| Mail Application To: | | For Department use only: |
|---|---|---|
| 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>www.env.nm.gov/aqb | | RECEIVED<br>APR 0 5 2024<br>Air Quality Bureau |

# 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:** ☐ 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.: 262933 in the amount of $500

☒ 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/.

☐ 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/.)

**Citation:** Please provide the **low level citation** under which this application is being submitted: **20.2.72.200.A.2 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

| | | | |
|---|---|---|---|
| | | AI # if known: 878 | Updating<br>Permit/NOI #: 2450-M3 |
| 1 | Facility Name: Luna Energy Facility | Plant primary SIC Code (4 digits): 4911 | |
| | | Plant NAIC code (6 digits): 221112 | |
| a | Facility Street Address (If no facility street address, provide directions from a prominent landmark):<br>1895 Arrowhead Drive, Deming, NM, 88030 | | |
| 2 | Plant Operator Company Name: Public Service Company of New Mexico | Phone/Fax: (505) 241-2025 / (505) 241-2384 | |
| a | Plant Operator Address: 2401 Aztec Road, NE, MS Z100 87107 | | |

| | | |
|---|---|---|
| b | Plant Operator's New Mexico Corporate ID or Tax ID: 85-0019030 | |
| 3 | *Plant Owner(s) name(s):* Public Service Company of New Mexico (PNM), Tucson Public Service, Samchully Power and Utilities 1, LLC | Phone/Fax: **PNM:** (505) 241-2025 / (505) 241-2384 |
| a | Plant Owner(s) Mailing Address(s): **PNM** - 2401 Aztec Road, NE, MS Z100 87107<br>**Tucson Electric Power Company** - 3950 East Irvington Road, Mail Stop ER101, Tucson, AZ 85714<br>**Samchully Power and Utilities 1, LLC** - 123 Marcy St., Suite 101, Santa Fe, NM 87501 | |
| 4 | Bill To (Company): Public Service Company of New Mexico | Phone/Fax: (505) 241-2025 / (505) 241-2384 |
| a | Mailing Address: 2401 Aztec Road, NE, MS Z100 87107 | E-mail: Gregory.Little@pnmresources.com |
| 5 | ☐ Preparer:<br>**X** Consultant: Paul Wade, Montrose Environmental Solutions, Inc. | Phone/Fax: (505) 830-9680 x6 / (505) 830-9678 |
| a | Mailing Address: 3500 G, Comanche Rd NE, Albuquerque, NM 87107 | E-mail: pwade@montrose-env.com |
| 6 | Plant Operator Contact: Gregory Cain | Phone/Fax: (575) 233-5152 |
| a | Address: 10100 W Afton Rd, La Mesa, NM 88044 | E-mail: Greg.Cain@pnm.com |
| 7 | Air Permit Contact: Gregory Little | Title: Technical Project Manager |
| a | E-mail: Gregory.Little@pnmresources.com | Phone/Fax: (505) 241-2025 / (505) 241-2384 |
| b | Mailing Address: 2401 Aztec Road, NE, MS Z100 87107 | |
| 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? ☒ Yes ☐ No | 1.b If yes to question 1.a, is it currently operating in New Mexico? ☒ Yes ☐ No |
| 2 | If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? ☐ Yes ☒ No | If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? ☒ Yes ☐ No |
| 3 | Is the facility currently shut down? ☐ Yes ☒ No | If yes, give month and year of shut down (MM/YY): N/A |
| 4 | Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☐ Yes ☒ No | |
| 5 | If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? ☐ Yes ☐ No ☒ N/A | |
| 6 | Does this facility have a Title V operating permit (20.2.70 NMAC)? ☒ Yes ☐ No | If yes, the permit No. is: P-209-R2 |
| 7 | Has this facility been issued a No Permit Required (NPR)? ☐ Yes ☒ No | If yes, the NPR No. is: |
| 8 | Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☒ No | If yes, the NOI No. is: |
| 9 | Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? ☒ Yes ☐ No | If yes, the permit No. is: 2450-M2-R4 |
| 10 | Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes ☒ No | If yes, the register No. is: |

## 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:<br>CTG + HRSG (total of 2) 4.1 x $10^9$ BTU LHV<br>AUX 4.41 x $10^7$ BTU, LHV Basis | Daily:<br>CTG + HRSG (total of 2) 9.73 x $10^{10}$ BTU LHV<br>AUX 1.06 x $10^9$ BTU, LHV Basis | Annually:<br>CTG + HRSG (total of 2) 3.03 x $10^{13}$ BTU LHV<br>AUX 1.10 x $10^{11}$ BTU, LHV Basis |
| b | Proposed | Hourly:<br>CTG + HRSG (total of 2) 4.2 x $10^9$ BTU LHV<br>AUX 4.41 x $10^7$ BTU, LHV Basis | Daily:<br>CTG + HRSG (total of 2) 10.08 x $10^{10}$ BTU LHV<br>AUX 1.06 x $10^9$ BTU, LHV Basis | Annually:<br>CTG + HRSG (total of 2) 3.10 x $10^{13}$ BTU LHV<br>AUX 1.10 x $10^{11}$ BTU, LHV Basis |
| 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: 588,000 kW-hr | Daily: 14,100,000 kW-hr | Annually: 4,470,000,000 kW-hr |

| | | | | |
|---|---|---|---|---|
| b | Proposed | Hourly: 606,000 kW-hr | Daily: 14,544,000 kW-hr | Annually: 4,610,800,000 kW-hr |

## Section 1-D: Facility Location Information

| | | | | |
|---|---|---|---|---|
| 1 | Latitude (decimal degrees): 32.299159 | Longitude (decimal degrees): -107.783672 | County: Luna | Elevation (ft): 4,380 |
| 2 | UTM Zone: ☐ 12 or ☒ 13 | Datum: ☒ NAD 83 ☐ WGS 84 | | |
| a | UTM E (in meters, to nearest 10 meters): 237.88 | UTM N (in meters, to nearest 10 meters): 3,577.00 | | |
| 3 | Name and zip code of nearest New Mexico town: Deming, 88030 | | | |
| 4 | Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From Interstate Highway 10, drive878 north on US 180 for 2.4 miles. Turn west on Arrowhead Drive. Travel approximately 0.75 miles and turn right onto the plant property. | | | |
| 5 | The facility is 3.1 miles northwest of Deming. | | | |
| 6 | Land Status of facility (check one): ☒ Private ☐ Indian/Pueblo ☐ Government ☐ BLM ☐ Forest Service ☐ Military | | | |
| 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: City of Deming, Luna County | | | |
| 8 | **20.2.72** NMAC applications **only**: 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 www.env.nm.gov/air-quality/modeling-publications/ )? ☐ Yes ☒ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: | | | |
| 9 | Name nearest Class I area: Gila Wilderness | | | |
| 10 | Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 84.4 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 meters | | | |
| 12 | Method(s) used to delineate the Restricted Area:<br>Fencing surrounding the plant with gates with restricted access signs and guard shack.<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>☐ Yes ☒ 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? ☒ No ☐ Yes<br>If yes, what is the name and permit number (if known) of the other facility? **N/A** | | | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Facility **maximum** operating ($\frac{hours}{day}$): 24 | ($\frac{days}{week}$): 7 | ($\frac{weeks}{year}$): 52 | ($\frac{hours}{year}$): 8760 | | |
| 2 | Facility's maximum daily operating schedule (if less than 24 $\frac{hours}{day}$)? Start: | ☐AM ☐PM | End: | ☒AM ☒PM | | |
| 3 | Month and year of anticipated start of construction: N/A | | | | | |
| 4 | Month and year of anticipated construction completion: N/A | | | | | |
| 5 | Month and year of anticipated startup of new or modified facility: N/A | | | | | |
| 6 | Will this facility operate at this site for more than one year? ☒ Yes ☐ No | | | | | |

## Section 1-F: Other Facility Information

| | | | |
|---|---|---|---|
| 1 | Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ☒ No If yes, specify: | | |
| 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? ☐ Yes ☒ No<br>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? ☐ Yes ☒ 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? ☐ Yes ☒ No | | |
| 4 | Will this facility be a source of federal Hazardous Air Pollutants (HAP)? ☒ Yes ☐ No | | |
| a | If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** ☒ **Minor** (☒ <10 tpy of any single HAP **AND** ☒ <25 tpy of any combination of HAPS) | | |
| 5 | Is any unit exempt under 20.2.72.202.B.3 NMAC? ☐ Yes ☒ No | | |
| a | If yes, include the name of company providing commercial electric power to the facility: NA<br><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 | ☐ I have filled out Section 18, "Addendum for Streamline Applications." | ☒ N/A (This is not a Streamline application.) |

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

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

| | | | |
|---|---|---|---|
| 1 | Responsible Official (R.O.) (20.2.70.300.D.2 NMAC): | | Phone: |
| a | R.O. Title: | R.O. e-mail: | |
| b | R. O. Address: 10100 W Afton Rd, La Mesa, NM 88044 | | |
| 2 | Alternate Responsible Official (20.2.70.300.D.2 NMAC): | | Phone: |
| a | A. R.O. Title: | A. R.O. e-mail: | |
| b | A. R. O. Address: | | |
| 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): | | |
| 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.): | | |
| a | Address of Parent Company: | | |
| 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.): | | |
| 6 | Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: | | |
| 7 | Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes:<br>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: | | |

# 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-to 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.

3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. 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 Paul Wade, Email pwade@montroes-env.com Phone number 505-830-9680 x6.

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

4) Optionally, the applicant may submit the files with the application on compact disk (CD) or digital versatile disc (DVD) following the instructions above and the instructions in 5 for applications subject to PSD review.

5) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver** and/or electronic air dispersion modeling report, input, and output files. The dispersion modeling ***summary report only*** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau.

6) If the applicant submits the electronic files on CD and the application is subject to PSD review under 20.2.74 NMAC (PSD) or NNSR under 20.2.79 NMC include,
   a. one additional CD copy for US EPA,
   b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
   c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

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

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

1) All required electronic documents shall be submitted as 2 separate CDs or submitted through the AQB secure file transfer service. Submit a single PDF document of the entire application as submitted and the individual documents comprising the application.

2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format. We must be able to review the formulas and inputs that calculated the emissions.

3) It is preferred that this application form be submitted as 4 electronic files (3 MSWord docs: Universal Application section 1 [UA1], Universal Application section 3-19 [UA3], and Universal Application 4, the modeling report [UA4]) and 1 Excel file of the tables (Universal Application section 2 [UA2]). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.

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

## Table of Contents

# 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[1] | Source Description | Make | Model # | Serial # | Manufacturer's Rated Capacity[3] (Specify Units) | Requested Permitted Capacity[3] (Specify Units) | Date of Manufacture[2] / Date of Construction/ Reconstruction[2] | Controlled by Unit # / Emissions vented to Stack # | Source Classification Code (SCC) | For Each Piece of Equipment, Check One | RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4] | Replacing Unit No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CTG-1 | Combustion Turbine #1 | General Electric | PG7241 | 298129 | 170 MW (nominal) | 170 MW (nominal) | 2001 / Dec-05 | SCR-1 / 1 | 2101004002, 2101000000 | ☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced | NA | NA |
| CTG-2 | Combustion Turbine #2 | General Electric | PG7241 | 298130 | 170 MW (nominal) | 170 MW (nominal) | 2001 / Dec-05 | SCR-2 / 2 | 2101004002, 2101000000 | ☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced | NA | NA |
| DB-1 | HSRG w/Duct Burner | HSRG (CMI) DB (Coen) | HSRG (EPT1LLC) DB (1 HR-HRSG-1100) | HSRG (102148) DB (40D-13795-1-000 | HRSG - 64 MW (nominal) DB - 524 MMBtu/Hr (LHV) | HRSG - 64 MW (nominal) DB - 524 MMBtu/Hr (LHV) | HSRG - 2005 DB - 01/2002 / Dec-05 | SCR-1 / 1 | 210100 4002 | ☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced | NA | NA |
| DB-2 | HSRG w/Duct Burner | HSRG (CMI) DB (Coen) | HSRG (EPT1LLC) DB (1 HR-HRSG-2100) | HSRG (102149) DB (40D-13795-1-000 | HRSG - 64 MW (nominal) DB - 524 MMBtu/Hr (LHV) | HRSG - 64 MW (nominal) DB - 524 MMBtu/Hr (LHV) | HSRG - 2005 DB - 01/2002 / Dec-05 | SCR-2 / 2 | 210100 4002 | ☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced | NA | NA |
| AUX-1 | Auxiliary Boiler | Cleaver Brooks | CBI1700 750200 | 0L101693 | 42 MMBtu/Hr nominal | 42 MMBtu/Hr nominal | 2002 / Dec-05 | NA / 3 | 210100 4002 | ☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced | NA | NA |
| CT-1 | Main Cooling Tower | GEA | 545438-91-33-WCF | NA | 175,000 gpm | 175,000 gpm | 2001 / Dec-05 | NA / 4 | NA | ☐ Existing (unchanged) ☐ New/Additional ☑ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced | NA | NA |
| CT-2 | Chiller Cooling Tower | Baltimore Aircoil | 331328AG-4 | 1/C-CTW-0100A/B/C/D | 23,348 gpm | 23,348 gpm | 2003 / Dec-05 | NA / 5 | NA | ☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced | NA | NA |
| S1 | GW Lime Silo | ZMI Portec | 1GW-SKID-0250 | NA | 1,800 CUFT | 1,800 CUFT | 2002 / Dec-05 | NA / 6 | NA | ☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced | NA | NA |
| S2 | CTBT Soda Ash Silo | ZMI Portec | 1MW-SKID-0300 | NA | 2,600 CUFT | 2,600 CUFT | 2002 / Dec-05 | NA / 7 | NA | ☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced | NA | NA |
| S3 | CTBT Lime Silo | ZMI Portec | 1MW-SKID-0250 | NA | 3,500 CUFT | 3,500 CUFT | 2002 / Dec-05 | NA / 8 | NA | ☑ Existing (unchanged) ☐ New/Additional ☐ To Be Modified ☐ To be Removed ☐ Replacement Unit ☐ To be Replaced | NA | NA |

[1] 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.

[2] Specify dates required to determine regulatory applicability.

[3] 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.

[4] "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[1] (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html ), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at 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. / Serial No. | Max Capacity / Capacity Units | List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a) | Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2] | For Each Piece of Equipment, Check Onc |
|---|---|---|---|---|---|---|---|
| G-1 | Emergency Generator | Caterpillar | 3412T<br>3FZ03531 | 600; 749<br>kW; HP | LIA 7 – Emergency generator <500 hrs/yr | Mar-02<br>Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1FP-TK-0200 | Diesel Fuel Tank | NA | NA<br>NA | 300<br>gal | LIA 5 – Vapor pressure < 10 mm Hg | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1FP-TK-0300 | Diesel Fuel Tank | NA | NA<br>NA | 1,250<br>gal | LIA 5 – Vapor pressure < 10 mm Hg | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1CL-TK-0700 | Ammonia Tank | NA | NA<br>NA | 20,000<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1MW-TK-0100 | Caustic (Sodium Hydroxide) Tank | NA | NA<br>NA | 10,152<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1MW-TK-0120 | Main Cooling Tower Acid (Hydrochloric Acid) Tank | NA | NA<br>NA | 16,000<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1IC-TK-0100 | Chiller Cooling Tower Acid (Sulfuric Acid) Tank | NA | NA<br>NA | 4,000<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1 CI-TK-0450 | Main Cooling Tower Acid (Sulfuric Acid) Tank | NA | NA<br>NA | 5,668<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1MW-TK-0140 | Neutralization Tank | NA | NA<br>NA | 30,000<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1CI-TK-0500 | GENGARD GN-8022 | NA | NA<br>NA | 250<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1CI-TK-0100 | STEAMATE NA1324 | NA | NA<br>NA | 250<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1CI-TK-0220 | OPTISPERSE HP54434 | NA | NA<br>NA | 250<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1IC-TK-0300 | GENGARD GN8123 | NA | NA<br>NA | 250<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |
| 1CI-TK-0110 | OPTIGUARD MCA624 | NA | NA<br>NA | 50<br>gal | LIA 1 – emissions less than 1 tpy | Dec-05 | ☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced |

| Unit Number | Source Description | Manufacturer | Model No. / Serial No. | Max Capacity / Capacity Units | List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a) | Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2] | For Each Piece of Equipment, Check Onc |
|---|---|---|---|---|---|---|---|
| 1MW-SKID-0076 | King Lee Pretreat Plus 0100 | NA | NA | 250 | | | ☑ Existing (unchanged) ☐ To Be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced |
| | | | NA | gal | LIA 1 – emissions less than 1 tpy | Dec-05 | |
| 1MW-SKID-0059 | DPC Generic | NA | NA | 250 | | | ☑ Existing (unchanged) ☐ To Be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced |
| | | | NA | gal | LIA 1 – emissions less than 1 tpy | Dec-05 | |
| 1MW-SKID-0200 | AE1702 | NA | NA | 250 | | | ☑ Existing (unchanged) ☐ To Be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced |
| | | | NA | gal | LIA 1 – emissions less than 1 tpy | Dec-05 | |
| Fire Pump | Emergency Fire Pump Engine | John Deere | 6081 JW6H-UF30 | 265 | | Mar-02 | ☑ Existing (unchanged) ☐ To Be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To Be Replaced |
| | | | RG6081A14-6521 | HP | LIA 1 – emissions less than 1 tpy | Dec-05 | |

[1] 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.

[2] Specify date(s) required to determine regulatory applicability.

# Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B. In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions.

| Control Equipment Unit No. | Control Equipment Description | Date Installed | Controlled Pollutant(s) | Controlling Emissions for Unit Number(s)[1] | Efficiency (% Control by Weight) | Method used to Estimate Efficiency |
|---|---|---|---|---|---|---|
| SCR-1 | Selective Catalytic Reduction | Dec-05 | NOx | CTG-1, DB-1 | Note 2 | NA |
| SCR-2 | Selective Catalytic Reduction | Dec-05 | NOx | CTG-2, DB-2 | Note 2 | NA |
| CT-1 | High Efficiency Drift Eliminator | Dec-05 | PM, PM10, PM2.5 | CT-1 | NA | NA |
| S1 | Baghouse | Dec-05 | PM, PM10, PM2.5 | S1 | 99.9 | Manufacturer |
| S2 | Baghouse | Dec-05 | PM, PM10, PM2.5 | S2 | 99.9 | Manufacturer |
| S3 | Baghouse | Dec-05 | PM, PM10, PM2.5 | S3 | 99.9 | Manufacturer |
| | | | | | | |
| **Note 2: Facility emission limits based on ppm and lbs/mmBtu, not on percent removal. No percent removal is specified for this equipment.** | | | | | | |
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[1] List each control device on a separate line. For each control device, list all emission units controlled by the control device.

