N/A- This facility does not contain any applicable Units under this subpart; therefore, this Subpart does not apply.</p> <p>122: This facility possesses pneumatic controllers and pumps at this facility and EPNG will comply with all requirements.</p> <p>123-N/A- This facility does possess any applicable Units under this Subpart; therefore, this Subpart does not apply.</p> <p>124-N/A- Well Workovers do not occur at this facility; therefore, this Subpart does not apply.</p> <p>125-N/A- This Subpart is not applicable</p> <p>126-N/A- This subpart is not applicable to this facility as it possesses no Produced Water Management Unit(s).</p> <p>127-N/A- Although this facility possesses natural gas storage wells, this Subpart does not apply as there are no new wells undergoing recompletions, nor are new wells being completed; therefore, this Subpart does not apply.</p> |
| 20.2.61.109 NMAC                          | Smoke & Visible Emissions | Yes                         | 1, 2, 3a, 4, 6      | This regulation establishes controls on smoke and visible emissions from certain sources, including stationary combustion equipment. Facility engines, heaters, and flare are Stationary Combustion Equipment applicable and EPNG will comply with all requirements.                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 20.2.70 NMAC                              | Operating Permits         | Yes                         | Facility            | This regulation establishes requirements for obtaining an operating permit. Washington Ranch is a Title V major source; therefore, it is subject to this regulation and EPNG will comply with all requirements.                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 20.2.71 NMAC                              | Operating Permit 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 NMAC                              | Construction Permits      | Yes                         | Facility            | This regulation establishes the requirements for obtaining a construction permit. This facility is subject to 20.2.72 NMAC and is permitted under NSR Permit 0428-M7-R6                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| <a href="#"><u>State Regulation Citation</u></a> | Title                                                   | Applies?<br>Enter Yes or No | Unit(s) or Facility                          | Justification:<br>(You may delete instructions or statements that do not apply in the justification column to shorten the document.)                                                                                                                                                                                                                                    |
|--------------------------------------------------|---------------------------------------------------------|-----------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20.2.73 NMAC                                     | NOI & Emissions Inventory Requirements                  | Yes                         | Facility                                     | Washington Ranch is subject to the emission inventory requirements under 20.2.73.300 NMAC. EPNG inventory information, as well as other facility data gathered by the company's COMET database is based on the North American Energy Standards Board (NAESB) Gas Day as opposed to the facility's calendar day.                                                         |
| 20.2.74 NMAC                                     | Permits – Prevention of Significant Deterioration (PSD) | No                          | N/A                                          | This regulation establishes requirements for obtaining a prevention of significant deterioration permit. This facility is not a PSD major source; therefore, this regulation does not apply.                                                                                                                                                                            |
| 20.2.75 NMAC                                     | Construction Permit Fees                                | No                          | N/A                                          | This regulation establishes a schedule of operating permit emission fees. This facility is subject to 20.2.72 NMAC and is in turn subject to 20.2.75 NMAC. This facility is exempt from annual fees under this part (20.2.75.11.E NMAC) as it is subject to fees under 20.2.71 NMAC. It is, however, subject to any filing fees for NSR revisions.                      |
| 20.2.77 NMAC                                     | New Source Performance                                  | No                          | Units subject to 40 CFR 60                   | This regulation establishes state authority to implement new source performance standards (NSPS) for stationary sources. This is a stationary source which is not subject to the requirements of 40 CFR Part 60 as amended through December 31, 2010. Accordingly, 20.2.77 NMAC does not apply.                                                                         |
| 20.2.78 NMAC                                     | Emission Standards for HAPS                             | No                          | Units Subject to 40 CFR 61                   | This regulation establishes state authority to implement emission standards for hazardous air pollutants subject to 40 CFR Part 61. This facility may emit hazardous air pollutants which are subject to the requirements of 40 CFR Part 61, as amended through December 31, 2010. In the case of asbestos demolition, one NESHAP may apply.                            |
| 20.2.79 NMAC                                     | Permits – Nonattainment Areas                           | No                          | N/A                                          | This regulation establishes the requirements for obtaining a nonattainment area permit. The facility is not located in a non-attainment area and therefore is not subject to this regulation                                                                                                                                                                            |
| 20.2.80 NMAC                                     | Stack Heights                                           | Yes                         | Facility                                     | This regulation establishes requirements for the evaluation of stack heights and other dispersion techniques. Washington Ranch is subject to 20.2.80.109 NMAC as the sources at the facility were constructed after December 31, 1970.                                                                                                                                  |
| 20.2.82 NMAC                                     | MACT Standards for source categories of HAPS            | Yes                         | Units Subject to 40 CFR 63 (1, 2, 3a, 3b, 4) | This regulation established state authority to implement MACT Standards for source categories of HAPs. This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63 as amended through December 31, 2010. The facility is a major source of HAPs subject to MACT Subparts A, HHH, ZZZZ, and DDDDD. |

