

Mail Application To: New Mexico Environment Department Air Quality Bureau Permits Section 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505 Phone: (505) 476-4300 Fax: (505) 476-4375 www.env.nm.gov/aqb		For Department use only:
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Universal Air Quality Permit Application

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

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

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.: N/A in the amount of N/A No fees charged to Title V/Acid Rain Renewal Application
- ☒ 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: **20.2.70.300.B.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		Updating Permit/NOI #: P220-R2/P220AR4
1	Facility Name: Valencia Power Plant	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): 55 Christine Drive, Belen, NM 87002	
2	Plant Operator Company Name: Valencia Power, LLC	Phone/Fax: 303-623-2772

a	Plant Operator Address: 55 Christine Drive, Belen, NM 87002	
b	Plant Operator's New Mexico Corporate ID or Tax ID: 20-8917311	
3	Plant Owner(s) name(s): Valencia Power, LLC	Phone/Fax: 505-208-7710
a	Plant Owner(s) Mailing Address(s): 55 Christine Drive, Belen, NM 87002	
4	Bill To (Company): No fees for Title V Renewal	Phone/Fax:
a	Mailing Address:	E-mail:
5	☐ Preparer: ☒ Consultant: Tom Arnold	Phone/Fax: 415-939-8364
a	Mailing Address: 541 Lake Farm Rd, Port Angeles, WA 98362	E-mail: ThomasArnold@PrismEnvBusiness.com
6	Plant Operator Contact: Bailey (Hud) Griffith	Phone/Fax: 505-208-7710
a	Address: 55 Christine Drive, Belen, NM 87002	E-mail: Hud.Griffith@OnwardEnergy.com
7	Air Permit Contact: Ian Fudalski	Title: Director- Legal Risk and Compliance
a	E-mail: Ian.Fudalski@OnwardEnergy.com	Phone/Fax 303-623-2908
b	Mailing Address: 600 Seventeenth Street, Suite 2400S, Denver, CO 80202	
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-220-R2
7	Has this facility been issued a No Permit Required (NPR)? ☐ Yes ☒ No	If yes, the NPR No. is: N/A
8	Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☒ No	If yes, the NOI No. is: N/A
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? ☒ Yes ☐ No	If yes, the permit No. is: NSR 2620 M1-R1
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes ☒ No	If yes, the register No. is: N/A

Section 1-C: Facility Input Capacity & Production Rate

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: 1,476.78 MMBtu/hr. (FA CTG-1+ GH-1)	Daily: 35,442.24 MMBtu/24-hr. day	Annually: 7.40 x 10 ¹² Btu/yr
b	Proposed	Hourly: 2,948.18 MMBtu/hr. (FA CT-1 & 2 +GH-1) CTG-2 permitted but not built.	Daily: 70,756 MMBtu/24/hr day	Annually: 14.77 x 10 ¹² Btu/yr
2	What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: 159.5 MW (FA CTG-1) + 5.38 MMBtu/hr for GH-1	Daily: 3,828 MW/day	Annually: 1.40 x 10 ⁶ MW/yr
b	Proposed	Hourly: 319.0 MW (FA CTG 1&2) + 5.38 MMBtu/hr for GH-1	Daily: 7,656 MW/day (with FA CTG-2)	Annually: 2.80 x 10 ⁶ MW/yr

Section 1-D: Facility Location Information

1	Latitude (decimal degrees): 34° 36' 16.63' N	Longitude (decimal degrees): 106° 43' 59.07' W	County: Valencia	Elevation (ft): 4,900
2	UTM Zone: ☐ 12 or ☒ 13		Datum: ☒ NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 341202 (SW property corner)		UTM N (in meters, to nearest 10 meters): 3831395 (SW property corner)	
3	Name and zip code of nearest New Mexico town: Belen, 87002			
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From Belen go East on NM-309, South on NM-47, South on NM-304, left on Novarro Rd, left onto Christine Dr.			
5	The facility is 3.2 (distance) miles southeast (direction) of Belen (nearest town).			
6	Land Status of facility (check one): ☒ Private ☐ Indian/Pueblo ☐ Government ☐ BLM ☐ Forest Service ☐ Military			
7	List all municipalities (Belen), Indian tribes (none), and counties (Valencia) 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:			
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: N/A			
9	Name nearest Class I area: Bosque del Apache			
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 80.5 km			
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence (1.1 km), school (2.8 km Gil Sanchez Elementary), or occupied structure (0.2 km Arcosa Wind Towers Inc.).			
12	Method(s) used to delineate the Restricted Area: Site perimeter has security fence, with gate access by security code or security guard. "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? ☐ Yes ☒ No 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 If yes, what is the name and permit number (if known) of the other facility?			

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

1	Facility maximum operating ($\frac{\text{hours}}{\text{day}}$): 24	($\frac{\text{days}}{\text{week}}$): 7	($\frac{\text{weeks}}{\text{year}}$): 52	($\frac{\text{hours}}{\text{year}}$): 8760
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start: N/A		☐ AM ☐ PM	End: N/A ☒ AM ☒ PM
3	Month and year of anticipated start of construction: January 3, 2003 (fabrication start date for GE gas turbine (FA-CTG-1) serial number GT 298299 and 7/13/07 was start of on-site construction.			
4	Month and year of anticipated construction completion: Commercial operations for FA CTG-1 began May 20, 2008. Construction for the installation of FA CTG-2 is still pending.			
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 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: There are no current Notice of Violations, or other enforcement issues related to this facility.		
2	Is <u>air quality dispersion modeling</u> 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 Cooling tower (FA CT-1)		
a	If yes, include the name of company providing commercial electric power to the facility: <u>Public Service of New Mexico</u> 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.)
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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.) Hud Griffith (20.2.70.300.D.2 NMAC):		Phone: 505-208-7710
a	R.O. Title: Plant Manager	R.O. e-mail: Hud.Griffith@OnwardEnergy.com	
b	R. O. Address: 55 Christine Dr., Belen, NM 87002		
2	Alternate Responsible Official Bailey (Hud) Griffith (20.2.70.300.D.2 NMAC):		Phone: 505-208-7710
a	A. R.O. Title: Plant Manager	A. R.O. e-mail: Hud.Griffith@OnwardEnergy.com	
b	A. R. O. Address: 55 Christine Drive, Belen, NM 87002		
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): None		
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.): N/A		
a	Address of Parent Company: N/A		
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.): None		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: Bailey (Hud) Griffith 505-208-7710 or Ian Fudalski at 303-623-2908		

7

Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers: See following Figure 1-H and Table 1-H

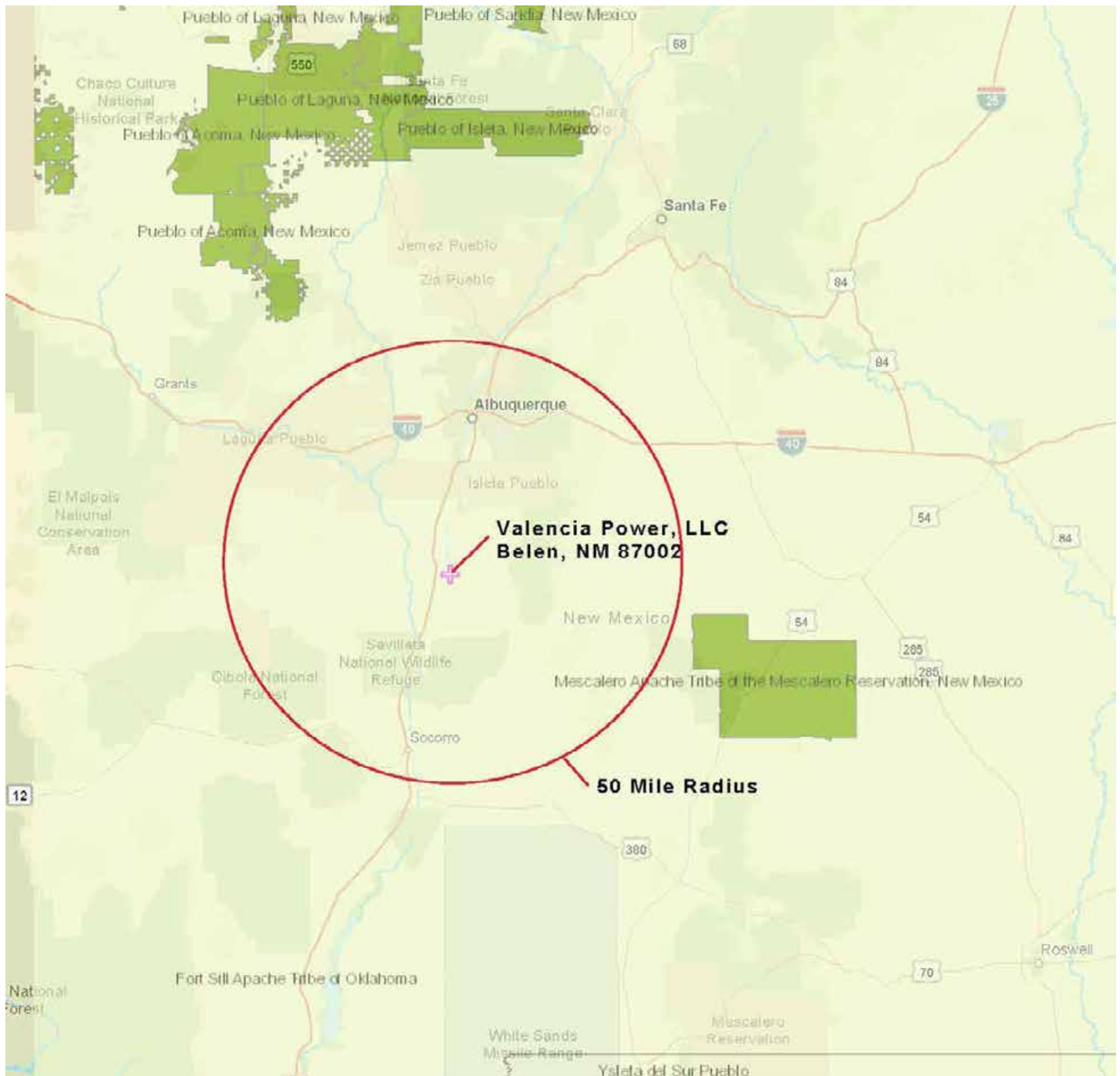
Figure 1-H**Regional Map of Local Pollution Control Programs, and Indian Tribes and Pueblos**

Table 1-H
Distance from Plant to Pollution Control Programs, Indian Tribes and Pueblos
(Within a 50-mile/80-km Radius)

Is the Plant Located within 50 Miles of:		Approximate Distance (miles)
Other States?		
	No	NA
Local Pollution Control Programs?		
	Yes Bernalillo County	30
Indian Tribes and Pueblos?		
	Navajo Nation Reservation	25
	Acoma Pueblo	40
	Isleta Pueblo	20
	Laguna Pueblo	40
	Sandia Pueblo	35
Other Tribal Lands?		
	Pueblo Santa Ana and Pueblo San Felipe Joint-use Area	50
	Acoma Off-Reservation Trust Lands	40
	Laguan Off Reservation Trust Lands	20
Tribal Casino's?		
	Dancing Eagle Casino, Blanca Inn of the Mountain Gods Resort & Casino, Mescalero	40
	Isleta Casino, Albuquerque	50
	Route 66 Casino, Albuquerque	30
	Sandia Casino, Albuquerque	30
	Sky City Casino, Acoma	30

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 Tom Arnold, Prism,Email ThomasArnold@PrismEnvBusiness.comPhone number 415-939-8364

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,
- one additional CD copy for US EPA,
 - one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
 - 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)]:

- 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.
- 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.
- It is preferred that this application form be submitted as 4 electronic files (**3 MSWord docs**: Universal Application section 1 [UA1], Universal Application section 3-19 [UA3], and Universal Application 4, the modeling report [UA4]) and **1 Excel file** of the tables (Universal Application section 2 [UA2]). Please include as many of the 3-19 Sections as practical in a single MS Word

electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.

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

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SECTION 2: TABLES

Tables from UA-2 Spreadsheet follow

Valencia Power, LLC

Valencia Power Plant

Application Date: March 2026

Revision #: 0

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 ² (Specify Units)	Requested Permitted Capacity ² (Specify Units)	Date of Manufacture ³	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One		RICE Ignition Type (CL, SL, ASIR, ASIR ⁴)	Replacing Unit No.
							Date of Construction/Reconstruction ³	emissions vented to Stack #					
FA CTG 1	Combustion Turbine	GE	PG 7241 FA	298299	159.5 MW	159.5 MW	1/3/03	N/A	2-01-002-01	Existing (unchanged)	To be Removed Replacement Unit	20.2.73 (gas turbine equipment), 20.2.61 (stack & visible)	N/A
							7/13/07	1		New/Additional To Be Modified	To be Replaced		
FA CTG 2	Combustion Turbine	GE	FA	TBD	159.5 MW	159.5 MW	TBD	N/A	2-01-002-01	Existing (unchanged)	To be Removed Replacement Unit	TBD	Included in Permit
							TBD	2		New/Additional To Be Modified	To be Replaced		
GH-1	Gas Heater	Gas Tech	NR7591	2200.01	5.38 mm BTU/hr	5.38 mm BTU/hr	2008	N/A	3-09-006-1	Existing (unchanged)	To be Removed Replacement Unit	20.2.61	N/A
							4/1/08	1		New/Additional To Be Modified	To be Replaced		
CT-1	Water Treatment Chemicals in Cooling Towers	Various	N/A	various	various	various	by supplier	N/A	3-25-001-01	Existing (unchanged)	To be Removed Replacement Unit	20.2.72 202 B5	N/A
							by delivery	CT-1		New/Additional To Be Modified	To be Replaced		
SRGen	Stand-by Diesel Generator	Volvo	TAD1631 Gd	HC15HML30 B	753 HP	753 HP	2001	N/A	2-02-001-01	Existing (unchanged)	To be Removed Replacement Unit	40 C/FK Part 60 Subpart ZZZZ	N/A
							12/1/09	N/A		New/Additional To Be Modified	To be Replaced		
										Existing (unchanged)	To be Removed Replacement Unit		
										New/Additional To Be Modified	To be Replaced		
										Existing (unchanged)	To be Removed Replacement Unit		
										New/Additional To Be Modified	To be Replaced		
										Existing (unchanged)	To be Removed Replacement Unit		
										New/Additional To Be Modified	To be Replaced		
										Existing (unchanged)	To be Removed Replacement Unit		
										New/Additional To Be Modified	To be Replaced		
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										New/Additional To Be Modified	To be Replaced		
										Existing (unchanged)	To be Removed Replacement Unit		
										New/Additional To Be Modified	To be Replaced		
										Existing (unchanged)	To be Removed Replacement Unit		
										New/Additional To Be Modified	To be Replaced		

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 "ASIR" means four stroke lean burn engine, "ASIR" means four stroke rich burn engine, "CLIR" means two stroke lean burn engine, "CL" means compression ignition, and "SL" means spark ignition.

Valencia Power, LLC

Valencia Power Plant

Application Date: March

Revision #: 0

Table 2-B: Insignificant Activities¹ (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 20.2.72.202.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.enr.nm.gov/aqib/permit/aqib_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NO_x 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.enr.nm.gov/wp-content/uploads/sites/2/2017/10/InsignificantListTitleV.pdf>. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	Is Specific 20.2.72.202 NMAC Exemption (e.g., 20.2.72.303.B.5)	Date of Manufacture / Reconstruction ²	For Each Piece of Equipment, Check One:	
			Serial No.	Capacity Units	Insignificant Activity citation (e.g., IA List Item #1.a)	Date of Installation / Construction ²		
FACT-1	Cooling Tower	Evapo	AT 214-1148	4550	20.2.72.202.B.5		☐ Existing (unchanged)	☐ e Removed
			7-578785, -578789, -128201	gpm per unit	IA List Item #1.a	3/3/08	☐ New/Additional	☐ Placement Unit
							☐ To Be Modified	☐ Replaced
WTC	Water Treatment Chemicals	Various	N/A	varies	20.2.72.403.C(0)	varies	☐ Existing (unchanged)	☐ e Removed
						3/3/08	☐ New/Additional	☐ Placement Unit
							☐ To Be Modified	☐ Replaced
							☐ Existing (unchanged)	☐ e Removed
							☐ New/Additional	☐ Placement Unit
							☐ To Be Modified	☐ Replaced
							☐ Existing (unchanged)	☐ e Removed
							☐ New/Additional	☐ Placement Unit
							☐ To Be Modified	☐ Replaced
							☐ Existing (unchanged)	☐ e Removed
							☐ New/Additional	☐ Placement Unit
							☐ To Be Modified	☐ Replaced
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							☐ New/Additional	☐ Placement Unit
							☐ To Be Modified	☐ Replaced
							☐ Existing (unchanged)	☐ e Removed
							☐ New/Additional	☐ Placement Unit
							☐ To Be Modified	☐ Replaced
							☐ Existing (unchanged)	☐ e Removed
							☐ New/Additional	☐ Placement Unit
							☐ To Be Modified	☐ Replaced

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/AGB 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.

[illegible]

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 (HAPs) and Toxic Air Pollutants (TAPs) in Table 24. 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. 0.01, 1.01, or 1.01E-0).

[illegible]

³ **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 (30.3.74 NMAC) and Title V (30.3.70 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).

[illegible]

*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).

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 2-1. 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.

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Table 2-H: Stack Exit Conditions

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

[illegible]

Valencia Power, LLC

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Table 2-1: 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 "N" symbol. A "N" 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		Benzene ☐ HAP or ☐ TAP		Acetaldehyde ☐ HAP or ☐ TAP		Acrolein ☐ HAP or ☐ TAP		Butene ☐ HAP or ☐ TAP		Ethylbenzene ☐ HAP or ☐ TAP		Formaldehyde ☐ HAP or ☐ TAP		Aromatic ☐ HAP or ☐ TAP		PAH ☐ or ☐ HAP	
		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
		No applicable HAPs or TAPs emitted by plant at emission rates greater than the threshold emission listed in 20.2.72.502, Tables A and B. Total facility-wide HAP emissions are less than 25 ton/yr combined and less than 10 ton/yr for any single HAP.																	
1	FACTG-1	1.5117	3.7807	0.0006	0.0016	0.589	0.1472	0.0094	0.0236	0.0177	0.0442	0.0471	0.1178	1.0447	2.6128	0.0019	0.0048	0.0032	0.0081
3	SBGen	0.0073	0.0035	0.0001	~0.0000	0.0015	0.0007	0.0002	0.0001	0.0018	0.0001	—	—	0.0023	0.0011	0.0002	0.0001	—	—
		Propylene Oxide		Toluene		Xylenes													
1	FACTG-1	0.427	0.1067	0.1913	0.4784	0.0947	0.2355												
3	SBGen	—	—	0.0008	0.0037	0.0006	0.0003												
2	FACTG-2	1.5117	3.7807			same list of potential HAPs as CTG-1													
		3.0307		7.5649		Total of FA CTG-1 and 2, plus SBGen													
		Sulfuric Acid in Water Treatment Chemicals																	
CI-1	CI-1	5.25 x 10 ⁻⁷ lb/hr		1.47 x 10 ⁻⁶ ton/yr															

Table 2-J: Fuel

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

[illegible]

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.

[illegible]

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 2-1.2. Notes: 1.00 bbl = 10.159 M3 = 42.0 gal

[illegible]

Roof Type	Seal Type, Welded Tank Seal Type		Seal Type, Riveted Tank Seal Type		Roof, Steel Color	Paint Condition
FX: Fixed Roof	Mechanical Shoe Seal	Liquid-mounted resilient seal	Vapor-mounted resilient seal	Seal Type	WT: White	Good
IF: Internal Floating Roof	A: Primary only	A: Primary only	A: Primary only	A: Mechanical shoe, primary only	A3: Aluminum (specular)	Poor
EF: External Floating Roof	B: Shoe-mounted secondary	B: Weather shield	B: Weather shield	B: Shoe-mounted secondary	A6: Aluminum (diffuse)	
IP: Pressure	C: Rim-mounted secondary	C: Rim-mounted secondary	C: Rim-mounted secondary	C: Rim-mounted secondary	AD: Light Gray	
Note: $1.00 \text{ hbl} = 0.159 \text{ M}^3 = 42.0 \text{ gal}$					MG: Medium Gray	
					BL: Black	
					OT: Other (specify)	

[illegible]

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.

[illegible]

Table 2-O: Parametric Emissions Measurement Equipment

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

[illegible]

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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.

Unit No.	GWPs ¹	CO ₂ ton/yr	N ₂ O ton/yr	CH ₄ ton/yr	SF ₆ ton/yr	PFC/HFC ton/yr ²									Total GHG Mass Basis ton/yr ⁴	Total CO ₂ e ton/yr ⁵
FA CTG-1	1	298	25	22,800	Footnote 3											
FA CTG-1	mass GHG	404,800	11.00	3.16	na	na									404,814	
FA CTG-1	CO ₂ e	404,800	3,290.00	79.00	na	na										408,169
FA CTG-2	mass GHG	404,800	11.00	3.16	na	na									404,814	
FA CTG-2	CO ₂ e	404,800	3,290.00	79.00	na	na										408,169
GH 1	mass GHG	1,480	0.04	0.01	na	na									1,480	
GH 1	CO ₂ e	1,480	12.00	0.00	na	na										1,492
	mass GHG														Total	811,108
	CO ₂ e														Total	817,830
	mass GHG	Note: These estimates of GHG emissions are provided as reference for annual reporting of GHG emissions in accordance with Title V (20.2.70 NMAC).														
	CO ₂ e	The emissions are used to verify reported GHG emissions and to determine applicability to 40 CFR 60 Subparts and to evaluate Prevention of Significant														
	mass GHG	Deterioration (PSD) applicability. These GHG emissions should not be used as or to set permit limits (see 20.2.70.7AL (3)).														
	CO ₂ e															
	mass GHG															
	CO ₂ e															
	mass GHG															
	CO ₂ e															
	mass GHG															
	CO ₂ e															
Total	mass GHG	811,080	22	6		Total =	811,108									
Total	CO ₂ e	811,080	6,292	138		Total =	817,830									

¹ GWP (Global Warming Potential). Applicant 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 CO₂e means Carbon Dioxide Equivalent and is calculated by multiplying the TPF 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.

Facility Description

Valencia Power, LLC received a construction permit from the Air Quality Division of the New Mexico Environmental Department (NMENV) issued on July 18, 2002 (NSR Air Quality Permit No. 2620) authorizing the construction and operation of the Valencia Energy Facility peaking station. The function of the facility is to generate electricity by combusting pipeline natural gas in combustion turbine generators (CTGs). The facility is located in Township 5 North, Range 2 East, Section 33 - within the Rio Grande Industrial Park near Belen, New Mexico in Valencia County.

This permit application is submitted as the third renewal of Part 70 Source Title V Permit P220. There are no other facilities co-located at this site and there has been no relaxation of the regulatory applicability determinations, emission limits, air dispersion modeling analysis, or permit conditions from construction permit (NSR Permit No. 2620 M1-R1) as initially issued by NMENV on 7/18/02. There have been no changes to the facilities major/minor status under PSD and Title V. The Valencia Plant is a major source under Title V and the Acid Rain Program, and a synthetic minor source under PSD (see Section 12).

Process Summary

Valencia Power, LLC was originally permitted to operate two (2) combustion turbines for the purpose of generating electricity using pipeline natural gas as fuel. To date only one turbine (CTG FA-1) has been installed at the plant. The plant has maintained the flexibility to update the NSR and Title V permit to address the then applicable regulatory requirements when the second combustion turbine is to be installed. The emission rates and air quality analysis incorporated into the present Title V permit are based on two "twin" units in operation.