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

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

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

| Unit No. | NOx | | CO | | VOC | | SOx | | PM[1] | | PM10[1] | | PM2.5[1] | | $H_2S$ | | 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 |
| CTG-1 | 21.5 | - | 37.0 | - | 2.7 | - | 3.7 | - | 19.0 | - | 19.0 | - | 19.0 | - | - | - | - | - |
| CTG-1/ DB-1 | 28.5 | - | 82.8 | - | 19.0 | - | 5.0 | - | 33.8 | - | 33.8 | - | 33.8 | - | - | - | - | - |
| CTG-2 | 21.5 | - | 37.0 | - | 2.7 | - | 3.7 | - | 19.0 | - | 19.0 | - | 19.0 | - | - | - | - | - |
| CTG-2/ DB-2 | 28.5 | - | 82.8 | - | 19.0 | - | 5.0 | - | 33.8 | - | 33.8 | - | 33.8 | - | - | - | - | - |
| CTG/DB Combined | - | 246.3 | - | 713.0 | - | 88.6 | - | 37.2 | - | 222.3 | - | 222.3 | - | 222.3 | - | - | - | - |
| Aux-1 | 1.5 | 4.0 | 6.6 | 16.9 | 0.70 | 1.8 | 0.090 | 0.23 | 0.44 | 1.1 | 0.44 | 1.1 | 0.44 | 1.1 | - | - | - | - |
| CT-1 | - | - | - | - | - | - | - | - | 1.5 | 6.7 | 1.1 | 4.9 | 0.0036 | 0.016 | - | - | - | - |
| CT-2 | - | - | - | - | - | - | - | - | 0.51 | 2.24 | 0.26 | 1.16 | 0.0012 | 0.0054 | - | - | - | - |
| S1 | - | - | - | - | - | - | - | - | 18.25 | 0.55 | 11.75 | 0.35 | 2.33 | 0.070 | - | - | - | - |
| S2 | - | - | - | - | - | - | - | - | 18.25 | 0.33 | 11.75 | 0.21 | 2.33 | 0.042 | - | - | - | - |
| S3 | - | - | - | - | - | - | - | - | 18.25 | 0.33 | 11.75 | 0.21 | 2.33 | 0.042 | - | - | - | - |
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| Totals | | 250.2 | | 729.9 | | 90.4 | | 37.5 | | 234 | | 230 | | 224 | | | | |

[1]**Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but PM is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

# 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$^{-4}$).

| Unit No. | NOx | | CO | | VOC | | SOx | | PM[1] | | PM10[1] | | PM2.5[1] | | $H_2S$ | | 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 |
| CTG-1 | 21.5 | - | 37.0 | - | 2.7 | - | 3.7 | - | 19.0 | - | 19.0 | - | 19.0 | - | - | - | - | - |
| CTG-1/ DB-1 | 28.5 | - | 82.8 | - | 19.0 | - | 5.0 | - | 33.8 | - | 33.8 | - | 33.8 | - | - | - | - | - |
| CTG-2 | 21.5 | - | 37.0 | - | 2.7 | - | 3.7 | - | 19.0 | - | 19.0 | - | 19.0 | - | - | - | - | - |
| CTG-2/ DB-2 | 28.5 | - | 82.8 | - | 19.0 | - | 5.0 | - | 33.8 | - | 33.8 | - | 33.8 | - | - | - | - | - |
| CTG/DB Combined | - | 246.3 | - | 713.0 | - | 88.6 | - | 37.2 | - | 222.3 | - | 222.3 | - | 222.3 | - | - | - | - |
| Aux-1 | 1.5 | 4.0 | 6.6 | 16.9 | 0.70 | 1.8 | 0.090 | 0.23 | 0.44 | 1.1 | 0.44 | 1.1 | 0.44 | 1.1 | - | - | - | - |
| CT-1 | - | - | - | - | - | - | - | - | 1.5 | 6.7 | 1.1 | 4.9 | 0.0036 | 0.016 | - | - | - | - |
| CT-2 | - | - | - | - | - | - | - | - | 0.51 | 2.24 | 0.26 | 1.16 | 0.0012 | 0.0054 | - | - | - | - |
| S1 | - | - | - | - | - | - | - | - | 0.018 | 0.00055 | 0.012 | 0.00035 | 0.0023 | 7.00E-05 | - | - | - | - |
| S2 | - | - | - | - | - | - | - | - | 0.018 | 0.00033 | 0.012 | 0.00021 | 0.0023 | 4.20E-05 | - | - | - | - |
| S3 | - | - | - | - | - | - | - | - | 0.018 | 0.00033 | 0.012 | 0.00021 | 0.0023 | 4.20E-05 | - | - | - | - |
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| **Totals** | | 250.2 | | 729.9 | | 90.4 | | 37.5 | | 232.3 | | 229.5 | | 223.4 | | | | |

**Condensable Particulate Matter:** *Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source.* Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

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

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

All applications for facilities that have emissions during routine our predictable startup, shutdown or scheduled maintenance (SSM)[1], including NOI applications, must include in this table the Maximum Emissions during routine or predictable startup, shutdown and scheduled maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). In Section 6 and 6a, provide emissions calculations for all SSM emissions reported in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (https://www.env.nm.gov/aqb/permit/aqb_pol.html) for more detailed instructions. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

| Unit No. | NOx | | CO | | VOC | | SOx | | PM[2] | | PM10[2] | | PM2.5[2] | | $H_2S$ | | 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 |
| CTG-1 (Note 1) | 142.6 | 0 | 597.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CTG-2 (Note 1) | 142.6 | 0 | 597.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
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| **Note 1: Additional SSM emissions apply to turbine without duct burner emissions scenario because the duct burner does not operate during SSM events. Total maximum emissions, per unit, would be 21.5 pph + 142.6 pph = 164.1 lbs/hr NOx and 37.0 lbs/hr + 597.0 lbs/hr = 634.0 lbs/hr CO.** | | | | | | | | | | | | | | | | | | |
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| **Totals** | 142.6 | | 597.0 | | | | | | | | | | | | | | | |

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

[2] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

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

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

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

| Stack No. | Serving Unit Number(s) from Table 2-A | NOx | | CO | | VOC | | SOx | | PM | | PM10 | | PM2.5 | | ☐ $H_2S$ or ☐ 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 |
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| Totals: | | | | | | | | | | | | | | | | | |

## Table 2-H: Stack Exit Conditions

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

| Stack Number | Serving Unit Number(s) from Table 2-A | Orientation (H=Horizontal V=Vertical) | Rain Caps (Yes or No) | Height Above Ground (ft) | Temp. (F) | Flow Rate | | Moisture by Volume (%) | Velocity (ft/sec) | Inside Diameter (ft) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | (acfs) | (dscfs) | | | |
| 1 (CTG-1) | CTG-1 | V | N | 160 | 237 | 17965 | 9219 | 8.5 | 70.6 | 18 |
| 1 (CTG-1 + DB-1) | CTG-1 plus DB-1 | V | N | 160 | 206 | 17406 | 9090 | 11.1 | 68.4 | 18 |
| 2 (CTG-2) | CTG-2 | V | N | 160 | 237 | 17965 | 9219 | 8.5 | 70.6 | 18 |
| 2 (CTG-2 + DB-2) | CTG-2 plus DB-2 | V | N | 160 | 206 | 17406 | 9090 | 11.1 | 68.4 | 18 |
| 3 | Aux -1 | V | N | 60 | 410 | 13162 | - | NA | 45.0 | 2.67 |
| 4 | CT-1 (9 cells, flow each cell) | V | N | 47 | 93 | 22564 | - | NA | 27.2 | 33 |
| 5 | CT-2 (8 cells, flow each cell) | V | N | 20 | 66 | 5146 | - | NA | 33.4 | 14 |
| 6 | S1 | H | N | 44 | Ambient | 400 | - | NA | 8.5 | 1 |
| 7 | S2 | H | N | 51.5 | Ambient | 400 | - | NA | 8.5 | 1 |
| 8 | S3 | H | N | 59 | Ambient | 400 | - | NA | 8.5 | 1 |
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## Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

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

| Stack No. | Unit No.(s) | Total HAPs | | Formaldehyde ☑HAP or☐ TAP | | Toluene ☑HAP or☐ TAP | | Xylenes ☑HAP or☐ TAP | | Hexane ☑HAP or☐ TAP | | Provide Pollutant Name Here ☐HAP or☐ TAP | | Provide Pollutant Name Here ☐HAP or☐ TAP | | Provide Pollutant Name Here ☐HAP or☐ TAP | | Provide Pollutant Name Here ☐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 | CTG-1 | 0.88 | 3.9 | 0.38 | 1.7 | 0.25 | 1.1 | 0.12 | 0.55 | - | - | | | | | | | | |
| 1 | DB-1 | 1.04 | 2.1 | 0.042 | 0.1 | - | - | - | - | 1.0 | 2.0 | | | | | | | | |
| 2 | CTG-1 | 0.88 | 3.9 | 0.38 | 1.7 | 0.25 | 1.1 | 0.12 | 0.55 | - | - | | | | | | | | |
| 2 | DB-1 | 1.04 | 2.1 | 0.042 | 0.1 | - | - | - | - | 1.0 | 2.0 | | | | | | | | |
| 3 | AUX-1 | 0.026 | 0.11 | | | | | | | | | | | | | | | | |
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| Totals: | | 3.9 | 12.1 | 0.84 | 3.6 | 0.50 | 2.20 | 0.24 | 1.1 | 2.0 | 4.0 | | | | | | | | |

# 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 |
| CTG-1 | Natural Gas | Pipeline Quality Natural Gas | 26,542 Btu/lb | $1.51 \times 10^{9}$ Btu | $1.31 \times 10^{13}$ Btu/yr | 0.75 grains total sulfer per 100 scf | 0.0 |
| DB-1 | Natural Gas | Pipeline Quality Natural Gas | 26,542 Btu/lb | $5.17 \times 10^{8}$ Btu | $2.07 \times 10^{12}$ Btu/yr | 0.75 grains total sulfer per 100 scf | 0.0 |
| CTG-2 | Natural Gas | Pipeline Quality Natural Gas | 26,542 Btu/lb | $1.51 \times 10^{9}$ Btu | $1.31 \times 10^{13}$ Btu/yr | 0.75 grains total sulfer per 100 scf | 0.0 |
| DB-2 | Natural Gas | Pipeline Quality Natural Gas | 26,542 Btu/lb | $5.17 \times 10^{8}$ Btu | $2.07 \times 10^{12}$ Btu/yr | 0.75 grains total sulfer per 100 scf | 0.0 |
| Aux-1 | Natural Gas | Pipeline Quality Natural Gas | 26,542 Btu/lb | $4.41 \times 10^{7}$ Btu | $1.10 \times 10^{11}$ Btu/yr | 0.75 grains total sulfer per 100 scf | 0.0 |
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# Table 2-K: Liquid Data for Tanks Listed in Table 2-L

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

| Tank No. | SCC Code | Material Name | Composition | Liquid Density (lb/gal) | Vapor Molecular Weight (lb/lb*mol) | Average Storage Conditions | | Max Storage Conditions | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Temperature (°F) | True Vapor Pressure (psia) | Temperature (°F) | True Vapor Pressure (psia) |
| 1 (1FP-TK-0206) | | Diesel Fuel | No. 2 Diesel Fuel | 7.2 | 130 | 63.3 | 0.0072 | 71 | 0.0092 |
| 2 (1EB-TK-0100) | | Diesel Fuel | No. 2 Diesel Fuel | 7.2 | 130 | 63.3 | 0.0072 | 71 | 0.0092 |
| 3 (1HR-TK-0300) | | Ammonia Solution | <20% solution of Ammonia in water | 7.75 | 17 | NA | NA | NA | NA |
| 4 (1DW-TK-0200) | | Caustic Solution | Solution of NaOH in water, variable composition | NA | NA | NA | NA | NA | NA |
| 5 (2DW-TK-0300) | | Acid Solution | *93% Sulfuric acid solution* | 15.18 | NA | NA | NA | NA | NA |
| 6 (1DW-TK-0400) | | Process Neutralization Tank | Variable (acid and caustic added to water to achieve desired pH) | 8.3 | NA | NA | NA | NA | NA |
| | | | | | | | | | |
| ***Note: All Tanks are insignificant emission sources*** | | | | | | | | | |
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# Table 2-L: Tank Data

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

| Tank No. | Date Installed | Materials Stored | Seal Type (refer to Table 2-LR below) | Roof Type (refer to Table 2-LR below) | Capacity | | Diameter (M) | Vapor Space (M) | Color (from Table VI-C) | | Paint Condition (from Table VI-C) | Annual Throughput (gal/yr) | Turn-overs (per year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (bbl) | ($M^3$) | | | Roof | Shell | | | |
| 1 (1FP-TK-0206) | 2002 | Diesel Fuel | NA | NA | 7.14 | 1.14 | NA | NA | NA | NA | NA | NA | NA |
| 2 (1EB-TK-0100) | 2002 | Diesel Fuel | NA | NA | 29.8 | 4.7 | NA | NA | NA | NA | NA | NA | NA |
| 3 (1HR-TK-0300) | 2002 | Ammonia | NA | NA | 476 | 75.7 | NA | NA | NA | NA | NA | NA | NA |
| 4 (1DW-TK-0200) | 2002 | Caustic | NA | NA | 167 | 26.5 | NA | NA | NA | NA | NA | NA | NA |
| 5 (2DW-TK-0300) | 2002 | Acid | NA | NA | 167 | 26.5 | NA | NA | NA | NA | NA | NA | NA |
| 6 (1DW-TK-0400) | 2002 | Water-Acid-Caustic | NA | NA | 1,190 | 189.3 | NA | NA | NA | NA | NA | NA | NA |
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## 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 $M^3$ = 42.0 gal

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

| Material Processed | | | | Material Produced | | | |
|---|---|---|---|---|---|---|---|
| Description | Chemical Composition | Phase (Gas, Liquid, or Solid) | Quantity (specify units) | Description | Chemical Composition | Phase | Quantity (specify units) |
| NA | | | | | | | |
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# Table 2-N: CEM Equipment

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

| Stack No. | Pollutant(s) | Manufacturer | Model No. | Serial No. | Sample Frequency | Averaging Time | Range | Sensitivity | Accuracy |
|---|---|---|---|---|---|---|---|---|---|
| 1 | NOx | Thermo Scientific | 42I LS | 1172370041 | 10 sec | 1 min; 1 hr; 24 hrs; | 0-10; 0-200 ppm | 0.1 ppm | 3.80% |
| 1 | CO | Siemens | UltraMat 6E | P3-449 | 10 sec | 1 min; 1 hr; 24 hrs; | 0-50; 0-1000 ppm | | |
| 1 | Dry O2 | Siemens | OxyMat 6E | P3-449 | 10 sec | 1 min; 1 hr; 24 hrs; | 0-25% | | 1.70% |
| | | | | | | | | | |
| 2 | NOx | Thermo Scientific | 42I LS | 1172370042 | 10 sec | 1 min; 1 hr; 24 hrs; | 0-10; 0-200 ppm | 0.1 ppm | 3.80% |
| 2 | CO | Siemens | UltraMat 6E | T0-0174 | 10 sec | 1 min; 1 hr; 24 hrs; | 0-50;0-1000 ppm | | |
| 2 | Dry O2 | Siemens | OxyMat 6E | T0-0174 | 10 sec | 1 min; 1 hr; 24 hrs; | 0-25% | | 1.70% |
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# Table 2-O: Parametric Emissions Measurement Equipment

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

| Unit No. | Parameter/Pollutant Measured | Location of Measurement | Unit of Measure | Acceptable Range | Frequency of Maintenance | Nature of Maintenance | Method of Recording | Averaging Time |
|---|---|---|---|---|---|---|---|---|
| CTG-1 | NG Fuel Flow | Feed to Combustor | | | | | | |
| CTG-2 | NG Fuel Flow | Feed to Combustor | | | | | | |
| DB-1 | NG Fuel Flow | Feed to Combustor | | | | | | |
| DB-2 | NG Fuel Flow | Feed to Combustor | | | | | | |
| AUX-1 | NG Fuel Flow | Feed to Combustor | | | | | | |
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# Table 2-P: Greenhouse Gas Emissions

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

☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

| | | $CO_2$ ton/yr | $N_2O$ ton/yr | $CH_4$ ton/yr | $SF_6$ ton/yr | PFC/HFC ton/yr[2] | | | | | | | | | Total GHG Mass Basis ton/yr[4] | Total $CO_2e$ ton/yr[5] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Unit No.** | **GWPs[1]** | **1** | **298** | **25** | **22,800** | **footnote 3** | | | | | | | | | | |
| **CTG-1** | **mass GHG** | 973220 | 1.84 | 18.36 | | | | | | | | | | | 973240 | |
| | **$CO_2e$** | 973220 | 570 | 385 | | | | | | | | | | | | 974175 |
| **DB-1** | **mass GHG** | 132671 | 0.548 | 5.48 | | | | | | | | | | | 132677 | |
| | **$CO_2e$** | 132671 | 115 | 170 | | | | | | | | | | | | 132956 |
| **CTG-2** | **mass GHG** | 973220 | 1.84 | 18.36 | | | | | | | | | | | 973240 | |
| | **$CO_2e$** | 973220 | 570 | 385 | | | | | | | | | | | | 974175 |
| **DB-2** | **mass GHG** | 132671 | 0.548 | 5.48 | | | | | | | | | | | 132677 | |
| | **$CO_2e$** | 132671 | 115 | 170 | | | | | | | | | | | | 132956 |
| **Aux-1** | **mass GHG** | 7057 | 0.0133 | 0.133 | | | | | | | | | | | 7057 | |
| | **$CO_2e$** | 7057 | 4.12 | 2.80 | | | | | | | | | | | | 7064 |
| | **mass GHG** | | | | | | | | | | | | | | | |
| | **$CO_2e$** | | | | | | | | | | | | | | | |
| | **mass GHG** | | | | | | | | | | | | | | | |
| | **$CO_2e$** | | | | | | | | | | | | | | | |
| | **mass GHG** | | | | | | | | | | | | | | | |
| | **$CO_2e$** | | | | | | | | | | | | | | | |
| | **mass GHG** | | | | | | | | | | | | | | | |
| | **$CO_2e$** | | | | | | | | | | | | | | | |
| | **mass GHG** | | | | | | | | | | | | | | | |
| | **$CO_2e$** | | | | | | | | | | | | | | | |
| | **mass GHG** | | | | | | | | | | | | | | | |
| | **CO2e** | | | | | | | | | | | | | | | |
| **Total** | **mass GHG** | | | | | | | | | | **Total includes only Turbines operating since AUX-1 will not run when turbines run.** | | | | 2211834 | |
| | **$CO_2e$** | | | | | | | | | | | | | | | 2214262 |

[1] 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.

[2] For HFCs or PFCs describe the specific HFC or PFC compound and use a separate column for each individual compound.

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

[4] Green house gas emissions on a mass basis is the ton per year green house gas emission before adjustment with its GWP.

[5] $CO_2e$ means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

# Section 3

## Application Summary

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) for more detailed instructions on SSM emissions.

This application is for a 20.2.72.200.A.2 NMAC significant permit revision of the Luna Energy Facility (LEF) NSR Permit PSD-NM-2450-M3 issued January 3, 2024. LEF also operates under Title V permit number P209-R2 issued December 19, 2019. This permit is for a significant permit revision of LEF NSR Permit PSD-NM-2450-M3 to allow a modified hot gas path (HGP+) "routine replacement" upgrade recommended by PNM's vendor, Power Systems Mfg., LLC, for the two existing GE Frame 7FA gas turbines. The upgrade provides flexibility and enabling users to optimize performance and maintenance schedules to their individual requirements. No other physical changes, changes in the method of operation, or allowable permit emission rate limits are requested for this permit revision application.

LEF is a natural gas fired electrical energy generating station located near Deming, in Luna County, New Mexico that commenced commercial operation in April 1, 2006. LEF consists of two General Electric Frame 7FA advanced gas turbines each with its own electric generator. Each unit also has a heat recovery steam generation unit (HRSG). Steam generated in the HRSG's is sent to a single steam turbine generator (STG). Each of the two combustion turbines includes the capability of supplemental firing for additional generation capacity during periods of peak electrical demand through use of a duct burner on each turbine unit. Steam sent to the STG is condensed with a surface condenser (heat exchanger) and is then cooled by a force draft multi-cell cooling tower for recycle through the system.

Each of the two combustion turbines has a nominal generating capacity at full firing rate of approximately 158 MW under typical operating conditions and up to 170 MW under certain meteorological conditions.[1] Without duct burners in operation, but at full firing rate for the two combustion turbines, an additional 150 MW (nominal) of electrical output power is generated by the STG. At full firing rate, each of the two duct burners adds an additional 64 MW (nominal) generating capacity to the STG bringing the STG capacity up to 278 MW and facility capacity up to a nominal 618 MW.[2]

A water treatment facility processes recycle steam water to be used in the HRSG. Sources supporting water treatment activities at the LEF include; material storage silos as particulate matter emission sources and sulfuric acid and sodium hydroxide as state TAPs. These sources included a soda ash storage silo with baghouse that control particulate emissions

[1] Generating capacity is a function of ambient temperature. Colder ambient temperatures increase air density, which results in greater generating capacity. The listed capacity is gross capacity over and above the work required by the compressor.
[2] This is a nominal maximum facility generating capacity. The actual capacity, even at full firing rates, will vary with variation in ambient conditions. At typical ambient temperature, the facility output capacity would be approximately 594 MW (158 + 158 + 278).

during silo loading, two dolomitic lime (2) storage silos with baghouses that control particulate emissions during silo loading, two (2) sulfuric acid tanks storing 93% concentration sulfuric acid, and sodium hydroxide storage tanks.

The LEF facility includes the following air emission sources:

- 2 Combustion turbine generators fired by clean burning natural gas
- 2 supplemental firing duct burners fired by clean burning natural gas
- 1 auxiliary boiler fired by clean burning natural gas
- 1 induced draft cooling tower with 9 cooling cells
- 2 induced draft chiller cooling tower with 4 cooling cells each
- 1 Soda Ash Silo
- 2 Lime Silos
- 2 - 93% sulfuric acid storage tanks
- 1 sodium hydroxide tank

Startup and shutdown are a normal and routine part of the operation of LEF. During startup, the emission rates of CO and NOx are greater than during steady-state operation. Both CO and NOx emission rates increase during startup conditions due to unsteady-state operation during these periods when combustion temperature, air/fuel ratio and other parameters that affect formation of CO and NOx are not constant. In addition, NOx emissions are controlled by use of a selective catalytic reduction (SCR) system. The SCR system must be at a minimum temperature before the catalyst system will function properly. The amount of time required to bring the SCR unit up to operating temperature depends on the initial starting temperature of the SCR and on the ability of the turbine to provide heat to the SCR unit.