**Table for Applicable Federal Regulations:**

| <a href="#"><u>Federal Regulation Citation</u></a> | Title              | Applies?<br>Enter Yes or No | Unit(s) or Facility        | Justification:                                                                                                                                                                                                                                            |
|----------------------------------------------------|--------------------|-----------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 40 CFR 50                                          | NAAQS              | Yes                         | Facility                   | This regulation defines national ambient air quality standards. The facility meets all applicable national ambient air quality standards for NOx, CO, SO <sub>2</sub> , H <sub>2</sub> S, PM <sub>10</sub> , and PM <sub>2.5</sub> under this regulation. |
| NSPS 40 CFR 60, Subpart A                          | General Provisions | No                          | Units subject to 40 CFR 60 | 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.                                                                      |

| <a href="#"><u>Federal Regulation Citation</u></a> | Title                                                                                                                                                                                                                 | Applies?<br>Enter Yes or No | Unit(s)<br>or Facility | Justification:                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NSPS 40 CFR60.40a, Subpart Da                      | Subpart Da, Performance Standards for <b>Electric Utility Steam Generating Units</b>                                                                                                                                  | No                          | N/A                    | This facility does not have any electric utility steam generating units; therefore, this regulation does not apply.                                                                                                                                                                                                                                                                                                                                             |
| NSPS 40 CFR60.40b Subpart Db                       | <b>Electric Utility Steam Generating Units</b>                                                                                                                                                                        | No                          | N/A                    | This facility does not have any electric utility steam generating units; therefore this regulation does not apply.                                                                                                                                                                                                                                                                                                                                              |
| 40 CFR 60.40c, Subpart Dc                          | Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units                                                                                                                         | No                          | N/A                    | This facility does not contain small industrial, commercial, or institutional steam generating units; therefore, this regulation does not apply.                                                                                                                                                                                                                                                                                                                |
| NSPS 40 CFR 60, Subpart Ka                         | Standards of Performance for <b>Storage Vessels for Petroleum Liquids</b> for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and <b>Prior</b> to July 23, 1984                     | No                          | N/A                    | This regulation establishes performance standards for storage vessels for petroleum liquids for which construction, reconstruction, or modification commenced after May 18, 1978, and prior to July 23, 1984. This regulation is not applicable as no facility petroleum liquid storage vessels commenced construction, reconstruction, or modification after May 18, 1978 and prior to July 23, 1984 and/or which have capacities greater than 40,000 gallons. |
| NSPS 40 CFR 60, Subpart Kb                         | Standards of Performance for <b>Volatile Organic Liquid Storage Vessels</b> (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced <b>After</b> July 23, 1984 | No                          | N/A                    | This regulation establishes performance standards for storage vessels for petroleum liquids for which construction, reconstruction, or modification commenced after July 23, 1984. Not applicable as there are no volatile organic liquid storage vessels which commenced construction, reconstruction, or modification after July 23, 1984                                                                                                                     |
| NSPS 40 CFR 60.330 Subpart GG                      | <b>Stationary Gas Turbines</b>                                                                                                                                                                                        | No                          | N/A                    | This regulation establishes performance standards for storage vessels for petroleum liquids for which construction, reconstruction, or modification commenced after July 23, 1984. Not applicable as there are no volatile organic liquid storage vessels which commenced construction, reconstruction, or modification after July 23, 1984                                                                                                                     |
| NSPS 40 CFR 60, Subpart KKK                        | Leaks of VOC from <b>Onshore Gas Plants</b>                                                                                                                                                                           | No                          | N/A                    | This regulation defines standards of performance for equipment leaks of VOC emissions from onshore natural gas processing plants for which construction, reconstruction, or modification commenced after January 20, 1984, and on or                                                                                                                                                                                                                            |