As natural gas is received from the pipeline, the temperature of the gas is increased by passing through a Gas Heater (GH-1). The heated gas fuels the combustion turbine, which produces 159.5 MW of electricity into the power grid. The plant operates as a peaking plant but has the capacity to operate 8760 hours/year (24/7/365). A process flow diagram identifying air emission points, emission rates, and process flow capacities is included in Section 4 of this application.

Air Quality Permit Numbers for Site

After the issuance of the original NSR permit, the ownership of the facility has been transferred to Valencia Power, LLC ("Valencia" or the "Plant"). In addition, several clarifications to the New Source Review (NSR) permit have been made to include the selection of the FA turbine equipment option and subsequent deletion of the EA turbine option. These corrections are incorporated within the 2010 revision (Modification 1 - Revision 1, dated December 6, 2010) of the NSR Permit issued on October 4, 2010 (NSR Permit No. 2620 M1).

In addition to the NSR Permit No. 2620 M1-R1, the Plant has been assigned:

- IDEA No. 1611-20090001
- AIRS No. 35-061-0031
- Operating Permit P220AR3 (Title IV Acid Rain Program Permit)
- Title V Permit P220-R1 and P220-R2

Part 70 Source Title V Renewal Application

One of two FA CT units has been constructed at the Plant. The first unit (FA CTG-1) achieved commercial operation, as defined by the Environmental Protection Agency (EPA), on May 20, 2008 (as notified in a May 26, 2008 letter to NMENV). In accordance with NMENV permitting requirements, (NMENV 20.2.70.300.B.1) a Part 70 source must submit a timely and complete application. For Renewal sources, a timely application is one that is submitted within 12 months before the expiration of the existing Title V Permit. For the Plant, the deadline for submitting this application was January 10, 2026. This submittal is late. The status has been communicated to NMENV Title V Permitting and the Plant has worked diligently to prepare and submit this renewal package as quickly as possible.

Routine or Predictable Emissions during Startup, Shutdown, and Maintenance (SSM)

Detailed emission calculations were provided in the Air Quality Permit Application submitted for the Plant in October 2001. And, as a supplement to the Original Title V Application. These emission calculations included estimates for startup, shutdown and maintenance conditions, based on manufacturer data and permit applications prepared for similar facilities. The SSM emissions are included as time limited emission rate and operational limits within Specific Conditions of NSR Permit No. 2620-M1.

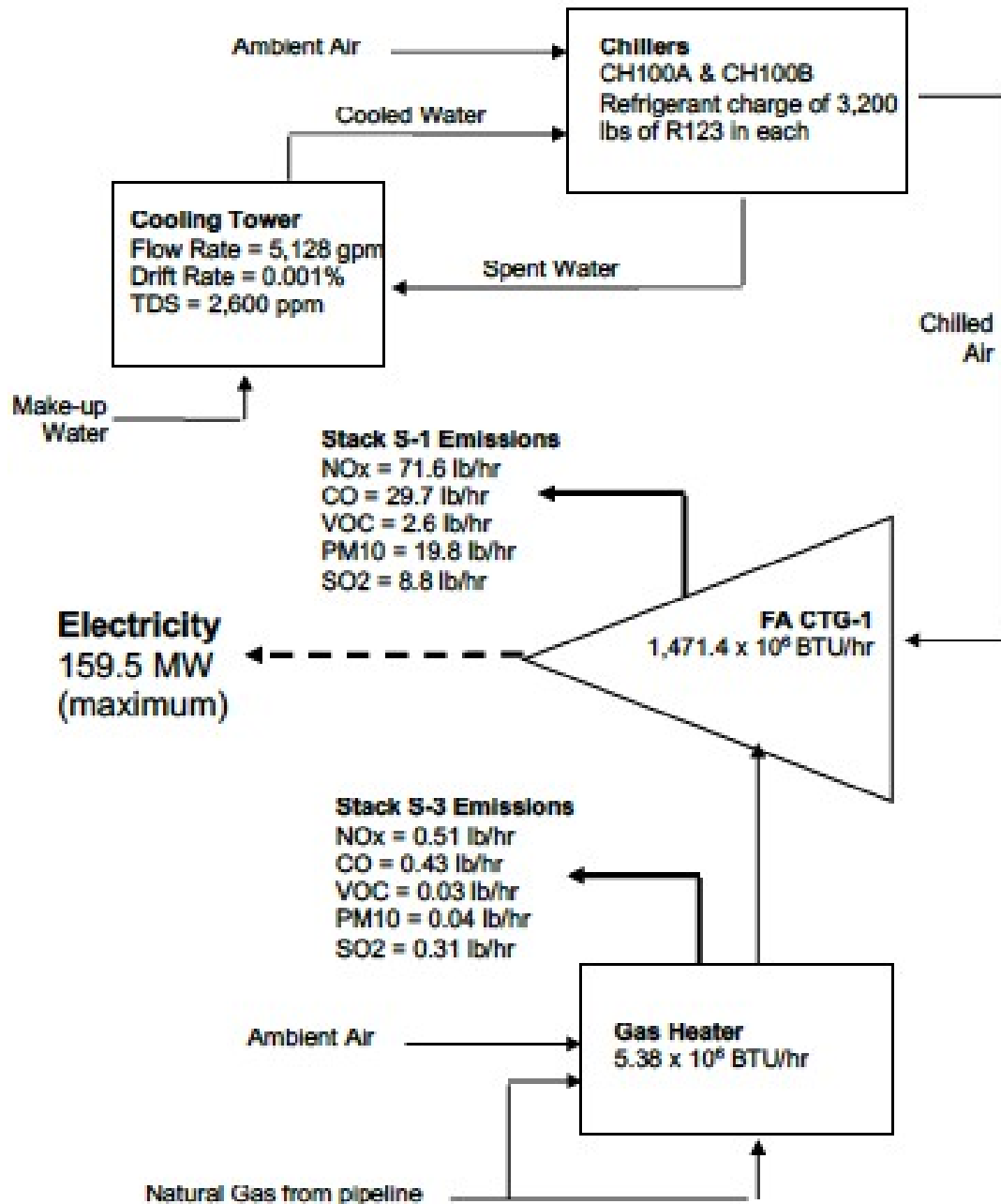
There has been no reportable change in the operation of the Plant or the SSM emissions since the issuance of the Title V Permit.

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.

VALENCIA POWER PLANT

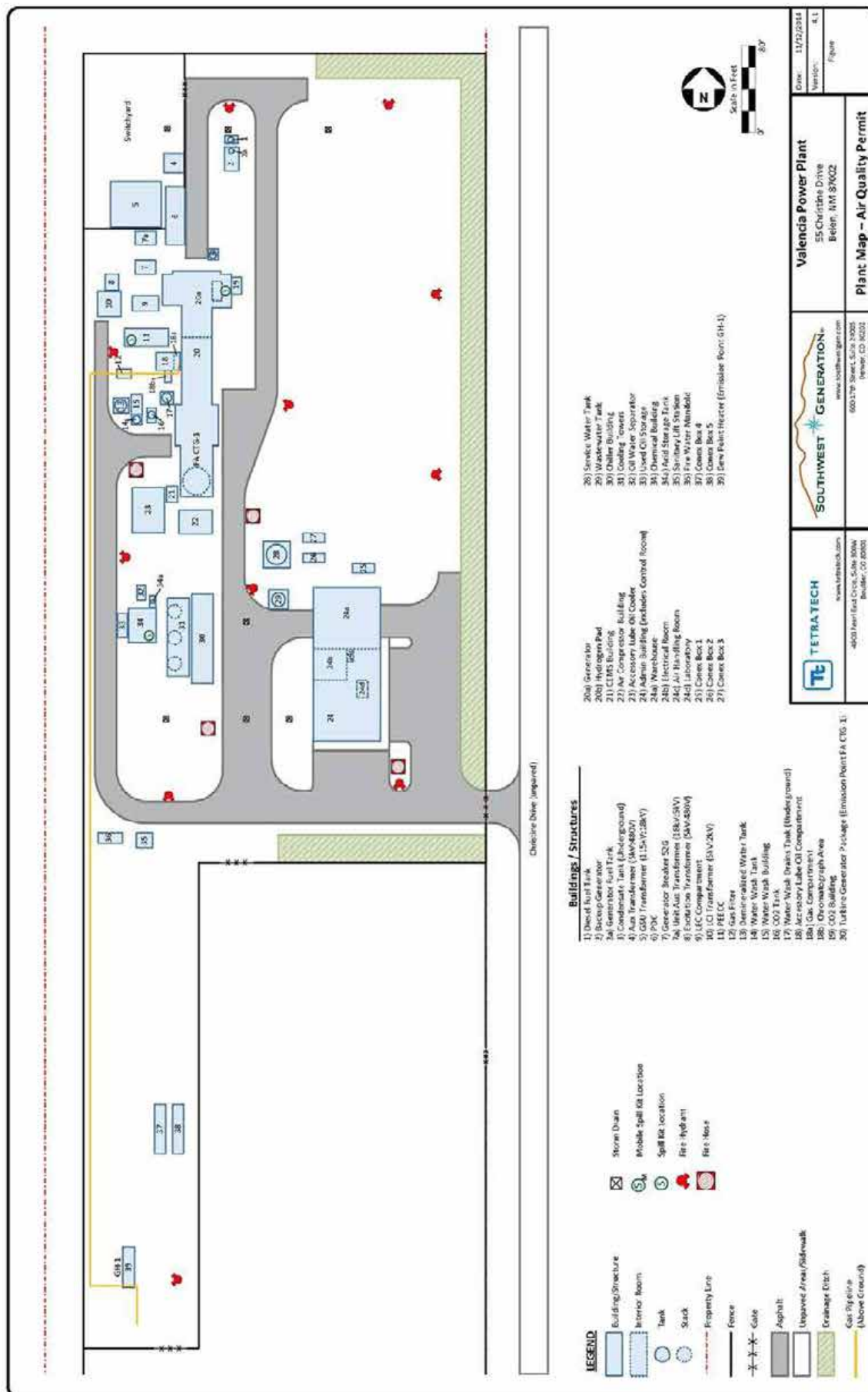


Section 5

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.

See Following Pages





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.

All Calculations

A separate folder (All Calculations) is included with the electronic submittal of this application. There has been no change in the operation of emission sources since the submittal of the original Title V application. A copy of past calculations is included in this Renewal Application for completeness. That folder contains the following files that contain the data, calculations and referenced documents developed for and/or relied on to estimate normal operations and startup and shut down emissions for the 7FA CTG:

- ValenciaNormalOps.pdf
- GT Performance.pdf
- LunaEmissions.pdf
- 7FA Startup Emission Curves.pdf
- LunaSSM.pdf

1. "ValenciaNormalOps.pdf" – This file presents Valencia full load and 50% load emissions from Burns & McDonald runs of GE's software. These runs were used for estimating NOx, CO, and PM10 emissions, as per Attachment D of the October 2001 original air permit application. As noted in the October 2001 application, since these are not guaranteed emissions, a 10% contingency was added. The "back half" condensables were estimated to be equal to filterable, so the back-half values were doubled to derive the GE estimates for total PM10.

2. "GT Performance.pdf" – These were supplied by PERC and used for VOC (since the public version of GE software noted above didn't provide VOC). We believe from discussions with the authors of the original October 2001 permit application that this was run from GE's internal version of their software, for PERC's "Elwood project" in Illinois and was applicable to the Valencia project.

3. "Luna Emissions.pdf" – These are runs made by Duke/Fluor Daniel for the "Luna project" in Deming NM. This information was used as backup on the VOC emission rate. This was for 2x1 7FA; note that emissions reported are sum of two turbines. This data should be public record in the NMED permit application file for this project.

4. The SO2 page of Attachment C of the original October 2001 permit application shows the full load SO2 calculation, using the max heat input capacity of 1471 MMBtu/hr (from the GE run noted in #1 above), and 2 grains / 100 scf sulfur content.

5. For VOC on startup, it was assumed in the original October 2001 application that VOC is 20% of UHC, and thus the estimate of VOC emissions used the 50% load UHC emission rate for 20 minutes plus 50% contingency. Thus $8 \text{ lb/hr} * \frac{1}{3} \text{ hr} * 0.2 * 1.5 = 0.8 \text{ lbs/start}$

6. For PM10 on startup, GE software showed full load and 50% emission rates to be the same. So as noted above, the same scaling and conservative approach was used - predicted emission rate for 20 minutes plus 50% contingency, or $9.0 * \frac{1}{3} * 1.5$.

7. For SO₂ on startup, assuming average startup load of 50%, half of the full load SO₂ emission rate was used for 20 minutes plus 50%, or $8.81 * 50\% * 1/3 \text{ hr} * 1.5 = 2.2$

8. For CO on startup, the "7FA Startup Emission Curves.pdf", was used which shows 250 lbs of CO from first flame to full speed no load, plus 50%.

9. For NO_x on startup, the data from the comparable "Luna project" was used, which is documented in the attached "Luna SSM.pdf" from Attachment J of that original October 2001 permit application. This was based on communications from Duke/Fluor-Daniel in which startup durations and emission estimates were provided. This showed a 102.5 lb/hr estimated maximum during any combined cycle hot, warm, or cold start, for 20 minutes, plus 50% contingency.

10. For annual NO_x, note that tonnage was back-calculated from the level needed to keep this as a synthetic minor, acknowledging that the worst case NO_x was at cold ambient temp, and it would be impossible for the turbines to operate at those conditions for all

Tank Flashing Calculations

NOT APPLICABLE - The Plant has no storage tanks where Tank Flashing emissions are applicable.

SSM Calculations

SSM calculations were updated on 8/23/2010 in advance of the issuance of the original Title V Permit. These calculations included actual-hour operating data of start-up and shut-down conditions, and maximum normal hourly operating emissions. A copy of these calculations is included in the All Calculations Folder in the electronic copy as file 10.

To evaluate worst possible case potential air quality impacts during startup and shutdown cycles, the air dispersion modeling analysis assumed continuous rolling startup and shutdown cycles to estimate maximum potential impacts during the 1-hour, 8-hour and 24-hour modeling scenarios. The continuous cycling of startup and shutdown are prohibited by specific permit conditions and emission limits established in the Title V permit. The intent of the modeling analysis was to demonstrate that under any worst-case scenario the air quality impacts from the plant would not cause a violation for New Mexico or Federal ambient air quality standards. This analysis is described in more detail in Section 16 of this application.

SBGen Calculations

Calculation for criteria emissions and HAP emissions were developed for the diesel stand-by generator to support the 2015 renewal of the Title V permit. A copy of these calculations is included in the "All Calculations" Folder in the electronic copy as file 11.

ALL CALCULATIONS AND SUPPORTING DATA

No change in equipment, emission controls or operations since last renewal in Title V Permit. The following pages provide the emission calculations and supporting data.

Valencia Energy Facility
7FA CTG
GE Turbine Performance Estimating Software
BASE LOAD

Peoples Energy
28423-3.30.01
Bellevue, NM

ESTIMATED PERFORMANCE									
Load Condition	BASE	BASE	BASE	BASE	BASE	BASE	BASE	BASE	BASE
Exhaust Pressure Loss, Inches Water	3.8	3.9	4.2	4.3	4.3	4.3	4.3	4.3	4.6
Ambient Temp, Deg F	107	103.3	84	75.8	72.8	68.7	60	60	0
Ambient Relative Humidity, %	14.5	16	23.9	30.7	33.2	38.6	60	60	0
Chiller Status	On	On	On	On	On	On	Off	Off	Off
Fuel Type	Methane	Methane	Methane	Methane	Methane	Methane	Methane	Methane	Methane
Fuel LHV, Btu/lb	21,515	21,515	21,515	21,515	21,515	21,515	21,515	21,515	21,515
Fuel Temperature, Deg F	80	80	80	80	80	80	80	80	80
Output, kW	133,000	134,800	135,900	143,600	144,200	144,100	154,900	159,500	159,500
Heat Rate (LHV), Btu/kWh	9,560	9,525	9,500	9,370	9,360	9,355	9,240	9,225	9,225
Heat Cons. (LHV) X 10 ⁶ , Btu/h	1271.5	1284	1291.1	1345.5	1349.7	1348.1	1431.3	1471.4	1471.4
Exhaust Flow X 10 ³ , lb/h	2869	2894	2909	3018	3028	3032	3233	3332	3332
Exhaust Temp, Deg F	1133	1130	1128	1111	1109	1108	1070	1051	1051
Exhaust Heat (LHV) X 10 ⁶ , Btu/h	771.5	777.4	781.1	807.2	809.4	809.3	852	896.4	896.4
EMISSIONS									
NO _x , ppmvd@15% O ₂	9	9	9	9	9	9	9	9	9
NO _x , AS NO ₂ , lb/h	46	47	47	49	49	49	52	54	54
CO, ppmvd	9	9	9	9	9	9	9	9	9
CO, lb/h	23	24	24	25	25	25	26	27	27
UHC, ppmw	7	7	7	7	7	7	7	7	7
UHC, lb/h	11	11	11	12	12	12	13	13	13
Particulates, lb/h	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
(PM10 Front-Half Filterable Only)									
EXHAUST ANALYSIS % VOL									
Argon	0.89	0.89	0.90	0.89	0.89	0.89	0.89	0.89	0.89
Nitrogen	74.18	74.19	74.21	74.36	74.37	74.36	74.68	75.01	75.15
Oxygen	12.55	12.54	12.54	12.55	12.56	12.56	12.64	12.75	12.80
Carbon Dioxide	3.70	3.71	3.71	3.73	3.73	3.73	3.72	3.71	3.71
Water	8.69	8.68	8.65	8.48	8.46	8.44	8.06	7.63	7.45
SITE CONDITIONS									
Elevation, ft	4800								
Site Pressure, psia	12.3								
Inlet Loss, Inches Water	4.0								
Exhaust Loss, Inches Water	6.0 @ ISO Conditions								
Application	Hydrogen-Cooled Generator								
Combustion System	9/42 DLN Combustor								

Emission Information Based on GE recommended measurement methods. NO_x emissions are corrected to 15% O₂ without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(c)(1). NO_x levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

This document and its contents have been prepared by GE and provided to the recipient for the sole purpose of evaluating the use of GE products in a potential power generation project. Disclosure of this information to any third party, other than a party assisting the recipient in such evaluation, is strictly forbidden. The data is of estimate quality only. Specific, reliable data is available only when provided by GE as part of a formal proposal.

Source: GE Turbine Performance Estimator

NOTE: Engineering controls will be implemented such that, even at low ambient temperatures overall plant output will not exceed 299 MW.

Valencia Energy Facility
7FA CTG
GE Turbine Performance Estimating Software
50% LOAD

Peoples Energy
28423-3.30.01
Bellevue, NM

ESTIMATED PERFORMANCE									
Load Condition	50%	50%	50%	50%	50%	50%	50%	50%	50%
Exhaust Pressure Loss, Inches Water	1.7	1.7	1.7	1.8	1.8	1.8	1.7	1.7	1.9
Ambient Temp, Deg F.	107	103.3	101	84	75.8	72.8	56	19	0
Ambient Relative Humidity, %	14.5	16	16.7	23.9	30.7	33.2	38.6	68.7	80
Air Inlet Fogger Status	On	On	On	On	On	On	Off	Off	Off
Fuel Type	Methane	Methane	Methane	Methane	Methane	Methane	Methane	Methane	Methane
Fuel LHV, Btu/lb	21,515	21,515	21,515	21,515	21,515	21,515	21,515	21,515	21,515
Fuel Temperature, Deg F.	80	80	80	80	80	80	80	80	80
Output kW	67,500	67,900	68,200	70,400	71,300	71,700	71,900	77,500	79,800
Heat Rate (LHV), Btu/kWh	12,370	12,350	12,330	12,220	12,180	12,170	12,160	11,890	11,790
Heat Cons. (LHV) X 10 ⁶ , Btu/h	835	838.6	840.9	860.3	868.4	872.6	876.5	920.7	940.8
Exhaust Flow X 10 ³ , lb/h	1990	1991	1992	2005	2008	2010	2000	2062	2092
Exhaust Temp, Deg F.	1200	1200	1200	1200	1200	1200	1200	1179	1167
Exhaust Heat (LHV) X 10 ⁶ , Btu/h	572	574	575.5	596.6	591.4	593.8	597.2	620.9	632.2
EMISSIONS									
NO _x , ppmvd@15% O ₂	9	9	9	9	9	9	9	9	9
NO _x AS NO ₂ , lb/h	30	30	30	31	31	31	31	33	34
CO, ppmvd	9	9	9	9	9	9	9	9	9
CO, lb/h	16	16	16	16	16	16	16	17	17
UHC, ppmw	7	7	7	7	7	7	7	7	7
UHC, lb/h	8	8	8	8	8	8	8	8	8
Particulates, lb/h	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
(PM10 Front-half Filterable Only)									
EXHAUST ANALYSIS % VOL									
Argon	0.90	0.89	0.89	0.90	0.90	0.90	0.89	0.90	0.90
Nitrogen	74.38	74.38	74.40	74.52	74.52	74.52	74.61	75.04	75.16
Oxygen	13.12	13.10	13.09	13.00	12.94	12.93	12.91	12.84	12.82
Carbon Dioxide	3.44	3.46	3.46	3.52	3.55	3.56	3.60	3.67	3.70
Water	8.17	8.18	8.16	8.07	8.10	8.10	7.82	7.55	7.43
SITE CONDITIONS									
Elevation, ft	4900								
Site Pressure, psia	12.3								
Inlet Loss, Inches Water	4.0								
Exhaust Loss, Inches Water	6.0 @ ISO Conditions								
Application	Hydrogen-Cooled Generator								
Combustion System	9/42 DLN Combustor								

Emission Information Based on GE recommended measurement methods. NO_x emissions are corrected to 15% O₂ without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(c)(1). NO_x levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

This document and its contents have been prepared by GE and provided to the recipient for the sole purpose of evaluating the use of GE products in a potential power generation project. Disclosure of this information to any third party, other than a party assisting the recipient in such evaluation, is strictly forbidden. The data is of estimate quality only. Specific, reliable data is available only when provided by GE as part of a formal proposal.

NOTE: Engineering controls will be implemented such that, even at low ambient temperatures overall plant output will not exceed 299 MW.

File: GT Performance.pdf

This file presents data provided by Burns & McDonald that was developed for Peoples Energy Resources Corp. (PERC) to support PERC's air permit application for the "Elwood Project" in Illinois.

Excerpt from Attachment D to Air Quality Permit Application, October 2001.