**Present Permit Application Request**

**20.2.72.200.A.2 NMAC Significant Permit Revision requested for NSR Permit PSD-NM-2450-M4 Turbine AGP Projects**

For this permit application, LEF will complete a turbine Advanced Gas Path (AGP) project for each turbine as two individual projects for PSD applicability determinations. CT-2 AGP project will begin fall of 2024 and CT-1 AGP project will begin spring of 2025. The Luna Flexibility upgrade will include a replacement of the combustion system, upgraded compressor and turbine hardware to increase generating unit capacity, improve ramp rate, turndown, and increase the maintenance interval from 24khrs to 32khrs.

- Power Systems Mfg., LLC (PSM) Combustion Technology Solution upgrades for CT-1 & CT-2 7FA GE Gas Turbines at the Luna Energy Facility. The expected simple cycle GTOP3.1 performance benefits at ISO day conditions (TAMBIENT = 59 °F, PAMBIENT = at site elevation, Relative Humidity = 60%)

| Generic 7F Plant | Performance Mode (24K) | | Maintenance Mode (32K) | |
|---|---|---|---|---|
| | SC Output | SC HR | SC Output | SC HR |
| GTX | +9.0MW (guarantee +8.0MW) | -1.0% (guarantee -.75%) | +6.0MW | -0% |

At ISO conditions, the changes in gas turbine will result in a small increase in heat input, an increase in flow rate, and an increase on exhaust temperature listed below. However, because the project will not alter the maximum operating level of the units, and because heat input increases to the turbine will decrease the need for heat input in the duct burners, the changes to the gas turbine will not affect overall maximum emission rates or require a change to any permitted emission limitations. The expected changes at ISO conditions are provided below:

| Generic 7F Plant | Exhaust Conditions Expected During Performance Mode Operation | | |
|---|---|---|---|
| | ΔTemperature (°F) | Δ Flow (lbs/s) | Δ Energy (MBTU/H) |
| GTX | 18 | 28 | 72 |

For this permit application, no increase in federally enforceable permit limits are requested. Since there is an increase in heat input and generating unit capacity for Units CT-1 and CT-2, a 20.2.72.A.2 NMAC PSD minor modification permit is being applied for with this permit application.

**New Source Review (NSR) / Prevention of Significant Deterioration (PSD)**

- **Applicability Test:** PSD permitting requirements apply to any physical change or change in the method of operation that results in a "significant" annual emissions increase and a "significant net emissions increase" based on a comparison of "baseline actual emissions" to "projected actual emissions," unless the project is excluded as "routine maintenance, repair or replacement."

- **Preliminary Determination:**

  - Baseline Actual Emissions: Baseline should be determined by calculating the average rate, in tons per year, during any 24-month period selected by the owner or operator within the 5 years preceding beginning of actual construction on the project for each pollutant based on the best information available. The baseline date for CTG-1 is October 2021 through September 2023. The baseline date for CTG-2 is January 2022 through December 2023.

  - Projected Actual Emissions: Projected emissions should be determined by estimating future operating levels and applying the expected effect of the project (e.g., small increases in heat input). Due to the small increase in gas combustion, the AGP Project is likely to result in a small emissions increase, all other operating conditions held constant. Emission rates not expected to be affected by the project should be held consistent with the emission rate achieved during the baseline. Future planned outages and forced outage trends should be considered in projecting the highest annual operating level after the project.

The increases in emissions for these two projects,[3] CT-1 and CT-2, are presented in the two tables below. Because all emissions increases are well below the PSD significant emission rates (SER), the projects are not PSD major modifications. Specific calculations can be found in Section 6.

| CT-1 Project Baseline Actuals - Projected Actuals Annual Emission Increases | | | | | | |
|---|---|---|---|---|---|---|
| | NOx (Short Tons) | CO (Short Tons) | VOC (Short Tons) | SO2 (Short Tons) | PM (Short Tons) | CO2 (Short Tons) |
| CT-1 | 2.59 | 5.80 | 0.50 | 0.15 | 1.01 | 29986.37 |
| PSD SER | 40 | 100 | 40 | 40 | 10* | 75000 |
| Over SER | No | No | No | No | No | No |

* PM2.5 SER

[3] Because the projects are not economically or technically dependent, they are not "substantially related" under EPA's project aggregation policy. See, e.g., 83 FR 57324 (Nov. 15, 2018). Accordingly, each AGP project has been evaluated separately in this application. However, even if the projects are aggregated inconsistent with EPA policy, the resulting applicability determination would remain the same.

| CT-2 Project Baseline Actuals - Projected Actuals Annual Emission Increases | | | | | | |
|---|---|---|---|---|---|---|
| | NOx (Short Tons) | CO (Short Tons) | VOC (Short Tons) | SO2 (Short Tons) | PM (Short Tons) | CO2 (Short Tons) |
| CT-2 | 3.87 | 8.45 | 0.74 | 0.22 | 1.47 | 43691.06 |
| PSD SER | 40 | 100 | 40 | 40 | 10* | 75000 |
| Over SER | No | No | No | No | No | No |

* PM2.5 SER

**New Source Performance Standards (NSPS), Subpart KKKK**[4]

The combustion turbines are currently subject to 40 CFR 60.330 Subpart GG – *Standards of Performance for Stationary Gas Turbines installed after January 4, 1983 and prior to November 7, 2006*. This standard requires the combustion turbine to meet a NOx emission limit calculated based on fuel bound nitrogen and manufacturer rated heat rate, taking these parameters into consideration the Subpart GG for LEF correlates to 115.3 ppmv at 15 percent oxygen on a dry basis firing natural gas. This standard requires the combustion turbine to meet a $SO_2$ emission limit shall not exceed 0.015 percent by volume at 15 percent oxygen on a dry basis, or shall not burn fuel which contains sulfur in excess of 0.8 percent by weight (8000 ppmw).

Since "commenced construction" of the combustion turbines in 2001, EPA has developed, 40 CFR 60.4300 Subpart KKKK- *Standard of Performance for Stationary Combustion Turbines*. This standard applies to combustion turbines that commenced construction, modification or reconstruction after February 18, 2005. The terms modification and reconstruction are defined in 40 CFR 60 Subpart A – *General Provisions*.

***Modification*** means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted. Per 40 CFR 60.14.E.1, maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of paragraph (c) of this section and 40 CFR 60.15.

> AGP projects are "routine replacements" in the sense that they are being performed across the country at dozens of facilities as recommended by most vendors, and they represent a relatively minor cost in the context of the cost of an entire unit. However, reliance on that exclusion is unnecessary because the projects also will not result in an increase in the maximum hourly emission rate of the units, per 40 CFR 60.14(h).

For NOx, the maximum achievable hourly emission rate for each unit is 21.5 lb/hr based on the facility's current air permit. Since LEF is not seeking to increase that limit as part of the projects, and its emission calculations have confirmed maximum emissions rates after the projects would be 19.9 lb/hr, the project will not result in an increase in the maximum hourly emission rate for $NO_x$. Similarly, for SO2, the maximum achievable hourly emission rate for each unit is 3.7 lb/hr based on the current air permit. LEF is not seeking to increase that limit as part of the projects, and its emission calculations have confirmed maximum emissions rates after the projects would be 3.4 lb/hr, so the project will not result in an increase in the maximum hourly emission rate for $SO_2$. See emission calculations in Section 6.

**Title V Permitting Requirements:** For the AGP project a notification may be required under Title V (*e.g.*, "502(b)(10) change" or "off-permit" notifications).

[4] Neither Subpart TTTT nor Subpart TTTTa applies to modifications of combustion turbines.

# Section 4

## Process Flow Sheet

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.

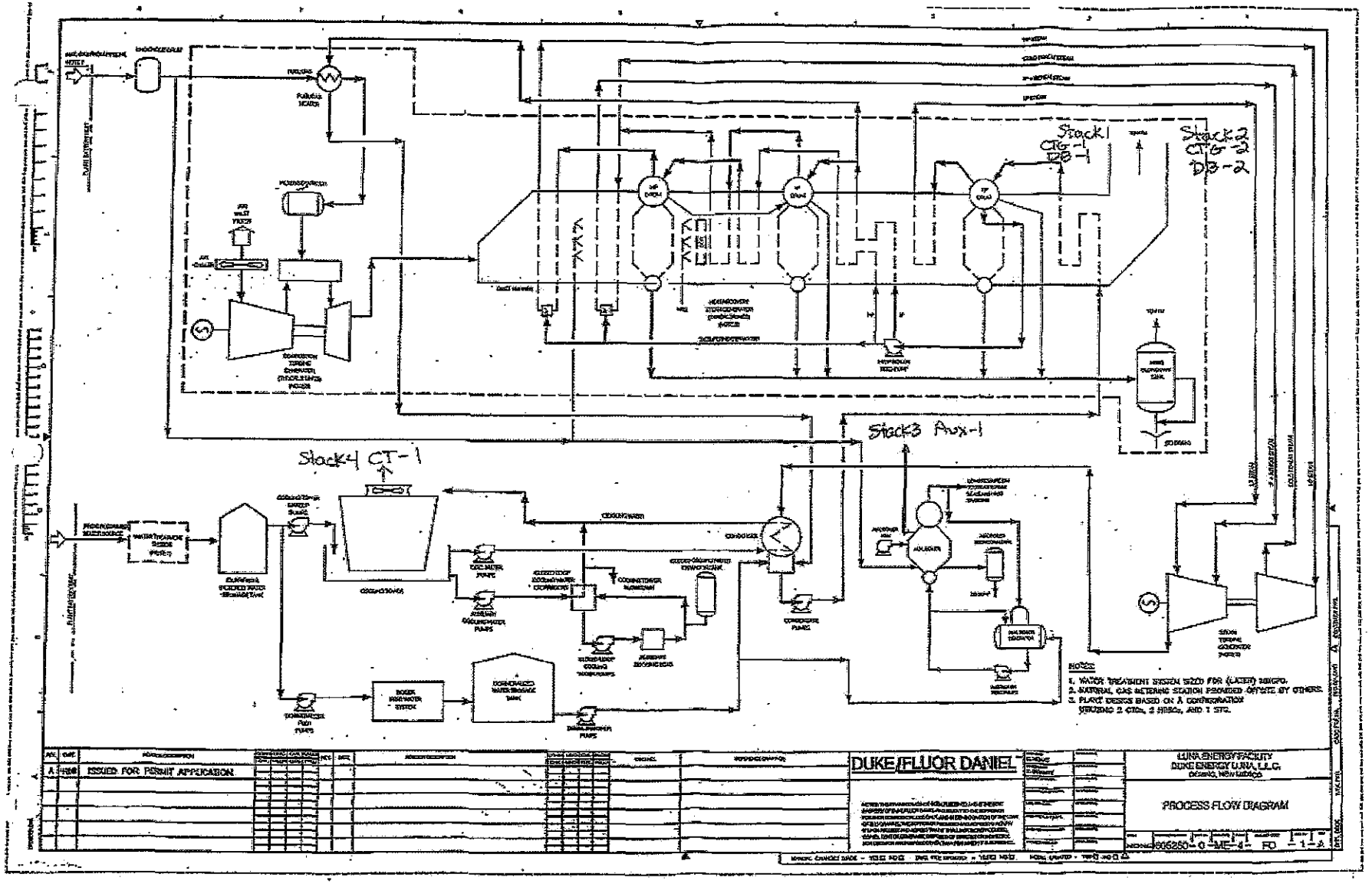


**Figure 4-1: Process Flow of Luna Energy Facility**

# Section 5

## Plot Plan Drawn to Scale

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.

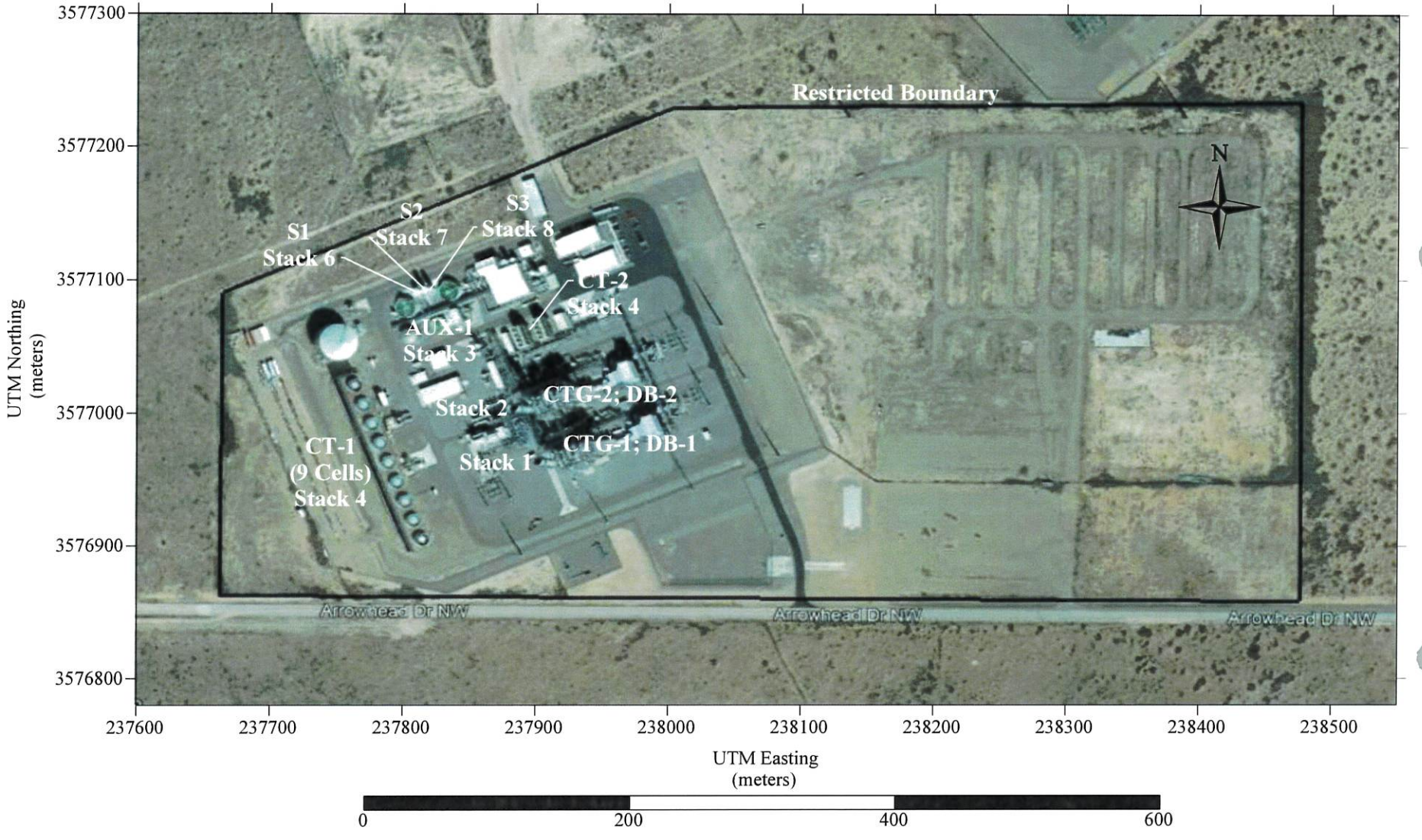


**Figure 5-1: Plot Plan of Luna Energy Facility**

# Section 6

## All Calculations

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

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

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

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

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

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

**Significant Figures:**

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

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

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

**(1)** If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;

**(2)** If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**

**(3)** If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.

**(4)** The final result of the calculation shall be expressed in the units of the standard.

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

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In this section, the baseline actual emissions and projected actual emissions to determine applicability with PSD requirements are discussed and calculated. Additionally for NSPS determination, the maximum hourly emission rates for the project are compared with the federally enforceable maximum hourly emission rate for $NO_x$ and $SO_2$.

**Baseline Actual Emissions**

Baseline actual emission were determined by CEMs data for the following: heat input, NOx actual emissions, and $CO_2$ actual emissions. Heat input from CEMS data was then used to calculate $SO_2$ actual emissions based on emission factors representative of natural gas combustion. Stack test results from 2006 testing indicated a PM emission rate of 0.004 lbs/mmBtu[5] that was multiplied by heat input to calculate PM actual emissions. Finally, the CO and VOC lbs/mmBtu emission rates were based on the BACT permit limit requirement of 10 ppmv, and 1.4 ppmv, respectively, both of which were multiplied by an "f-factor" that estimates flow based on heat input, per the equation provided below.

**40 CFR Part 75, Appendix F to Part 75 - Conversion Procedures - Natural Gas**

Hourly emission rate (lb/mmBtu) = ppm/1,000,000 * (20.9/(20.9-15)) * F factor at 60°F * M.W. * (1/379.5)

Where:

ppm = parts per million (varies by pollutant for uncontrolled and controlled)

M.W. = molecular weight (lb/lb-mole) (NOx = 46; CO = 28; VOC = 16)

F factor at 60°Fahrenheit (F) = 8,710 dscf/mmBtu

Conversion factor = (1/(379.5 dscf/lb-mol)) at 60°F

Correction factor to 15 percent oxygen = (20.9/(20.9-15))

CO Hourly emissions (lbs/mmBtu) = 10/1,000,000 * (20.9/(20.9-15)) * 8710 * 28 * (1/379.5) = 0.023 lbs/mmBtu
VOC Hourly emissions (lbs/mmBtu) = 1.4/1,000,000 * (20.9/(20.9-15)) * 8710 * 16 * (1/379.5) = 0.002 lbs/mmBtu

The 24-month period selected to determine baseline actual emissions for Unit CT-1 is October 2021 through September 2023, and the 24 month period selected for Unit CT-2 is January 2022 through December 2023. Data available from those baseline periods consistent with the methods identified above were used to calculation the annual average $NO_x$, CO, VOC, $SO_2$, PM, and $CO_2$ baseline actual emissions. Table 6-1 presents the actual heat input and corresponding actual hours of operation for the 24 month period selected for Units CT-1 and CT-2. Table 6-2 provides the baseline actual emissions for both units.

**Table 6-1**

| | 2 Year Time Period | Actual Heat Input (mmBtu) | Actual Operating Hours | Maximum Hours per Year | Operating Hours |
|---|---|---|---|---|---|
| | Maximum over 5 Year | Highest 24 Month Annual Ave. | Highest 24 Month Annual Ave. | | % |
| CT-1 | Jan 2022 - Dec 2023 | 12015640 | 7933 | 8760 | 90.56% |
| CT-2 | Oct 2021 - Sep 2023 | 12459992 | 7792 | 8760 | 88.95% |

[5] Although conservative, these calculations assume that PM2.5 is equal to PM10 emission rates.

**Table 6-2**

| Baseline Actual Emissions - Annual Average | | | | | | |
|---|---|---|---|---|---|---|
| | NOx (Short Tons) | CO (Short Tons) | VOC (Short Tons) | SO2 (Short Tons) | PM (Short Tons) | CO2 (Short Tons) |
| CT-1 | 61.6 | 138.2 | 12.0 | 3.6 | 24.0 | 714072.5 |
| CT-2 | 65.5 | 143.3 | 12.5 | 3.7 | 24.9 | 740479.2 |

**Projected Actual Emissions**

Projected actual emissions are defined as the maximum annual rate, in tons per year, in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project. LEF has completed a review of the anticipated future dispatch post AGP upgrade and does not expect the facility to be dispatched more frequently as the result of the project. Nevertheless, to be conservative, the facility has estimated future operations based on full utilization of the unit except for planned outages. Since the lowest number of planned outage hours in any future year is 480 hours (Year 2026), the maximum operating hours in the future is 8280 hours/year.

Increasing the hourly utilization will increase the baseline actual emission to projected actual emissions listed in the Table 6-3.

**Table 6-3**

| Projected Actual Annual Emissions | | | | | | |
|---|---|---|---|---|---|---|
| | NOx (Short Tons) | CO (Short Tons) | VOC (Short Tons) | SO2 (Short Tons) | PM (Short Tons) | CO2 (Short Tons) |
| CT-1 | 64.2 | 144.0 | 12.5 | 3.8 | 25.0 | 744023.4 |
| CT-2 | 69.4 | 151.7 | 13.2 | 4.0 | 26.4 | 784134.9 |

* PM = PM10= PM2.5

There will be a slight increase in heat input of 72 mBtu/hr for each turbine as a result of each project. While there is an increase in the turbine exhaust there could be an equal decrease in heat input to the duct burners. To be conservative, at 72 mBtu/hr and maximum projected operating hours of 8280 the projected annual emissions are listed in the Table 6-4. Because of the slight increase in heat input, only CO2 emissions are increase over 0.1 tons per year.