| <u><a href="#">Federal Regulation Citation</a></u> | <b>Title</b>                                                                                                                                                                                                           | <b>Applies?<br/>Enter Yes or No</b> | <b>Unit(s)<br/>or<br/>Facility</b> | <b>Justification:</b>                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                    |                                                                                                                                                                                                                        |                                     |                                    | 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 <b>Onshore Natural Gas Processing: SO<sub>2</sub> Emissions</b>                                                                                                                           | No                                  | 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 the 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 | No                                  | 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)]                                                                                    |
| 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 <b>After</b> September 18, 2015                                                     | No                                  | N/A                                | No Units have undergone modification, construction or reconstruction at this facility within the applicability dates of this regulation; therefore, it does not apply to this facility.                                                                                                                                                                              |
| NSPS<br>40 CFR Part<br>60 Subpart<br>OOOOb         | Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After December 6, 2022                                                              | No                                  | N/A                                | There are no OOOOb affected facilities in this application; therefore, this regulation does not apply.                                                                                                                                                                                                                                                               |
| NSPS 40<br>CFR 60<br>Subpart IIII                  | Standards of performance for Stationary Compression Ignition Internal Combustion Engines                                                                                                                               | No                                  | N/A                                | No Units have undergone modification, construction or reconstruction at this facility within the applicability dates of this regulation; therefore, it does not apply to this facility.                                                                                                                                                                              |
| NSPS<br>40 CFR Part<br>60 Subpart<br>JJJJ          | Standards of Performance for Stationary Spark Ignition Internal Combustion Engines                                                                                                                                     | No                                  | N/A                                | This regulation establishes standards of performance for stationary spark ignition combustion engines. No facility stationary spark ignition internal combustion engines commenced construction, modification, or reconstruction after June 12, 2006. Accordingly, this regulation does not apply.                                                                   |

| <b><u>Federal Regulation Citation</u></b>     | <b>Title</b>                                                                                                 | <b>Applies? Enter Yes or No</b> | <b>Unit(s) or Facility</b>                   | <b>Justification:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NSPS 40 CFR 60 Subpart TTTT                   | Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units                          | No                              | N/A                                          | This regulation establishes standards of performance for Greenhouse gas emissions for electric generating units. This facility does contain any steam generating unit, IGCC, or stationary combustion turbine; therefore, this regulation does not apply.                                                                                                                                                                                                                                                       |
| NSPS 40 CFR 60 Subpart UUUU                   | Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units | No                              | N/A                                          | This regulation establishes emission guidelines for greenhouse gas emissions and compliance times for electric utility generating units. This facility does not contain any steam generating units, IGCC, or stationary combustion turbines; therefore, this regulation does not apply.                                                                                                                                                                                                                         |
| NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf | Standards of performance for Municipal Solid Waste (MSW) Landfills                                           | No                              | N/A                                          | This regulation establishes standards of performance for municipal solid waste (MSW) landfills. This facility does not handle solid waste; therefore this regulation does not apply.                                                                                                                                                                                                                                                                                                                            |
| NESHAP 40 CFR 61 Subpart A                    | General Provisions                                                                                           | Yes (Potentially)               | Units Subject to 40 CFR 61                   | This part applies to the owner or operator of any stationary source for which a standard is prescribed under this part. In the case of asbestos demolition, NESHAP 40 CFR 61 Subpart M would apply.                                                                                                                                                                                                                                                                                                             |
| NESHAP 40 CFR 61 Subpart M                    | National Emissions Standard for Asbestos                                                                     | Yes (Potentially)               | Facility                                     | Although this subpart does not apply to this facility under normal operating conditions, in the case of asbestos demolition, this subpart would apply.                                                                                                                                                                                                                                                                                                                                                          |
| NESHAP 40 CFR 61 Subpart E                    | National Emission Standards for <b>Mercury</b>                                                               | No                              | N/A                                          | The provisions of this subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge. This facility does produce or handle mercury; therefore, this regulation does not apply.                                                                                                                                                    |
| NESHAP 40 CFR 61 Subpart V                    | National Emission Standards for <b>Equipment Leaks</b> (Fugitive Emission Sources)                           | No                              | N/A                                          | This regulation establishes national emission standards for equipment leaks (fugitive emission sources). This regulation is not applicable as facility equipment do not operate in VHAP service. (VHAP means a substance regulated under this subpart for which a standard for equipment leaks of the substance has been promulgated. VHAP service means a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent by weight of VHAP.)                               |
| MACT 40 CFR 63, Subpart A                     | General Provisions                                                                                           | Yes                             | Units Subject to 40 CFR 63 (1, 2, 3a, 3b, 4) | This regulation defines general provisions for relevant standards that have been set under this part. This regulation is applicable as the engines (Units 1, 2) are subject to MACT ZZZZ, the dehydrator (Units 3a, 3b) is subject to MACT HHH, and process heaters (Units 3a, 4) are subject to MACT DDDDD.                                                                                                                                                                                                    |
| MACT 40 CFR 63.760 Subpart HH                 | <b>Oil and Natural Gas Production Facilities</b>                                                             | No                              | 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; therefore, this regulation does not apply.                                                                                                                                                                                                                                                                 |
| MACT 40 CFR 63 Subpart HHH                    | National Emission Standards for Hazardous Air Pollutants from                                                | Yes                             | 3a, 3b                                       | This subpart applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user (if there is no local distribution company), and that are major sources of hazardous air pollutants (HAP) emissions as defined in §63.1271. This regulation is applicable as this is a natural gas storage facility that is a major source of HAPs. The affected source is the glycol |