Valencia Energy Facility
Expected Performance and Emissions

	GE PG7241FA	GE PG7121EA
<u>Site Conditions:</u>		
Fuel Type	Methane	Methane
LHV (Btu/lb)	21,515	21,515
HHV (Btu/lb)	23,895	23,895
Fuel Density (lb/scf)	0.0423	0.0423
Sulfur (grains/100scf)	2.000	2.000
Sulfur (% Weight)	0.00675	0.00675
Elevation (feet)	4,900	4,900
Ambient Temperature (°F)	19	19
Wet Bulb Temperature (°F)	17	17
Barometric Pressure (psia)	12.300	12.300
Relative Humidity (%)	68.7	68.7
<u>Gas Turbine Performance:</u>		
Load Level	100%	100%
Net Power Output (kW)	154,900	79,430
Fuel Flow (lb/hour)	66,526	38,076
Fuel Flow (scf/hour)	1,572,711	900,136
Evaporative Cooling	No	No
Heat Input (million Btu/hour, LHV)	1,431	819
Heat Input (million Btu/hour, HHV)	1,590	910
Heat Rate (Btu/kWh, LHV)	9,240	10,313
Heat Rate (Btu/kWh, HHV)	10,262	11,455
Exhaust Flow (lb/hour)	3,233,000	2,173,000
Exhaust Temperature (°F)	1,070	969
Exhaust Energy (million Btu/hour)	852.0	515.1
<u>GT Exhaust Gas Composition:</u>		
Nitrogen (% Volume)	75.01	75.42
Oxygen (% Volume)	12.75	13.86
Oxygen (% Volume), Dry Basis	13.80	14.84
Water (% Volume)	7.63	6.58
Carbon Dioxide (% Volume)	3.72	3.19
Argon (% Volume)	0.89	0.89
Molecular Weight	28.46	28.51
<u>Stack Parameters:</u>		
Stack Height (feet)	49.0	49.0
Stack Exit Diameter (feet)	20.0	14.3
Stack Exhaust Temperature (°F)	1,070	969
Stack Exhaust - Oxygen (% Volume), Dry	13.80	14.84
Stack Exhaust - Moisture (% Volume)	7.63	6.58
Stack Exhaust Flow (lb/hour)	3,233,000	2,173,000
Stack Exhaust Flow (acfm)	2,527,462	1,583,993
Stack Exhaust Flow (dscfm)	664,100	450,682
Stack Exit Velocity (feet/sec)	134.1	164.4

PERC Power Generation

1

09/20/2001

Valencia Energy Facility
Expected Performance and Emissions

	GE PG7241FA	GE PG7121EA
<u>Site Conditions:</u>		
Fuel Type	Methane	Methane
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HHV (Btu/lb)	23,895	23,895
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Sulfur (grains/100scf)	2.000	2.000
Sulfur (% Weight)	0.00675	0.00675
Elevation (feet)	4,900	4,900
Ambient Temperature (°F)	19	19
Wet Bulb Temperature (°F)	17	17
Barometric Pressure (psia)	12.300	12.300
Relative Humidity (%)	68.7	68.7
<u>Gas Turbine Performance:</u>		
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Stack Exhaust Flow (acfm)	2,527,462	1,583,993
Stack Exhaust Flow (dscfm)	664,100	450,682
Stack Exit Velocity (feet/sec)	134.1	164.4

PERC Power Generation

1

09/20/2001

Peoples Energy

ESTIMATED PERFORMANCE PG72416FAI

Load Condition	Base	60%	60%	50%	Base	60%	60%	50%	Base	60%	60%	50%	Base	60%	60%	50%
Ambient Temp	80 F	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Coop. Cooler Status	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Evap. Cooler Effectiveness	%	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Fuel Type	Distill	Distill	Distill	Distill	Distill	Distill	Distill	Distill	Distill	Distill	Distill	Distill	Distill	Distill	Distill	Distill
Fuel Temperature	80 F	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Output	kW	191,200	152,900	114,700	95,600	183,300	146,600	110,000	91,600	174,000	139,200	104,400	87,000	167,600	134,100	100,000
Heat Rate (Btu/kWh)	9,145	9,565	10,790	11,700	9,160	9,640	10,900	11,820	9,265	9,805	11,100	12,060	9,370	9,940	11,270	12,210
Heat Cons. (Btu/h) X 106	1,788.5	1,602.5	1,227.6	1,118.5	1,679.0	1,413.2	1,199.0	1,062.7	1,612.1	1,364.9	1,168.8	1,018.4	1,510.4	1,333.0	1,123.9	1,022.2
Exhaust Flow X 103	3659	3094	2261	2435	3665	3015	2262	2362	3528	2936	2241	2326	3429	2680	2498	2301
Exhaust Temp.	80 F	1105	1145	1155	1080	1124	1162	1164	1108	1142	1178	1199	1127	1153	1188	1200
Exhaust Heat (Btu/h) X 106	1032.7	887.6	800.6	760.6	1000.6	861.6	779.3	726.6	966.8	840	769.6	715	941.6	826.6	748.3	698.6

EMISSIONS

NOx	ppmv @ 15% O2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
NOx AS NO2	lb/h	63	53	44	40	61	51	43	38	58	49	41	37	57	48	36
CO	ppmv	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
CO	lb/h	32	25	22	20	30	25	21	20	29	24	21	19	28	23	19
UHC	ppmv	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
UHC	lb/h	15	12	10	10	14	12	10	9	14	12	10	9	14	11	9
VOC	ppmv	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
VOC	lb/h	3	2.4	2	2	2.6	2.4	2	1.8	2.6	2.4	2	1.8	2.6	2.2	1.8
SO2	ppmv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SO2	lb/h	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SO3	ppmv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SO3	lb/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulfur Mist	lb/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Particulates (PM10 front half)	lb/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM10 (front and back halves)	lb/h	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

EXHAUST ANALYSIS % VOL

Arson	0.91	0.9	0.9	0.89	0.9	0.9	0.9	0.9	0.89	0.89	0.9	0.89	0.89	0.89	0.89	0.89
Nitrogen	75.16	75.06	75.13	75.10	75.02	74.97	75.04	75.08	74.72	74.7	74.77	74.61	74.4	74.4	74.48	74.54
Oxygen	12.60	12.39	12.6	12.73	12.61	12.44	12.65	12.79	12.51	12.46	12.66	12.8	12.42	12.44	12.65	12.83
Carbon Dioxide	3.83	3.95	3.87	3.81	3.85	3.93	3.83	3.77	3.86	3.86	3.78	3.72	3.86	3.85	3.75	3.87
Water	7.43	7.69	7.51	7.39	7.63	7.77	7.58	7.47	8.03	8.07	7.88	7.77	8.43	8.42	8.23	8.07

SITE CONDITIONS

Elevation	ft	506
Site Pressure	psia	14.4
Inlet Loss	in Water	4
Exhaust Loss	in Water	5.5 @ ISO Conditions
Relative Humidity	%	60
Application		7M6 Air Cooled Generator
Combustion System		942 DLN Combustor

Emission information based on GE recommended measurement methods. NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(c)(1). NOx levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

Sulfur Emissions based on 0.00636 Wt% Sulfur Content in the Fuel.

PGF- version code: 2.1.1.1 Cpl. N. 72410200
SANDEROO 10/03/2000 10:03 PeoplesEnergy/FAI.dcf

Peoples Energy

ESTIMATED PERFORMANCE PG72416FAI

Load Condition		BASE	80%	90%	50%	BASE	BASE	80%	50%	50%	BASE	BASE	80%	90%	50%	BASE
Ambient Temp	Deg F	75	75	75	75	75	00	90	90	90	90	110	110	110	110	110
Evap. Cooler Status		Off	Off	Off	Off	On	Off	Off	Off	Off	On	Off	Off	Off	Off	On
Evap. Cooler Effectiveness	%					85					85					85
Fuel Type		Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas
Fuel LHV	Btu/lb	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422
Fuel Temperature	Deg F	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Output	kW	158,100	126,500	94,900	79,100	163,000	148,600	118,900	89,200	74,300	154,600	134,600	107,700	80,800	67,300	142,900
Heat Rate (Btu/kWh)		9,525	10,155	11,540	12,490	8,455	9,705	10,430	11,830	12,820	9,605	10,660	10,920	12,340	13,420	9,660
Heat Cons. (Btu/Hr) X 106	Btu/h	1,505.9	1,284.9	1,086.1	988.0	1,541.2	1,442.2	1,248.1	1,056.2	952.5	1,486.9	1,351.1	1,176.1	997.1	933.2	1,111.9
Exhaust Flow X 103	lb/h	3305	2787	2431	2250	3361	3175	2706	2377	2211	3249	2991	2575	2290	2136	3078
Exhaust Temp.	Deg F	1141	1167	1200	1200	1134	1155	1181	1200	1200	1147	1178	1200	1200	1200	1156
Exhaust Heat (Btu/Hr) X 106	Btu/h	911.7	806.8	730.4	680.8	826	882.8	788.8	711.2	682.8	904.6	846.3	766	683.6	638.7	873.7

EMISSIONS

NOx	ppmvd @ 15% O2	9	9	9	9	9	9	9	9	9	9	9	9	9	50	9
NOx AS NO2	lb/h	55	46	39	35	56	52	44	37	34	54	49	42	35	199	51
CO	ppmvd	9	9	9	9	9	9	9	9	9	9	9	9	9	465	9
CO	lb/h	27	23	20	18	27	26	22	19	18	26	24	20	18	954	24
UHC	ppmvd	7	7	7	7	7	7	7	7	7	7	7	7	7	70	7
UHC	lb/h	13	11	10	9	13	13	11	9	9	13	12	10	9	85	12
VOC	ppmvd	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	14	1.4
VOC	lb/h	2.5	2.2	2	1.8	2.5	2.5	2.2	1.8	1.8	2.5	2.4	2	1.8	17	2.4
SO2	ppmvd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SO2	lb/h	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SO3	ppmvd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SO3	lb/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulfur Mist	lb/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Particulates (PM10 front half)	lb/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM10 (front and back halves)	lb/h	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

EXHAUST ANALYSIS % VOL

Argon	0.88	0.09	0.09	0.87	0.88	0.87	0.88	0.87	0.87	0.87	0.85	0.84	0.85	0.85	0.87	0.84
Nitrogen	73.85	73.06	73.94	74.03	73.62	73.03	73.05	73.15	73.24	72.76	71.25	71.28	71.42	71.49	70.92	
Oxygen	12.34	12.35	12.59	12.84	12.23	12.17	12.21	12.52	12.77	12.05	11.70	11.85	12.26	12.5	11.61	
Carbon Dioxide	3.83	3.82	3.71	3.6	3.85	3.8	3.78	3.64	3.53	3.83	3.77	3.72	3.53	3.42	3.8	
Water	9.11	9.09	8.88	8.66	9.42	10.13	10.09	9.82	9.6	10.51	12.38	12.3	11.94	11.73	12.83	

SITE CONDITIONS

Elevation	ft	506
Site Pressure	psia	14.4
Inlet Loss	in Water	4
Exhaust Loss	in Water	5.5 @ ISO Conditions
Relative Humidity	%	60
Application		7M6 Air Cooled Generator
Combustion System		942 DLN Combustor

Emission information based on GE recommended measurement methods. NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(c)(1). NOx levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

Sulfur Emissions based on 0.0006% Wt % Sulfur Content in the Fuel.

PGF- version code- 2.1.1 - Cyl.N - 72410200
SANDEROO 10/03/2000 10:03 PeoplesEnergy/FAI.dcf

Peoples Energy

ESTIMATED PERFORMANCE PG7121(EA)

Load Condition		BASE	60%	60%	50%	BASE	60%	60%	50%	BASE	60%	60%	50%	BASE	60%	60%	50%
Ambient Temp	Deg F	-10	-10	-10	-10	-10	20	20	20	45	45	45	45	50	50	50	50
Coop. Cooler Status		Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Evap. Cooler Effectiveness	%																
Fuel Type		Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas
Fuel LHV	Btu/lb	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422
Fuel Temperature	Deg F	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Output	kW	101,370	81,090	60,820	50,680	93,230	74,560	55,940	46,620	86,270	69,020	51,790	43,140	82,330	65,870	49,400	41,170
Heat Rate (Btu/kWh)	Ru/kWh	10,170	10,520	11,840	12,910	10,770	10,730	12,120	13,290	10,400	10,960	12,450	13,620	10,500	11,130	12,680	13,840
Heat Conv. (LHV) X 106	Btu/h	1,000.9	1,038.9	1,201.1	1,666.3	967.5	799.6	678.0	617.7	997.2	786.6	644.4	587.6	994.5	723.1	626.4	569.8
Exhaust Flow X 103	Btu/h	2985	2170	1622	1052	2519	2046	1722	1567	2394	1946	1644	1502	2308	1892	1601	1478
Exhaust Temp.	Deg F	951	975	1023	1057	972	1001	1051	1081	969	1023	1074	1100	990	1035	1087	1100
Exhaust Heat (LHV) X 106	Btu/h	646.6	643.4	483.6	466.6	603.1	613.0	466.0	433.3	568.7	401.3	441.7	416.1	660.6	476.6	432.4	406.7

EMISSIONS

NOx	ppmv @ 15% O2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
NOx AS NO2	Btu	38	31	26	24	35	29	24	22	33	27	23	21	32	26	22	20
CO	ppmv	75	65	64	45	75	60	60	34	74	76	76	60	76	76	48	48
CO	Btu	62	110	90	60	58	56	47	40	55	45	38	41	53	43	37	34
UHC	ppmv	7	14	13	11	7	7	7	8	7	7	7	7	7	7	7	12
UHC	Btu	11	17	14	10	10	9	7	8	9	8	6	6	9	7	6	10
VOC	ppmv	1.4	2.8	2.6	2.2	1.4	1.4	1.4	1.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	2.4
VOC	Btu	2.2	3.4	2.8	2	2	1.6	1.4	1.6	1.6	1.6	1.2	1.2	1.6	1.4	1.2	2
SO2	ppmv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SO2	Btu	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0
SO3	ppmv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SO3	Btu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulfur Mist	Btu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Particulates (PM10 front half)	Btu	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
PM10 (front and back halves)	Btu	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

EXHAUST ANALYSIS % VOL

Argon	0.92	0.09	0.91	0.89	0.91	0.9	0.89	0.9	0.91	0.89	0.9	0.9	0.9	0.89	0.89	0.91	0.91
Nitrogen	75.57	75.54	75.54	75.54	75.47	75.43	75.43	75.44	75.19	75.15	75.14	75.16	74.06	74.05	74.04	74.06	74.06
Oxygen	13.65	13.70	13.76	13.70	13.09	13.77	13.77	13.79	13.89	13.75	13.74	13.76	13.05	13.71	13.09	13.81	13.81
Carbon Dioxide	3.29	3.34	3.33	3.34	3.26	3.31	3.32	3.31	3.22	3.29	3.29	3.27	3.2	3.27	3.26	3.22	3.22
Water	6.38	6.47	6.40	6.47	6.48	6.59	6.59	6.57	6.8	6.92	6.92	6.9	7.16	7.20	7.3	7.19	7.19

SITE CONDITIONS

Elevation	ft	506
Site Pressure	psia	14.4
Inlet Loss	in Water	4.5
Exhaust Loss	in Water	5.5 @ ISO Conditions
Relative Humidity	%	50
Application		7M6 Air Cooled Generator
Combustion System		942 DLN Combustor

Emission information based on GE recommended measurement methods. NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(c)(1). NOx levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

Sulfur Emissions based on 0.0006% Wt % Sulfur Content in the Fuel.

PGP- version code: 2.1.1 Cyl.N 71210980
SANDEROO 10/03/2000 9:21 PeoplesEnergy/EA.dad

Peoples Energy

ESTIMATED PERFORMANCE PG7121(EA)

Load Condition		BASE	80%	90%	50%	BASE	BASE	80%	90%	50%	BASE	BASE	80%	90%	50%	BASE
Ambient Temp	Deg F	75	75	75	75	75	00	90	90	90	90	110	110	110	110	110
Coop. Cooler Status		Off	Off	Off	Off	On	Off	Off	Off	Off	On	Off	Off	Off	Off	On
Evap. Cooler Effectiveness	%					85					85					85
Fuel Type		Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas	Cost Gas
Fuel LHV	Btu/lb	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422	20,422
Fuel Temperature	Deg F	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Output	kW	77,710	62,190	46,620	36,850	80,090	73,300	56,640	43,980	36,650	76,190	67,490	53,990	40,490	33,740	70,910
Heat Rate (Btu/kWh)	Btu/kWh	10,640	11,370	12,570	14,130	10,580	10,800	11,640	13,260	14,460	10,720	11,070	12,060	13,700	15,010	10,960
Heat Cons. (LHV) X 106	Btu/h	826.8	706.8	601.7	519.0	817.4	791.6	682.6	582.7	500.0	816.9	747.1	650.6	561.7	466.4	776.5
Exhaust Flow X 103	Btu/h	2220	1827	1552	1448	2260	2134	1750	1519	1418	2183	2015	1665	1466	1377	2072
Exhaust Temp.	Deg F	1009	1050	1100	1100	1004	1019	1060	1100	1100	1013	1034	1090	1100	1100	1027
Exhaust Heat (LHV) X 106	Btu/h	406.8	466.7	420.9	303.6	641.8	610.9	466.4	408.8	382.8	626.3	487.7	440.3	393.6	369.8	604.3

EMISSIONS

NOx	ppmvd @ 15% O2	9	9	9	9	9	9	9	9	54	9	9	9	9	38	9
NOx AS NO2	Btu	30	25	22	20	31	29	25	21	113	30	27	23	20	76	28
CO	ppmvd	75	76	76	81	76	76	76	73	74	76	76	76	88	75	76
CO	Btu	50	41	35	119	51	40	40	43	32	40	46	37	114	51	48
UHC	ppmvd	7	7	7	23	7	7	7	8	7	7	7	7	22	7	7
UHC	Btu	9	7	6	19	9	8	7	7	6	9	8	7	18	6	8
VOC	ppmvd	1.4	1.4	1.4	4.6	1.4	1.4	1.4	1.6	1.4	1.4	1.4	1.4	4.4	1.4	1.4
VOC	Btu	1.8	1.4	1.2	3.0	1.8	1.8	1.4	1.4	1.2	1.8	1.8	1.4	3.6	1.2	1.6
SO2	ppmvd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SO2	Btu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SO3	ppmvd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SO3	Btu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulfur Mist	Btu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Particulates (PM10 front half)	Btu	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
PM10 (front and back halves)	Btu	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

EXHAUST ANALYSIS % VOL.

Arson	0.88	0.87	0.89	0.89	0.9	0.87	0.87	0.88	0.89	0.88	0.87	0.86	0.86	0.85	0.86
Nitrogen	74.34	74.29	74.28	74.35	74.11	73.51	73.45	73.48	73.55	73.24	71.71	71.64	71.72	71.79	71.39
Oxygen	13.75	13.6	13.59	13.8	13.65	13.56	13.36	13.49	13.69	13.46	13.15	12.92	13.18	13.37	13.01
Carbon Dioxide	3.18	3.25	3.25	3.16	3.19	3.15	3.24	3.19	3.1	3.17	3.12	3.23	3.11	3.02	3.15
Water	7.85	7.99	7.99	7.81	8.16	8.69	9.06	8.96	8.78	9.26	11.16	11.36	11.14	10.97	11.6

SITE CONDITIONS

Elevation	ft	508
Site Pressure	psia	14.4
Inlet Loss	in Water	4.5
Exhaust Loss	in Water	5.5 @ ISO Conditions
Relative Humidity	%	50
Application		7M6 Air Cooled Generator
Combustion System		942 DLN Combustor

Emission information based on GE recommended measurement methods. NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(c)(1). NOx levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

Sulfur Emissions based on 0.00636 Wt% Sulfur Content in the Fuel.

PGP- version code- 2.1.1 - Cyl.N - 71210980
SANDEROO 10/03/2000 9:21 PeoplesEnergy/EA.GAT

Elwood Project Start-Up Emissions Estimates - GE Proprietary

PG7241FA, Gas Fuel as specified in Black and Veatch Feasibility Study.

Combustion System: DLN 2.6 with Inlet Bleed Heat

Emissions are same for gas turbine cold, warm or hot start. Start times will however be different, please refer to the start-up curves provided for starting times.

Shutdown emissions are same as for start-up.

GT Load	NOx	CO	VOC	SO ₂ (3)
% of Base	ppmv	ppmv	ppmv	ppmv
FSNL	64	102	21	(2)
10	74	597	53	1
20	75	100	9	1
30	99	621	25.6	1
40	95	584	19.4	1
50	15	15	1.4	1
60	15	15	1.4	1
70	15	15	1.4	1
80	15	15	1.4	1
90	15	15	1.4	1
100	15	15	1.4	1

GT Load	NOx (1)	CO	VOC	SO ₂ (3)	PM (4)
% of Base	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
FSNL	106	197	24	(5)	18
10	162	195	53	3	19
20	207	190	10.4	3	19
30	329	1045	27	4	19
40	370	1203	25.2	5	19
50	67	34	2	5	19
60	74	37	2.2	6	19
70	81	40	2.2	6	19
80	88	43	2.4	7	19
90	96	47	2.8	8	19
100	107	52	24	8	19

Ignition to FSNL (Full Speed No Load)NOx as NO₂: 11 lbs PM: 3 lbs

CO: 320 lbs SOX: < 1 lbs, Function of fuel sulfur content

VOC: 34 lbs

Notes:

- (1) NOx as NO₂
- (2) Less than 1 ppmv
- (3) Based on gas fuel analysis sulfur content, will vary based on fuel sulfur content
- (4) Front and back half
- (5) Less than 3 lb/hr