**Table 6-4**

| Projected Actual Annual Emissions | | | | | | |
|---|---|---|---|---|---|---|
| | NOx (Short Tons) | CO (Short Tons) | VOC (Short Tons) | SO2 (Short Tons) | PM (Short Tons)* | CO2 (Short Tons) |
| CT-1 | 64.2 | 144.0 | 12.5 | 3.8 | 25.0 | 744058.8 |
| CT-2 | 69.4 | 151.7 | 13.2 | 4.0 | 26.4 | 784170.3 |

**Baseline Actual vs Projected Actual Emissions**

The differences between baseline actual emissions and projected actual emissions are compared below to the PSD Significant Emission Rates (SER) found in 20.2.74.502 NMAC "Table 2". Tables 6-5 and 6-6 summarize the conservative increase in annual emission for the CT-1 and CT-2 turbine projects.

**Table 6-5**

| CT-1 Projected Actual – Baseline Actual Annual Emission Increases [6] | | | | | | |
|---|---|---|---|---|---|---|
| | NOx (Short Tons) | CO (Short Tons) | VOC (Short Tons) | SO2 (Short Tons) | PM (Short Tons) | CO2 (Short Tons) |
| CT-1 | 2.59 | 5.80 | 0.50 | 0.15 | 1.01 | 29986.37 |
| PSD SER | 40 | 100 | 40 | 40 | 10* | 75000 |
| Over SER | No | No | No | No | No | No |

* PM2.5 SER

**Table 6-6**

| CT-2 Projected Actual – Baseline Actual Annual Emission Increases [5] | | | | | | |
|---|---|---|---|---|---|---|
| | NOx (Short Tons) | CO (Short Tons) | VOC (Short Tons) | SO2 (Short Tons) | PM (Short Tons) | CO2 (Short Tons) |
| CT-2 | 3.87 | 8.45 | 0.74 | 0.22 | 1.47 | 43691.06 |
| PSD SER | 40 | 100 | 40 | 40 | 10* | 75000 |
| Over SER | No | No | No | No | No | No |

* PM2.5 SER

Since none of the emission increases is above the relevant SER, neither project is not a PSD major modification.

[6] Three additional pollutants listed in Table 2; lead, fluorides, or sulfur compounds (hydrogen sulfides), are not emitted from Units CT-1 or CT-2 and were not addressed.

**NSPS Applicability – Hourly Emission of NOx and $SO_2$**

To determine if the projects would cause an increase in maximum achievable hourly emission rates for NOX and SO2, the following calculations were performed.

**40 CFR Part 75, Appendix F to Part 75 - Conversion Procedures - Natural Gas**

Hourly emissions (lbs/hr) = ppm/1,000,000 * (20.9/(20.9-15)) * F factor at 60°F * M.W. * (1/379.5) * H.I. HHV (mmBtu/hr)

Where:

ppm = parts per million (varies by pollutant for uncontrolled and controlled)

M.W. = molecular weight (lb/lb-mole) (NOx = 46; CO = 28; VOC = 16)

H.I. HHV = heat input higher heating value = 382 mmBtu/hr

F factor at 60°Fahrenheit (F) = 8,710 dscf/mmBtu

Conversion factor = (1/(379.5 scf/lb-mol)) at 60°F

Correction factor to 15 percent oxygen = (20.9/(20.9-15))

**Table 6-7**

| Emission Factors and Hourly Emission Rate for Maximum Operation - One Turbine | | | | |
|---|---|---|---|---|
| **Pollutants** | **Emission Factor** | **Units** | **Controlled Hourly Emission Rate** | **Units** |
| SOx | 2.1 | lb/mmscf | 3.4 | lbs/hr |
| NOx | 3.5 | ppm @ 15% O2 | 19.9 | lbs/hr |
| CO | 10 | ppm @ 15% O2 | 0.023 | lbs/mmBtu |
| VOC | 1.4 | ppm @ 15% O2 | 0.002 | lbs/mmBtu |

Notes:

SOx emission factor based on PUC sulfur limit of 0.75 grains/100 dscf

NOx, CO, and VOC emission factor based on permit BACT limits

**Change in heat input for the project**

| | | |
|---|---|---|
| 1510 | mmBtu/hr | Original Plant Performance Maximum Hourly Heat Input |
| 72 | mBtu/hr | Delta of energy (mBtu/hr) PSM |
| 1510.072 | mmBtu/hr | Upgrade Turbine |

**Table 6-10**

| Input Parameters | | |
|---|---|---|
| Low Input (HHV) = | 1510.1 | mmBtu/hr |
| Heat Content (LHV) = | 950 | Btu/scf |
| Heat Content (HHV) = | 1.59 | mmscf/lbs |

Comparison of federally enforceable maximum achievable hourly emission rate versus calculated per project maximum hourly emission rate.

**Table 6-11**

| Hourly Emission Rate for Maximum Operation - One Turbine | | | | |
|---|---|---|---|---|
| **Pollutants** | **Permit PSD-NM-2450-M3 Hourly Emission Rates** | **Calculated Project Hourly Emission Rates** | **Units** | **Exceeds Hourly Permit Limit** |
| $SO_2$ | 3.7 | 3.4 | lbs/hr | No |
| NOx | 21.5 | 19.9 | lbs/hr | No |

# 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 ($CO_2$), nitrous oxide ($N_2O$), methane ($CH_4$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride ($SF_6$).

### Calculating GHG Emissions:

**1.** Calculate the ton per year (tpy) GHG mass emissions and GHG $CO_2e$ 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 $CO_2e$ 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 $CO_2e$ emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
**5.** All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO2e emissions for each unit in Table 2-P.
**6.** For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following ☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

**Sources for Calculating GHG Emissions:**

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at http://www.epa.gov/ttn/chief/ap42/index.html
- EPA's Internet emission factor database WebFIRE at http://cfpub.epa.gov/webfire/
- 40 CFR 98 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 $CO_2$ over a specified time period.

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

**Metric to Short Ton Conversion:**
Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.
1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

# Section 7

## Information Used to Determine Emissions

**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.

Luna Energy Facility Emission Calculations Excel Spreadsheet (A-2450-7-LEF_Baseline_Data) electronic file attached

# Section 8

## Map(s)

**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 | |

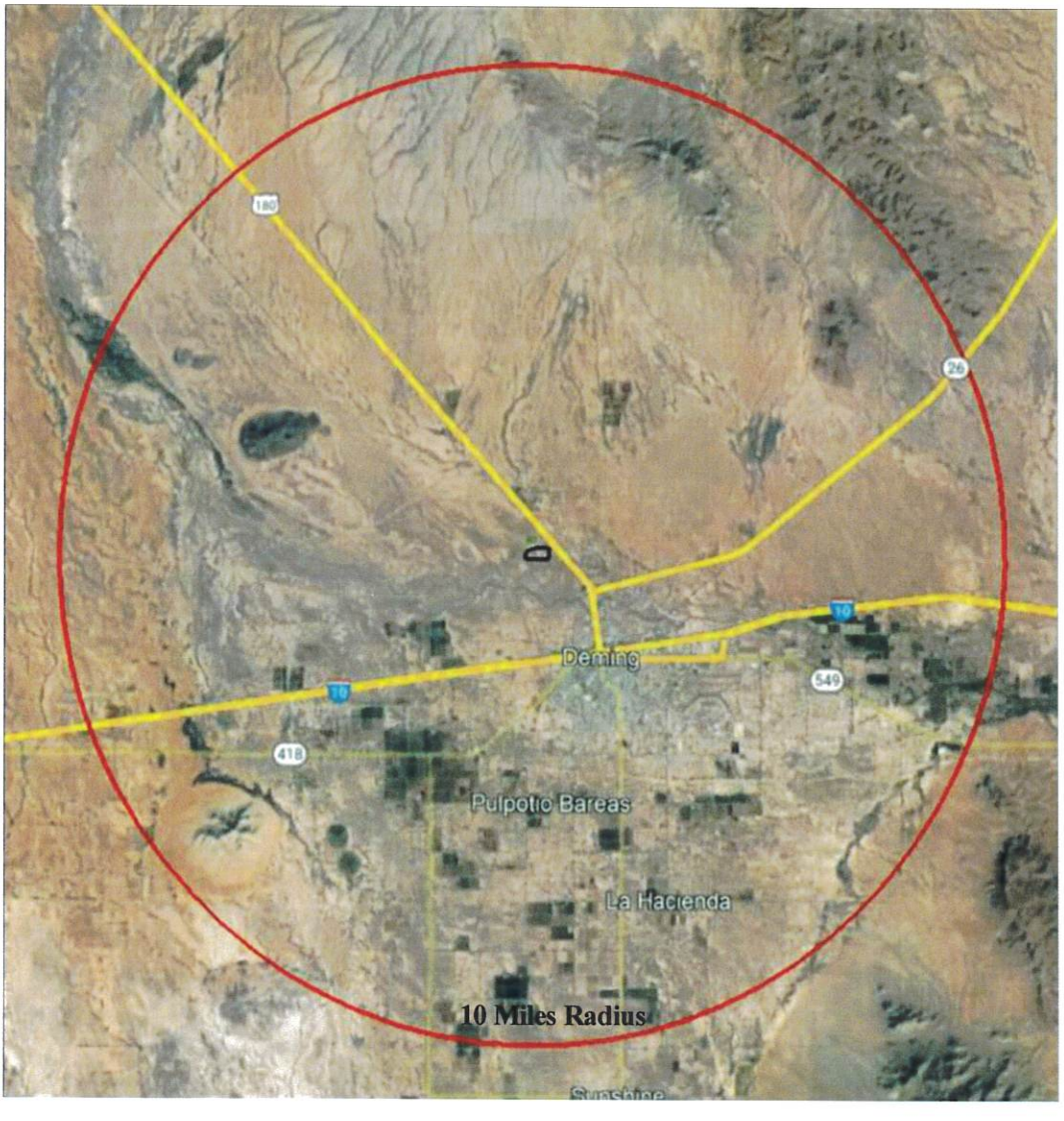



**Figure 8-1: Aerial Map of Luna Energy Facility with 10 kilometer Radius**

# 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")

---

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

---

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

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

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

Per the Guidelines for Public Notification document mentioned above, include:

1. X A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
2. X 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. X A copy of the property tax record (20.2.72.203.B NMAC).
4. X A sample of the letters sent to the owners of record.
5. X A sample of the letters sent to counties, municipalities, and Indian tribes.
6. X A sample of the public notice posted and a verification of the local postings.
7. X A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
8. X A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
9. X 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. X 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. X 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.

---

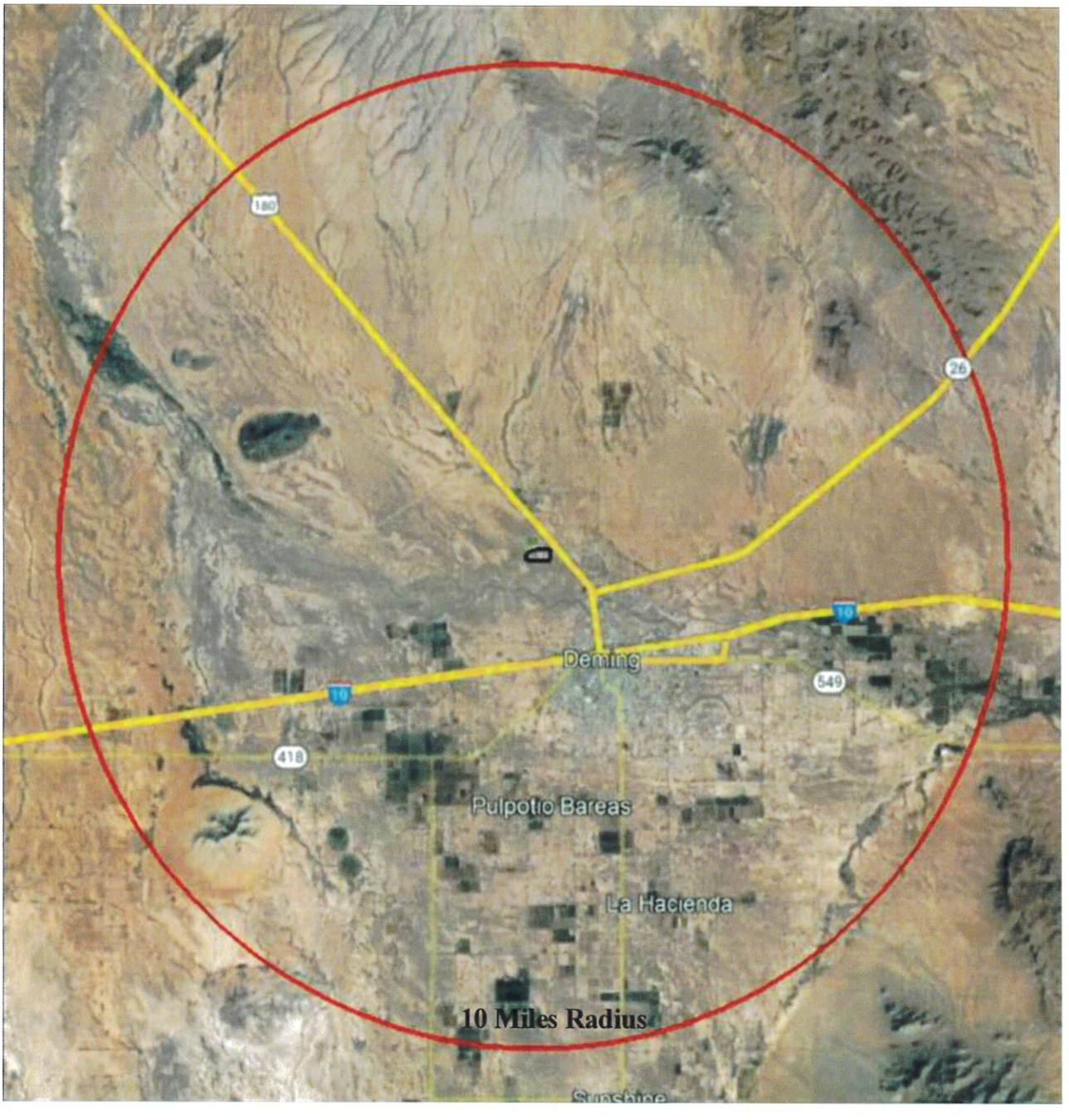



**Figure 9-1: 10 Mile Radius Surrounding the Luna Energy Facility**

## Government Entities within 10 Miles

| | | | | | |
|---|---|---|---|---|---|
| Luna County | Berenda McWright, County Clerk | 700 S. Silver Ave., Box 7 | Deming | NM | 88030 |
| City of Deming | Mary Jo Valdez, Municipal Clerk | 309 South Gold Avenue | Deming | NM | 88030 |

## Landowner within 100 feet of Luna Energy Facility (Facility Located within Deming City Limits)

| UPC | Owner | Address | | | |
|---|---|---|---|---|---|
| 3052135336331 O#47339 | PUBLIC SERVICE COMPANY OF NM | 414 SILVER AVE SW MS 1025 | ALBUQUERQUE | NM | 87102 |
| 3052135392244 | TARANGO, ALFREDO & BERTH A | 4414 S 7TH PL | PHOENIX | AZ | 85040 |
| 3052135408244 | TARANGO, BENJAMIN & ROSA S | 4414 S 7TH PL | PHOENIX | AZ | 85040 |
| 3052135428243 | TARANGO, BENJAMIN & ALFREDO | 4414 S 7TH PL | PHOENIX | AZ | 85040 |
| 3052135437196 | VIEJO GROUP LLC | PO BOX 36076 | TUCSON | AZ | 85740 |
| 3052135500216 | VIEJO GROUP LLC | PO BOX 36076 | TUCSON | AZ | 85740 |
| 3053135072331 | TRUESDELL, LYNDA KAYE TRUSTEE & | 649 VIA LIDO SOUD | NEWPORT BEACH | CA | 92663 |
| 3053135074463 O#110065 | GEO SOUTHWEST LTD | P O BOX 353 | SILVERTON | TX | 79257 |
| 3052135212442 | PLEYTE, JOHN J | PO BOX 67 | CHELAN | WA | 98816 |
| 3053136132267 O#110065 | GEO SOUTHWEST LTD | P O BOX 353 | SILVERTON | TX | 79257 |
| 3052136269266 O#110065 | GEO SOUTHWEST LTD | P O BOX 353 | SILVERTON | TX | 79257 |

# NOTICE

Public Service Company of New Mexico (PNM) announces its application submittal to the New Mexico Environment Department for a modification of air quality permit #2450-M3 for the Luna Energy Facility. The expected date of application submittal to the Air Quality Bureau is March 15, 2024.

The address for the existing facility known as, Luna Energy Facility (LEF), is at 1895 Arrowhead Drive, Deming, NM. The exact location of the facility is Latitude 32.299159 decimal degree and Longitude -107.783672 decimal degree. The approximate location of this facility is 1.8 miles southwest of Keeler Farm in Luna County.

LEF is a natural gas fired electrical energy generating station that consists of two General Electric Frame 7FA advanced gas turbines each with its own electric generator. Each unit also has a heat recovery steam generation unit (HRSG). Steam generated in the HRSG's is sent to a single steam turbine generator (STG). Each of the two combustion turbines includes the capability of supplemental firing for additional generation capacity during periods of peak electrical demand through use of a duct burner on each turbine unit. Steam sent to the STG is condensed with a surface condenser (heat exchanger) and is then cooled by a force draft multi-cell cooling tower for recycle through the system. This application is for a significant permit revision of LEF NSR Permit PSD-NM-2450-M3 to allow a modified hot gas path (HGP+) "routine replacement" upgrade recommended by PNM's vendor, Power Systems Mfg., LLC for the two existing GE Frame 7FA gas turbines. The upgrade provides flexibility and enabling users to optimize performance and maintenance schedules to their individual requirements. No other physical changes, changes in the method of operation, or allowable permit emission rate limits are requested for this permit revision application.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) (Maximum Normal Operations and Maximum Startup/Shutdown and Routine Maintenance (SSM)) and maximum tons per year (tpy) and may change slightly during the course of the Department's review:

| Pollutant: | Maximum Normal Pounds per hour | Maximum SSM Pounds per hour | Maximum Tons per year |
|---|---|---|---|
| Particulate Matter (PM) | 70.1 pph | 70.1 pph | 232 tpy |
| $PM_{10}$ | 69.4 pph | 69.4 pph | 230 tpy |
| $PM_{2.5}$ | 68.1 pph | 68.1 pph | 223 tpy |
| Sulfur Dioxide ($SO_2$) | 10.1 pph | 10.1 pph | 37.5 tpy |
| Nitrogen Oxides ($NO_x$) | 58.5 pph | 329.7 pph | 250 tpy |
| Carbon Monoxide (CO) | 172.2 pph | 1274.6 pph | 730 tpy |
| Volatile Organic Compounds (VOC) | 38.7 pph | 38.7 pph | 90.4 tpy |
| Total sum of all Hazardous Air Pollutants (HAPs) | 3.6 pph | 3.6 pph | 10.8 tpy |
| Toxic Air Pollutant (TAP) | 0 pph | 0 pph | 0 tpy |
| Green House Gas Emissions as Total $CO_2e$ | n/a | n/a | 2,214,262 tpy |

The standard operating schedule of the facility is 24 hour per day, 7 days per week, and 52 weeks per year.

The owner and/or operator of the Facility is:

**Public Service Company of New Mexico**
2401 Aztec Road, NE
MS Z100
Albuquerque, NM 87107

**Tucson Electric Power Company**
3950 East Irvington Road
Tucson, AZ 85714

**Samchully Power and Utilities 1, LLC**
123 Marcy St.
Suite 101
Santa Fe, NM 87501

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

**Atención**
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-629-3395.

**Notice of Non-Discrimination**
NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by *40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended;* Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: *Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe,* NM 87502, (505) 827-2855, nd.coordinator@env.nm.gov. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.

# General Posting of Notices – Certification

I, Travis Self, the undersigned, certify that on 3/5/2024, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the town of Deming of Luna County, State of New Mexico on the following dates:

1. Entrance at 5R Truck Stop, 1695 US-180 Deming, NM 88030 (3/5/2024).
2. Entrance at Deming Visitors Center, 800 E. Pine St., Deming, NM 88030 (3/5/2024).
3. Entrance at Deming Special Events Center/Mimbres Learning Center, 2300 E. Pine St, Deming, NM 88030 (3/5/2024).
4. Entrance at Deming City Hall, 1275 E. Pine St, Deming, NM, 88030 (3/5/2024).