| <a href="#">Federal Regulation Citation</a> | Title                                                                                                                                  | Applies?<br>Enter Yes or No | Unit(s)<br>or Facility | Justification:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                             | <b>Natural Gas Transmission and Storage Facilities</b>                                                                                 |                             |                        | dehydration unit. Pursuant to 40 CFR 63.1274(d)(2), the glycol dehydration unit is exempt from the emission standards of this regulation as its potential to emit benzene is less than 0.9 Mg/yr. Accordingly, there are no applicable emission standards. There are recordkeeping and reporting provisions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MACT 40 CFR 63 Subpart DDDDD                | National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters | Yes                         | 3a, 4                  | Units 3a and 4 are process heaters at a major source of HAPs which are subject to MACT 40 CFR 63 Subpart DDDDD. They are both existing units under the subcategory of “units designed to burn gas 1 fuels” because they only burn natural gas. Pursuant to 40 CFR 63.7495, these existing process heaters must comply with MACT DDDDD no later than January 31, 2016. In addition, pursuant to 40 CFR 63.7545(b), initial notification for these process heaters must be submitted no later than 120 days after January 31, 2013 (May 31, 2013). As existing process heaters in the “units designed to burn gas 1 fuels” subcategory, these units are not subject to emission limits or operating limits under MACT DDDDD. Instead, they are subject to work practice standards specified in MACT DDDDD Table 3. |
| MACT 40 CFR 63 Subpart UUUUU                | National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit                        | No                          | N/A                    | This regulation establishes national emission standard for hazardous air pollutants coal and oil fire electric utility steam generating units. This facility does not contain utility steam generating units; therefore, this regulation does not apply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| MACT 40 CFR 63 Subpart ZZZZ                 | National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)         | Yes                         | 1, 2                   | Facility’s stationary RICE (units 1, 2) are subject to MACT ZZZZ. Units 1 and 2 are existing stationary 2SLB RICE > 500 hp at a major source of HAPs as they were constructed prior to and have not been reconstructed on or after December 19, 2002. Pursuant to 40 CFR 63.9500(b)(3)(i), Units 1 and 2 do not have any requirements under MACT ZZZZ or 40 CFR 63, Subpart A, including initial notification requirements.                                                                                                                                                                                                                                                                                                                                                                                      |
| 40 CFR 64                                   | <b>Compliance Assurance Monitoring</b>                                                                                                 | No                          | N/A                    | This regulation defines compliance assurance monitoring. The regulation does not apply as none of the emissions units have pre-controlled emissions greater than 100 tpy. This regulation is not applicable as the facility has no units meeting the criteria of this part; specifically, no emissions units are controlled major sources. Although Washington Ranch Storage Facility is a Title V major source with a part 70 permit, none of the units at this facility use a control device (as defined by the CAM rule) to achieve compliance with emission limits.                                                                                                                                                                                                                                          |
| 40 CFR 68                                   | <b>Chemical Accident Prevention</b>                                                                                                    | No                          | N/A                    | 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 – Acid Rain                        | <b>Acid Rain</b>                                                                                                                       | No                          | 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].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| <b><u>Federal Regulation Citation</u></b> | <b>Title</b>                                                | <b>Applies?<br/>Enter Yes or No</b> | <b>Unit(s)<br/>or<br/>Facility</b> | <b>Justification:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------|-------------------------------------------------------------|-------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 40 CFR 72                                 |                                                             |                                     |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Title IV – Acid Rain<br>40 CFR 73         | <b>Sulfur Dioxide Allowance Emissions</b>                   | No                                  | 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 Rain 40 CFR 75              | <b>Continuous Emissions Monitoring</b>                      | No                                  | N/A                                | This regulation establishes continuous monitoring requirements for certain types of facilities. This regulation does not apply because this facility generates commercial electric power or electric power for sale.                                                                                                                                                                                                                                             |
| Title IV – Acid Rain<br>40 CFR 76         | <b>Acid Rain Nitrogen Oxides Emission Reduction Program</b> | No                                  | 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 SO <sub>2</sub> . 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                   | <b>Protection of Stratospheric Ozone</b>                    | Yes                                 | Facility                           | 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. |