PG7241FA - Elwood StartUp Emissions

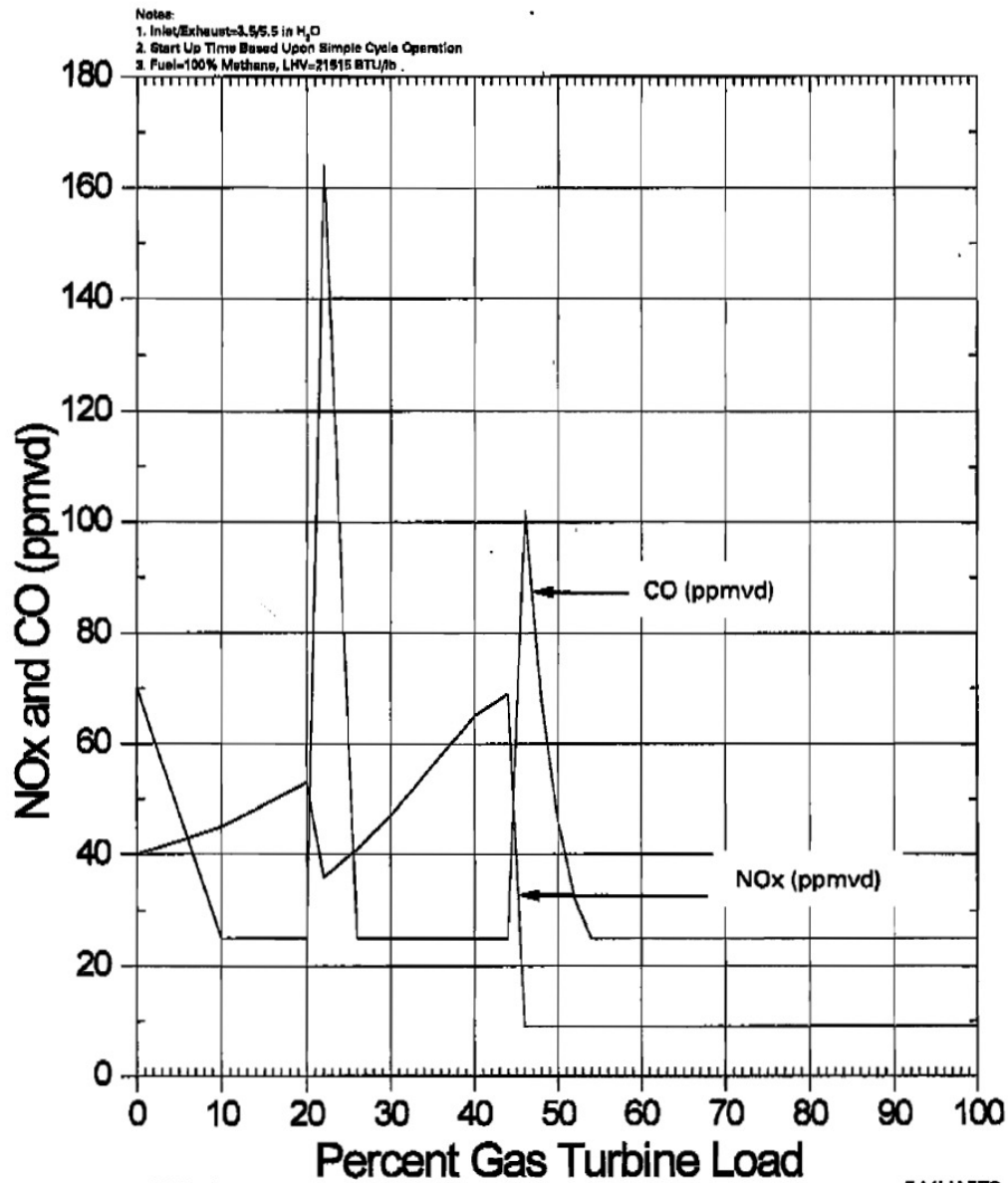
GE Proprietary

FMF, 6/1/98

OCT 10 '00 03:17PM GE PGS SALES

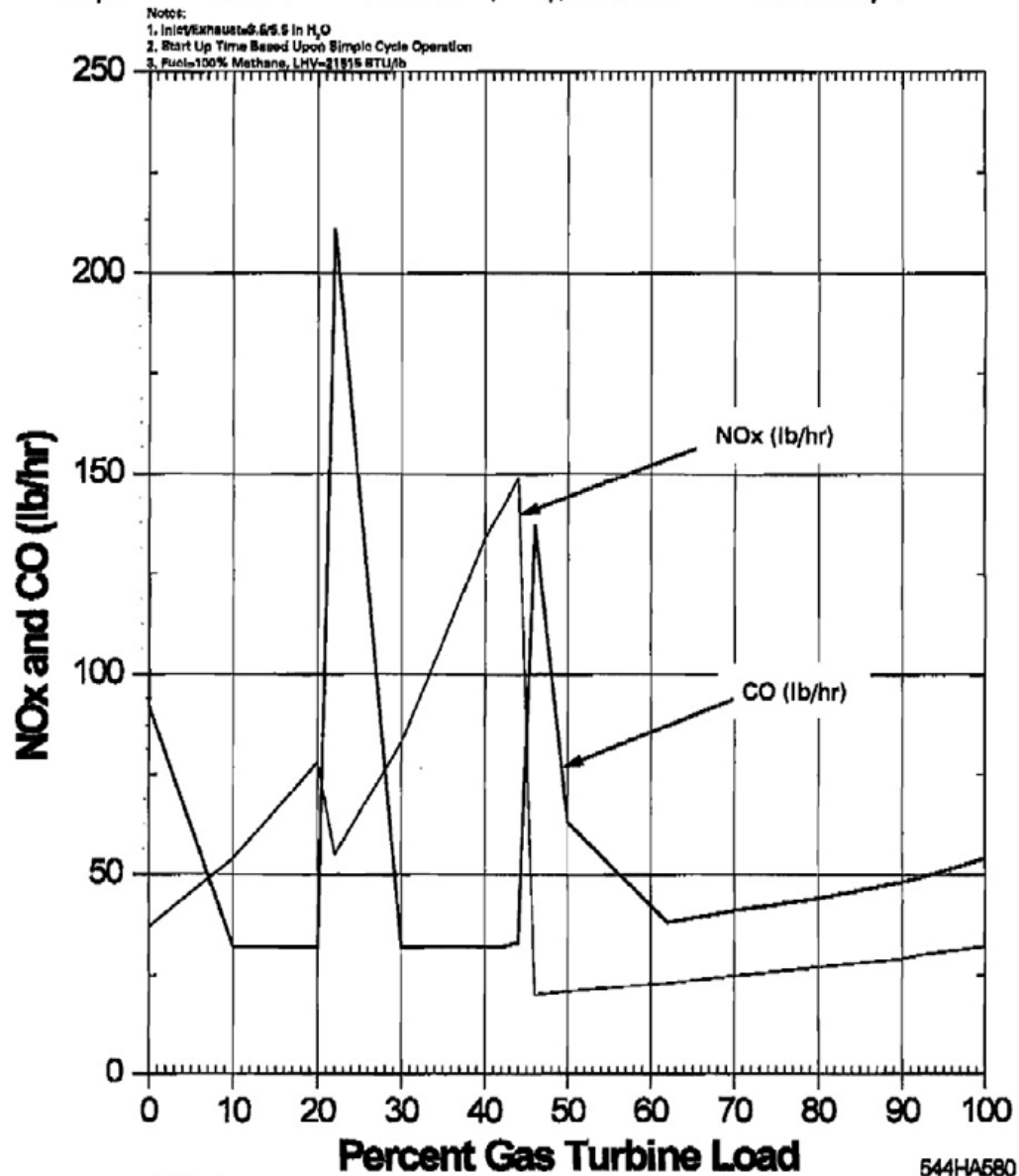
P.2

General Electric Model PG7121EA Gas Turbine
Estimated Emissions - Configuration: DLN-1 (9ppmvd)
Compressor Inlet Conditions 59F (15C), 60% Relative Humidity and 0 ft asl

APSingh
08/05/00544HA579
Rev. 2

OCT 10 '00 03:18PM GE PGS SALES

P.3

General Electric Model PG7121EA Gas Turbine**Estimated Emissions - Configuration: DLN-1 (9ppmvd)****Compressor Inlet Conditions 59F (15C), 60% Relative Humidity and 0 ft asl**APSingh
09/05/00544HA560
Rev. 2

File: LunaEmissions.pdf

This file presents back-up VOC emissions data as provided by Duke/Fluor Daniel for the "Luna Project in Deming, NM.

Excerpt from Attachment D to Air Quality Permit Application, October 2001.

2 x 1 Combined Cycle Plant with Chiller and Duct Firing with 3.5 ppmvd NOx @ 15% O2
Two General Electric Model PG7241 (FA) Combustion Turbine Generators
Two Duct Fired Heat Recovery Steam Generators w/SCRs
One Concentrating Reheat Steam Turbine Generator

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Estimated Plant Performance and Emissions Data Calculations
2 x 1 Combined Cycle Plant with Chiller and Duct Firing with LI powered MCH @ 18% O2
Two General Electric Model PG74 (1/A) Combustion Turbine Generators
Two Duct Fired Heat Recovery Steam Generators w/SGRs -
One Condensing Subsat Steam Turbine Generator

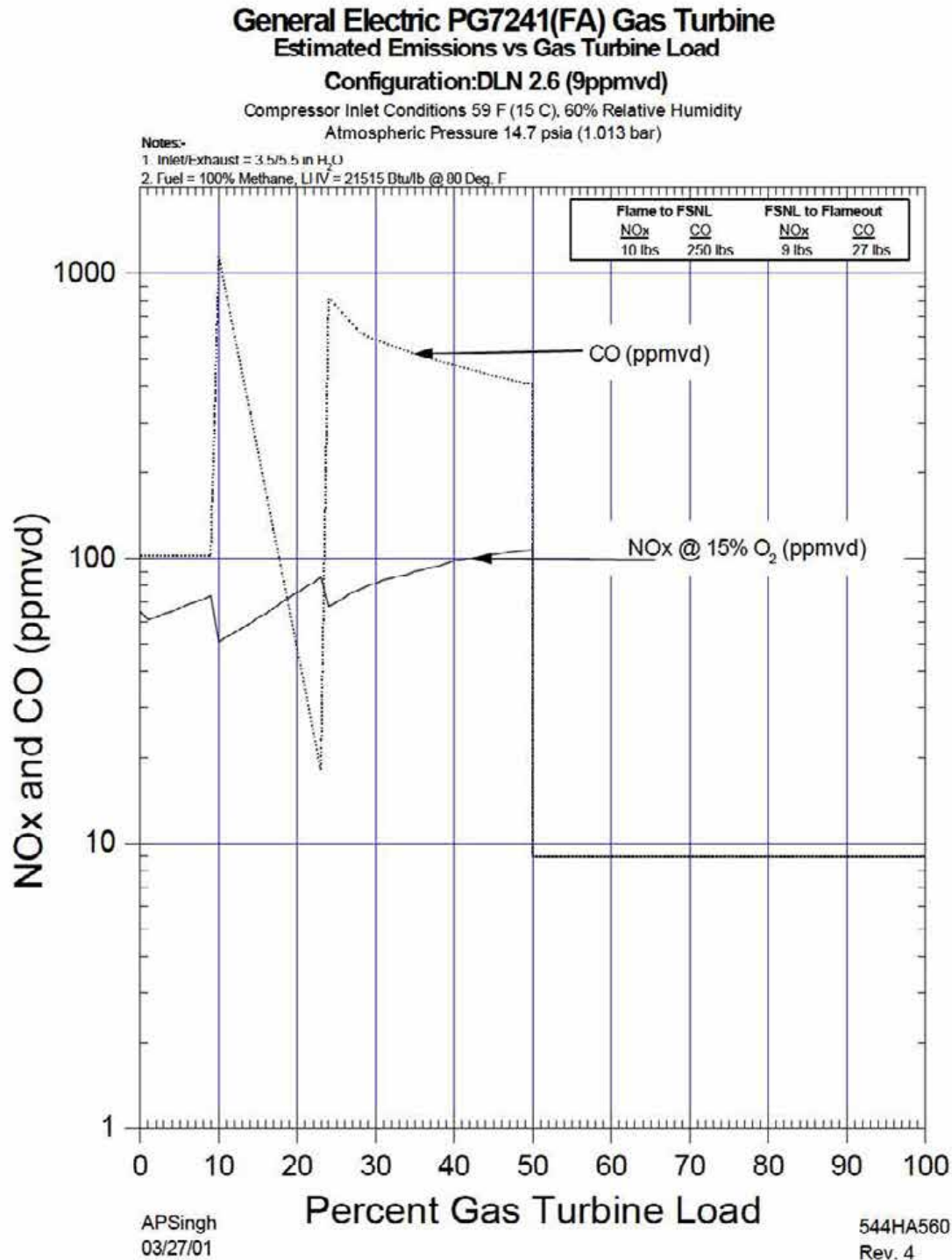
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File: 7FA Startup Emission Curves.pdf

This file presents GE emissions modeling data on estimated emissions during startup.

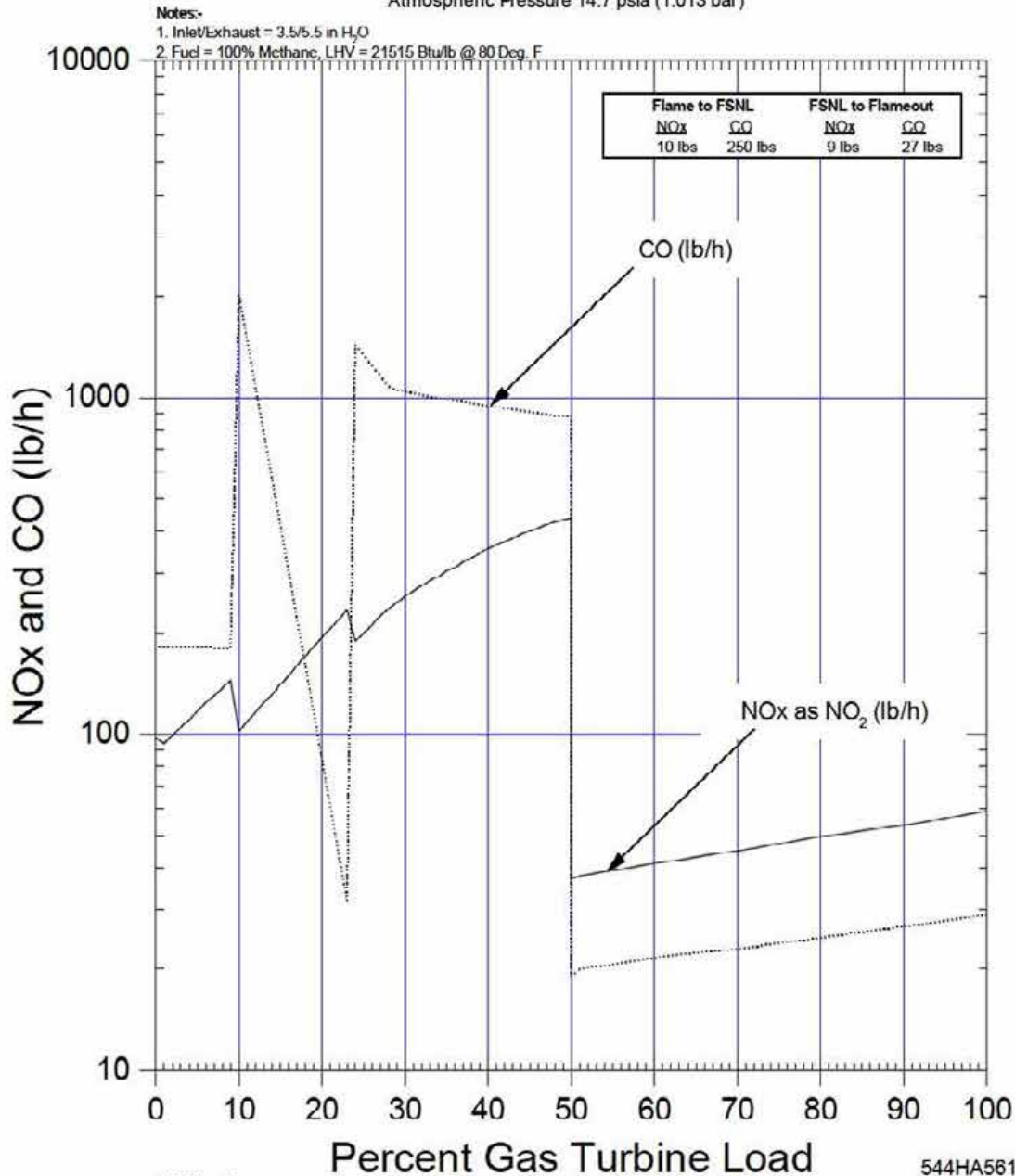
Excerpt from Attachment D to Air Quality Permit Application, October 2001.



GE recommends Startup/Shutdown emissions for compliance stated as lbs/event. These curves provide reference and represent only one piece of information needed to determine Startup/Shutdowns lbs/event.

General Electric PG7241(FA) Gas Turbine
Estimated Emissions vs Gas Turbine Load
Configuration:DLN 2.6 (9ppmvd)

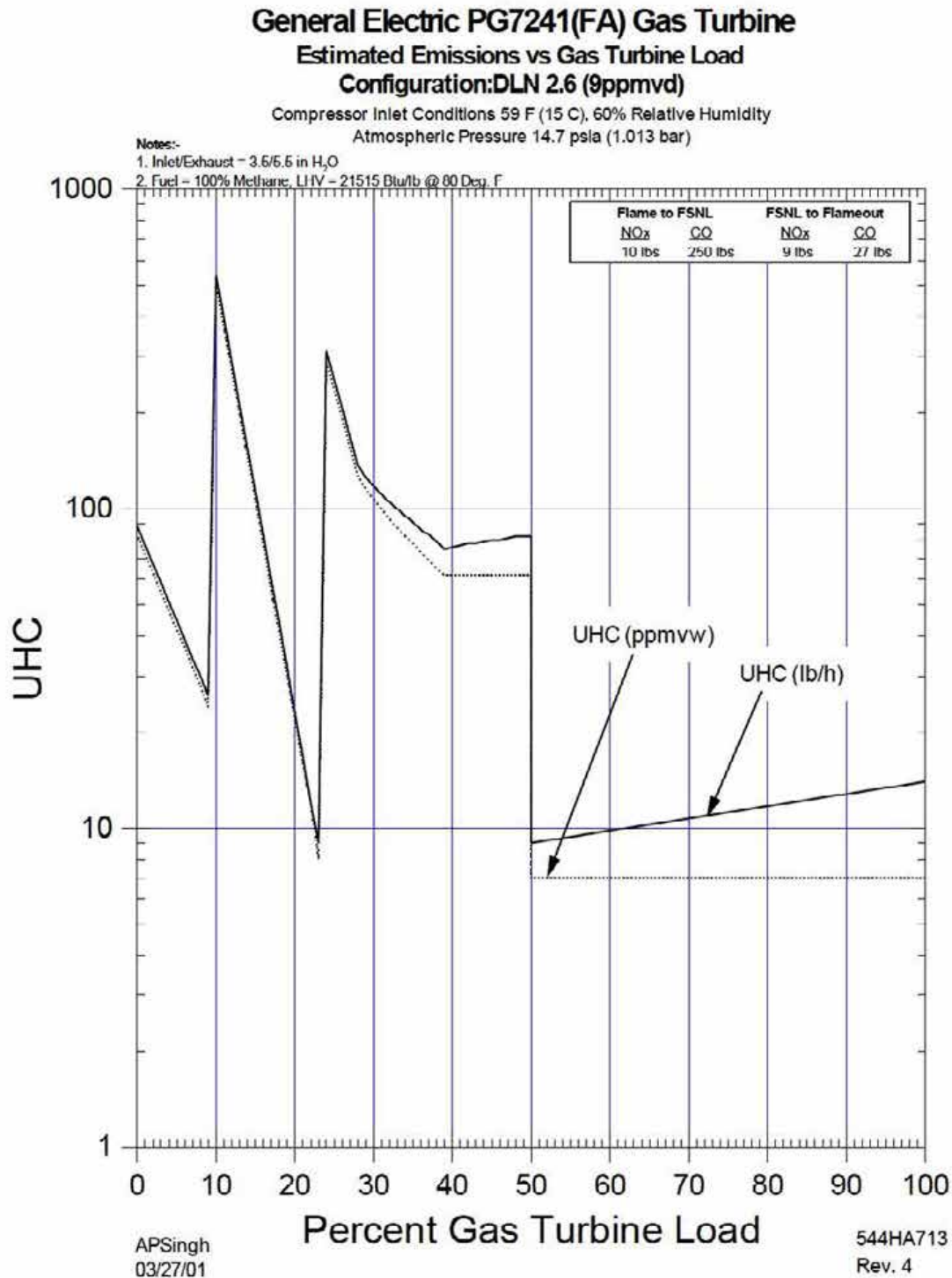
Compressor inlet Conditions 59 F (15 C), 60% Relative Humidity
Atmospheric Pressure 14.7 psia (1.013 bar)



APSingh
03/27/01

544HA561
Rev. 4

GE recommends Startup/Shutdown emissions for compliance stated as lbs/event. These curves provide reference and represent only one piece of information needed to determine Startup/Shutdowns lbs/event.



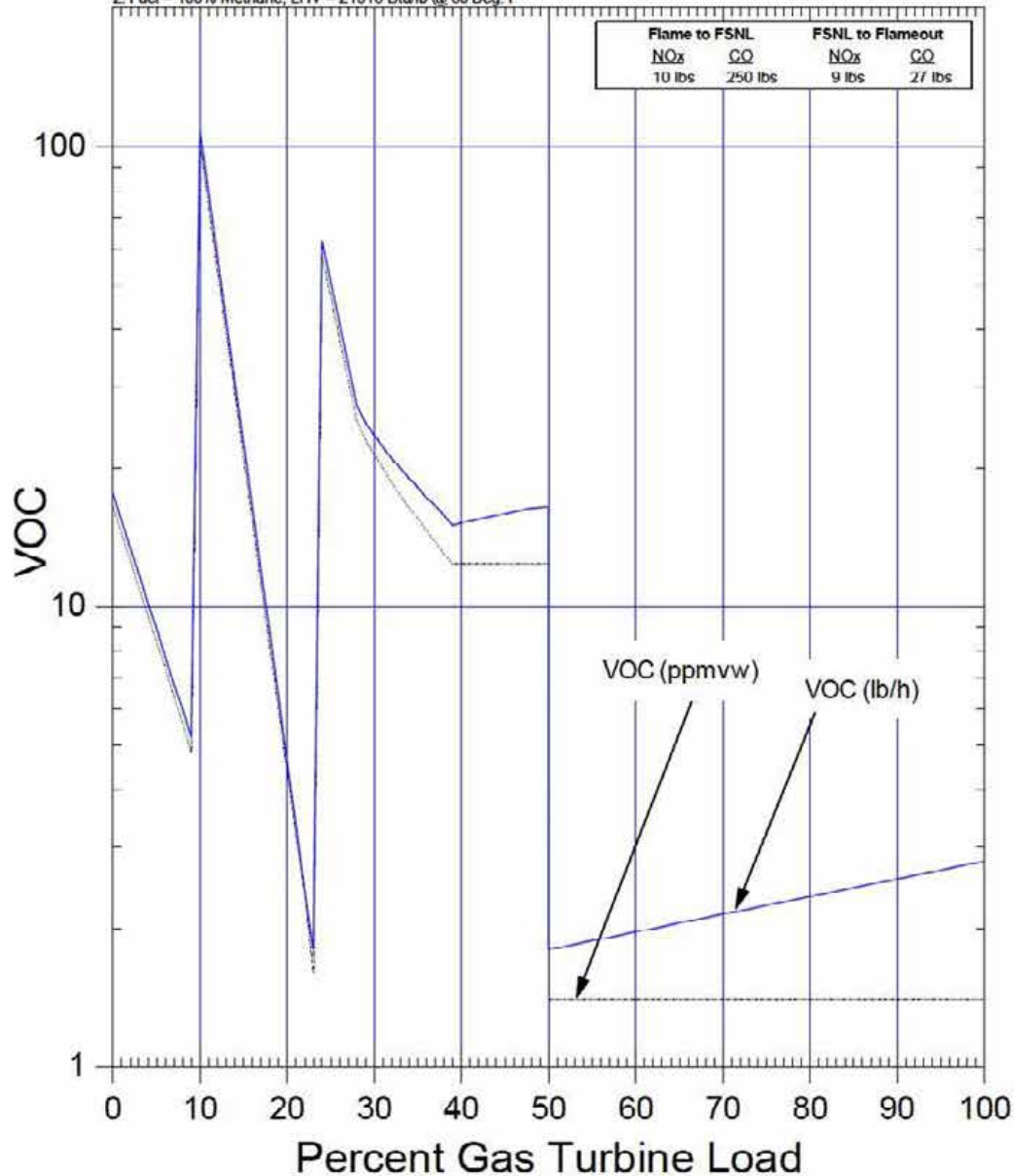
GE recommends Startup/Shutdown emissions for compliance stated as lbs/evnt. These curves provide reference and represent only one piece of information needed to determine Startup/Shutdowns lbs/evnt.

General Electric PG7241(FA) Gas Turbine
Estimated Emissions vs Gas Turbine Load
Configuration:DLN 2.6 (9ppmvd)

Compressor Inlet Conditions 59 F (15 C), 60% Relative Humidity
Atmospheric Pressure 14.7 psia (1.013 bar)

Notes:-

1. Inlet/Exhaust = 3.5/5.5 in H₂O
2. Fuel = 100% Methane, LHV = 21515 Btu/lb @ 80 Deg. F



APSingh
03/27/01

544HA684
Rev. 4

GE recommends Startup/Shutdown emissions for compliance stated as lbs/event. These curves provide reference and represent only one piece of information needed to determine Startup/Shutdowns lbs/event.

File: LunaSSM.pdf

This file presents an excerpt from the air permit application for the Luna Project describing the conditions found during startup, shut down and malfunction. This information was incorporated into the Plant's original Air Quality Permit Application of October 2001.

Excerpt from Attachment D to Air Quality Permit Application, October 2001.