Signed this 5th day of March 2024,

Signature

3/5/2024
Date

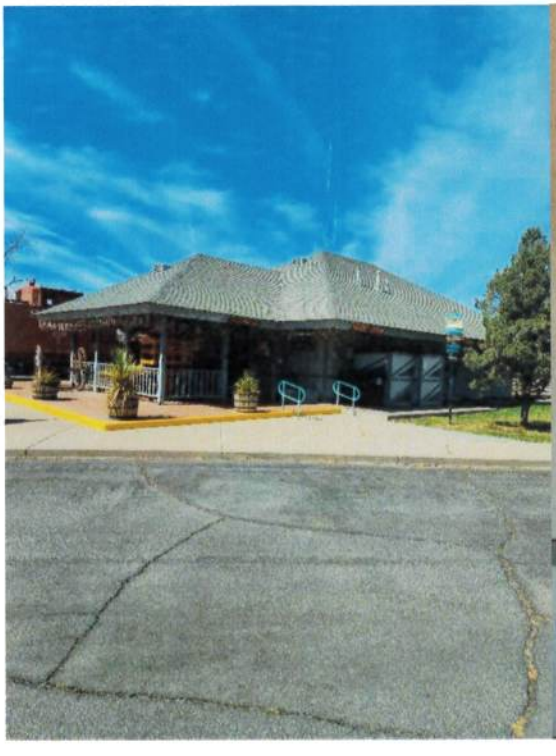
Travis Self
Printed Name

Compliance Specialist (Luna Energy Facility)
Title

1. **Entrance at 5R Truck Stop, 1695 US-180 Deming, NM 88030 (3/5/2024).**



2. **Entrance at Deming Visitors Center, 800 E. Pine St., Deming, NM 88030 (3/5/2024).**



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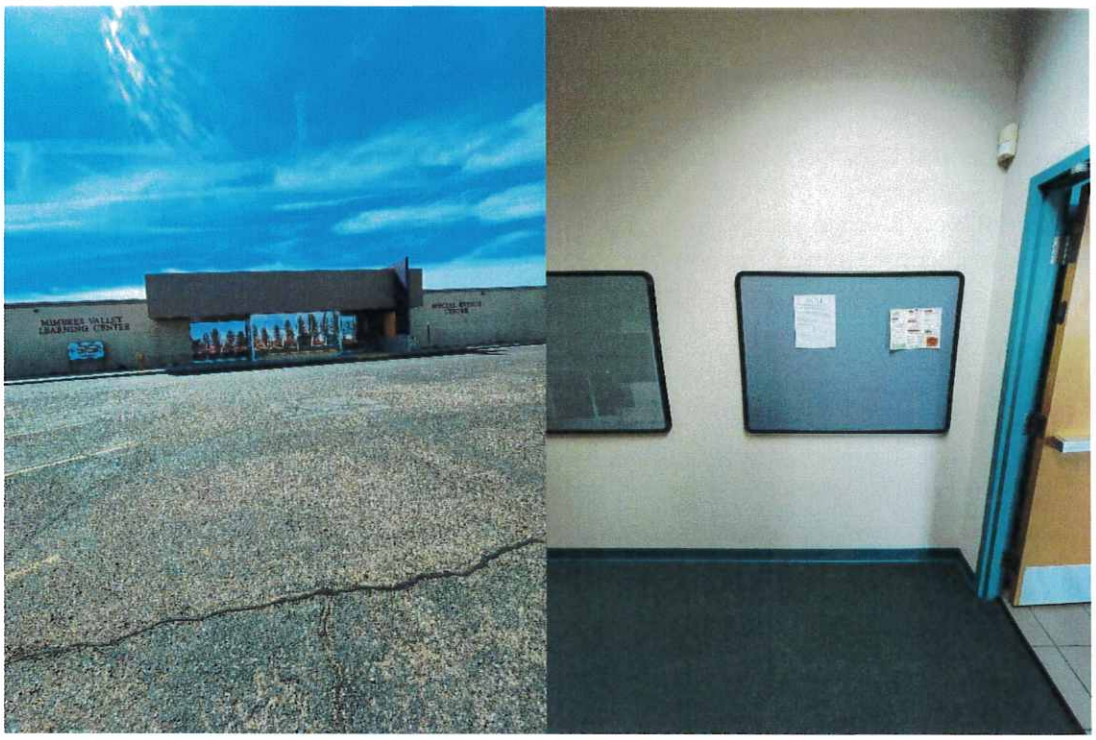


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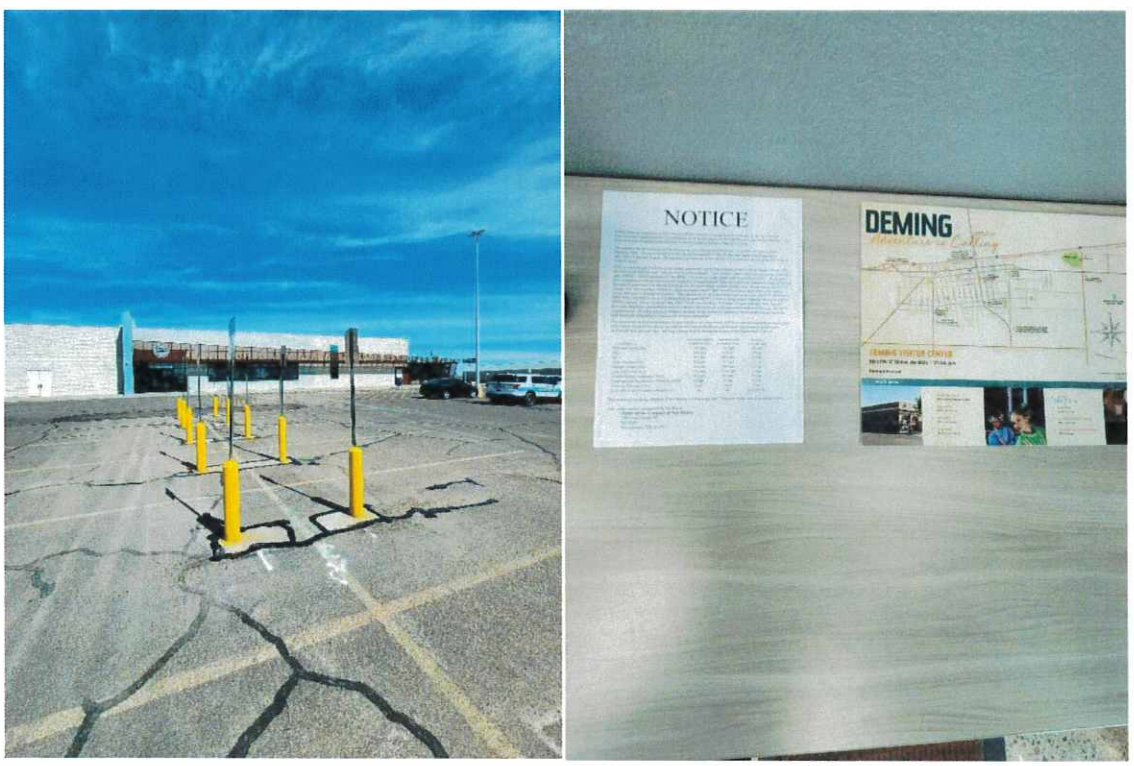

**March 15, 2024**

CERTIFIED MAIL XXXX XXXX XXXX XXXX

Dear **[Neighbor/Environmental Director/county or municipal official]**

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| Sulfur Dioxide ($SO_2$) | 10.1 pph | 10.1 pph | 37.5 tpy |
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| Carbon Monoxide (CO) | 172.2 pph | 1274.6 pph | 730 tpy |
| Volatile Organic Compounds (VOC) | 38.7 pph | 38.7 pph | 90.4 tpy |
| Total sum of all Hazardous Air Pollutants (HAPs) | 3.6 pph | 3.6 pph | 10.8 tpy |
| Toxic Air Pollutant (TAP) | 0 pph | 0 pph | 0 tpy |
| Green House Gas Emissions as Total $CO_2e$ | n/a | n/a | 2,214,262 tpy |

The standard and maximum operating schedule of the facility is 24 hour per day, 7 days per week, and 52 weeks per year.

The owner and/or operator of the Facility is:

**Public Service Company of New Mexico**
2401 Aztec Road, NE
MS Z100
Albuquerque, NM 87107

**Tucson Electric Power Company**
3950 East Irvington Road
Tucson, AZ 85714

**Samchully Power and Utilities 1, LLC**
123 Marcy St.
Suite 101
Santa Fe, NM 87501

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

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**Notice of Non-Discrimination**

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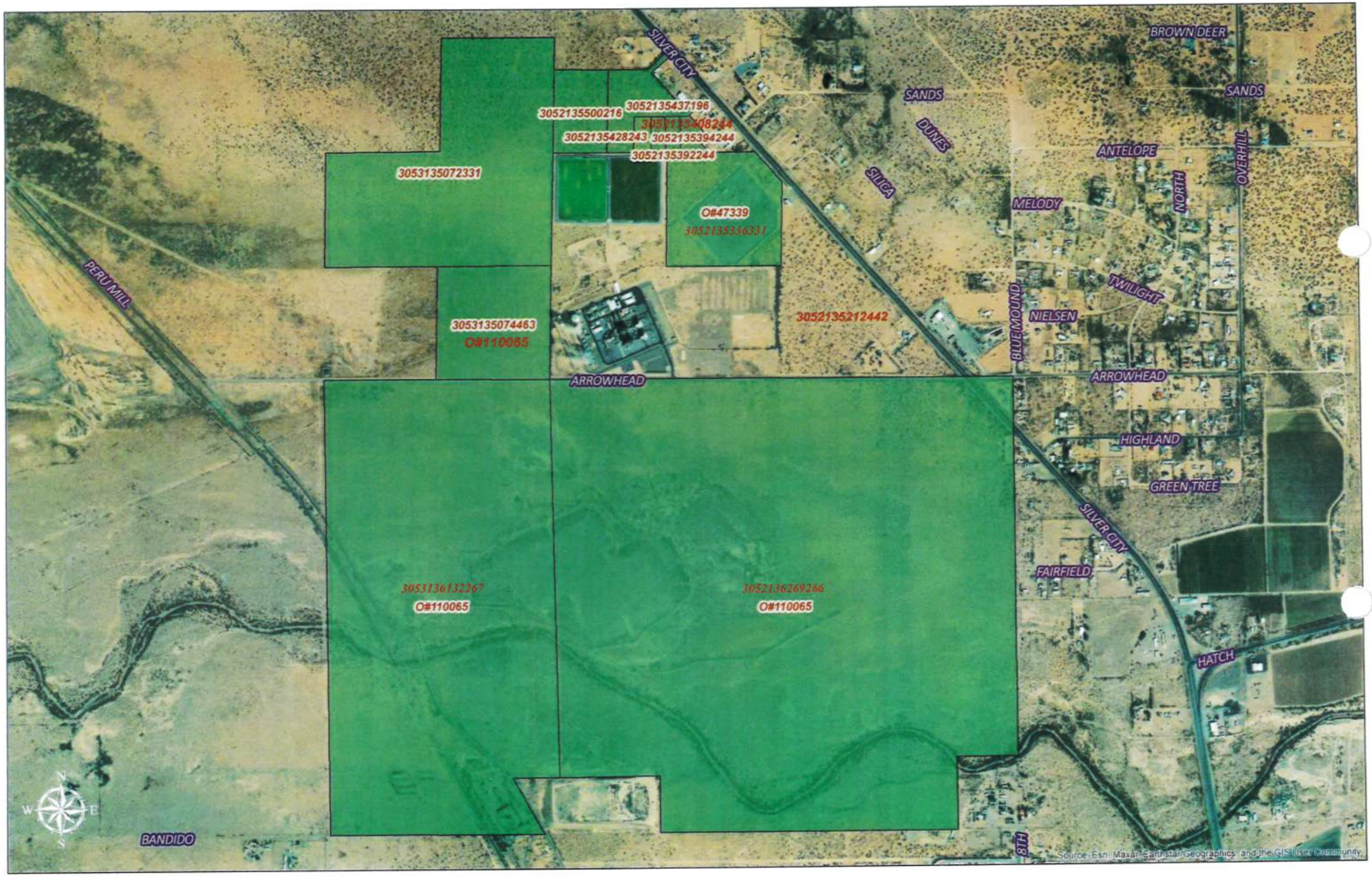
Sincerely,

Public Service Company of New Mexico


SILVER CITY
BROWN DEER
SANDS
SANDS
DUNES
3052135500216
3052135437196
3052135408244
3052135428243
3052135394244
3052135392244
ANTELOPE
OVERHILL
NORTH
3053135072331
SILICA
MELODY
O#47339
3052135336331
PERU MILL
TWILIGHT
BLUE MOUND
NIELSEN
3053135074463
O#110065
3052135212442
ARROWHEAD
ARROWHEAD
HIGHLAND
GREEN TREE
SILVER CITY
3053136132267
O#110065
3052136269266
O#110065
FAIRFIELD
HATCH
BANDIDO
18TH
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

7/03/2023 15:37:00 LUNA COUNTY ASSESSOR Year 2023 ASSRA4

0047339 Dist DEM NonRend% 0 58069653 Centrl 58069653 Full

PUBLIC SERVICE COMPANY OF NM FinCo 0 Land 19356551 Txbl

0 Impr 0 Exmpt

414 SILVER AVE SW MS 1025 0 P.P.

0 M.H. 19356551 Net

ALBUQUERQUE NM 87102 0 Livstk

Pos to() _ Print=Y _

| Property Description | Code | ValueDesc | Quantity | Rate | Taxable |
|---|---|---|---|---|---|
| P 004 733 911 09F 134401 | 040 | UTILITY | | | 19356551 |
| SUMMARY OF REAL ESTATE BUILDING AND | | | | | |
| IMPROVEMENTS (ELECTRIC COSTS) | | | | | |
| SUMMARY OF PERSONAL PROPERTY | | | | | |
| (ELECTRIC COSTS) | | | | | |
| CONSTRUCTION WORK IN PROGRESS | | | | | |

| | |
|---|---|
| N/R-Values Full | 58069653 |
| N/R-Values Taxable | 19356551 |
| N/R-Values Net | 19356551 |

Bottom

F3=Cancel F4=Prompt() F6=Chg Yrs F12=Return

Click to Print

**Owner Information**

**Owner #** 107105 **District** LUNA
TARANGO, ALFREDO & BERTH A

4414 S 7TH PL
PHOENIX AZ 85040

**Estimated Taxes for Owner**

| Estimated Tax | Estimated Year used |
| --- | --- |
| $91.23 | 2023 |

Calculate Estimated Tax

## Recap Value Information

| | | | |
|---|---|---|---|
| **Central Full Value** | 0 | **Full Value** | 12750 |
| **Land Full Value** | 12750 | **Taxable Value** | 4250 |
| **Improvements Full value** | 0 | **Exempt Value** | 0 |
| **Personal Property Full Value** | 0 | **Net Value** | 4250 |
| **Manufactured Home Full Value** | 0 | | |
| **Livestock Full Value** | 0 | | |

## Property Information

**Property Code** 3052135392244
**Book** **Page** 0 **Reception#** 200701285
**Physical Address**
**Bldg** **Apt**

Click to Print

## Owner Information

**Owner #** 107106 **District** LUNA
TARANGO, BENJAMIN & ROSA S

4414 S 7TH PL
PHOENIX AZ 85040

## Estimated Taxes for Owner

| Estimated Tax | Estimated Year used |
|---|---|
| $91.23 | 2023 |

Calculate Estimated Tax

## Recap Value Information

| | | | |
|---|---|---|---|
| **Central Full Value** | 0 | **Full Value** | 12750 |
| **Land Full Value** | 12750 | **Taxable Value** | 4250 |
| **Improvements Full value** | 0 | **Exempt Value** | 0 |
| **Personal Property Full Value** | 0 | **Net Value** | 4250 |
| **Manufactured Home Full Value** | 0 | | |
| **Livestock Full Value** | 0 | | |

## Property Information

**Property Code** 3052135408244
**Book** **Page** 0 **Reception#** 200701284
**Physical Address**
**Bldg** **Apt**

Click to Print

**Owner Information**

**Owner #** 107075 **District** LUNA
TARANGO, BENJAMIN & ALFREDO

4414 S 7TH PLACE
PHOENIX AZ 85040

**Estimated Taxes for Owner**

| Estimated Tax | Estimated Year used |
|---|---|
| $180.46 | 2023 |

Calculate Estimated Tax

## Recap Value Information

| | | | |
|---|---|---|---|
| **Central Full Value** | 0 | **Full Value** | 26547 |
| **Land Full Value** | 26547 | **Taxable Value** | 8849 |
| **Improvements Full value** | 0 | **Exempt Value** | 0 |
| **Personal Property Full Value** | 0 | **Net Value** | 8849 |
| **Manufactured Home Full Value** | 0 | | |
| **Livestock Full Value** | 0 | | |

## Property Information

**Property Code** 3052135428243
**Book** **Page** 0 **Reception#** 200704654
**Physical Address**
**Bldg** **Apt**

Click to Print

## Owner Information

**Owner #** 97603 **District** LUNA
VIEJO GROUP LLC

P O BOX 36076
TUCSON AZ 85740

## Estimated Taxes for Owner

| Estimated Tax | Estimated Year used |
| --- | --- |
| $147.27 | 2023 |

Calculate Estimated Tax

## Recap Value Information

| | | | |
|---|---|---|---|
| **Central Full Value** | 0 | **Full Value** | 20583 |
| **Land Full Value** | 20583 | **Taxable Value** | 6861 |
| **Improvements Full value** | 0 | **Exempt Value** | 0 |
| **Personal Property Full Value** | 0 | **Net Value** | 6861 |
| **Manufactured Home Full Value** | 0 | | |
| **Livestock Full Value** | 0 | | |

## Property Information

**Property Code** 30521354371 96
**Book** **Page** 0 **Reception#** 202003278
**Physical Address**
**Bldg** **Apt**

Click to Print

**Owner Information**

**Owner #** 97601 **District** LUNA
VIEJO GROUP LLC

P O BOX 36076
TUCSON AZ 85740

**Estimated Taxes for Owner**

| Estimated Tax | Estimated Year used |
|---|---|
| $199.41 | 2023 |

Calculate Estimated Tax

## Recap Value Information

| | | | |
|---|---|---|---|
| **Central Full Value** | 0 | **Full Value** | 27870 |
| **Land Full Value** | 27870 | **Taxable Value** | 9290 |
| **Improvements Full value** | 0 | **Exempt Value** | 0 |
| **Personal Property Full Value** | 0 | **Net Value** | 9290 |
| **Manufactured Home Full Value** | 0 | | |
| **Livestock Full Value** | 0 | | |

## Property Information

**Property Code** 3052135500216
**Book** **Page** 0 **Reception#** 0
**Physical Address**
**Bldg** **Apt**

Click to Print

**Owner Information**

**Owner #** 15158 **District** LUNA
TRUESDELL, LYNDA KAYE TRUSTEE &
KINGSLEY, JEFFREY G TRUSTEE

649 VIA LIDO SOUD
NEWPORT BEACH CA 92663

**Estimated Taxes for Owner**

| Estimated Tax | Estimated Year used |
|---|---|
| $86.71 | 2023 |

Calculate Estimated Tax

## Recap Value Information

| | | | |
|---|---|---|---|
| **Central Full Value** | 0 | **Full Value** | 12120 |
| **Land Full Value** | 12120 | **Taxable Value** | 4040 |
| **Improvements Full value** | 0 | **Exempt Value** | 0 |
| **Personal Property Full Value** | 0 | **Net Value** | 4040 |
| **Manufactured Home Full Value** | 0 | | |
| **Livestock Full Value** | 0 | | |

## Property Information

**Property Code** 3053135072331
**Book** 2022 **Page** 6878 **Reception#** 202206876
**Physical Address**
**Bldg** **Apt**

Click to Print

**Owner Information**

**Owner #** 10150 **District** LUNA
GEO SOUTHWEST LTD
A TEXAS LIMITED PARTNERSHIP

P O BOX 353
SILVERTON TX 79257

**Estimated Taxes for Owner**

| Estimated Tax | Estimated Year used |
|---|---|
| $21.11 | 2023 |

Calculate Estimated Tax

## Recap Value Information

| | | | |
|---|---|---|---|
| **Central Full Value** | 0 | **Full Value** | 0 |
| **Land Full Value** | 0 | **Taxable Value** | 0 |
| **Improvements Full value** | 0 | **Exempt Value** | 0 |
| **Personal Property Full Value** | 0 | **Net Value** | 0 |
| **Manufactured Home Full Value** | 0 | | |
| **Livestock Full Value** | 0 | | |