# Section 14

## Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

- 
- ☒ **Title V Sources** (20.2.70 NMAC): By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Emissions During Startups, Shutdowns, and Emergencies** defining the measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies as required by 20.2.70.300.D.5(f) and (g) NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.
- ☐ **NSR** (20.2.72 NMAC), **PSD** (20.2.74 NMAC) & **Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Source Emissions During Malfunction, Startup, or Shutdown** defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown as required by 20.2.72.203.A.5 NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.
- ☒ **Title V** (20.2.70 NMAC), **NSR** (20.2.72 NMAC), **PSD** (20.2.74 NMAC) & **Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has established and implemented a Plan to Minimize Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance through work practice standards and good air pollution control practices as required by 20.2.7.14.A and B NMAC. This plan shall be kept on site or at the nearest field office to be made available to the Department upon request. This plan should not be submitted with this application.
- 

EPNG maintains the required planning and excess emissions mitigation documents at the facility.

# Section 15

## Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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**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: [www.env.nm.gov/air-quality/permitting-section-procedures-and-guidance/](http://www.env.nm.gov/air-quality/permitting-section-procedures-and-guidance/). 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.

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The term “alternative operating scenario” is not defined by regulation. EPNG understands this term to apply to a source which may routinely operate with alternative fuels or processes in such a manner as to potentially affect emissions. Based on this understanding, this facility has no 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 the term.

# Section 16

## Air Dispersion Modeling

- 1) 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 ([http://www.env.nm.gov/aqb/permit/app\\_form.html](http://www.env.nm.gov/aqb/permit/app_form.html)) for more detailed instructions on SSM emissions 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 above.                                                                                             | X                                        |
| 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 **modeling report for some** pollutants from the facility.
- ☒ No modeling is required.

This application is being submitted under 20.2.70 NMAC; therefore, no modeling is required.

# Section 17

## 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* |
|----------|----------------------------------|------------|
| 1        | Portable Analyzer for NOx and CO | 8/15/2024  |
| 2        | Portable Analyzer for NOx and CO | 8/14/2024  |
| 1        | EPA reference method for VOC     | 5/21/2024  |
| 2        | EPA reference method for VOC     | 5/21/2024  |

\*Compliance Test history table only indicates the most recent engine test data.

# Section 19

## Requirements for Title V Program

Do not print this section unless this is a Title V application.

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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 [www.env.nm.gov/air-quality/air-quality-title-v-operating-permits-guidance-page/](http://www.env.nm.gov/air-quality/air-quality-title-v-operating-permits-guidance-page/). 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.
- 

The facility is a Title V major source as defined at 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.