ATTACHMENT J

Startup, Shutdown, Malfunction

Attachment J.doc

J-1

ATTACHMENT J

Malfunction, Startup, Shutdown**Startup**

During startup, CTG emissions of CO will exceed that emitted during any normal operation mode. Also, as further described in the BACT analysis in Section 3.0, it is technically infeasible to operate the SCR control devices until the system is up to nearly full temperature. Thus startup CTG emissions of NO_x will exceed that emitted during any normal operation mode. These emissions, however, have been included in the total annual emission estimates included in this document. Furthermore, specific ambient impact modeling has been conducted to demonstrate that startup emissions will not cause an exceedance of any NAAQS, NMAAQs, or PSD increment. Up to 248 starts per turbine per year could occur.

For the LEF, combustion turbine startups can be classified into cold, warm, and hot starts depending on the duration that the plant was shut down. A cold startup takes longer than a hot start. Data on each startup mode is shown in Table J-1.

TABLE J-1
Startup Scenarios

Scenario	Duration (minutes)	Occurs after a Shutdown of Greater Than	Average Emissions per Turbine (lb/hr)	
			NO _x	CO
Hot Start	85	8 hrs	102.5	594
Warm Start	130	48 hrs	102.5	594
Cold Start	248	72 hrs	102.5	594

For the ambient air quality and AQRV analyses annual standards, total operation of the CTGs in startup mode was conservatively estimated at 369 hours per turbine per year. This is equivalent to 260 hot starts per year.

For comparison to 1-hour and 8-hour CO standards, the ambient air quality analysis conservatively assumed that the CTGs released the instantaneous startup emission rate for the entire 1-hour and 8-hour periods.

It is very unlikely that more than one startup per turbine per day would ever be required. There is the possibility that an attempted startup would be unsuccessful due to maintenance problems such as a control system failure.

The "startup worst-case in 24-hour" modeling scenario demonstrates that, up to 7 hours of uncontrolled startup, NO_x emissions could occur without exceedance of the 24-hour NO_x

SIL at any receptor. The analysis assumes that the CTGs emit at the normal 3.5 ppmvd (corrected to 15 percent O₂) for the balance of the 24-hour period.

Shutdown

A typical gas turbine uses a fueled shutdown to avoid thermally shocking the turbine with colder air. Data available from other operating plants indicates that excess emissions during shutdown are comparable to startup emissions. The "startup worst-case 24-hour" scenario described above includes 7 hours of startup emissions. This seven hours covers both startup and shutdown in any worst case 24-hour period.

Fuel flow to the duct burners and auxiliary boiler are immediately stopped on shutdown, so no shutdown emissions occur. Similarly, when the cooling tower is shutdown, water flow and the associated drift emissions immediately stop.

Malfunction

In the event of a malfunction of a CTG, duct burner, or auxiliary boiler, the malfunctioning unit would be immediately shut down. This includes any malfunction that could create excess emissions. The only malfunction of the cooling tower that could create excess emissions is the structural failure of a drift eliminator. If this occurs, the affected cooling tower cell would be shut down, and the remaining 11 cells would dissipate the heat load.

The only identified plant malfunction that could create excess emissions is a failure of one of the SCR units. Any failure of a SCR unit would be immediately detected by the plant CEMs, and appropriate corrective action, including shutdown of the corresponding CTG, would be immediately initiated. Any excess emissions created by a SCR failure will be appropriately reported to NMED AQB as required by 20 NMAC 2.2.110, *Notification*.

PRISM CONSULTING

Valencia Power Plant

Tom Arnold

3/5/2010 (Revised 8/23/2010)

NOx Emissions NSR 2620-R6 lists normal ops and 24 rolling average with SU/SD cycles = 59.4 lb/hr
Unit FA CTG 1 maximum rated capacity = 159.5 MW

Assumptions (run data sheets from CEMs attached)

- 1) Use 1-hr actual operating data of 01/06/10 11:00 to 18:00 as representative data for startup and shutdown maximum emissions
Hour 11:00 includes Startup cycle, Hours 12:00 to 17:00 are Normal operations, and Hour 18:00 includes Shutdown cycle
Average of 6 hours of stable operations with average peak load of 154 MWe is 49.9 lb/hr. Use this value as Normal NOx
- 2) Use 1 minute data for hour 11:00 select data for 20 minute period after signal on as startup
Average of 20 minutes of data from 11:33 to 11:53 is 138.6 lb/hr. Use this value as Startup NOx cycle
- 3) Use 1 minute data for hour 18:00 select data for 10 minute period before signal off as shutdown
Average of 10 minutes of data from 18:20 to 18:30 is 64.3 lb/hr. Use this value as Shutdown NOx cycle
- 4) Use 1-hr actual data from hour 18 on 01/21/09 of 59.7 to identify maximum recorded normal hour emissions
- 5) Replace existing rolling 24-hr permit limit with maximum normal hourly emission rate (use recorded max plus 20%)

Calculations

1. Estimate worst case one hour emissions assuming a sum of startup, normal (x 1.2) and shut down emissions all occurred in one hour
this will establish worst case maximum hourly emissions for air dispersion modeling

	avg lbs	Minutes	Cycles	Normal emission rate from 01/21/09 = 59.7 lb/hr.
	138.6 startup	20	2	Maximum normal = 59.7 x 1.2 = 71.64 lb/hr Nox
"n"	71.64 normal	20	Note: Historical minute operating records show that startup and shutdown cycles occur in 20 minutes or less and cannot occur over a complete 1-hr period.	
	64.3 shutdown	20		
"a"	274.54 lb/hr cycle	60		

2. Estimate worst case annual startup shutdown cycle emissions (T/yr) using 300 SU/SD cycles per year:

$$"x" \text{ hrs of S/N/S cycles/yr} \times "a" \text{ lb/hr} / 2,000 \text{ lb/T} = "A" \text{ T/yr}$$

"x" cycle hrs	"A" T/yr
300	41.18

3. In order to keep total emission under 250 T/yr (target as 247 T/yr) use the S/N/S cycles to determine the remaining T/yr for normal operations ("B") using:

$$247 \text{ T/yr} - "A" = "B" \text{ T/yr}$$

"A" T/yr	"B" T/yr
41.18	205.82

4. Determine the range for permitted lb/hr normal operations rate "D". Determine annual operating hours "C"

$$"B" \text{ T/yr} \times 2000 \text{ lb/T} / 2 \times "n" = "C" \text{ the normal annual operating hours at maximum plant load}$$

"x" cycle hrs	"C" hours per year and plant availability in %
300	36.22%
	3173 Total annual operating hours at maximum load
	2873 Max annual operating hours less S/S hours
"D" lb/hr (which is the combined maximum normal operations total for both CTG units) $2 \times "n"$	143.28
"D" lb/hr (on a per CTG units) Set - NOx maximum load average at 71.64 lb/hr	71.64

5. Requested "Allowable Emissions" :

71.64 lb/hr per each FA-CTG
247.0 T/yr (total for 2 FA-CTGs)

6. Determine Excess Emissions:

Startup/shutdown @ 274.54 lb/hr/cycle
- hourly maximum Normal @ 71.64 lb/hr (see Table 2C)
Excess Emissions = 202.90 lb/hr (see Table 2F)

PRISM CONSULTING

Valencia Power Plant
Tom Arnold
3/5/2010

CO Emissions NSR 2620-R6 lists normal ops = 29.7 lb/hr and SU/SD cycles = 394 lb/hr

Using Startup/Normal ops and Shutdown cycle data of 08/24/09 13:30 to 19:10 but test normal at permitted values

1. Estimate worst case startup and shut down in one hour (maximum 1 hr emissions)

avg lbs	Minutes	Other hourly emissions assuming two cycles in 8-hr and four cycles in 24-hr	
231.64 startup	20	1	78.05 Rolling 8-hr average ("n" x (8 - cycles) + "a" x cycles) /
"n" 29.7 normal	20	2	126.41 Rolling 24-hr average ("n" x (24 - cycles) + "a" x cycles
155.10 shutdown	20		
"a" 416.53 lb/hr cycle	60		

2. Estimate worst case annual startup shutdown cycle emissions (T/yr) using:

$$"x" \text{ hrs of S/N/S cycles/yr} \times "a" \text{ lb/hr} / 2,000 \text{ lb/T} = "A" \text{ T/yr}$$

"x" cycle hrs	"A" T/yr
300	62.48

3. In order to keep total emission under 250 T/yr (target as 247 T/yr) use the S/N/S cycles to determine the remaining T/yr for normal operations ("B") using:

$$247 \text{ T/yr} - "A" = "B" \text{ T/yr}$$

"A" T/yr	"B" T/yr
62.48	184.52

4. Determine the range for permitted lb/hr normal operations rate "D". Test for various annual availabilities "C" as percent

$$"B" \text{ T/yr} \times 2000 \text{ lb/T} / (8760 \times "C" - "x" \text{ hours}) = "D" \text{ lb/hr which is the combined total for both units}$$

"x" cycle hrs	"C" availabilities % and hours/yr	
	70.00%	
	6132	
	5832	Max annual operating hours less S/S hours
"D" lb/hr (which is the combined total for both CTG units)		
300	63.28	
"D" lb/hr (on a per CTG units) Note - CO average at 0.76 lb/hr for normal ops		
300	31.64	

5. Requested "Allowable Emissions":

29.7 lb/hr (per FA-CTG)
247.0 T/yr (Total for 2 FA-CTGs)

6. Determine Excess Emissions

Startup/shutdown @ 416.53 lb/hr/cycle
- Normal @ 29.70 lb/hr (see Table 2E)
Excess Emissions = 386.83 lb/hr (see Table 2F)

Valencia Power Plant
Startup/Normal Operations/Shutdown Cycle 08/24/00 13:30 to 08/24/00 19:10

Date/Time	UT/UT - on Minutes	NOx ppmvd	NOx lb/hr	CO ppm	CO lb/hr	LO2 Mass	Shutdown Minutes
08/24/2000 13:30	0	0	0	0	0	0	0
08/24/2000 13:31	0	0	0	0	0	0	0
08/24/2000 13:32	0	0	0	0	0	-1	0
08/24/2000 13:33	0	0	0	0	0	0	0
08/24/2000 13:34	0	0	0	0	0	0	0
08/24/2000 13:35	0	0	0	0	0	1	0
08/24/2000 13:36	1	0	0	0	0	1	0
08/24/2000 13:37	1	0	0	0	0	0	0
08/24/2000 13:38	1	47.2	14	27	143.7	-1	0
08/24/2000 13:39	1	19.8	7.0	150.3	148.7	-2	0
08/24/2000 13:40	1	14.2	7.1	320.4	240.0	-2	0
08/24/2000 13:41	1	13.9	7.0	800.4	441.1	-2	0
08/24/2000 13:42	1	20.7	13.5	780.3	487.3	-2	0
08/24/2000 13:43	1	28.8	20.6	411	200.8	0	0
08/24/2000 13:44	1	33	31.2	252.8	221.1	-2	0
08/24/2000 13:45	1	34.5	46	151.8	712.4	0	0
08/24/2000 13:46	1	37.4	64.5	109.5	308.0	2	0
08/24/2000 13:47	1	48.4	94.8	257.9	510.1	17	0
08/24/2000 13:48	1	71.9	100.0	170	304.2	20	0
08/24/2000 13:49	1	89.9	185.0	731.7	418.1	41	0
08/24/2000 13:50	1	69.7	106	118.0	324.0	62	0
08/24/2000 13:51	1	07.9	233.0	03.0	87.8	00	0
08/24/2000 13:52	1	79.8	280	18.3	33.4	77	0
08/24/2000 13:53	1	04	358	13.2	25.7	06	0
08/24/2000 13:54	1	91	369.7	11.8	22.9	94	0
08/24/2000 13:55	1	18.8	73.4	3.2	6.1	88	0
08/24/2000 13:56	1	11.0	44.3	0.9	1.7	83	0
08/24/2000 13:57	1	11.1	41.0	0.8	1.5	81	0
08/24/2000 13:58	1	10.0	40.2	0.7	1.3	80	0
08/24/2000 13:59	1	10.2	37.9	0.9	1.1	83	0
08/24/2000 14:00	1	0.0	37.8	0.8	1.1	83	0
08/24/2000 14:01	1	0.7	30.0	0.0	0.0	88	0
08/24/2000 14:02	1	0.0	16.0	0.0	0.0	83	0
08/24/2000 14:03	1	0.3	34.5	0.5	0.9	03	0
08/24/2000 14:04	1	0.3	34.5	0.5	0.9	82	0
08/24/2000 14:05	1	0.1	34.5	0.5	0.9	83	0
08/24/2000 14:06	1	0.1	34.5	0.5	0.9	82	0
08/24/2000 14:07	1	0	11.5	0.5	0.5	81	0
08/24/2000 14:08	1	0.0	33.0	0.0	0.0	82	0
08/24/2000 14:09	1	0.0	32.5	0.4	0.7	82	0
08/24/2000 14:10	1	0.8	32.8	0.4	0.8	83	0
08/24/2000 14:11	1	0.0	32.5	0.4	0.8	82	0
08/24/2000 14:12	1	0.4	31.5	0.4	0.8	83	0
08/24/2000 14:13	1	0.4	31.0	0.4	0.8	83	0
08/24/2000 14:14	1	0.2	30.7	0.4	0.8	87	0
08/24/2000 14:15	1	0.2	30.2	0.4	0.8	83	0
08/24/2000 14:16	1	0.1	30.2	0.4	0.8	83	0
08/24/2000 14:17	1	0.1	30.2	0.4	0.8	82	0
08/24/2000 14:18	1	0.1	30.2	0.4	0.8	83	0
08/24/2000 14:19	1	0.1	30.2	0.4	0.8	82	0
08/24/2000 14:20	1	0.1	30.2	0.4	0.8	83	0
08/24/2000 14:21	1	0.1	30.7	0.4	0.8	83	0
08/24/2000 14:22	1	0	20.2	0.4	0.8	89	0
08/24/2000 14:23	1	7.8	28.2	0.4	0.8	83	0
08/24/2000 14:24	1	7.8	29.7	0.4	0.8	83	0
08/24/2000 14:25	1	7.7	28.4	0.4	0.8	83	0
08/24/2000 14:26	1	7.7	28.4	0.4	0.8	83	0
08/24/2000 14:27	1	11.5	43.3	0	0	83	0
08/24/2000 14:28	1	0.2	0	2.7	0	83	0
08/24/2000 14:29	1	0.1	0	0.1	0	83	0
08/24/2000 14:30	1	0.1	0	0.1	0	83	0
08/24/2000 14:31	1	0.1	0	0.1	0	83	0
08/24/2000 14:32	1	0.3	33.0	0.8	3.7	83	0
08/24/2000 14:33	1	0	18.1	0	5.7	83	0
08/24/2000 14:34	1	0	18.1	0.1	5.8	83	0
08/24/2000 14:35	1	0	18.1	0.1	5.8	83	0
08/24/2000 14:36	1	0	18.1	0.1	5.8	83	0
08/24/2000 14:37	1	0.0	0.1	0	0	89	0
08/24/2000 14:38	1	-7.0	-28.2	0	0	82	0
08/24/2000 14:39	1	-7.5	-28.7	0	0	81	0
08/24/2000 14:40	1	7.5	27.2	0.6	6.1	82	0
08/24/2000 14:41	1	-7.5	-27.2	0.4	0	83	0
08/24/2000 14:42	1	-10.5	-28.3	0	0	83	0
08/24/2000 14:43	1	8.1	30.2	0	0	83	0
08/24/2000 14:44	1	7.8	28.2	1.7	3.2	83	0
08/24/2000 14:45	1	7.7	28.2	1.2	2.3	82	0
08/24/2000 14:46	1	7.8	28.7	0.9	1.7	83	0
08/24/2000 14:47	1	7.7	28.2	0.7	1.3	83	0
08/24/2000 14:48	1	7.7	28.2	0.6	1.1	83	0
08/24/2000 14:49	1	7.7	28.2	0.5	1	83	0
08/24/2000 14:50	1	7.7	28.2	0.5	1	83	0
08/24/2000 14:51	1	7.7	28.7	0.4	0.8	83	0
08/24/2000 14:52	1	7.7	28.2	0.4	0.8	83	0
08/24/2000 14:53	1	7.7	28.7	0.4	0.8	83	0
08/24/2000 14:54	1	7.7	28.2	0.4	0.8	83	0
08/24/2000 14:55	1	7.0	28.2	0.4	0.8	82	0
08/24/2000 14:56	1	7.8	28.2	0.4	0.8	83	0
08/24/2000 14:57	1	7.8	28.2	0.4	0.8	83	0
08/24/2000 14:58	1	7.5	28.2	0.4	0.8	83	0
08/24/2000 14:59	1	7.8	28.2	0.4	0.8	82	0
08/24/2000 15:00	1	7.5	28.7	0.4	0.8	84	0
08/24/2000 15:01	1	7.5	28.2	0.3	0.8	84	0
08/24/2000 15:02	1	7.5	28.2	0.3	0.8	83	0
08/24/2000 15:03	1	7.8	28.2	0.3	0.8	83	0
08/24/2000 15:04	1	7.8	28.2	0.3	0.8	83	0
08/24/2000 15:05	1	7.0	28.2	0.4	0.8	83	0
08/24/2000 15:06	1	7.5	28.2	0.4	0.8	83	0
08/24/2000 15:07	1	7.5	28.2	0.4	0.8	83	0
08/24/2000 15:08	1	7.5	28.2	0.4	0.8	82	0
08/24/2000 15:09	1	7.5	28.2	0.3	0.8	82	0
08/24/2000 15:10	1	7.5	28.2	0.3	0.8	83	0
08/24/2000 15:11	1	7.5	28.7	0.3	0.8	83	0
08/24/2000 15:12	1	7.8	28	0.3	0.8	82	0
08/24/2000 15:13	1	7.8	28	0.3	0.8	83	0
08/24/2000 15:14	1	7.5	28.2	0.3	0.8	83	0
08/24/2000 15:15	1	7.5	28	0.3	0.8	82	0
08/24/2000 15:16	1	7.5	28.2	0.3	0.8	83	0
08/24/2000 15:17	1	7.0	28.2	0.3	0.8	84	0
08/24/2000 15:18	1	7.5	28.4	0.3	0.8	84	0
08/24/2000 15:19	1	7.8	28.4	0.3	0.8	84	0
08/24/2000 15:20	1	7.0	28.4	0.3	0.8	85	0

Saved Date: 3/19/2026

02/4/2009 17:18	1	7.1	28.4	0.3	0.0	94	0
02/4/2009 17:19	1	7.3	27.4	0.3	0.0	94	0
02/4/2009 17:20	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 17:21	1	7.1	26.9	0.3	0.0	94	0
02/4/2009 17:22	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:23	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:24	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:25	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:26	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:27	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:28	1	7.1	26.9	0.3	0.0	94	0
02/4/2009 17:29	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:30	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:31	1	7.3	27.4	0.3	0.0	94	0
02/4/2009 17:32	1	7.3	27.4	0.3	0.0	94	0
02/4/2009 17:33	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 17:34	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:35	1	7.3	27.4	0.3	0.0	94	0
02/4/2009 17:36	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:37	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:38	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:39	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:40	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 17:41	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:42	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:43	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:44	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:45	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:46	1	7.3	27.4	0.3	0.0	94	0
02/4/2009 17:47	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:48	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:49	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:50	1	7.3	27.4	0.3	0.0	94	0
02/4/2009 17:51	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:52	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:53	1	7.1	26.9	0.3	0.0	94	0
02/4/2009 17:54	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:55	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:56	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:57	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 17:58	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 17:59	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 18:00	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 18:01	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 18:02	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 18:03	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 18:04	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 18:05	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 18:06	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 18:07	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 18:08	1	7.2	26.2	0.3	0.0	94	0
02/4/2009 18:09	1	7.2	26.2	0.3	0.0	94	0
02/4/2009 18:10	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 18:11	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 18:12	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 18:13	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 18:14	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 18:15	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 18:16	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 18:17	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 18:18	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:19	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:20	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:21	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:22	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:23	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:24	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:25	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:26	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:27	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:28	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:29	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:30	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:31	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 18:32	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 18:33	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 18:34	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 18:35	1	7.2	27.4	0.3	0.0	94	0
02/4/2009 18:36	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:37	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 18:38	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 18:39	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:40	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:41	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:42	1	7.1	26.9	0.3	0.0	94	0
02/4/2009 18:43	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:44	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:45	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:46	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:47	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:48	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 18:49	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:50	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:51	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:52	1	7.2	27.2	0.3	0.0	94	0
02/4/2009 18:53	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:54	1	7.1	26.4	0.3	0.0	94	0
02/4/2009 18:55	1	7.1	26.2	0.3	0.0	94	0
02/4/2009 18:56	1	7.2	26.1	0.3	0.0	94	0
02/4/2009 18:57	1	11.5	33.5	1.3	2.7	53	1
02/4/2009 18:58	1	74.6	102.7	0	0	43	1
02/4/2009 18:59	1	57.7	125.2	40.0	50.4	20	1
02/4/2009 19:00	1	45.1	82.9	212.7	246.9	15	1
02/4/2009 19:01	1	39.4	52.2	404.1	432.3	4	1
02/4/2009 19:02	1	61.3	35	154.0	125.0	1	1
02/4/2009 19:03	1	50	8.7	223.0	109.2	1	1
02/4/2009 19:04	1	12.2	2.9	401.5	240.4	1	1
02/4/2009 19:05	1	17.3	7.5	517.3	751.0	1	1
02/4/2009 19:06	1	12.7	2.5	482.4	237.1	1	1
02/4/2009 19:07	0	17.3	8.7	331.8	303.1	1	0
02/4/2009 19:08	0	10.3	1.0	122.4	65.2	1	0
02/4/2009 19:09	0	5.9	1.1	8.6	27.5	1	0
02/4/2009 19:10	0	0.1	0	0.0	0	1	0

Valencia Power Plant

Startup/Normal Operations/Shutdown Cycle 10/07/08 11:45 to 12:40 and 19:13 to 20:13