## Property Information

**Property Code** 3053135074463
**Book** **Page** 0 **Reception#** 201401169
**Physical Address**
**Bldg** **Apt**

Click to Print

**Owner Information**

**Owner #** 101476 **District** LUNA
PLEYTE, JOHN J

PO BOX 67
CHELAN WA 98816

**Estimated Taxes for Owner**

| Estimated Tax | Estimated Year used |
|---|---|
| $155.67 | 2023 |

Calculate Estimated Tax

## Recap Value Information

| | | | |
|---|---|---|---|
| **Central Full Value** | 0 | **Full Value** | 21756 |
| **Land Full Value** | 21756 | **Taxable Value** | 7252 |
| **Improvements Full value** | 0 | **Exempt Value** | 0 |
| **Personal Property Full Value** | 0 | **Net Value** | 7252 |
| **Manufactured Home Full Value** | 0 | | |
| **Livestock Full Value** | 0 | | |

## Property Information

**Property Code** 3052135212442
**Book** **Page** 0 **Reception#** 198300471
**Physical Address**
**Bldg** **Apt**

Owner # 0110065
Non-Rend% 0
GEO SOUTHWEST LTD

Dist LUNA

00000

| VALUATION | | RECAP | |
|---|---|---|---|
| 0 | Central | 0 | Full Value |
| 0 | Land | | |
| 0 | Improvements | 0 | Taxable Value |
| 0 | Personal Prop | 0 | Exemptions |
| 0 | Mfg Home | | |
| 0 | Livestock | 0 | Net Taxable |

| Property Description | Code | Value Description | Quantity | Rate | Taxable |
|---|---|---|---|---|---|

**3 053 135 074 463**
FILE 201401169 04/10/14
SECTION-17 TOWNSHIP-23S RANGE-09W
CENTRAL ASSESSMENT
LOCATIONAL PURPOSES ONLY
SEQSEQ 39.85 ACRES FILE HERE

**3 053 136 132 267**
FILE 201401169 04/10/14
SECTION-20 TOWNSHIP-23S RANGE-09W
CENTRAL ASSESSMENT
LOCATIONAL PURPOSES ONLY
EH LESS 3.57 ACS IN SE CORNER

**3 052 136 269 266**
FILE 201401169 04/10/14
SECTION-21 TOWNSHIP-23S RANGE-09W
CENTRAL ASSESSMENT
LOCATIONAL PURPOSES ONLY
ALL 611.57 ACS LESS TWO PARCELS
17.98 ACS IN SW CORNER &
13.89 ACS IN SE CORNER

**3 053 137 133 132**
FILE 201401169 04/10/14
SECTION-29 TOWNSHIP-23S RANGE-09W
CENTRAL ASSESSMENT
LOCATIONAL PURPOSES ONLY
NEQ (161.71 ACS) LESS 50 AC PARCEL
IN SE CORNER & NWQSWQ &
NWQSWQSWQ(50.40 ACS)

N/R-Values Net 0

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Silverton, TX 79257-0353

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Postage
$ 0.64

Total Postage and Fees
$ 5.04

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John J Pleyte
P.O. Box 67
Chelan, WA 98816-0067

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$ 0.64

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$ 0.64

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City, St
Viejo Group, LLC
RE: 3052135437196
P.O. Box 36076
Tucson, AZ 85740-6076

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Brenda McWright

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Luna County

City, State, ZIP+4®
700 S. Silver Ave., Box 7
Deming, NM 88030-4105

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Total Postage and Fees
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Deming, NM 88030-5839

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# NOTICE OF AIR QUALITY PERMIT APPLICATION

Public Service Company of New Mexico (PNM) announces its application submittal to the New Mexico Environment Department for a modification of air quality permit #2450-M3 for the Luna Energy Facility. The expected date of application submittal to the Air Quality Bureau is March 15, 2024.

The address for the existing facility known as, Luna Energy Facility (LEF), is at 1895 Arrowhead Drive, Deming, NM. The exact location of the facility is Latitude 32.299159 decimal degree and Longitude -107.783672 decimal degree. The approximate location of this facility is 1.8 miles southwest of Keeler Farm in Luna County.

LEF is a natural gas fired electrical energy generating station that consists of two General Electric Frame 7FA advanced gas turbines each with its own electric generator. Each unit also has a heat recovery steam generation unit (HRSG). Steam generated in the HRSG's is sent to a single steam turbine generator (STG). Each of the two combustion turbines includes the capability of supplemental firing for additional generation capacity during periods of peak electrical demand through use of a duct burner on each turbine unit. Steam sent to the STG is condensed with a surface condenser (heat exchanger) and is then cooled by a force draft multi-cell cooling tower for recycle through the system. This application is for a significant permit revision of LEF NSR Permit PSD-NM-2450-M3 to allow a modified hot gas path (HGP+) "routine replacement" upgrade recommended by PNM's vendor, Power Systems Mfg., LLC for the two existing GE Frame 7FA gas turbines. The upgrade provides flexibility and enabling users to optimize performance and maintenance schedules to their individual requirements. No other physical changes, changes in the method of operation, or allowable permit emission rate limits are requested for this permit revision application.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) (Maximum Normal Operations and Maximum Startup/Shutdown and Routine Maintenance (SSM)) and maximum tons per year (tpy) and may change slightly during the course of the Department's review:

| Pollutant: | Maximum Normal Pounds per hour | Maximum SSM Pounds per hour | Maximum Tons per year |
|---|---|---|---|
| Particulate Matter (PM) | 70.1 pph | 70.1 pph | 232 tpy |
| $PM_{10}$ | 69.4 pph | 69.4 pph | 230 tpy |
| $PM_{2.5}$ | 68.1 pph | 68.1 pph | 223 tpy |
| Sulfur Dioxide ($SO_2$) | 10.1 pph | 10.1 pph | 37.5 tpy |
| Nitrogen Oxides ($NO_x$) | 58.5 pph | 329.7 pph | 250 tpy |
| Carbon Monoxide (CO) | 172.2 pph | 1274.6 pph | 730 tpy |
| Volatile Organic Compounds (VOC) | 38.7 pph | 38.7 pph | 90.4 tpy |
| Total sum of all Hazardous Air Pollutants (HAPs) | 3.6 pph | 3.6 pph | 10.8 tpy |
| Toxic Air Pollutant (TAP) | 0 pph | 0 pph | 0 tpy |
| Green House Gas Emissions as Total $CO_2e$ | n/a | n/a | 2,214,262 tpy |

The standard operating schedule of the facility is 24 hour per day, 7 days per week, and 52 weeks per year.

The owner and/or operator of the Facility is:

**Public Service Company of New Mexico**
2401 Aztec Road, NE
MS Z100
Albuquerque, NM 87107

**Tucson Electric Power Company**
3950 East Irvington Road

Tucson, AZ 85714

**Samchully Power and Utilities 1, LLC**
123 Marcy St.
Suite 101
Santa Fe, NM 87501

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

**Atención**
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-629-3395.

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| Toxic Air Pollutant (TAP) | 0 pph | 0 pph | 0 tpy |
| Green House Gas Emissions as Total CO2e | n/a | n/a | 2,214,262 tpy |

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Albuquerque, NM 87107

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**Samchully Power and Utilities 1, LLC**
123 Marcy St.
Suite 101
Santa Fe, NM 87501

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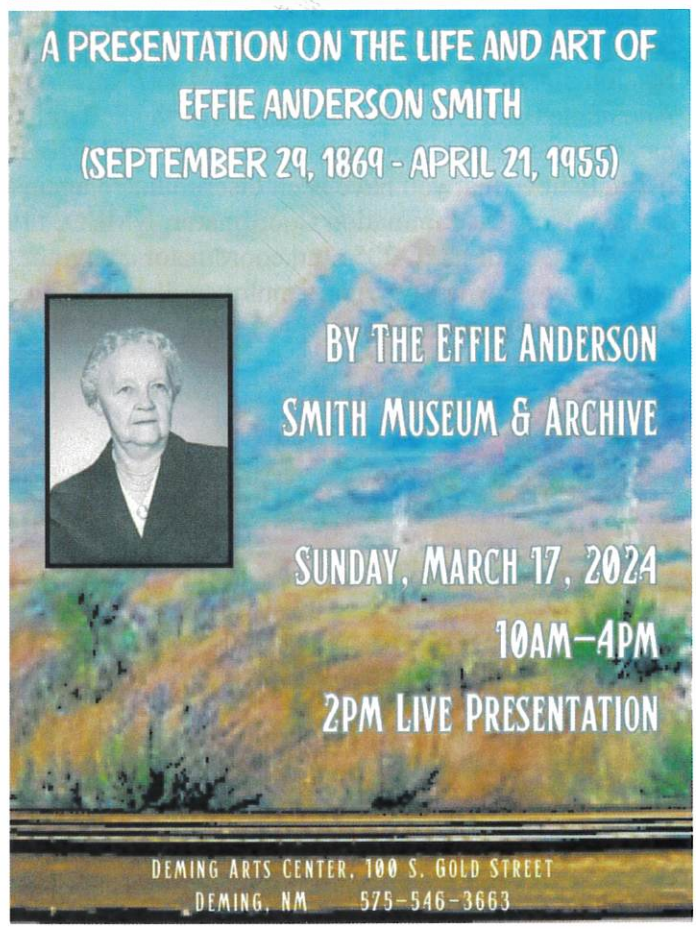

# Monument...

From Page 10

In 2021, President Joe Biden issued the executive order Tackling the Climate Crisis at Home and Abroad, in which the Secretary of the Interior, the Secretary of Agriculture and other senior officials were tasked with developing a program to conserve at least 30 percent of the lands and waters in the United States by 2030. The program was called 30x30 and recently renamed America the Beautiful. The act creates additional federal lands by placing public lands into permanent conservation status.

The United States Supreme Court is scheduled to hear a challenge to the Antiquities Act on March 22, which contends it is the most abused of the federal land statutes, particularly important in the western states where the intermingling of federal lands and local economies is extensive and intricate.

The Luna County Board of Commissioners passed Resolution No. 24-15 on Jan. 19, which opposes the establishment of the Mimbres Peaks National Monument.

"All of this is done by executive fiat," Jackson stated, "and once again, if we stay silent, we're not going to have anything.

The resolution was approved by commissioners unanimously and can be read in its entirety at lea-county.net/Calendar.aspx?EID=668.

# Legal

**NOTICE OF AIR QUALITY PERMIT APPLICATION**

Public Service Company of New Mexico (PNM) announces its application submittal to the New Mexico Environment Department for a modification of air quality permit #2450-M3 for the Luna Energy Facility. The expected date of application submittal to the Air Quality Bureau is March 15, 2024.

The address for the existing facility known as, Luna Energy Facility (LEF), is at 1895 Arrowhead Drive, Deming, NM . The exact location of the facility is Latitude 32.299159 decimal degree and Longitude -107.783672 decimal degree . The approximate location of this facility is 1.8 miles southwest of Keeler Farm in Luna County.

LEF is a natural gas fired electrical energy generating station that consists of two General Electric Frame 7FA advanced gas turbines each with its own electric generator. Each unit also has a heat recovery steam generation unit (HRSG). Steam generated in the HRSG's is sent to a single steam turbine generator (STG). Each of the two combustion turbines includes the capability of supplemental firing for additional generation capacity during periods of peak electrical demand through use of a duct burner on each turbine unit. Steam sent to the STG is condensed with a surface condenser (heat exchanger) and is then cooled by a force draft multi-cell cooling tower for recycle through the system. This application is for a significant permit revision of LEF NSR Permit PSD-NM-2450-M3 to allow a modified hot gas path (HGP+) "routine replacement" upgrade recommended by PNM's vendor, Power Systems Mfg., LLC for the two existing GE Frame 7FA gas turbines. The upgrade provides flexibility and enabling users to optimize performance and maintenance schedules to their individual requirements. No other physical changes, changes in the method of operation, or allowable permit emission rate limits are requested for this permit revision application.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) (Maximum Normal Operations and Maximum Startup/Shutdown and Routine Maintenance (SSM)) and maximum tons per year (tpy) and may change slightly during the course of the Department's review:

| Pollutant: | Maximum Normal Pounds per hour | Maximum SSM Pounds per hour | Maximum Tons per year |
|---|---|---|---|
| Particulate Matter (PM) | 70.1 pph | 70.1 pph | 232 tpy |
| PM 10 | 69.4 pph | 69.4 pph | 230 tpy |
| PM 2.5 | 68.1 pph | 68.1 pph | 223 tpy |
| Sulfur Dioxide (SO2 | 10.1 pph | 10.1 pph | 37.5 tpy |
| Nitrogen Oxides (NOx | 58.5 pph | 329.7 pph | 250 tpy |
| Carbon Monoxide (CO) | 172.2 pph | 1274.6 pph | 730 tpy |
| Volatile Organic Compounds (VOC) | 38.7 pph | 38.7 pph | 90.4 tpy |
| Total sum of all Hazardous Air Pollutants (HAPs) | 3.6 pph | 3.6 pph | 10.8 tpy |
| Toxic Air Pollutant (TAP) | 0 pph | 0 pph | 0 tpy |
| Green House Gas Emissions as Total CO2e | n/a | n/a | 2,214,262 tpy |

The standard operating schedule of the facility is 24 hour per day, 7 days per week, and 52 weeks per year.

The owner and/or operator of the Facility is:

**Public Service Company of New Mexico**
2401 Aztec Road, NE
MS Z100
Albuquerque, NM 87107

**Tucson Electric Power Company**
3950 East Irvington Road
Tucson, AZ 85714

**Samchully Power and Utilities 1, LLC**
123 Marcy St.
Suite 101
Santa Fe, NM 87501

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

**Atención**
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-629-3395.

**Notice of Non-Discrimination**
NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@env.nm.gov. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.
Mar 13

# Legal

**STATE ENGINEER OFFICE**

NOTICE is hereby given that on February 08, 2024, Solar PV Development NM 18 II LLC and Carne Energy Storage, LLC, c/o Kevin Proudfoot, 575 Fifth Avenue, 35th Floor, New York, New York 10017, filed with the STATE ENGINEER Application M-00014 into M-11960 (T) under the Water-Use Leasing Act (NMSA 1978, Sections 72-6-1 thru -7) to temporarily Change Point of Diversion and Place and Purpose of Use within the Mimbres Underground Water Basin of the State of New Mexico. Preliminary Authorization was requested with a requested start date of May 01, 2024, and a requested end date of December 31, 2025. Preliminary Authorization was not granted.

Luna is the County affected by the diversion and in which the water has been or will be put to beneficial use. This notice is ordered to be published in the Deming Headlight.

The applicants are requesting to temporarily discontinue the diversion of 56.25 acre-feet and a consumptive use of 30.0 acre-feet per annum for the irrigation of 18.75 acres currently in crop rotation farming located in Pt. Lots 15, 16, 17, 18 of Section 30, and Pt. Lots 3, 8, 13, 14, 15 of Section 31 all in Township 23 South, Range 07 West, N.M.P.M. from the following wells:

| POD # | Latitude | Longitude | PLSS |
|---|---|---|---|
| M-00014 | 32°16' 8.40"N | 107°37' 33.32"W | SW¼SE¼SW¼, Section 25, Township 23 South, Range 08 West, N.M.P.M. |
| M-00014-S | 32° 16' 9.01"N | 107° 36' 45.13"W | SW corner of Lot 17, Section 30, Township 23 South, Range 07 West, N.M.P.M. |
| M-00014-S2 | 32° 16' 47.94"N | 107° 37' 52.45"W | SW¼NW¼NW¼, Section 25, Township 23 South, Range 08 West, N.M.P.M. |
| M-00014-S3 | 32° 16' 47.23"N | 107° 37' 51.80"W | SW¼NW¼NW¼, Section 25, Township 23 South, Range 08 West, N.M.P.M. |

and temporarily commence the use of the following proposed wells:

| POD # | Latitude | Longitude | PLSS | Approx depth/casing |
|---|---|---|---|---|
| M-11960-POD1 | 32°18' 16.85"N | 107°40' 58.54"W | NE¼NE¼SE¼, Section 17, Township 23 South, Range 08 West, N.M.P.M. | 500' 8.0" |
| M-11960-POD2 | 32° 19' 7.77"N | 107° 40' 36.94"W | NW¼NE¼SW¼, Section 09, Township 23 South, Range 08 West, N.M.P.M. | 500' 8.0" |
| M-11960-POD3 | 32°18' 40.34"N | 107° 41' 19.91"W | NE¼NW¼NE¼ Section 17, Township 23 South, Range 08 West, N.M.P.M. | 500' 8.0" |
| M-11960-POD4 | 32° 18' 2.26"N | 107° 41' 51.64"W | NW¼SW¼SW¼, Section 17, Township 23 South, Range 08 West, N.M.P.M. | 500' 8.0" |

To divert and consumptively use an amount of water not to exceed 30.0 acre-feet per annum for commercial, dust control and compaction purposes in conjunction with a utility-scale solar farm and associated battery storage facility to be used on State of New Mexico, Bureau of Land Management and deeded lands located in the following:

| Subdivision | Section | Township | Range | Acres |
|---|---|---|---|---|
| Pt. N½, Pt. SE¼; Pt. SW¼SW¼ | 17 | 23S | 08W | 400.207 |
| Pt. SW¼, Pt. E½ | 9 | 23S | 08W | 233.353 |
| Pt. NW¼, Pt. W½NE¼; S½ except land south of right of way; Pt. E½N¼ | 20 | 23S | 08W | 502.244 |
| Pt. S½ less land south of right of way, Pt. S½NE¼ | 21 | 23S | 08W | 206.822 |
| Pt. NE¼NE¼ less 2 acres; Pt.NW¼NE¼; Pt. N½N½NW¼ | 21 | 23S | 08W | 108 |
| Pt. S½N½NW¼; Pt. N½S½NW¼ | 21 | 23S | 08W | 80 |
| Pt. SW¼ | 03 | 23S | 08W | 160 |
| Pt. W½ | 10 | 23S | 08W | 160 |
| Pt. NW¼; Pt. SW¼ | 16 | 23S | 08W | 320 |
| Pt. SE¼ | 08 | 23S | 08W | 23.353 |

The property described in the application is located approximately 5 miles northeast of Deming, New Mexico in Luna County.

To view the application and supporting documentation contact the State Engineer District Office to arrange a date and time for an appointment located at District 3 Office, 321 W. Spruce St., Deming, NM 88030.

Any person, firm or corporation or other entity asserting standing to file objections or protests shall do so in writing (objection must be legible, signed, and include the writer's complete name, phone number, email address, and mailing address). If the protest does not include the complete name, phone number, email address, and mailing address, it may be deemed invalid and not accepted for filing unless Protestant provides with the protest an affidavit stating that it does not have one of the above-listed elements/requirements (phone number, mailing address, email address, etc.). The objection to the approval of the application must be based on: (1) Impairment; if impairment, you must specifically identify your water rights; and/or (2) Public Welfare/Conservation of Water; if public welfare or conservation of water within the state of New Mexico, you shall be required to provide evidence showing how you will be substantially and specifically affected. The written protest must be filed, in triplicate, with the State Engineer, 321 W. Spruce St., Deming, NM 88030, phone number 575-546-2851, on or before May 10, 2024. Facsimiles (faxes) will be accepted as a valid protest if the hard copy is hand- delivered or mailed and postmarked within 24-hours of the facsimile. Mailing postmark will be used to validate the 24-hour period. Protests can be faxed to the Office of the State Engineer, 575-546-2290. A copy of the written protest filed with the State Engineer must also be sent to the applicant by certified mail. If no valid protest or objection is filed, the State Engineer will evaluate the application in accordance with the provisions of Chapter 72 NMSA 1978.
Mar 6, 13, 20

March 7, 2024

KOTS Radio
1700 S. Gold Ave.
Deming, NM 88030

CERTIFIED MAIL

Dear KOTS Radio:

SUBJECT: PSA Request - Proposed Air Quality Construction Permit Revision Application for Luna Energy Center at 1895 Arrowhead Drive, Deming, NM

Attached is a copy of a public service announcement regarding a proposed air quality construction permit revision application for Public Service Company of New Mexico's (PNM) Luna Energy Facility. This announcement is being submitted by Montrose Environmental Solutions, Inc., Albuquerque, NM on behalf of PNM.

The announcement request is being made to fulfill the requirements of the New Mexico Environmental Department air quality permitting regulations. Please consider reading the attached announcement as a public service message.

If you have any questions or need additional information, please contact me at (505) 830-9680 ext 6 (voice), (505) 830-9678 (fax) or email at pwade@montrose-env.com. You may also contact Mr. Greg Little, PNM at (505) 241-2016.

Thank you.