---

Based on information and belief formed after reasonable inquiry, Kinder Morgan 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, and enhanced monitoring requirements are not applicable to this facility at this time. Kinder Morgan will submit the necessary statement should the facility or requirements change such that this requirement 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.

---

As described here and based on information and belief formed after reasonable inquiry, Kinder Morgan believes that Washington Ranch Storage Facility is in compliance with each applicable requirement identified in Section 13 and as discussed here. In the event that Kinder Morgan should discover new information affecting the compliance status of the facility, Kinder

Morgan will make appropriate notifications and/or take corrective actions.

Pursuant to Condition A109 of Permit P064R3, Kinder Morgan has certified to compliance with the terms and conditions of that permit. The most recent such certification was submitted by the January 31th deadline. Since that time, Kinder Morgan has continued to be in compliance with applicable requirements as described in Section 13 of this application.

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

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

As described in Sections 13 and 19.2 and based on information and belief formed after reasonable inquiry, Kinder Morgan states that Washington Ranch Storage Facility will continue to be operated in compliance with applicable requirements for which it is in compliance as of the date of submittal of this application.

In addition, Kinder Morgan 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 that Kinder Morgan should discover new information affecting the compliance status of the facility, Kinder Morgan will make appropriate notifications and/or take corrective actions as appropriate

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

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

Condition A109 of Operating Permit P-064-R4 requires EPNG to submit compliance certification reports to the New Mexico Environment Department (NMED) Air Quality Bureau (AQB) and to the EPA within 30 days of the end of every 12-month reporting period that begins on September 1<sup>st</sup> of each year.

As described in Section 3 of this application, EPNG is requesting an adjustment to the reporting schedule in condition A109 of Operating Permit P-064-R4.

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### 19.5 - Stratospheric Ozone and Climate Protection

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

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

Based on information and belief formed after reasonable inquiry, Kinder Morgan states that Title VI, Section 608 (National Recycling and Emissions Reduction Program) of the Clean Air Act may apply to this facility, as Kinder Morgan may own CFC-containing refrigeration equipment 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. Kinder Morgan is in compliance with the requirements of this Section. Kinder Morgan does not service motor vehicle air conditioners at this facility and therefore Section 609 does not apply. Washington Ranch Storage Facility will continue to be operated 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 [www.env.nm.gov/air-quality/air-quality-title-v-operating-permits-guidance-page/](http://www.env.nm.gov/air-quality/air-quality-title-v-operating-permits-guidance-page/). Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

Based on information and belief formed after reasonable inquiry and as described in Section 19.2, and with this filing, Kinder Morgan states that Washington Ranch Storage Facility is in compliance with applicable requirements. There are no requirements under Section 19.6 as noted above.

## 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.

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Based on information and belief formed after reasonable inquiry, Kinder Morgan states that Washington Ranch Storage Facility is not subject to 40 CFR 68, Chemical Accident Prevention Provisions.

As per 40 CFR 68.3 (definitions), the term “stationary source” does not apply to 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). Kinder Morgan’s Washington Ranch Storage Facility is regulated under DOT Office of Pipeline Safety Regulations (49 CFR 192, 193 and 195). Therefore, it is not subject to 112(r).

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### **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.)

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**State:** Texas, 9km

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### **19.9 - Responsible Official**

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

Steve Romano

Vice President of Operations

(713) 420-6244

steven\_romano@kindermorgan.com

1001 Louisiana, Houston, TX 77002

# Section 20

## Other Relevant Information

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**Other relevant information.** 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 this facility 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: El Paso Natural Gas Company, L.L.C.

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

Signed this 17<sup>th</sup> day of December, 2024, upon my oath or affirmation, before a notary of the State ofTexas[Signature]

\*Signature

12/17/24

Date

Heriberto Carreon

Printed Name

Operations Director

Title

Scribed and sworn before me on this 17 day of December, 2024.My authorization as a notary of the State of Texas expires on the4<sup>th</sup> day of April, 2026.[Signature]

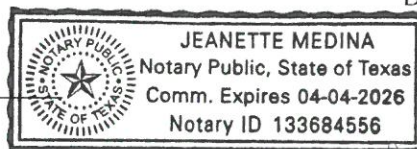
Notary's Signature

12/17/24

Date

Jeanette Medina

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.