Date/Time	CTG1 - on Minutes	NOx ppmvdc	NOx lb/hr	CO ppm	CO lb/hr	Load Mwe	SU/SD Minutes
10/7/2008 11:45	1	-0.1	0	-0.1	0	1	1
10/7/2008 11:46	1	39.3	9.4	-1	-2.9	-1	1
10/7/2008 11:47	1	25.6	9.9	152.4	118.5	-1	1
10/7/2008 11:48	1	20.5	9.8	270	155	-2	1
10/7/2008 11:49	1	19.9	11.3	514.1	284.1	-2	1
10/7/2008 11:50	1	25	16.5	358.1	223.1	-2	1
10/7/2008 11:51	1	30.6	24.8	239.3	187.9	-2	1
10/7/2008 11:52	1	36	41.1	191.9	206.5	-2	1
10/7/2008 11:53	1	44.1	65.9	144.2	204.2	1	1
10/7/2008 11:54	1	47.5	60.8	220.5	336.2	1	1
10/7/2008 11:55	1	54.5	99.8	188.4	374.8	15	1
10/7/2008 11:56	1	72.8	163.5	156	359.7	27	1
10/7/2008 11:57	1	66.7	178.1	282	600.2	39	1
10/7/2008 11:58	1	71.6	214.8	170.7	351.6	50	1
10/7/2008 11:59	1	79.3	206.1	83.5	154.0	63	1
10/7/2008 12:00	1	87.1	318.6	26.2	48.4	75	1
10/7/2008 12:01	1	90.9	374.7	17.7	34.1	83	0
10/7/2008 12:02	1	28	108.1	9.4	18.1	86	0
10/7/2008 12:03	1	13.3	51	1.2	2.3	84	0
10/7/2008 12:04	1	12.9	49.6	1	1.9	83	0
10/7/2008 12:05	1	12.5	47.5	0.9	1.7	83	0
10/7/2008 12:06	1	12.3	46.5	0.8	1.5	83	0
10/7/2008 12:07	1	12	45.1	0.8	1.5	83	0
10/7/2008 12:08	1	11.7	44.1	0.7	1.3	83	0
10/7/2008 12:09	1	11.5	43.1	0.7	1.3	83	0
10/7/2008 12:10	1	11.3	45.1	0.7	1.4	91	0
10/7/2008 12:11	1	10.7	45.1	0.6	1.3	102	0
10/7/2008 12:12	1	7	31.9	0.6	1.4	114	0
10/7/2008 12:13	1	6.3	30.3	0.7	1.7	125	0
10/7/2008 12:14	1	6.3	31.8	0.7	1.8	134	0
10/7/2008 12:15	1	6.2	31.8	0.7	1.8	135	0
10/7/2008 12:16	1	6.1	31.8	0.7	1.8	135	0
10/7/2008 12:17	1	6.1	31.8	0.7	1.8	134	0
10/7/2008 12:18	1	6.1	30.3	0.7	1.8	134	0
10/7/2008 12:19	1	6	30.3	0.7	1.8	134	0
10/7/2008 12:20	1	6.1	30.3	0.7	1.8	133	0
10/7/2008 12:21	1	6	30.3	0.7	1.8	134	0
10/7/2008 12:22	1	6	30.3	0.7	1.8	134	0
10/7/2008 12:23	1	5.9	30.1	0.7	1.8	133	0
10/7/2008 12:24	1	5.9	30.1	0.7	1.8	133	0
10/7/2008 12:25	1	5.9	30.1	0.7	1.8	133	0
10/7/2008 12:26	1	5.9	30.1	0.6	1.5	133	0
10/7/2008 12:27	1	5.8	28.7	0.6	1.5	133	0
10/7/2008 12:28	1	5.8	28.9	0.6	1.5	133	0
10/7/2008 12:29	1	5.7	28.9	0.6	1.5	133	0
10/7/2008 12:30	1	5.7	28.9	0.6	1.5	133	0
10/7/2008 12:31	1	5.7	28.9	0.6	1.5	133	0
10/7/2008 12:32	1	5.7	28.9	0.6	1.5	133	0
10/7/2008 12:33	1	5.7	28.9	0.6	1.5	134	0
10/7/2008 12:34	1	5.7	28.9	0.6	1.5	134	0
10/7/2008 12:35	1	5.7	28.9	0.6	1.5	134	0
10/7/2008 12:36	1	5.6	28.9	0.6	1.5	134	0
10/7/2008 12:37	1	5.7	28.9	0.6	1.5	134	0
10/7/2008 12:38	1	5.6	28.9	0.6	1.5	134	0
10/7/2008 12:39	1	5.6	28.9	0.6	1.5	134	0
10/7/2008 12:40	1	5.6	28.9	0.6	1.5	133	0
10/7/2008 12:41	1	5.6	28.9	0.6	1.5	134	0
10/7/2008 12:42	1	5.6	28.9	0.6	1.5	134	0
10/7/2008 12:43	1	5.6	29	0.6	1.5	134	0
10/7/2008 12:44	1	5.5	27.7	0.6	1.5	134	0

Startup 11:45 to 12:00
 93.7 = NOx average lb/hr
 225.1 = CO average lb/hr

Normal Operations 12:01 to 22:01
 34.0 = NOx average lb/hr
 2.0 = CO average lb/hr

Shutdown 22:02 to 22:11
 53.2 = NOx average lb/hr
 235.3 = CO average lb/hr

10/7/2008 12:45	1	5.5	27.7	0.6	1.5	134	0
10/7/2008 12:46	1	5.4	27.5	0.0	1.5	134	0
10/7/2008 19:13	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:14	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:15	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:16	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:17	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:18	1	5.2	25.8	0.5	1.3	133	0
10/7/2008 19:19	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:20	1	5.2	25.8	0.5	1.3	133	0
10/7/2008 19:21	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:22	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:23	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:24	1	5.2	25.8	0.5	1.3	133	0
10/7/2008 19:25	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:26	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:27	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:28	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:29	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:30	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:31	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:32	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:33	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:34	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:35	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:36	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:37	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:38	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:39	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:40	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:41	1	5.2	25.8	0.5	1.3	133	0
10/7/2008 19:42	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:43	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:44	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:45	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:46	1	5.2	25.8	0.5	1.3	133	0
10/7/2008 19:47	1	5.2	25.8	0.5	1.3	133	0
10/7/2008 19:48	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:49	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:50	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:51	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:52	1	5.2	26	0.5	1.3	133	0
10/7/2008 19:53	1	5.2	25.8	0.5	1.3	133	0
10/7/2008 19:54	1	5.2	25.5	0.5	1.3	130	0
10/7/2008 19:55	1	5.2	24	0.5	1.2	119	0
10/7/2008 19:56	1	5.3	23.3	0.5	1.1	106	0
10/7/2008 19:57	1	5.0	22.7	0.5	1	94	0
10/7/2008 19:58	1	8.1	30.3	0.5	0.9	82	0
10/7/2008 19:59	1	9.4	32.5	0.5	0.9	69	0
10/7/2008 20:00	1	9.6	29.6	0.5	0.8	57	1
10/7/2008 20:01	1	73.5	202.0	14.3	20.0	46	1
10/7/2008 20:02	1	69.1	166	39.1	51	33	1
10/7/2008 20:03	1	51.1	99.4	260	303.1	19	1
10/7/2008 20:04	1	45.3	70.7	768.9	843.7	9	1
10/7/2008 20:05	1	40.6	43.7	5.2	4.1	1	1
10/7/2008 20:06	1	37.6	12.4	219.5	89.6	1	1
10/7/2008 20:07	1	14.3	3.5	539.8	332	1	1
10/7/2008 20:08	1	12.8	2.7	708.8	445.3	1	1
10/7/2008 20:09	1	12.3	2.6	651.6	377.9	1	1
10/7/2008 20:10	0	16.8	3	473.4	235.1	1	0
10/7/2008 20:11	0	12.3	2.2	223.1	120	1	0
10/7/2008 20:12	0	3	0.5	17	54.9	1	0
10/7/2008 20:13	0	0	0	0.8	0	1	0

Valencia Power Plant

Startup/Normal Operations/Shutdown Cycle 11/07/08 13:39 to 14:53 and 21:13 to 22:14

Date/Time	CTG1 - on Minutes	NOx ppmvd	NOx lb/hr	CO ppm	CO lb/hr	Load Mwe	SU/SD Minutes
11/7/2008 13:40	0	0.0	0.0	-0.3	0.0	0	0
11/7/2008 13:50	0	0.0	0.0	-0.3	0.0	1	0
11/7/2008 13:51	1	0.0	0.0	0.3	0.0	1	1
11/7/2008 13:52	1	0.0	0.0	-0.3	0.0	0	1
11/7/2008 13:53	1	30.7	7.4	-8.1	-13.0	-1	1
11/7/2008 13:54	1	26.0	10.2	196.3	137.4	-1	1
11/7/2008 13:55	1	20.8	10.0	362.4	195.0	-2	1
11/7/2008 13:56	1	22.5	12.8	534.1	295.2	-2	1
11/7/2008 13:57	1	27.6	19.1	331.4	215.8	-2	1
11/7/2008 13:58	1	31.9	27.6	232.1	195.7	-2	1
11/7/2008 13:59	1	38.6	52.0	184.1	240.9	-1	1
11/7/2008 14:00	1	43.2	68.6	164.0	246.1	-4	1
11/7/2008 14:01	1	57.3	116.7	286.1	508.1	20	1
11/7/2008 14:02	1	82.4	197.9	133.0	293.6	32	1
11/7/2008 14:03	1	66.0	183.9	285.8	583.7	44	1
11/7/2008 14:04	1	77.5	244.3	154.4	311.6	55	1
11/7/2008 14:05	1	84.4	293.5	91.8	173.6	67	1
11/7/2008 14:06	1	93.5	352.6	30.2	56.1	80	1
11/7/2008 14:07	1	102.4	395.7	21.1	40.1	84	1
11/7/2008 14:08	1	108.3	418.8	19.4	36.9	84	1
11/7/2008 14:09	1	108.6	419.8	17.5	33.3	85	1
11/7/2008 14:10	1	108.9	427.4	16.6	32.1	86	1
11/7/2008 14:11	1	47.9	191.5	-13.1	-25.7	91	0
11/7/2008 14:12	1	14.0	50.3	1.1	2.2	91	0
11/7/2008 14:13	1	13.5	54.1	0.8	1.6	91	0
11/7/2008 14:14	1	13.3	53.0	0.7	1.4	91	0
11/7/2008 14:15	1	12.9	51.6	0.6	1.2	91	0
11/7/2008 14:16	1	12.8	50.5	0.6	1.2	91	0
11/7/2008 14:17	1	12.6	49.4	0.6	1.2	91	0
11/7/2008 14:18	1	12.5	49.4	0.6	1.2	91	0
11/7/2008 14:19	1	12.4	49.4	0.6	1.2	91	0
11/7/2008 14:20	1	12.2	48.3	0.5	1.0	91	0
11/7/2008 14:21	1	12.0	47.3	0.5	1.0	91	0
11/7/2008 14:22	1	12.0	47.3	0.5	1.0	92	0
11/7/2008 14:23	1	11.9	47.3	0.5	1.0	91	0
11/7/2008 14:24	1	11.7	46.2	0.5	1.0	92	0
11/7/2008 14:25	1	11.7	46.2	0.5	1.0	92	0
11/7/2008 14:26	1	11.6	46.2	0.5	1.0	92	0
11/7/2008 14:27	1	11.7	46.2	0.5	1.0	92	0
11/7/2008 14:28	1	11.6	46.2	0.5	1.0	92	0
11/7/2008 14:29	1	11.0	40.2	0.5	1.0	92	0
11/7/2008 14:30	1	11.6	46.2	0.5	1.0	92	0
11/7/2008 14:31	1	11.5	45.1	0.5	1.0	92	0
11/7/2008 14:32	1	11.3	45.1	0.5	1.0	92	0
11/7/2008 14:33	1	11.2	44.0	0.5	1.0	92	0
11/7/2008 14:34	1	11.1	44.0	0.5	1.0	92	0
11/7/2008 14:35	1	11.1	44.0	0.5	1.0	92	0
11/7/2008 14:36	1	11.1	44.0	0.5	1.0	92	0
11/7/2008 14:37	1	11.1	44.0	0.5	1.0	92	0
11/7/2008 14:38	1	11.0	43.0	0.4	0.8	92	0
11/7/2008 14:39	1	10.9	43.0	0.4	0.8	92	0
11/7/2008 14:40	1	10.9	43.0	0.4	0.8	91	0
11/7/2008 14:41	1	10.9	42.6	0.5	1.0	91	0
11/7/2008 14:42	1	11.0	42.6	0.5	1.0	90	0
11/7/2008 14:43	1	10.9	42.6	0.4	0.8	90	0
11/7/2008 14:44	1	10.9	42.6	0.4	0.8	90	0
11/7/2008 14:45	1	10.8	42.6	0.4	0.8	90	0
11/7/2008 14:46	1	10.8	42.6	0.4	0.8	90	0
11/7/2008 14:47	1	10.8	42.3	0.4	0.8	90	0

Startup 13:51 to 14:10
 148.1 = NOx average lb/hr
 166.9 = CO average lb/hr

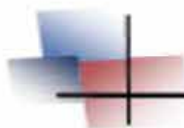
Normal Operations 14:11 to 22:01
 45.1 = NOx average lb/hr
 0.8 = CO average lb/hr

Shut down 22:02 to 22:11
 34.1 = NOx average lb/hr
 214.6 = CO average lb/hr

Minus values in original data

11/7/2008 14:48	1	10.8	42.3	0.4	0.8	90	0
11/7/2008 14:49	1	10.7	41.6	0.4	0.8	90	0
11/7/2008 14:50	1	10.7	41.6	0.4	0.8	90	0
11/7/2008 14:51	1	10.7	41.3	0.4	0.8	90	0
11/7/2008 14:52	1	10.7	41.3	0.4	0.8	90	0
11/7/2008 14:53	1	10.7	41.6	0.4	0.8	90	0
11/7/2008 21:13	1	7.5	39.6	0.5	1.3	141	0
11/7/2008 21:14	1	7.5	39.6	0.5	1.3	141	0
11/7/2008 21:15	1	7.5	39.6	0.5	1.3	141	0
11/7/2008 21:16	1	7.5	39.6	0.5	1.3	140	0
11/7/2008 21:17	1	7.5	39.6	0.5	1.3	141	0
11/7/2008 21:18	1	7.5	39.6	0.5	1.3	141	0
11/7/2008 21:19	1	7.7	39.6	0.5	1.3	141	0
11/7/2008 21:20	1	7.9	41.1	0.5	1.3	140	0
11/7/2008 21:21	1	7.9	41.1	0.5	1.3	140	0
11/7/2008 21:22	1	7.9	41.1	0.5	1.3	141	0
11/7/2008 21:23	1	7.9	41.1	0.5	1.3	141	0
11/7/2008 21:24	1	7.9	41.1	0.5	1.3	141	0
11/7/2008 21:25	1	7.9	41.1	0.5	1.3	141	0
11/7/2008 21:26	1	8.0	42.5	0.5	1.3	141	0
11/7/2008 21:27	1	8.4	43.9	0.5	1.3	140	0
11/7/2008 21:28	1	8.4	43.9	0.5	1.3	140	0
11/7/2008 21:29	1	8.4	43.0	0.5	1.3	140	0
11/7/2008 21:30	1	8.4	43.9	0.5	1.3	140	0
11/7/2008 21:31	1	8.4	43.9	0.5	1.3	141	0
11/7/2008 21:32	1	8.5	45.1	0.5	1.3	146	0
11/7/2008 21:33	1	8.4	45.7	0.5	1.4	148	0
11/7/2008 21:34	1	8.3	44.2	0.5	1.4	148	0
11/7/2008 21:35	1	8.4	45.4	0.5	1.3	147	0
11/7/2008 21:36	1	8.4	45.4	0.5	1.3	147	0
11/7/2008 21:37	1	8.4	45.4	0.5	1.3	147	0
11/7/2008 21:38	1	8.4	45.4	0.5	1.3	147	0
11/7/2008 21:39	1	8.4	45.4	0.5	1.3	146	0
11/7/2008 21:40	1	8.4	45.1	0.5	1.3	146	0
11/7/2008 21:41	1	8.4	45.1	0.5	1.3	146	0
11/7/2008 21:42	1	8.4	45.4	0.5	1.3	146	0
11/7/2008 21:43	1	8.4	45.4	0.5	1.3	146	0
11/7/2008 21:44	1	8.4	45.4	0.5	1.3	147	0
11/7/2008 21:45	1	8.4	45.1	0.5	1.3	146	0
11/7/2008 21:46	1	8.4	45.4	0.5	1.3	146	0
11/7/2008 21:47	1	8.4	45.4	0.5	1.3	146	0
11/7/2008 21:48	1	8.4	45.1	0.5	1.3	146	0
11/7/2008 21:49	1	8.4	45.1	0.5	1.3	146	0
11/7/2008 21:50	1	8.4	45.4	0.5	1.3	146	0
11/7/2008 21:51	1	8.4	44.0	0.5	1.3	143	0
11/7/2008 21:52	1	8.6	43.7	0.5	1.3	133	0
11/7/2008 21:53	1	8.8	40.9	0.5	1.2	120	0
11/7/2008 21:54	1	8.7	38.0	0.5	1.1	108	0
11/7/2008 21:55	1	8.6	35.1	0.5	1.0	95	0
11/7/2008 21:56	1	8.9	33.8	0.5	0.9	84	0
11/7/2008 21:57	1	9.0	33.0	0.5	0.9	81	0
11/7/2008 21:58	1	9.1	32.8	0.5	0.9	79	0
11/7/2008 21:59	1	9.1	34.0	0.4	0.8	80	0
11/7/2008 22:00	1	9.1	34.0	0.4	0.8	81	0
11/7/2008 22:01	1	8.8	30.2	0.4	0.7	71	0
11/7/2008 22:02	1	9.3	29.3	0.4	0.7	60	1
11/7/2008 22:03	1	-23.3	-65.8	6.9	10.0	48	1
11/7/2008 22:04	1	74.3	180.6	38.0	48.7	35	1
11/7/2008 22:05	1	53.1	106.8	257.7	304.6	22	1
11/7/2008 22:06	1	51.4	83.5	717.9	834.3	10	1
11/7/2008 22:07	1	54.4	47.4	1.0	0.8	1	1
11/7/2008 22:08	1	38.7	12.8	184.6	72.8	1	1
11/7/2008 22:09	1	13.6	3.3	529.6	285.0	1	1

11/7/2008 22:10	1	13.9	3.3	677.1	416.5	1	1
11/7/2008 22:11	1	14.3	3.0	638.6	343.9	1	1
11/7/2008 22:12	0	18.5	3.3	411.2	176.9	1	0
11/7/2008 22:13	0	10.4	1.9	161.9	80.4	1	0
11/7/2008 22:14	0	3.0	0.5	-11.1	-17.9	1	0



Prism Environmental Business, LLC

Emission Estimates of Emergency Standby Diesel Generator, Source ID: SBGen.

Valencia Power Plant, Belen, NM

Calculation by: Tom Arnold, Prism Consulting (February 2015)

Equipment Specifications:

Model # HC1534DIL80B Volvo 475 KW Diesel Gen set

Rated at 515 KW

Volvo Engine Model: TAD1631GE

EPA Tier 1 certified in 2001 (by manufacturer)

Maximum hours per year of operation: 500 hours

Engine Type	HP	kW	Year of Manufacture	Year installed	Year Modified or Reconstructed	Portable Yes/No	Emergency Yes/No
Compression Ignition (CI)	753	558	2001	2010	NA	No	Yes

EPA Tier 1 Nonroad Diesel Engine Emission Standards (g/kWh)

Engine Power	Tier	Year	CO	HC	NMHC+NOx	NOx	PM
450<kW<560	1	2001	11.4	1.3	-	9.2	0.54

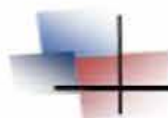
Source: <https://www.dieselnet.com/standards/us/nonroad.php>

Estimated Emissions

1) Calculate Hourly	CO	HC	NMHC+NOx	NOx	PM
$\text{lb/Hr} = \frac{558 \text{ kW} * (\text{g/kW})}{453.6 \text{ g/lb}}$	14.02	1.60	--	11.32	0.66
2) Calculate Annual	CO	HC	NMHC+NOx	NOx	PM
$\text{T/Yr} = \frac{\text{lb/hr} * 500 \text{ hrs/yr}}{2000 \text{ lb/T}}$	7.01E-03	8.00E-04	--	5.66E-03	3.32E-04

Note: The determination of these emissions are provided for the Title V Permit Renewal as requested by NMENV.

The SBGen is exempt from NSR permitting thus, these emissions are not included in the NSR permit. Annual emissions will vary based on actual hours of operation. The maximum number of hours is limited to 500/yr.



Prism Environmental Business, LLC

Emission Estimates of Emergency Standby Diesel Generator, Source ID: SBGen.

Valencia Power Plant, Belen, NM

Calculation by: Tom Arnold, Prism Consulting (February 2015)

Equipment Specifications:

Model # HC1534DIL808 Volvo 475 KW Diesel Gen set

Rated at 515 KW

Volvo Engine Model: TAD1631GE

EPA Tier 1 certified in 2001 (by manufacturer)

Maximum hours per year of operation: 500 hours

Engine Type	HP	kW	Year Manuf.	Year Installed	Year Modified or Reconstructed	Portable Yes/No	Emergency Yes/No
Compression Ignition (CI)	753	558	2001	2010	NA	No	Yes
Conversion factor	1 kWhr = 0.00341		MMBtu	thus 558 kWhr x 0.00341 =		1.90	MMBtu/hr
	Assuming maximum operation of 500 hrs/yr				500 x =	951.25	MMBtu/year

Substance	CAS Number	Emission Factor		Emissions (lb/hr)	Emissions (T/yr)
		O ₂ not specified	(lb/MMBtu)		
1,3 Butadiene	106990	3.90E-05		7.42E-05	3.53E-05
Acetaldehyde	75-07-0	7.70E-04		1.46E-03	6.97E-04
Acrolein	107-02-8	9.30E-05		1.77E-04	8.42E-05
Benzene	71-43-7	9.30E-04		1.77E-03	8.47E-04
Ethylbenzene	100-41-4	--		--	--
Formaldehyde	50-00-0	1.20E-03		2.28E-03	1.09E-03
Naphthalene	91-20-3	8.50E-05		1.62E-04	7.69E-05
PAH		--		--	--
Propylene Oxide	75-56-9	--		--	--
Toluene	108-88-3	4.10E-04		7.80E-04	3.71E-04
Xylenes	95-47-6	2.90E-04		5.52E-04	2.62E-04
Total HAPs				7.26E-03	3.45E-03

Reference: Table 4-1 Summary of Emission Factors for Internal Combustion
Engines Firing Various Fuels, *Emission Estimation Protocol for Petroleum
Refineries*, August 2014

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 (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO₂e 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 CO₂e 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 CO₂e 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 CO₂ 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)

See summary of GHG emissions for the Valencia Power Plant in Section 12 A.B.(k). and GHG calculation in UA2 Table 2-P.

Section 7

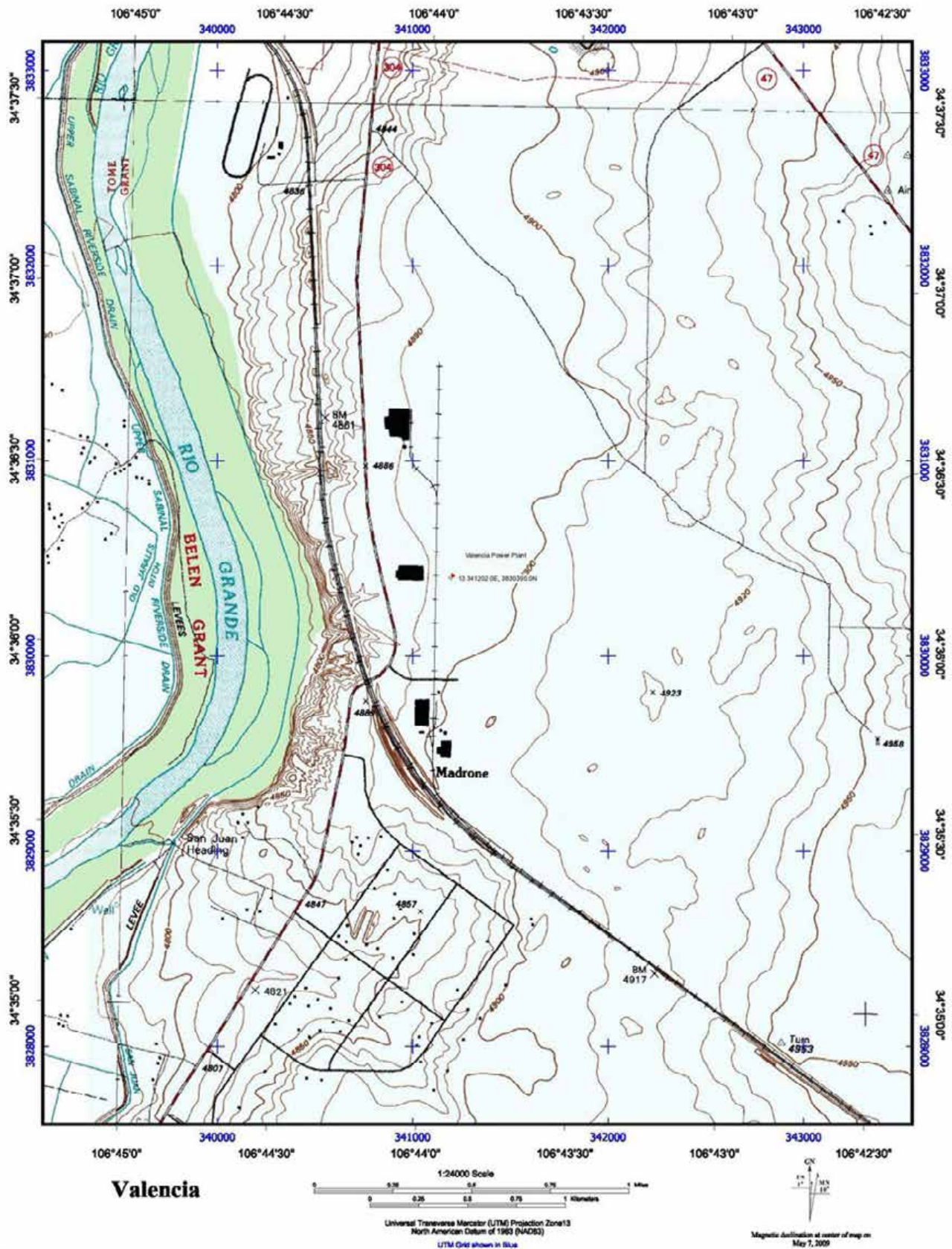
Information Used to Determine Emissions

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.