Sincerely,

Paul Wade

Paul Wade
Principal/Senior Associate Engineer

Montrose Environmental Solutions, Inc.
3500 Comanche Road NE Suite G
Albuquerque, NM 87107-4546

T: 505.830.9680 ext. 6
F: 505.830.9678
Pwade@montrose-env.com
www.montrose-env.com

# PUBLIC SERVICE ANNOUNCEMENT

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Luna Energy Facility (LEF) is a natural gas fired electrical energy generating station that consists of two General Electric Frame 7FA advanced gas turbines each with its own electric generator.

This application is for a significant permit revision of LEF NSR Permit PSD-NM-2450-M3 to allow a modified hot gas path (HGP+) "routine replacement" upgrade recommended by PNM's vendor, Power Systems Mfg., LLC for the two existing GE Frame 7FA gas turbines. The upgrade provides flexibility and enabling users to optimize performance and maintenance schedules to their individual requirements. No other physical changes, changes in the method of operation, or allowable permit emission rate limits are requested for this permit revision application.

Public notices have been posted in the following locations for review by the public:

1. *At 5R Truck Stop, 1695 US-180, Deming, NM;*
2. At Deming Visitors Center, 800 E. Pine St., Deming, NM;
3. At Deming Special Events Center/Mimbres Learning Center, 2300 E. Pine St., Deming, NM;
4. At Deming City Hall, 309 S Gold Ave, Deming, NM; and
5. At the main entrance to Luna Energy Center at 1895 Arrowhead Drive, Deming, NM

The owner and/or operator of the Facility is:

Public Service Company of New Mexico
2401 Aztec Road, NE
MS Z100
Albuquerque, NM 87107

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address:

Permit Programs Manager
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico; 87505-1816
Telephone Number (505) 476-4300 or 1 800 224-7009

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Luna County

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Deming, NM 88030-4105

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

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Street and
1700 S. Gold Ave.

City, State,
Deming, NM 88030-5839

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

# Section 10

## Written Description of the Routine Operations of the Facility

**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.

Electric power is produced at the Luna Energy Facility (LEF) by three generators. There are two combustion turbines, and each combustion turbine drives a generator. The exhaust heat from each combustion turbine generator (CTG) in then delivered to two heat recovery steam generators (HRSGs). The HRSGs produce steam that is used to drive the third generator, which is part of the steam turbine generator (STG). Supplemental firing, using duct burners, is used to add more heat to each HRSG during periods of peak electricity demand.

A surface condenser (heat exchanger) is used to condense the steam exhaust from the STG. Condensing the steam produces a slight vacuum which increases the pressure differential that drives the steam turbine and therefore increases the overall efficiency of the power plant. A nine-cell cooling tower is used to cool the water after it passes through the surface condenser so that the water can be cycled back to the cooler.

All other facility operations support these primary power generation functions.

The plant operates in a base load condition for up to 8,760 hours per year, with up to 732 of those hours per year in warm startup mode for combined turbines, limit maintenance cold startup duration to no greater than nine (9) startup SSM hours per turbine per startup with the number of maintenance cold startups to no more than four (4) per year for both turbines combined, and limit cold startup duration to no greater than eight (8) startup SSM hours per turbine with the number of cold startups of no more than 40 per year for both turbines combined.

### Combustion Turbine Generators

The LEF consists of two advanced firing, General Electric F-class gas turbines. These combustion turbines are fired exclusively with clean burning natural gas. The combustion turbines are very similar to large jet engines in function and design.

Each combustion turbine (CTG-1 and CTG-2) consists of a compressor, a combustor and an expansion turbine. After filtration, air passes through the compressor before combining with the fuel and entering the dry low of NOx (DLN) combustor. The combustion products then pass through the expansion turbine which drives both the compressor and the generator. Approximately 158 MW of gross electric power after this permit revision project is produced by each CTG over and above the work required for the compressor.

The exhaust air from each combustion turbine enters the HRSG at high temperature (1,100 to 1,120 deg F). The STG does not create air pollutants, although the duct burners add more heat to the system and also add air emissions.

As mentioned above, the LEF will be configured to produce additional power by adding more heat to each HRSG during periods of peak electrical demand. This is accomplished by firing additional clean burning natural gas in a duct burner from each HRSG. No additional air or oxygen is added to the CTG exhaust. The combustion of gas in the duct burners consumes only excess oxygen present in the exhaust flow.

Each duct burner is capable of combustion up to 517 million British thermal units per hour LHV basis. Both duct burners combined add up to 128 MW of additional output from the STG, thus increasing maximum STG output from 150 MW to 278 MW.

During peak demand on the electrical market, the plant will add supplemental firing to each HRSG. The requested limit for supplemental firing is 4,000 hours per HRSG per year.

The exhaust gas then passes through a Selective Catalytic Reduction (SCR-1 and SCR-2), for each combustion turbine and duct burner combination, to control nitrogen oxide ($NO_X$) emissions.

Each turbine/HRSG at the LEF (CTG-1/DB-1 and CTG-2/DB-2) is permitted to operate up to 8,760 hours per year including periods of normal operation and startup/shutdown periods. Actual annual hours of operation (based on a rolling 12-month period) may be limited below 8,760 hours per year by the annual tons per year emission limits specified in Condition A106 of the facility NSR permit PSD-NM-2450-M3. This limitation is specified in Condition A108 of NSR permit PSD-NM-2450-M3.

## Auxiliary Boiler

The Auxiliary Boiler (AUX-1) will be used for the following at LEF:

- Start-up steam to set seals on STG.
- Provide heat to HRSG's and STG to shorten start-up cycle.
- Provide steam to maintain vacuum on STG.
- Maintaining HRSG's drum pressure during short unit outages.
- Provides freeze protection to HRSG's and other equipment when not in use in severe cold weather.
- Provides steam for make-up water reverse osmosis system (steam increases the efficiency of system.

It is assumed that the Auxiliary Boiler will operate every hour that the CTGs are not online and will overlap with start-up. Assuming that the CTGs only operate during the peak hours (5 days per week, 16 hours per day), the CTGs will be online 4,160 hours per year, which leaves the Auxiliary Boiler to operate 4,600 hours per year. Assuming 2 hours of overlap for each start-up in which both the CTG's and Auxiliary Boiler are operating, the Auxiliary Boiler can operate an additional 520 hours per year. Totaling the offline hours and start-up overlap, the Auxiliary Boiler annual operation is 5,120 hour.

However, the actual operating hours are limited by Condition A602.A of NSR permit PSD-NM-2450-M3 by the requirement that the auxiliary boiler shall consume no more than 177 MM (million million) scf/yr of natural gas calculated once per month and based on a 12 month rolling total. In addition, condition A602.B of the NSR permit PSD-NM-2450-M3 requires that the auxiliary boiler shall not be operated when the duct burners (DB-1 and/or DB-2) are being fired. The auxiliary boiler (AUX-1) is a dry low NOx design with inherently low emissions.

## Cooling Towers

The primary purpose of the main cooling tower (CT-1) is to cool water that is pumped through the surface condenser, which increases power plant efficiency. The primary purpose of the chiller cooling tower (CT-2) is to cool water used in the refrigeration cycle for the gas turbine inlet chillers which is used to increase gas turbine generation on hot days by reducing the inlet air temperature. The cooling tower water treatment for LEF will include:

- Control of pH – acid addition to balance the carbon dioxide ($CO_2$), which is introduced through ambient air and dissolves into the water.
- Scale inhibitors and dispersants – allows increased recycle of cooling water without adverse scaling of salts or colloidal silica.
- Sodium hypochlorite will be used as a biocide to prevent biological growth in the cooling water.

A cooling towers operates by allowing water to flow over a series of distributors and spreading the water over a large surface area. Air is then pulled through the bottom of the tower and up through the distributors. The large surface area provides for efficient contact of the air and water. A portion of the warm water evaporates into the air and cools the portion of the water

that remains. The cooled water is then pumped back to the power plant where it can be used to remove heat form the surface condenser.

The main cooling tower will operate at all times that either or both turbines are operating in a normal mode. The chiller cooling tower will operate at all times that the chiller is operating in a normal mode. The cooling towers are equipped with high efficiency drift eliminators that are passive devices not subject to creating excess emissions during startup, shutdown or emergencies.

Per NSR Permit Condition A605, the total dissolved solids (TDS) in the main cooling tower (CT-1) circulating water shall not exceed 4,500 parts per million. The water circulation rate is 175,000 gallons per minute, and the drift rate with High Efficiency Drift Eliminator (CT-1) is limited to 0.0006%.

The total dissolved solids (TDS) in the chiller cooling tower (CT-2) circulating water shall not exceed 4,500 parts per million. The water circulation rate is 23,348 gallons per minute, and the drift rate with High Efficiency Drift Eliminator (CT-2) is limited to 0.001%.

## Water Treatment Plant

Sulfuric Acid is used in the Cooling Towers (CT-1 and CT-2) to control pH. The sulfuric acid is stored in insignificant source storage tanks (1IC-TK-0100 and 1CI-TK-045O). The Cooling Tower water is then blown down to the Cooling Tower Blow Down Tank (Clarifier) to reduce Total dissolved solids (TDS) water. Lime and soda ash are injected into the CTBT Clarifier to raise the pH from 7 to 11 and soften the water, respectively. The soda ash and lime are stored in CTBT storage silos (S2 and S3). Both are used along with Ferric Chloride and Polymer to help drop out solids (mainly Hardness, sulfates, and silica). Lime is injected into the GW Grey Water Clarifier to soften the water. The lime is stored in the GW silo (S1).

From there the water is sent through an Acid Mixing Tank where Hydrochloric Acid (HCL) (1MW-TK-0120) is injected to reduce the waters pH back down to 6.8. From there the water goes through gravity filters and Weak Acid Cation vessels to remove suspended solids and hardness down to 0 ppm. The resin in these vessels are regenerated by HCL when they become exhausted. The water is pushed through cartridge filters, then the Reverse Osmosis (RO) train. Some of this cleaner water is pushed back to the Cooling Tower for dilution and the rest goes through the Demineralization Train. The Demineralization train consists of Strong Acid Cation (SAC), Strong Based Anion (SBA) and Mixed Bed (MB) vessels. The SAC's are regenerated by Hydrochloric Acid, SBA by Sodium Hydroxide and MB by both.

Reject and regeneration waste water from the RO's, WAC's, SAC's, SBA's and MB are routed to the Neutralization tank where HCL or Sodium Hydroxide is used to either reduce or elevate the waters pH to be sent to evaporation ponds to maintain a pH between 3 and 12.

## Startup/Shutdown/Maintenance (SSM)

Startup and shutdowns are an expected part of LEF operations. NSR permit annual emission limits include startup emissions for the estimated annual startup periods (limited to a combined 1088 hours per year of warm, cold, and cold maintenance). LEF must include startup emissions, per NSR permit PSD-NM-2450-M3 Condition A107 and Condition A606, in the annual total emissions to show compliance with the NSR permit annual emission limits. This requirement serves to limit excess emissions during startup conditions.

## Emergency Generator and Fire Pump Engine

The facility contains a backup generator (G-1) and fire pump engine (Fire Pump) that shall be operated only during the unavoidable loss of commercial utility power, for maintenance activity, or firefighting activities. These engines are limited to operating less than 500 hours per year based on a 12-month rolling average.

## Fuel Specification

Clean pipeline quality natural gas with low sulfur content will be used as fuel for the combustion turbines, duct burners and the auxiliary boiler. Per NSR Permit Condition A110, the combustion turbines, duct burners and auxiliary boiler shall combust natural gas that contains 0.75 grains or less of total sulfur per 100 standard cubic feet of natural gas.

In general, Condition B101 of the NSR permit requires all equipment that produces, controls or monitors air pollution, including the cooling towers, shall be installed, operated and maintained in a manner consistent with the manufacturer's intended purpose, specifications and recommended procedures.

The LEF must report periods of excess emissions in accordance with 20.2.7NMAC. 20.2.7NMAC requires that for excess emissions due to malfunction or shutdown, the excess emissions report include the nature and cause of the condition and the efforts taken to minimize emissions and to repair or otherwise bring the facility into compliance with emission limits.

# 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): LEF facility including two combustion turbines and supporting equipment. No other emission sources are located at the site.

**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.

**X Yes** ☐ **No**

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

**X Yes** ☐ **No**

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

**X Yes** ☐ **No**

**C. Make a determination:**

X 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)

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**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.**
- X **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 one of the listed 20.2.74.501 Table I – PSD Source Categories. This application is for a Title V renewal and not a PSD Modification**

a. **NOx: 250.2 TPY**
b. **CO: 730 TPY**
c. **VOC: 90.4 TPY**
d. **SOx: 37.5 TPY**
e. **PM: 232 TPY**
f. **PM10: 230 TPY**
g. **PM2.5: 223 TPY**
h. **Fluorides: 0 TPY**
i. **Lead: 0 TPY**
j. **Sulfur compounds (listed in Table 2): 0 TPY**
k. **GHG: 2,214,262 TPY**

C. *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.*

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# 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 RELEVENT 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:**

| State Regulation Citation | Title | Applies? Enter Yes or No | Unit(s) or Facility | Justification: (You may delete instructions or statements that do not apply in the justification column to shorten the document.) |
|---|---|---|---|---|
| 20.2.1 NMAC | General Provisions | Yes | Facility | General Provisions apply to Notice of Intent, Construction, and Title V permit applications. |
| 20.2.3 NMAC | Ambient Air Quality Standards NMAAQS | Yes | Facility | Facility is applicable to all ambient air NMAAQS. |
| 20.2.7 NMAC | Excess Emissions | Yes | Facility | All major sources are subject to Air Quality Control Regulations, as defined in 20.2.7 NMAC, and are thus subject to the requirements of this regulation. |
| 20.2.61.109 NMAC | Smoke & Visible Emissions | Yes | CTG-1, CTG-2, DB-1, DB-2, AUX-1, G-1, Fire Pump | This regulation that limits opacity to 20% applies to Stationary Combustion Equipment. |
| 20.2.70 NMAC | Operating Permits | Yes | Facility | This facility is subject to 20.2.70 NMAC and operates under Title V Permit number: P209-R2 issued December 19, 2019 |
| 20.2.71 NMAC | Operating Permit Fees | Yes | Facility | Yes, this facility is subject to 20.2.70 NMAC and is in turn subject to 20.2.71 NMAC. |
| 20.2.72 NMAC | Construction Permits | Yes | Facility | This facility is subject to 20.2.72 NMAC and NSR Permit number: PSD-NM-2450-M3. |
| 20.2.73 NMAC | NOI & Emissions Inventory Requirements | Yes | Facility | **Emissions Inventory Reporting:** 20.2.73.300 NMAC applies. All Title V major sources meet the applicability requirements of 20.2.73.300 NMAC. |
| 20.2.74 NMAC | Permits – Prevention of Significant Deterioration (PSD) | Yes | Facility | This facility is a major NSR source (steam electric generating units) with emissions of NOx, CO and PM > 100 tpy |
| 20.2.75 NMAC | Construction Permit Fees | Yes | Facility | This is a 20.2.72 NMAC application it is subject to 20.2.75.10, 11 permit fee, and 11.E annual fees. |
| 20.2.77 NMAC | New Source Performance | Yes | CTG-1, CTG-2, DB-1, DB-2, AUX-1 | This is a stationary source which is subject to the requirements of 40 CFR Part 60. |
| 20.2.78 NMAC | Emission Standards for HAPS | No | Units Subject to 40 CFR 61 | This facility emits hazardous air pollutants but is not applicable to 40 CFR 61. |
| 20.2.82 NMAC | MACT Standards for source categories of HAPS | Yes | Units Subject to 40 CFR 63 | This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63. |
| 20.2.84 NMAC | Acid Rain Permit | Yes | CTG-1, CTG-2, DB-1, DB-2 | LEF is an Acid Rain source per 40CFR72, Subpart A and operates under P209A-R3 issued December 19, 2019 |

## Table for Applicable Federal Regulations:

| Federal Regulation Citation | Title | Applies? Enter Yes or No | Unit(s) or Facility | Justification: |
|---|---|---|---|---|
| 40 CFR 50 | NAAQS | Yes | Facility | Facility is applicable to all NAAQS. |
| NSPS 40 CFR 60, Subpart A | General Provisions | Yes | CTG-1, CTG-2, DB-1, DB-2, AUX-1 | Sources are applicable to 40 CFR 60 Subparts. |
| NSPS 40 CFR60.40a, Subpart Da | Subpart Da, Performance Standards for Electric Utility Steam Generating Units | Yes | DB-1, DB-2, | Establishes PM, $SO_2$ and NOx emission limits/standards of performance for the duct burners. |
| NSPS 40 CFR60.40c, Subpart Dc | Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units | Yes | AUX-1 | Establishes $SO_2$ and NOx emission limits/standards of performance for the auxiliary boiler. |
| NSPS 40 CFR 60.330 Subpart GG | Standards of Performance for Stationary Gas Turbines | Yes | CTG-1, CTG-2 | Establishes $SO_2$ and NOx emission limits/standards of performance for the duct burners. |
| MACT 40 CFR 63, Subpart A | General Provisions | Yes | G-1, Fire pump | G-1 and the fire pump are applicable to 40 CFR 63 Subpart ZZZZ. |
| MACT 40 CFR 63 Subpart ZZZZ | National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT) | Yes | G-1, Fire pump | G-1 and the fire pump are applicable to 40 CFR 63 Subpart ZZZZ. |
| Title IV – Acid Rain 40 CFR 72 | Acid Rain | Yes | CTG-1, CTG-2, DB-1, DB-2 | LEF is an Acid Rain source per 40CFR72, Subpart A and operates under P209A-R3 issued December 19, 2019 |
| Title IV-Acid Rain 40 CFR 75 | Continuous Emissions Monitoring | Yes | CTG-1, CTG-2, DB-1, DB-2 | CTG-1 and CGT-2 must have a CEMS for NOx and $O_2$. |

# Section 14

## Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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☒ **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.

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# 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/. 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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There are no alternative operating scenarios for LEF.

# 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) 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. **Note:** Neither modeling nor a modeling waiver is required for VOC emissions. | X |
| 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. | |
| 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.

# Universal Application 4

## Air Dispersion Modeling Report

Refer to and complete Section 16 of the Universal Application form (UA3) to assist your determination as to whether modeling is required. If, after filling out Section 16, you are still unsure if modeling is required, e-mail the completed Section 16 to the AQB Modeling Manager for assistance in making this determination. If modeling is required, a modeling protocol would be submitted and approved prior to an application submittal. The protocol should be emailed to the modeling manager. A protocol is recommended but optional for minor sources and is required for new PSD sources or PSD major modifications. Fill out and submit this portion of the Universal Application form (UA4), the "Air Dispersion Modeling Report", only if air dispersion modeling is required for this application submittal. This serves as your modeling report submittal and should contain all the information needed to describe the modeling. No other modeling report or modeling protocol should be submitted with this permit application.