See the reference files containing calculation methods and information sources as noted for calculations provided in Section 6. Data that was deemed to be an acceptable representation of the expected emissions from the GE 7FA CTG's proposed for the Valencia Plant were included in the original October 2001 application. The representative projects included the Luna and Elwood projects. The resulting source-specific emission rate calculations are copied from the original air permit application of October 2001. As noted in Section 6, these calculations were included in the initial Title V application and are reproduced again without change.

After review of the calculations and stack testing reports, no changes in estimated emissions for the Plant were determined to be appropriate, so no changes have been made to inputs or calculated values. **The reliance by the last application for a Title V permit renewal on the original calculations was discussed with NMENV during a pre-application call held on April 29, 2020 between Melinda Owens (NMENV) and Tom Arnold. A similar pre-application call was held on March 12, 2026, between Julie Kuhn (NMENV) and Tom Arnold. This call confirmed that there has been no change in equipment operations, pipeline natural gas fuel, or emission controls that would impact the emission calculations for this renewal.**



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

Valencia Power understands that NMED's Air Quality Bureau administers the public participation for Title V and Acid Rain permit renewals including publishing the public notice, managing the comment period, and any public hearings. Valencia will assist NMED as requested under 20.2.70.401NMAC.

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.

Routine Operations

The Plant is a peaking station for providing electricity. Plant load (one or two units in operation) and hours of operations are determined by a dispatch order received by the operators under a Power Purchase Agreement with Public Service of New Mexico (PNM). As such, the Plant has no defined pre-determined hours of operation but must be maintained in a “ready-to-generate” mode. As outlined in the Process Flow sheet provided in Section 4 of this application, the Plant receives natural gas from the Transwestern Pipeline. When the Plant is operating, the natural gas is pre-heated using gas heater GH-1 that is vented to Stack 3. The heated natural gas is piped to the combustion turbine and air emissions in the form of products of combustion exit through Stack 1. The pound per hour emissions exiting Stack S-1 and Stack S-3 are summarized on the Process Flow sheet in Section 4.

Gas Heater

The gas heater (GH-1) is fired using natural gas. Operations are managed by the Control Room to control the flow of gas and monitor the temperature of the heated gas. Air emissions are limited by combustion controls designed into the gas heater. Combustion products are vented from Stack 3.

Combustion Turbine(s)

The Plant has installed and operates one of two permitted FA Combustion Turbine Generators (CTGs). FA CTG-1 is a GE built turbine (Serial No: GT 298299) with a fabrication start date of January 3, 2003. The turbine has a rated capacity of 159.5 MW power production. The current and planned CTGs have no add-on pollution control devices. Engineering design and process controls are used to optimize performance and thus control air emissions that are vented through Stack 1. A Cooling Tower (CT-1) and chiller are used to maintain the inlet air temperature to the CTG. During startup, emissions of CO will exceed those during any normal operating mode. The startup and comparable shutdown emissions were included in the total annual emission estimates summarized in Table 2E of Section 3 of this application. In addition, air dispersion modeling (see Section 16) demonstrated that startup emissions would not cause an exceedance of any NAAQS or NMAAQs.

The initial developers of the Plant incorporated into the Air Quality Permit Application (as submitted to the NMENV for the Construction Permit) and accepted Specific Conditions on emission limits and operating conditions in the NSR permit that allow operations flexibility to meet fluctuating market demand for electricity. The Plant may be operated at different load levels with varied hours of daily operation depending on market demand for electricity. During periods when demand is high, one or both turbines may need to operate at full or partial load for 24 hours per day. In periods of decreased demand, one or both turbines may operate at fewer hours per day, at a reduced load or both.

Cooling Tower and Chiller

Each CTG will have its own cooling tower and chiller. By design, and as incorporated into the NSR permit, the drift rate of the cooling tower is limited to 0.001% with a total dissolved solids (TDS) level to the chiller of 2,600 ppm.

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):

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)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- ☒ a minor PSD source before and after this modification (if so, delete C and D below).
- ☐ a major PSD source before this modification. This modification will make this a PSD minor source.
- ☐ an existing PSD Major Source that has never had a major modification requiring a BACT analysis.
- ☐ an existing PSD Major Source that has had a major modification requiring a BACT analysis
- ☐ a new PSD Major Source after this modification.

B. This facility **[is or is not]** one of the listed 20.2.74.501 Table I – PSD Source Categories. The “project” emissions for this modification are **[significant or not significant]**. **[Discuss why.]** The “project” emissions listed below **[do or do not]** only result from changes described in this permit application, thus no emissions from other **[revisions or modifications, past or future]** to this facility. Also, specifically discuss whether this project results in “de-bottlenecking”, or other associated emissions resulting in higher emissions. The project emissions (before netting) for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]:

- a. NOx: **249.4TPY**
- b. CO: **249.0 TPY**
- c. VOC: **14.7 TPY**
- d. SOx: **49.8 TPY**
- e. PM: **109.0 TPY**
- f. PM10: **109.0 TPY**
- g. PM2.5: **109.0TPY**
- h. Fluorides: **0.0 TPY**
- i. Lead: **0.0 TPY**
- j. Sulfur compounds (listed in Table 2): **0.0 TPY**
- k. GHG: **817,830 TPY**

Valencia is designate as a synthetic minor PSD source. There is no change to emissions associated with this Title V Permit Renewal.

C. **Netting is not required for this Title V Renewal, and the project is not significant.**

D. **BACT is not required for this Title V Renewal.**

E. If this is an existing PSD major source, or any facility with emissions greater than 250 TPY (or 100 TPY for 20.2.74.501 Table 1 – PSD Source Categories), determine whether any permit modifications are related, or could be considered a single project with this action, and provide an explanation for your determination whether a PSD modification is triggered.

No PSD modification is triggered by this application to renew the Title V permit.

Section 12.B Special Requirements for a PSD Application

(Submitting under 20.2.74 NMAC)

Prior to Submitting a PSD application, the permittee shall: Not Applicable

- ☐ Submit the BACT analysis for review prior to submittal of the application. No application will be ruled complete until the final determination regarding BACT is made, as this determination can ultimately affect information to be provided in the application. A pre-application meeting is recommended to discuss the requirements of the BACT analysis.
- ☐ Submit a modeling protocol prior to submitting the permit application. **[Except for GHG]**
- ☐ Submit the monitoring exemption analysis protocol prior to submitting the application. **[Except for GHG]**

For PSD applications, the permittee shall also include the following: Not Applicable

- ☐ Documentation containing an analysis on the impact on visibility. **[Except for GHG]**
 - ☐ Documentation containing an analysis on the impact on soil. **[Except for GHG]**
 - ☐ Documentation containing an analysis on the impact on vegetation, including state and federal threatened and endangered species. **[Except for GHG]**
 - ☐ Documentation containing an analysis on the impact on water consumption and quality. **[Except for GHG]**
 - ☐ Documentation that the federal land manager of a Class I area within 100 km of the site has been notified and provided a copy of the application, including the BACT and modeling results. The name of any Class I Federal area located within one hundred (100) kilometers of the facility.
-

The Plant in Belen, New Mexico does not trigger PSD requirements and thus this section of the application is left blank.

Section 13

Determination of State & Federal Air Quality Regulations

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

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

Required Information for Specific Equipment:

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

Required Information for Regulations that Apply to the Entire Facility:

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

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

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

Regulatory Citations for Emission Standards:

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

Federally Enforceable Conditions:

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

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

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

To save paper and to standardize the application format, delete this sentence, and begin your submittal for this attachment on this page.

Example of a 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 and renewals.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	FA CTG-1 and FA CTG-2 and GH-1	If subject, this would normally apply to the entire facility. 20.2.3 NMAC is a State Implementation Plan (SIP) approved regulation that limits the maximum allowable concentration of, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC The TSP NM ambient air quality standard was repealed by the EIB effective November 30, 2018.
20.2.7 NMAC	Excess Emissions	Yes	FA CTG-1 and FA CTG-2 and GH-1	If subject, this would normally apply to the entire facility. If your entire facility or individual pieces of equipment are subject to emissions limits in a permit or numerical emissions standards in a federal or state regulation, this applies. This would not apply to Notices of Intent since these are not permits.
20.2.23 NMAC	Fugitive Dust Control	No		This regulation may apply if, this is an application for a notice of intent (NOI) per 20.2.73 NMAC, if the activity or facility is a fugitive dust source listed at 20.2.23.108.A NMAC, and if the activity or facility is located in an area subject to a mitigation plan pursuant to 40 CFR 51.930. As of January 2019, the only areas of the State subject to a mitigation plan per 40 CFR 51.930 are in Doña Ana and Luna Counties. Sources exempt from 20.2.23 NMAC are activities and facilities subject to a permit issued pursuant to the NM Air Quality Control Act, the Mining Act, or the Surface Mining Act (20.2.23.108.B NMAC). 20.2.23.108 APPLICABILITY: A. This part shall apply to persons owning or operating the following fugitive dust sources in areas requiring a mitigation plan in accordance with 40 CFR Part 51.930: (1) disturbed surface areas or inactive disturbed surface areas, or a combination thereof, encompassing an area equal to or greater than one acre; (2) any commercial or industrial bulk material processing, handling, transport or storage operations. B. The following fugitive dust sources are exempt from this part: (1) agricultural facilities, as defined in this part; (2) roadways, as defined in this part; (3) operations issued permits pursuant to the state of New Mexico Air Quality Control Act, Mining Act or Surface Mining Act; and (4) lands used for state or federal military activities. [20.2.23.108 NMAC - N, 01/01/2019]
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	Yes	FA CTG-1 and FA CTG-2 and	This regulation does not apply to internal combustion equipment such as engines. It only applies to external combustion equipment such as heaters or boilers. Choose all that apply: This facility has existing gas burning equipment having a heat input of greater

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.)
			GH-1	than 1,000,000 million British Thermal Units per year per unit Note: "New gas burning equipment" means gas burning equipment, the construction or modification of which is commenced after February 17, 1972.
20.2.34 NMAC	Oil Burning Equipment: NO ₂	No		This regulation does not apply to internal combustion equipment such as engines. It only applies to external combustion equipment such as heaters or boilers. This facility has oil burning equipment (external combustion emission sources, such as oil fired boilers and heaters) having a heat input of greater than 1,000,000 million British Thermal Units per year per unit.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	N/a		This regulation could apply to existing (prior to July 1, 1974) or new (on or after July 1, 1974) natural gas processing plants that use a Sulfur Recovery Unit to reduce sulfur emissions. See ‘Guidance and Clarification Regarding Applicability of 20.2.35 NMAC’ located with the Air Quality Bureau’s Permit Section website guidance documents.
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	N/A	NA	These regulations were repealed by the Environmental Improvement Board. If you had equipment subject to 20.2.37 NMAC before the repeal, your combustion emission sources are now subject to 20.2.61 NMAC.
20.2.38 NMAC	Hydrocarbon Storage Facility	No		This regulation could apply to storage tanks at petroleum production facilities, processing facilities, tanks batteries, or hydrocarbon storage facilities.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No		This regulation could apply to sulfur recovery plants that are not part of petroleum or natural gas processing facilities.
20.2.50 NMAC	Oil and Gas Sector – Ozone Precursor Pollutants	No		This regulation establishes emission standards for volatile organic compounds (VOC) and oxides of nitrogen (NOx) for oil and gas production, processing, compression, and transmission sources. 20.2.50 NMAC subparts below: Include the construction status of applicable units as “New”, “Existing”, “Relocation of Existing”, or “Reconstructed” as defined by this Part in your justification: Check the box for the subparts that are applicable: ☐ 113 – Engines and Turbines ☐ 114 – Compressor Seals ☐ 115 – Control Devices and Closed Vent Systems ☐ 116 – Equipment Leaks and Fugitive Emissions ☐ 117 – Natural Gas Well Liquid Unloading ☐ 118 – Glycol Dehydrators ☐ 119 – Heaters ☐ 120 – Hydrocarbon Liquid Transfers ☐ 121 – Pig Launching and Receiving ☐ 122 – Pneumatic Controllers and Pumps ☐ 123 – Storage Vessels ☐ 124 – Well Workovers ☐ 125 – Small Business Facilities ☐ 126 – Produced Water Management Unit ☐ 127 – Flowback Vessels and Preproduction Operations
20.2.61.109	Smoke & Visible Emissions	Yes	FA CTG-1	This regulation that limits opacity to 20% applies to Stationary Combustion Equipment, such as engines, boilers, heaters, and flares unless your

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.)
NMAC			and FA CTG-2 and GH-1	equipment is subject to another state regulation that limits particulate matter such as 20.2.19 NMAC (see 20.2.61.109 NMAC). If equipment at your facility was subject to the repealed regulation 20.2.37 NMAC it is now subject to 20.2.61 NMAC.
20.2.70 NMAC	Operating Permits	Yes	FA CTG-1 and FA CTG-2 and GH-1	If subject, this would normally apply to the entire facility. Applies if your facility's potential to emit (PTE) is 100 tpy or more of any regulated air pollutant other than HAPs; and/or a HAPs PTE of 10 tpy or more for a single HAP or 25 or more tpy for combined HAPs; is subject to a 20.2.79 NMAC nonattainment permit; or is a facility subject to a federal regulation that requires you to obtain a Title V permit such as landfills or air curtain incinerators. Include both stack and fugitive emissions to determine the HAP's PTE regardless of the facility type. If your facility is one of those listed at 20.2.70.7(2)(a) through (aa) state which source type your facility is and count both fugitive and stack emissions to determine your PTE. If your facility is not in this (a) through (aa) list, count only stack emissions to determine your PTE. Landfills and Air Curtain Incinerators are not Title V Major Sources, but it would apply pursuant to 20.2.70.200.B NMAC.
20.2.71 NMAC	Operating Permit Fees	Yes	FA CTG-1 and FA CTG-2 and GH-1	If subject to 20.2.70 NMAC and your permit includes numerical ton per year emission limits, you are subject to 20.2.71 NMAC and normally applies to the entire facility.
20.2.72 NMAC	Construction Permits	Yes	FA CTG-1 and FA CTG-2 and GH-1	If subject, this would normally apply to the entire facility. Could apply if your facility's potential emission rate (PER) is greater than 10 pph or greater than 25 tpy for any pollutant subject to a state or federal ambient air quality standard (does not include VOCs or HAPs); if the PER of lead is 5 tpy or more; if your facility is subject to 20.2.72.400 NMAC; or if you have equipment subject to 40 CFR 60 Subparts I and OOO, 40 CFR 61 Subparts C and D. Include both stack and fugitive emissions to determine PER.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	FA CTG-1 and FA CTG-2 and GH-1	If subject, this would normally apply to the entire facility. A Notice of Intent application 20.2.73.200 NMAC could apply if your facility's PER of <u>any</u> regulated air pollutant, including VOCs and HAPs, is 10 tpy or more or if you have lead emissions of 1 tpy or more. Include both fugitive and stack emissions to determine your PER. You could be required to submit Emissions Inventory Reporting per 20.2.73.300 NMAC if your facility is subject to 20.2.73.200, 20.2.72, or emits more than 1 ton of lead or 10 tons of PM10, PM2.5, SOx, NOx CO, or VOCs in any calendar year. All facilities that are a Title V Major Source as defined at 20.2.70.7.R NMAC, are subject to Emissions Inventory Reporting.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	Facility	The Valencia Plant existing PSD synthetic minor source.
20.2.75 NMAC	Construction Permit Fees	Yes	FA CTG-1 and FA CTG-2	If subject, this would apply to the entire facility. It is not necessary to include each low level regulatory citation for this regulation. This regulation applies if you are submitting an application pursuant to 20.2.72, 20.2.73, 20.2.74, and/or 20.2.79 NMAC.

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.)
			and GH-1	If this is a 20.2.73 NMAC application it is subject to the filing fee at 20.2.75.10 NMAC. If this is a 20.2.72, 20.2.74, and/or 20.2.79 NMAC application it is subject to 20.2.75.10, 11 permit fee, and 11.E annual fees. You are not subject to the 75.11.E annual fees if you are subject to 20.2.71 NMAC.
20.2.77 NMAC	New Source Performance	Yes	FA CTG-1 and FA CTG-2 and GH-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 which are subject to the requirements of 40 CFR Part 61. But not above the threshold in excess of the regulatory trigger levels.
20.2.79 NMAC	Permits – Nonattainment Areas	No	Facility	NOT APPLICABLE. The Plant is not located in a designate nonattainment and air dispersion modeling confirms not significant impact on nonattainment areas.
20.2.80 NMAC	Stack Heights	Yes	S-1	Usually not applicable for TV If applies: Cited as applicable in NSR Permit XXX.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	Stand by Gen	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63.

Example of a Table for Applicable Federal Regulations (Note: This is not an exhaustive list):

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 50	NAAQS	Yes	FA CTG-1 and FA CTG-2 and GH-1	Defined as applicable at 20.2.70.7.E.11, Any national ambient air quality standard. The Air Quality Permit Application included an air dispersion modeling analysis that demonstrated that the emissions from the Plant result in maximum predicted impacts that are below the significance levels established by the NMAQB. Thus, the emissions do not cause or significantly contribute to any actual or potential exceedance of any National or New Mexico Ambient Air Quality Standard. As outlined in NMENVs Version 5/9/16 Guidance on Implementation of the 1-hour NO ₂ and SO ₂ Standards, Section 1. b) outlines that “For TV permit modifications and renewal applications for facilities that have construction permits issued pursuant to 20.2.72 or 20.2.74 NMAC, compliance shall be based on complying with the relevant terms and conditions of the current operating permit.” (20.2.70.300.D(10(a)). This description is applicable to the Valencia Power Plant.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:																																								
				The results of the modeling analysis are summarized below <table><tr><th>Pollutant</th><th>Averaging Period</th><th>Maximum Predicted Impact (ug/m3)</th><th>NMAQB Significant Level (ug/m3)</th></tr><tr><td>NO2</td><td>annual</td><td>0.12</td><td>1</td></tr><tr><td></td><td>24-hr</td><td>2.5</td><td>5</td></tr><tr><td>CO</td><td>8-hr</td><td>19.4</td><td>500</td></tr><tr><td></td><td>1-hr</td><td>155.3</td><td>2,000</td></tr><tr><td>TSP/PM10</td><td>annual</td><td>0.04</td><td>1</td></tr><tr><td></td><td>24-hr</td><td>0.79</td><td>5</td></tr><tr><td>SO2</td><td>Annual</td><td>0.07</td><td>1</td></tr><tr><td></td><td>24-hr</td><td>0.9</td><td>15</td></tr><tr><td></td><td>3-hr</td><td>2.9</td><td>25</td></tr></table>	Pollutant	Averaging Period	Maximum Predicted Impact (ug/m3)	NMAQB Significant Level (ug/m3)	NO2	annual	0.12	1		24-hr	2.5	5	CO	8-hr	19.4	500		1-hr	155.3	2,000	TSP/PM10	annual	0.04	1		24-hr	0.79	5	SO2	Annual	0.07	1		24-hr	0.9	15		3-hr	2.9	25
Pollutant	Averaging Period	Maximum Predicted Impact (ug/m3)	NMAQB Significant Level (ug/m3)																																									
NO2	annual	0.12	1																																									
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SO2	Annual	0.07	1																																									
	24-hr	0.9	15																																									
	3-hr	2.9	25																																									
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	FA CTG-1 and FA CTG-2 and GH-1	Applies if any other Subpart in 40 CFR 60 applies.																																								
NSPS 40 CFR60.40a , Subpart Da	Subpart Da, Performance Standards for Electric Utility Steam Generating Units	Yes	FA CTG-1 and FA CTG-2 and GH-1	The combustion turbines are subject to NSPS as described in 40 CFR Part 60, Subpart GG and KKKK. These regulations subsume the requirements of subpart Db.																																								
NSPS 40 CFR60.40b Subpart Db	Electric Utility Steam Generating Units	Yes	FA CTG-1 and FA CTG-2 and GH-1	The combustion turbines are subject to NSPS as described in 40 CFR Part 60, Subpart GG and KKKK. These regulations subsume the requirements of subpart Db.																																								
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No		Applicability: facility has no steam generating units.																																								

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
NSPS 40 CFR 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984	No		This facility has no Tanks with a storage capacity greater than 151,416 liters (40,000 gallons) that are used to store petroleum liquids for which construction is commenced after May 18, 1978. Note: Exception below Each petroleum liquid storage vessel with a capacity of less than 1,589,873 liters (420,000 gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer is not an affected facility and, therefore, is exempt from the requirements of this subpart
NSPS 40 CFR 60, Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	No		This facility has no storage vessels, or emission units with a capacity greater than or equal to 75 cubic meters (m ³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. Note: This regulation has several exceptions.
NSPS 40 CFR 60.330 Subpart GG	Stationary Gas Turbines	Yes		FA CTG-1 and FA CTG-2 have a heat input which is greater than the 10 MMBtu/hour thresholds. The first unit, FA CTG-1 has a start-of-construction date of January 2001, which is after the October 3, 1977, applicability date for Subpart GG. As defined by EPA Guidance document # 0300006, even though the turbine was installed on site after the regulatory applicability date of NSPS 60.33 Subpart KKKK the turbine is still subject to Subpart GG as long as no physical modifications as defined by EPA were made to the turbine after the Subpart KKKK trigger date. This interpretation for FA CTG-1 was reviewed and agreed to by NMENV and EPA RTP.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from Onshore Gas Plants	No		Affected Facility with Leaks of VOC from Onshore Gas Plants. Any affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after January 20, 1984, is subject to the requirements of this subpart. The group of all equipment (each pump, pressure relief device, open-ended valve or line, valve, compressor, and flange or other connector that is in VOC service or in wet gas service, and any device or system required by this subpart) except compressors (defined in § 60.631) within a process unit is an affected facility. A compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this subpart if it is located at an onshore natural gas processing plant. If the unit is not located at the plant site, then it is exempt from the provisions of this subpart.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO₂ Emissions	No		The facility is not a natural gas processing plant.
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production,	No		EPA Guidance Page: www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry The rule applies to “affected” facilities that are constructed, modified, or