### 16-A: Identification

| | | |
|---|---|---|
| 1 | Name of facility: | Luna Energy Center |
| 2 | Name of company: | Public Service Company of New Mexico |
| 3 | Current Permit number: | PSD2450-M3; Title V P209-R2 |
| 4 | Name of applicant's modeler: | Paul Wade, Montrose Environmental Solutions, Inc. |
| 5 | Phone number of modeler: | (505) 830-9680 x6 |
| 6 | E-mail of modeler: | pwade@montrose-env.com |

### 16-B: Brief

| | | | |
|---|---|---|---|
| 1 | Was a modeling protocol submitted and approved? | Yes☐ | No☒ |
| 2 | Why is the modeling being done? | Other (describe below) | |
| 3 | Describe the permit changes relevant to the modeling. | | |
| | Modeled NO2 and SO2 1 hour NAAQS per request by NMED Modeling Section, since the normal 1 hour modeling has not been previously done.<br><br>Luna Energy Facility has been in commercial operation since 2006 and has been utilized as an efficient and reliable source of electrical generation for its 3 owners. This permit revision will allow routine replacement by Power Systems Mfg., LLC (PSM) Combustion Technology Solution to upgrade GT1 & GT2 7FA GE Gas Turbines at the Luna Energy Facility. The expected simple cycle GTOP3.1 performance benefits at ISO day conditions (TAMBIENT = 59 °F, PAMBIENT = at site elevation, Relative Humidity = 60%), | | |

| Generic 7F Plant | Performance Mode (24K) | | Maintenance Mode (32K) | |
|---|---|---|---|---|
| | SC Output | SC HR | SC Output | SC HR |
| GTX | +9.0MW (guarantee +8.0MW) | -1.0% (guarantee -.75%) | +6.0MW | -0% |

At ISO conditions, the changes in gas turbine will result in a small increase in heat input, an increase in flow rate, and an increase on exhaust temperature listed below. However, because the project will not alter the maximum operating level of the units, and because heat input increases to the turbine will decrease the need for heat input in the duct burners, the changes to the gas turbine will not affect overall maximum emission rates or require a change to any permitted emission limitations. In fact, any increase in exhaust flow rate and exhaust temperature will increase plume depletion and decrease ambient concentrations downstream from the facility. The expected changes at ISO conditions are provided below:

| Generic 7F Plant | Exhaust Conditions Expected During Performance Mode Operation | | |
|---|---|---|---|
| | ΔTemperature (°F) | Δ Flow (lbs/s) | Δ Energy (MBTU/H) |
| GTX | 18 | 28 | 72 |

Changes is exhaust temperature and exhaust flow have been included in the revised modeling. Exhaust temperature increased from 237 °F to 255 °F and exit velocity from 70.6 ft/sec to 72.9 ft/sec.

| | | | |
|---|---|---|---|
| 4 | What geodetic datum was used in the modeling? | NAD83 | |
| 5 | How long will the facility be at this location? | Permanent | |
| 6 | Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)? | Yes☒ | No☐ |
| 7 | Identify the Air Quality Control Region (AQCR) in which the facility is located | 012 | |
| 8 | List the PSD baseline dates for this region (minor or major, as appropriate). | | |
| | NO2 | 8/10/1995 | |
| | SO2 | 8/10/1995 | |
| | PM10 | 8/10/1995 | |
| | PM2.5 | NA | |
| 9 | Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits). | | |
| | Gila Wilderness – 84.4 km; Chiricahua Wilderness – 145.7 km; Chiricahua National Monument – 146.5 km | | |
| 10 | Is the facility located in a non-attainment area? If so describe below | Yes☐ | No☒ |
| | | | |
| 11 | Describe any special modeling requirements, such as streamline permit requirements. | | |
| | NA | | |

## 16-C: Modeling History of Facility

Describe the modeling history of the facility, including the air permit numbers, the pollutants modeled, the National Ambient Air Quality Standards (NAAQS), New Mexico AAQS (NMAAQS), and PSD increments modeled. (Do not include modeling waivers).

| | Pollutant | Latest permit and modification number that modeled the pollutant facility-wide. | Date of Permit | Comments |
|---|---|---|---|---|
| 1 | CO | PSD-2450-M1 | 6/11/2002 | NSR Significant Revision |
| | $NO_2$ | PSD-2450-M2R1 | 6/12/2013 | NSR Significant Revision - SSM Emissions |
| | $SO_2$ | PSD-2450-M1 | 6/11/2002 | NSR Significant Revision |
| | $H_2S$ | None | | |
| | PM2.5 | PSD-2450-M3 | 1/03/2024 | NSR Significant Revision |
| | PM10 | PSD-2450-M1 | 6/11/2002 | NSR Significant Revision |
| | Lead | None | | |
| | Ozone (PSD only) | None | | |
| | NM Toxic Air Pollutants (20.2.72.402 NMAC) | None | | |

## 16-D: Modeling performed for this application

For each pollutant, indicate the modeling performed and submitted with this application.
Choose the most complicated modeling applicable for that pollutant, i.e., culpability analysis assumes ROI and cumulative analysis were also performed.

| | Pollutant | ROI | Cumulative analysis | Culpability analysis | Waiver approved | Pollutant not emitted or not changed. |
|---|---|---|---|---|---|---|
| 1 | CO | ☐ | ☐ | ☐ | ☐ | ☒ |
| | $NO_2$ | ☒ | ☒ | ☐ | ☐ | ☒ |
| | $SO_2$ | ☒ | ☐ | ☐ | ☐ | ☒ |
| | $H_2S$ | ☐ | ☐ | ☐ | ☐ | ☒ |
| | PM2.5 | ☐ | ☐ | ☐ | ☐ | ☒ |
| | PM10 | ☐ | ☐ | ☐ | ☐ | ☒ |
| | Lead | ☐ | ☐ | ☐ | ☐ | ☒ |
| | Ozone | ☐ | ☐ | ☐ | ☐ | ☒ |
| | State air toxic(s) (20.2.72.402 NMAC) | ☐ | ☐ | ☐ | ☐ | ☒ |

## 16-E: New Mexico toxic air pollutants modeling

| | |
|---|---|
| 1 | List any New Mexico toxic air pollutants (NMTAPs) from Tables A and B in 20.2.72.502 NMAC that are modeled for this application. |
| 2 | List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required. |

| | Pollutant | Emission Rate (pounds/hour) | Emission Rate Screening Level (pounds/hour) | Stack Height (meters) | Correction Factor | Emission Rate/ Correction Factor |
|---|---|---|---|---|---|---|
| | NA | | | | | |
| | | | | | | |

## 16-F: Modeling options

| | | | |
|---|---|---|---|
| 1 | Was the latest version of AERMOD used with regulatory default options? If not explain below. | Yes☒ | No☐ |
| | | | |

## 16-G: Surrounding source modeling

| | | |
|---|---|---|
| 1 | Date of surrounding source retrieval | 3/20/2024 |
| 2 | If the surrounding source inventory provided by the Air Quality Bureau was believed to be inaccurate, describe how the sources modeled differ from the inventory provided. If changes to the surrounding source inventory were made, use the table below to describe them. Add rows as needed. | |
| | AQB Source ID | Description of Corrections |
| | | |
| | | |

## 16-H: Building and structure downwash

| | | | | |
|---|---|---|---|---|
| 1 | How many buildings are present at the facility? | 9 Building | | |
| 2 | How many above ground storage tanks are present at the facility? | 8 Tanks | | |
| 3 | Was building downwash modeled for all buildings and tanks? If not explain why below. | | Yes☒ | No☐ |
| | | | | |
| 4 | Building comments | | | |

## 16-I: Receptors and modeled property boundary

| | |
|---|---|
| 1 | "Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility.<br><br>Describe the fence or other physical barrier at the facility that defines the restricted area. |
| | Model boundary consist of fencing with guard shack at the entrance. |

| | | | |
|---|---|---|---|
| 2 | Receptors must be placed along publicly accessible roads in the restricted area.<br>Are there public roads passing through the restricted area? | Yes☐ | No☒ |
| 3 | Are restricted area boundary coordinates included in the modeling files? | Yes☒ | No☐ |

4 Describe the receptor grids and their spacing. The table below may be used, adding rows as needed.

| Grid Type | Shape | Spacing | Start distance from restricted area or center of facility | End distance from restricted area or center of facility | Comments |
|---|---|---|---|---|---|
| Very Fine | Rectangular | 50 | 0 | 500 | |
| Fine | Rectangular | 100 | 500 | 2000 | |
| Course | Rectangular | 250 | 2000 | 5000 | |

5 Describe receptor spacing along the fence line.

25 Meters

6 Describe the PSD Class I area receptors.

No PSD Class I modeling performed

## 16-J: Modeling Scenarios

1 Identify, define, and describe all modeling scenarios. Examples of modeling scenarios include using different production rates, times of day, times of year, simultaneous or alternate operation of old and new equipment during transition periods, etc. Alternative operating scenarios should correspond to all parts of the Universal Application and should be fully described in Section 15 of the Universal Application (UA3).

Two modeling scenarios:

1. Only combustion turbines and auxiliary boiler (Group STACK)
2. Combustion turbine, duct burner, and auxiliary boiler was modeled (Group STACK_DB)

Group ID STACK include scenario 1 and all neighboring sources and Group ID STACK_DB includes scenario 2 and all neighboring sources.

2 Which scenario produces the highest concentrations? Why?

Both results were the same since the highest concentrations were the result of neighboring source. For both scenarios, Luna Energy Facility was below the SILs at all receptors

| | | | |
|---|---|---|---|
| 3 | Were emission factor sets used to limit emission rates or hours of operation?<br>(This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.) | Yes☐ | No☐ |

4 If so, describe factors for each group of sources. List the sources in each group before the factor table for that group. (Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.)
Sources:

5

| Hour of Day | Factor | Hour of Day | Factor | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 13 | | | | | | | | | |
| 2 | | 14 | | | | | | | | | |
| 3 | | 15 | | | | | | | | | |
| 4 | | 16 | | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5 | | 17 | | | | | | | | | |
| | 6 | | 18 | | | | | | | | | |
| | 7 | | 19 | | | | | | | | | |
| | 8 | | 20 | | | | | | | | | |
| | 9 | | 21 | | | | | | | | | |
| | 10 | | 22 | | | | | | | | | |
| | 11 | | 23 | | | | | | | | | |
| | 12 | | 24 | | | | | | | | | |
| | If hourly, variable emission rates were used that were not described above, describe them below. | | | | | | | | | | | |
| | | | | | | | | | | | | |

| | | | |
|---|---|---|---|
| 6 | Were different emission rates used for short-term and annual modeling? If so describe below. | Yes☐ | No☒ |
| | | | |

## 16-K: $NO_2$ Modeling

| | | |
|---|---|---|
| 1 | Which types of $NO_2$ modeling were used? Check all that apply. | |
| | ☒ | ARM2 |
| | ☐ | 100% $NO_x$ to $NO_2$ conversion |
| | ☐ | PVMRM |
| | ☐ | OLM |
| | ☐ | Other: |

| | | | |
|---|---|---|---|
| 2 | Describe the $NO_2$ modeling. | | |
| | NO2 modeling completed was for the 1 hour NAAQS. No contribution from Luna Energy Facility was above the SILs out to the highest 30th high. Modeling was then performed with Deming 1-hour background and Luna Energy Facility only. | | |
| 3 | Were default $NO_2/NO_x$ ratios (0.5 minimum, 0.9 maximum or equilibrium) used? If not describe and justify the ratios used below. | Yes☒ | No☐ |
| | | | |
| 4 | Describe the design value used for each averaging period modeled. | | |
| | 1-hour: 98th percentile as calculated by AERMOD<br>Annual Choose an item.: | | |

## 16-L: Ozone Analysis

| | |
|---|---|
| 1 | NMED has performed a generic analysis that demonstrates sources that are minor with respect to PSD do not cause or contribute to any violations of ozone NAAQS. The analysis follows.<br>The basis of the ozone SIL is documented in *Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program*, EPA, April 17, 2018 and associated documents. NMED accepts this SIL basis and incorporates it into this permit record by reference. Complete documentation of the ozone concentration analysis using MERPS is included in the New Mexico Air Quality Bureau Air Dispersion Modeling Guidelines. |

| | |
|---|---|
| 2 | The MERP values presented in Table 10 and Table 11 of the NM AQB Modeling Guidelines that produce the highest concentrations indicate that facilities emitting no more than 250 tons/year of $NO_X$ and no more than 250 tons/year of VOCs will cause less formation of $O_3$ than the $O_3$ significance level.<br>$$[O_3]_{8\text{-}hour} = \left( \frac{250 \frac{ton}{yr}}{340_{MERP_{NOX}}} + \frac{250 \frac{ton}{yr}}{4679_{MERP_{VOC}}} \right) \times 1.96\ \mu g/m^3$$<br>$=1.546\ \mu g/m^3$, which is below the significance level of $1.96\ \mu g/m^3$.<br>Sources that produce ozone concentrations below the ozone SIL do not cause or contribute to air contaminant levels exceeding the ozone NAAQS. |

| | | | |
|---|---|---|---|
| 3 | Does the facility emit at least 250 tons per year of $NO_X$ or at least 250 tons per year of VOCs? Sources that emit at least 250 tons per year of $NO_X$ or at least 250 tons per year of VOCs are covered by the analysis above and require an individual analysis. | Yes☒ | No☐ |

5 For new PSD Major Sources or PSD major modifications, if MERPs were used to account for ozone fill out the information below. If another method was used describe below.

| $NO_X$ (ton/yr) | $MERP_{NOX}$ | VOCs (ton/yr) | $MERP_{VOC}$ | $[O_3]_{8\text{-hour}}$ |
|---|---|---|---|---|
| 250.2 | 414 | 90.4 | 7331 | 1.21 |

## 16-M: Particulate Matter Modeling

1 Select the pollutants for which plume depletion modeling was used.

| | |
|---|---|
| ☐ | PM2.5 |
| ☐ | PM10 |
| ☒ | None |

2 Describe the particle size distributions used. Include the source of information.

No PM Modeling was performed

| | | | |
|---|---|---|---|
| 3 | Does the facility emit at least 40 tons per year of $NO_X$ or at least 40 tons per year of $SO_2$? Sources that emit at least 40 tons per year of $NO_X$ or at least 40 tons per year of $SO_2$ are considered to emit significant amounts of precursors and must account for secondary formation of PM2.5. | Yes☐ | No☐ |
| 4 | Was secondary PM modeled for PM2.5? | Yes☐ | No☐ |

5 If MERPs were used to account for secondary PM2.5 fill out the information below. If another method was used describe below.

| Pollutant | $NO_X$ | $SO_2$ | | $[PM2.5]_{24\text{-hour}}$ |
|---|---|---|---|---|
| $MERP_{annual}$ | | | | |
| $MERP_{24\text{-hour}}$ | | | | $[PM2.5]_{annual}$ |
| Emission rate (ton/yr) | | | | |

## 16-N: Setback Distances

| | |
|---|---|
| 1 | Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location. |
| | NA |
| 2 | Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling. |
| | |

## 16-O: PSD Increment and Source IDs

| | | | |
|---|---|---|---|
| 1 | The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. *Do these match? If not, provide a cross-reference* table between unit numbers if they do not match below. | Yes☒ | No☐ |

| Unit Number in UA-2 | Unit Number in Modeling Files |
|---|---|
| | |
| | |

| | | | |
|---|---|---|---|
| 2 | The emission rates in the Tables 2-E and 2-F should match the ones in the modeling files. Do these match? If not, explain why below. | Yes☐ | No☐ |
| | | | |
| 3 | Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled? | Yes☐ | No☐ |

4 Which units consume increment for which pollutants?

| Unit ID | $NO_2$ | $SO_2$ | PM10 | PM2.5 |
|---|---|---|---|---|
| | | | | |
| | | | | |

| | | |
|---|---|---|
| 5 | PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date). | |

| | | | |
|---|---|---|---|
| 6 | Are all the actual installation dates included in Table 2A of the application form, as required? This is necessary to verify the accuracy of PSD increment modeling. If not please explain how increment consumption status is determined for the missing installation dates below. | Yes☐ | No☐ |
| | | | |

## 16-P: Flare Modeling

1 For each flare or flaring scenario, complete the following

| | Flare ID (and scenario) | Average Molecular Weight | Gross Heat Release (cal/s) | Effective Flare Diameter (m) |
|---|---|---|---|---|
| | NA | | | |

## 16-Q: Volume and Related Sources

| | | | |
|---|---|---|---|
| 1 | Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines?<br><br>If not please explain how increment consumption status is determined for the missing installation dates below. | Yes☐ | No☒ |
| | NA | | |
| 2 | Describe the determination of sigma-Y and sigma-Z for fugitive sources. | | |
| | | | |
| 3 | Describe how the volume sources are related to unit numbers.<br>Or say they are the same. | | |
| | | | |
| 4 | Describe any open pits. | | |
| | | | |
| 5 | Describe emission units included in each open pit. | | |
| | | | |

## 16-R: Background Concentrations

| | | | |
|---|---|---|---|
| 1 | Were NMED provided background concentrations used? Identify the background station used below. If non-NMED provided background concentrations were used describe the data that was used. | Yes☐ | No☐ |
| | CO: Choose an item. | | |
| | $NO_2$: Deming (350290003) | | |
| | PM2.5: Choose an item. | | |
| | PM10: Choose an item. | | |
| | $SO_2$: Bloomfield( 350450009) | | |
| | Other: | | |
| | Comments: For SO2 1 Hour the ROI modeling was below the SILs. For NO2 1-hour modeling the CIA used neighboring source inclusion only. | | |
| 2 | Were background concentrations refined to monthly or hourly values? If so describe below. | Yes☐ | No☐ |
| | | | |

## 16-S: Meteorological Data

| | | | |
|---|---|---|---|
| 1 | Was NMED provided meteorological data used? If so select the station used.<br><br>Choose an item. | Yes☒ | No☐ |
| 2 | If NMED provided meteorological data was not used describe the data set(s) used below. Discuss how missing data were handled, how stability class was determined, and how the data were processed. | | |
| | Deming 2015 - 2019 | | |

## 16-T: Terrain

| | | | |
|---|---|---|---|
| 1 | Was complex terrain used in the modeling? If not, describe why below. | Yes☒ | No☐ |
| | | | |
| 2 | What was the source of the terrain data? | | |
| | DEM Files | | |

## 16-U: Modeling Files

Describe the modeling files:

| | File name (or folder and file name) | Pollutant(s) | Purpose (ROI/SIA, cumulative, culpability analysis, other) |
|---|---|---|---|
| 1 | LunaCombustROI | NO2, SO2 | ROI |
| | LunaNO2_1hr_CIA | NO2 | Cumulative with Neighbor Surces |
| | LunaNO2_1hr_CIA_Background | NO2 | Cumulative with background |
| | | | |
| | | | |

## 16-V: PSD New or Major Modification Applications

| | | | |
|---|---|---|---|
| 1 | A new PSD major source or a major modification to an existing PSD major source requires additional analysis.<br>Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)? | Yes☐ | No☒ |
| 2 | If not, did AQB approve an exemption from preconstruction monitoring? | Yes☐ | No☒ |
| 3 | Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption. | | |
| | NA | | |
| 4 | Describe the additional impacts analysis required at 20.2.74.304 NMAC. | | |
| | NA | | |
| 5 | If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? If so describe below. | Yes☒ | No☐ |
| | Ozone MERPs analysis | | |

## 16-W: Modeling Results

| | | | |
|---|---|---|---|
| 1 | If ambient standards are exceeded because of surrounding sources, a culpability analysis is required for the source to show that the contribution from this source is less than the significance levels for the specific pollutant. Was culpability analysis performed? If so describe below. | Yes☐ | No☒ |
| | | | |
| 2 | Identify the maximum concentrations from the modeling analysis. Rows may be modified, added and removed from the table below as necessary. | | |

| Pollutant, Time Period and Standard | Modeled Facility Concentration (µg/m3) | Modeled Concentration with Surrounding Sources (µg/m3) | Secondary PM (µg/m3) | Background Concentration (µg/m3) | Cumulative Concentration (µg/m3) | Value of Standard (µg/m3) | Percent of Standard | Location | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UTM E (m) | UTM N (m) | Elevation (ft) |
| NO2 1-hr Background | 8.83 | — | — | 53.377 | 62.2 | 188 | 33.1 | 237850.0 | 3576600.0 | 1333.30 |
| NO2 1-hr Neighbors | 0.000 | 150.5 | — | — | 150.5 | 188 | 80.1 | 237800.0 | 3577400.0 | 1337.00 |
| SO2 1-hr | 1.31 | — | — | — | — | 7.8 - SIL | 16.8 | 237400.0 | 3576300.0 | 1333.30 |
| | | | | | | | | | | |

| 16-X: Summary/conclusions | |
|---|---|
| | A statement that modeling requirements have been satisfied and that the permit can be issued. |
| 1 | Dispersion modeling was performed for NO2 and SO2 1-hour NAAQS for the Luna Energy Facility's minor modification of a PSD facility. SO2 1-hour modeling results were below SILs for LEF sources only. All LEF NO2 pollutant sources were modeled along with applicable neighboring sources to show compliance with the NO2 1-hour NAAQS. Since for all NO2 modeling with neighbors showed LEF sources contributions below the SILs, all LEF NO2 pollutant sources were modeled along with applicable background to show compliance with the NO2 1-hour NAAQS. All results of this modeling showed the facility in compliance with the NO2 and SO2 1-hour NAAQS. |

# 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 |
|---|---|---|
| 1,2 | Tested in accordance with EPA test methods for NOx and CO as required by Title V permit P209 R1 | 12/7/2023 |
| 1,2 | Tested in accordance with EPA test methods for NOx and CO as required by NSR permit PSD-2450-M2R1. | 12/8/2023 |

# Section 20

## Other Relevant Information

**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.

NA

# Section 22: Certification

Company Name: Public Service Company of New Mexico

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

Signed this 28 day of March, 2024, upon my oath or affirmation, before a notary of the State of New Mexico.

*Signature

March 28, 2024
Date

Gregory Cain
Printed Name

Plant Director
Title

Scribed and sworn before me on this 28th day of March, 2024

My authorization as a notary of the State of New Mexico expires on the 19th day of March, 2025.

STATE OF NEW MEXICO
NOTARY PUBLIC
GRACIELA R. GABALDON
COMMISSION NUMBER: 1101230
EXPIRATION DATE: MARCH 19, 2025
Graciela R. Gabaldon
Notary Public

Graciela R. Gabaldon
Notary's Signature

3/28/24
Date

Graciela R. Gabaldon
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.