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
	Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015			reconstructed after Aug 23, 2011 (40 CFR 60.5365): gas wells, including fractured and hydraulically refractured wells, centrifugal compressors, reciprocating compressors, pneumatic controllers, certain equipment at natural gas processing plants, sweetening units at natural gas processing plants, and storage vessels. If there is a standard or other requirement, then the facility is an “affected facility.” Currently there are standards for: gas wells (60.5375); centrifugal compressors (60.5380); reciprocating compressors (60.5385); controllers (60.5390); storage vessels (60.5395); equipment leaks (60.5400); sweetening units (60.5405). If standards apply, list the unit number(s) and regulatory citation of the standard that applies to that unit (e.g. Centrifugal Compressors 1a-3a are subject to the standards at 60.5380(a)(1) and (2) since we use a control device to reduce emissions)
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	No		See 60.536 EPA Guidance Page: www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	Yes	Standby Gen	The regulation does not apply to the emergency stand by CI RICE generator at the Plant
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	No		See 40 CFR 60.4230 and EPA Region 1’s Reciprocating Internal Combustion Guidance website.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No		See 60.5508, May apply to CTG-2 when installed
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No		See 60.5700. This regulation was repealed and replaced within 40 CFR Part 60 Subpart UUUUb. NM adopted regulations limiting CO2 emissions from coal-fired plants, but not from natural gas-fired plants.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No		See 60.30c, 60.30f, 60.750, and/or 60.760
NESHAP 40 CFR 61 Subpart A	General Provisions	No	Units Subject to 40 CFR 61	Applies if any other Subpart in 40 CFR 61 applies. No. HAPs are emitted from the Plant that would exceed regulatory thresholds.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for Mercury	No		The provisions of this subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge
NESHAP 40 CFR 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources)	No		The provisions of this subpart apply to each of the following sources that are intended to operate in volatile hazardous air pollutant (VHAP) service: pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems required by this subpart. VHAP service means a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent by weight of VHAP. VHAP means a substance regulated under this subpart for which a standard for equipment leaks of the substance has been promulgated. Benzene is a VHAP (See 40 CFR 61 Subpart J). Note: If 40 CFR 60 also applies source only needs to comply with this part.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	Standby Gen	Applies if any other Subpart in 40 CFR 63 applies.
MACT 40 CFR 63.760 Subpart HH	Oil and Natural Gas Production Facilities	No		Choose all that apply: This facility is not Subject to the requirements of 40 CFR 63 Subpart HH Dehydrators.
MACT 40 CFR 63 Subpart HHH		No		This subpart applies to owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user (if there is no local distribution company), and that are major sources of hazardous air pollutants (HAP) emissions as defined in §63.1271.
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No		See 63.7480
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal &	No		See 63.9980 (known as the MATs rule)

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
	Oil Fire Electric Utility Steam Generating Unit			
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	Yes	Standby Gen	The regulation is applicable to the emergency standby diesel generator. It does not require notifications but does require compliance with the operations, maintenance and recordkeeping requirements of 40 CFR Part 63 subsection 63.6603(a) and Table 2b and Table 2d in the appendix.
40 CFR 64	Compliance Assurance Monitoring	Yes	FA CTG-1 and FA CTG-2	Applies only to Title V Major Sources Emissions for FA CTG-1 and FA CTG-2 at 49.8 TPY SO ₂ are less than the threshold emissions that trigger CAM requirements. However, the Plant does monitor O ₂ percentage and temperature of the inlet gas as part of the CEMS data.
40 CFR 68	Chemical Accident Prevention	No		The Valencia plant does not have more than a threshold quantity of a regulated substance in a process, as determined under §68.115, See 40 CFR 68
Title IV – Acid Rain 40 CFR 72	Acid Rain	Yes	FA CTG-1 and FA CTG-2 and GH-1	On August 4, 2003, the Plant was issued Acid Rain Operating Permit P220A. The permit has a 5-year renewal requirement. On September 11, 2008, the Plant was issued a proposed renewal of their Operating Permit under the Title IV Acid Rain program (Acid Rain Permit No: P220AR1). Renewal of the Acid Rain permit has been synchronized with the renewal of the Title V permit.
Title IV – Acid Rain 40 CFR 73	Sulfur Dioxide Allowance Emissions	Yes	FA CTG-1	The Plant has acquired and maintains Sulfur Dioxide allowances for the plant equal to the total annual SO ₂ emission limit.
Title IV-Acid Rain 40 CFR 75	Continuous Emissions Monitoring			See 40 CFR 75.2. This may apply if your facility generates commercial electric power or electric power for sale.
Title IV – Acid Rain 40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program	No		See 40 CFR 76.1. This may apply if your facility generates commercial electric power or electric power for sale.
Title VI – 40 CFR 82	Protection of Stratospheric Ozone	No	N/A	Not Applicable – facility does not “service”, “maintain” or “repair” class I or class II appliances nor “disposes” of the appliances. Note: Disposal definition in 82.152: Disposal means the process leading to and including: (1) The discharge,

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:

Section 14

Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

The Plant has developed and maintains an Operational Plan to train operators on the methods used to mitigate emissions during startups, shutdowns and malfunctions/emergencies.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

Construction Scenarios: When a permit is modified authorizing new construction to an existing facility, NMED includes a condition to clearly address which permit condition(s) (from the previous permit and the new permit) govern during the interval between the date of issuance of the modification permit and the completion of construction of the modification(s). There are many possible variables that need to be addressed such as: Is simultaneous operation of the old and new units permitted and, if so for example, for how long and under what restraints? In general, these types of requirements will be addressed in Section A100 of the permit, but additional requirements may be added elsewhere. Look in A100 of our NSR and/or TV permit template for sample language dealing with these requirements. Find these permit templates at: 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).

The Plant proposes no alternative operating scenarios.

The Plant plans to install and operate two combustion turbines – FA CTG-1 and FA CTG-2. Each unit will have the same approximate generating capacity of 159.5 MW. The Plant will operate as a peaking plant and thus electricity generation may vary depending on demand. The Plant may operate with one or both units on-line at peak capacity or less. Performance tests to determine emission rates have been conducted across a range of operating loads. The Continuous Emission Monitoring System will track emissions during startup and shutdown events and during normal operations. There are no alternatives to the applicable requirements, facility emissions, air pollution control equipment operations or monitoring, recordkeeping and reporting requirements. Compliance certification applies to the Plant under all demand and capacity conditions.

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.	
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. Modeling last approved in Title V Permit: P220-R2, issued 01/10/2022	X
Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC)	
Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit replacements.	
Other: i.e. SSM modeling. See #2 above.	
This application does not require modeling since this is a No Permit Required (NPR) application.	
This application does not require modeling since this is a Notice of Intent (NOI) application (20.2.73 NMAC).	
This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4), 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau's Modeling Guidelines.	

Check each box that applies:

- ☐ See attached, approved modeling **waiver for all** pollutants from the facility.
- ☐ See attached, approved modeling **waiver for some** pollutants from the facility.
- ☐ Attached in Universal Application Form 4 (UA4) is a **modeling report for all** pollutants from the facility.
- ☐ Attached in UA4 is a **modeling report for some** pollutants from the facility.
- ☒ No modeling is required. See ...

- Table 2 in 3/4/24, NMED Air Dispersion Modeling Waiver Request Form: “Pollutant does not increase in emission rate at any emission unit (based on levels currently in the permit) and stack parameters are unchanged. Modeling or waiver are not required.”
- And as established in New Mexico Air Quality Bureau’s June 2024 Air Dispersion Modeling Guidelines, Section 2.1.1 Title V Operating Permits, subsection 20.2.70.300.D.10 NMAC paragraph (a)(ii) For permit renewal applications, this compliance certification (qualifies as an exemption from additional air dispersion modeling of national ambient air quality standards). Certification shall be based on compliance with the relevant terms and conditions of the current operating permit.

Thus, the plant is not submitting any update to the air dispersion modeling analysis as produced from the 2014 application to renew the plant’s Title V Operating Permit. A copy of the 2014 analysis follows.

Modeling Report Reproduced from December 3, 2014, Application to Renew Title V Permit Valencia Power, LLC.

Detailed air dispersion modeling covering Plant operations under various loads and under different ambient temperature conditions was submitted with the Application for a Construction Permit dated October 2001. The modeling included higher short-term emission rates associated with startup, shutdown and maintenance and found that there was no exceedance of the New Mexico ambient air quality standards. The results of the modeling were relied on by NMENV in issuing NSR Permit No. 2620, including revisions through 2620-R6.

The original dispersion modeling addressed TSP and PM₁₀ emissions. To be conservative PM_{2.5} emissions are assumed equal to PM₁₀ and under this scenario, there was no potential impact or exceedance of NMAQB significance thresholds.

Since the 2010 Application for a Significant Permit Revision updated the emission rates during startup and shut-down cycles and retains existing short-term and annual startup/shutdown cycle frequencies, updated air dispersion modeling was performed and included as R1 (09/17/10) to the initial Title V application. The following table compares the emission rates used in the original October 2001 analysis and now.

Averaging Time Emission Unit	2001 Emission Rates (lb/hr)				Proposed Emission Rates (lb/hr)			
	NOx	SO ₂	CO	PM _{10/2.5}	NOx	SO ₂	CO	PM _{10/2.5}
1- Hour Averaging Periods								
Turbines (each)	-	-	394.9	-	-	-	416.53	-
Heater	-	-	0.43	-	-	-	0.43	-
3- Hour Averaging Periods								
Turbines (each)	-	8.8	-	-	-	8.8	-	-
Heater	-	0.307	-	-	-	0.307	-	-
8- Hour Averaging Periods								
Turbines (each)	-	-	75.3	-	-	-	416.53 ^b	-
Heater	-	-	0.43	-	-	-	0.43	-
24- Hour Averaging Periods								
Turbines (each)	35.6	8.8	-	20.0	274.54 ^a	8.8	-	20.0
Heater	0.512	0.307	-	0.04	0.512	0.307	-	0.04
Annual Averages								
Turbines (each)	35.6	5.1	-	11.6	71.64	5.1	-	11.6
Heater	0.512	0.307	-	0.04	0.512	0.307	-	0.04

^aThe worst-case startup/shutdown cycle hourly emission rate was assumed for the 24-hour air dispersion modeling analysis. The Applicant requested a normal hourly NO_x emission limit of 71.64 lb/hr as described in Section 6 All Calculations.

^bThe worst-case startup/shutdown cycle hourly emission rate was assumed for the 8-hour air dispersion modeling analysis. The Applicant requested a normal hourly CO emission limit of 29.7 lb/hr as described in Section 6 All Calculations.

The changes to the emission rates from the 2001 analysis to the proposed emission rates show some increases in NO_x and CO emissions (greater than 1 lb/hr). These increases correct the omission of startup and shutdown (SU/SD) emissions from the original analysis and update the emission rates for SU/SD cycles using the Plant's operating data. In addition the proposed values retain the original permit limits for 1 SU/SD cycle occurring in an 8-hour period, 2 SU/SD cycles in a 24-hour period, and 300 SU/SD cycles annually. To conservatively estimate the 8-hour and 24-hour averages for CO and NO₂, the following assumptions were made:

- For 8-hour CO impacts, both turbines were assumed to be in startup/shutdown mode for the entire 8-hour period.
- For 24-hour NO₂ impacts, both turbines were assumed to be in startup/shutdown mode for the entire 24-hour period.

These worst-case operational assumptions were incorporated into the modeling analysis, even though the Plant could not sustain physical operation in a continuous startup/shutdown mode for 8 or 24 continuous hours and is limited by Permit. Conditions to a maximum of 1 startup and shut down cycle in an 8-hour period and 2 startup and shutdown cycles in a 24-hour period. By using this methodology in the AERMOD modeling analysis the Plant could conclusively demonstrate that under any operating scenario at any time of day the maximum short-term and maximum annual impacts demonstrate compliance with New Mexico and National Ambient Air Quality Standards (NMAAQs/NAAQS). For all pollutants except PM_{2.5} and NO_x, impacts are less than Significant Impact Levels.

Even by correcting and updating these emission rates, the conclusion of the modeling analysis does not change from the original application submitted in 2001. The results of the air dispersion modeling analysis are summarized below.

AIR DISPERSION MODELING RESULTS

The Valencia Power Plant was modeled with AERMOD (version 09292) based on the ISC-PRIME input files for the original air permit application (October 2001). The same stack parameters and building dimensions from the original BPIP-PRIME and ISC-PRIME analyses were used in the new AERMOD modeling. Two turbines were modeled but some of the turbine emissions were modified from the original ISC-PRIME runs based on revised information. All the heater emissions were identical to the ISC-PRIME analyses for the original air permit application. As with the original analyses, cooling tower PM_{10/2.5} emissions were not modeled.

New receptor grids were generated based on the latest New Mexico Air Quality Bureau *Air Dispersion Modeling Guidelines* (Revised April 2010). Namely, 50-meter receptor spacing was used for the property fenceline and a Cartesian receptor grid out to a distance of 500 meters from the property fenceline. Cartesian receptor grid spacing increased to 100-, 250-, 500-, and 1000-meters for offsite areas out to distances of 1, 3, 5, and 10 kilometers (km) from the property fenceline, respectively, based on Table 16 of the NMAQB Modeling Guidelines. To obtain accurate receptor elevations, 10-meter spaced DEM files for the Belen, Tome, Veguita, and Turn 7½' USGS maps were obtained from the Geo-Community GIS Data Depot website and used to place Cartesian receptor grid locations on the DEM nodes. AERMAP (version 09040) was used to determine receptor slope factors for all receptor locations and to interpolate elevations for the property fenceline receptors, which don't fall exactly on the DEM nodes. Since the UTM coordinates for the 10-meter DEM files are based on the NAD83 system, the stack locations from the original application were translated from NAD27 to NAD83 using CORPSCON (U.S. Army Corps of Engineers, version 5.11.08). Because of the different meteorological data formats for AERMOD and ISCST, 1993 Albuquerque International Airport meteorological data already processed for AERMOD were obtained from the New Mexico Air Quality Bureau website and used in the analyses.

The modeling input information for stack characteristics and emissions for the AERMOD analyses for each pollutant and averaging period are shown below:

Stack Parameters and Emission Rates for AERMOD Modeling

Stack Parameters and Emission Rates for AERMOD Modeling								
Averaging Time Emissions Unit	Stack Height (m)	Stack Temp. (Kelvins)	Exhaust Velocity (m/s)	Stack Diameter (m)	Emission Rates (g/s)			
					NOx	SO2	CO	PM10/2.5
1-Hour Averaging Periods								
Turbines (each)	14.9352	839.26	28.10	6.096	–	–	52.4828	–
Heater	9.144	616.48	4.51	1.006	–	–	0.0542	–
3-hour Averaging Periods								
Turbines (each)	14.9352	839.26	28.10	6.096	–	1.1088	–	–
Heater	9.144	616.48	4.51	1.006	–	0.0387	–	–
8-hour Averaging Periods								
Turbines (each)	14.9352	839.26	28.10	6.096	–	–	52.4828	–
Heater	9.144	616.48	4.51	1.006	–	–	0.0542	–
24-hours Averaging Periods								
Turbines (each)	14.9352	839.26	28.10	6.096	34.592	1.1088	–	2.5200
Heater	9.144	616.48	4.51	1.006	0.0645	0.0387	–	0.0050
Annual Averages								
Turbines (each)	14.9352	839.26	28.10	6.096	9.027	0.6426	–	1.4616
Heater	9.144	616.48	4.51	1.006	0.0645	0.0387	–	0.0050

Impacts for the AERMOD analyses are shown below. These are maximum short-term and maximum annual impacts, typically used for comparison to the Significant Impact Levels (SILs) – i.e., not the High, Second-High short-term concentrations.

Air Quality Impact Summary for AERMOD Modeling

Pollutant	Avg. Period	Maximum Concentration ^a (µg/m ³)	PSD Class II Area Significance Impact Levels (µg/m ³)
NO ₂	24-hr	18.201 ^b /T	5.0
	Annual	0.480 ^c /H	1.0
PM ₁₀	24-hr	3.31522/T	5.0
	Annual	0.06788/T	1.0
PM _{2.5}	24-hr	3.31522/T	1.17
	Annual	0.06788/T	0.30
CO	1-hr	405.10887/T	2000
	8-hr	83.722/T	500
SO ₂	3-hr	4.90489/H	25
	24-hr	2.99810/H	5
	Annual	0.26915/H	1

^aThe primary source(s) causing the maximum impact are denoted by H (for heater) or T (for turbines)

^bMaximum modeled NO₂ impact of 45.504 µg/m³ times default 24-hour conversion factor of 40%.

^cMaximum modeled NO₂ impact of 0.639 µg/m³ times default annual conversion factor of 75%.

All modeled facility pollutant concentrations are less than the SIL for that pollutant and averaging times, except for 24-hour NO₂ and PM_{2.5}. No comparisons of facility impact to ambient air quality standards (requiring the determination of appropriate background concentrations) or comparison of facility impacts to PSD Class II increments are presented for pollutants where the modeled concentration is less than significance.

Cumulative Impacts of 24-Hour PM_{2.5} and NO₂

To determine the potential for the cumulative impacts of 24-hour PM_{2.5}, a multisource modeling analysis was performed. The maximum extent of the 24-hour PM_{2.5} radius of impact (significance area) was calculated to be 1.4 kilometers. The radius was drawn around the facility, based upon this distance, to identify the receptors which were above the 24-hour significant impact level (SIL) of 1.17 $\mu\text{g}/\text{m}^3$. The significance area is presented in Figure 16-1 with the receptors identified in red. As the resolution of the receptors within the significance area was based on 50 meter resolution out 500 meters, 100 meter resolution out 1000 meters, and 250 meter resolution out to three (3) kilometers, only receptors equal to and above the significance level of 1.17 $\mu\text{g}/\text{m}^3$ were included in the multisource modeling analysis to determine the potential impact to the National Ambient Air Quality Standard of 35 $\mu\text{g}/\text{m}^3$ (98th percentile high). The procedure to only discard receptors below significance levels is summarized in the New Mexico Air Dispersion Modeling Guidelines (Revised April 2010). There were 79 receptors above the 24-hour PM_{2.5} SIL that were significant and are identified in Figure 16-1 in blue.

For NO₂, a multisource analysis was also performed, based on the maximum extent of the 24-hour NO₂ significance area. All receptors were used in this analysis. Prior to the calculation of the 24-hour significance area, the projects NO_x modeling concentrations were converted into NO₂ using NMAQB conversion factor of 0.4. Based on the 0.4 conversion, the maximum extent of the 24-hour significance area is two (2) kilometers and is presented in Figure 16-2.

Compliance with National and New Mexico Ambient Air Quality Standards (NAAQS and NMAAQs)

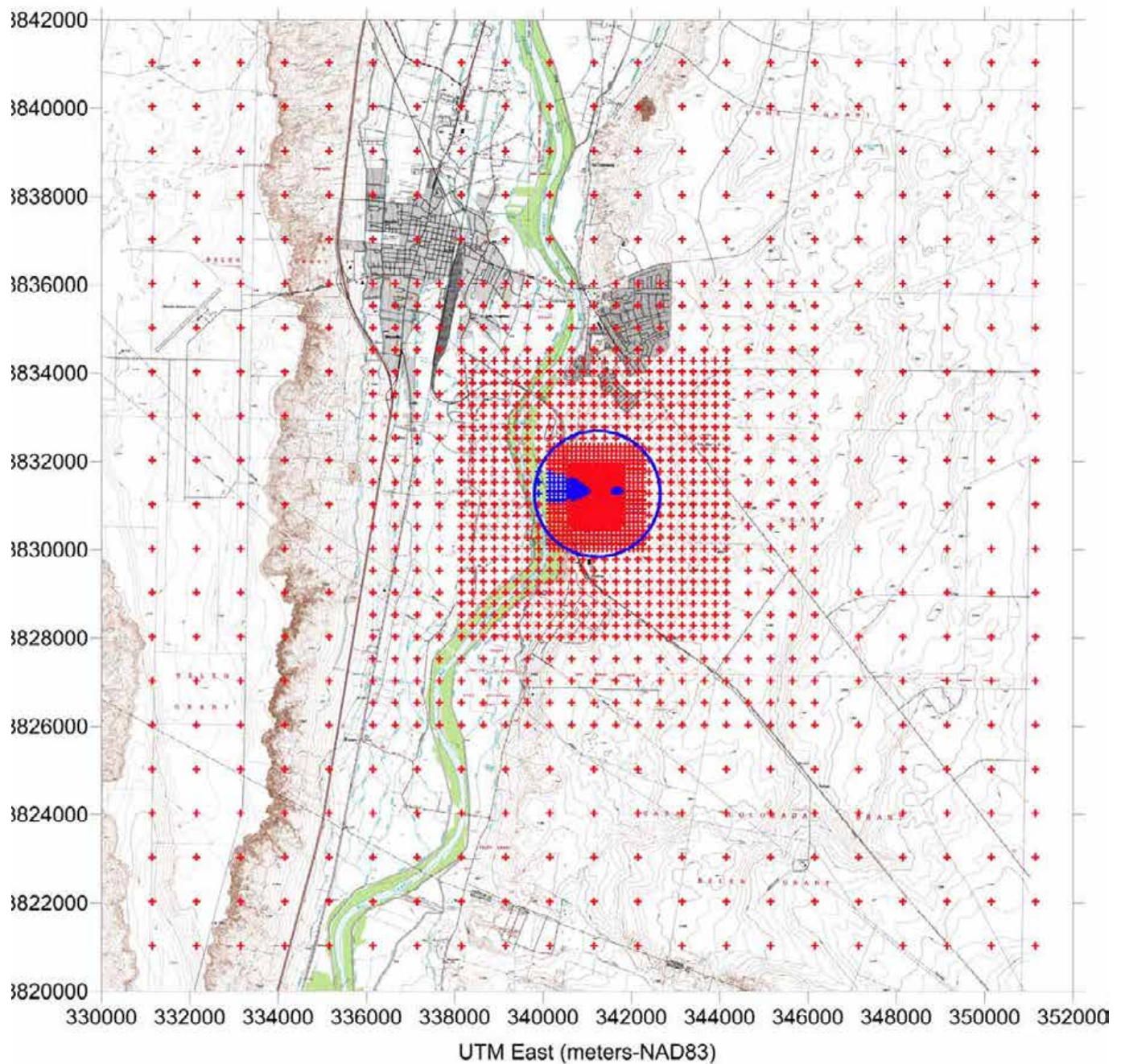
The New Mexico AQB MERGEMASTER data base was used to identify the background sources of PM_{2.5} and NO₂ within the 1.4 kilometer and 2.0 kilometer significance area, respectively, plus an additional screening area of 65 kilometers, as per the AQB Modeling Guidelines (Revised April 2010). Thirty sources of PM_{2.5} and 25 sources of NO_x were located within the screening area and were input into AERMOD along with the existing Valencia Power Plant to determine the total cumulative impact. The background sources from MERGEMASTER are provided on the attached compact disk (CD) along with the modeling input/output files. Only one (1) year of meteorological data was used in the AERMOD multisource analysis, so (in accordance with Section 2.4 of the revised AQM modeling guidelines) the resultant eighth high modeled concentration was compared to the 24-hour standard. For the 24-hour NO₂ modeling, the modeled results were converted into NO₂ using the NMAQB 0.4 conversion factor.

Background concentrations of PM_{2.5} for New Mexico are provided in Table 15: Particulate Matter Background Concentrations, found in the AQB modeling guidelines. The 24-hour PM_{2.5} background concentration for all areas of New Mexico except Dona Ana County is set at 7.3 $\mu\text{g}/\text{m}^3$. No background data exists for 24-hour NO₂.

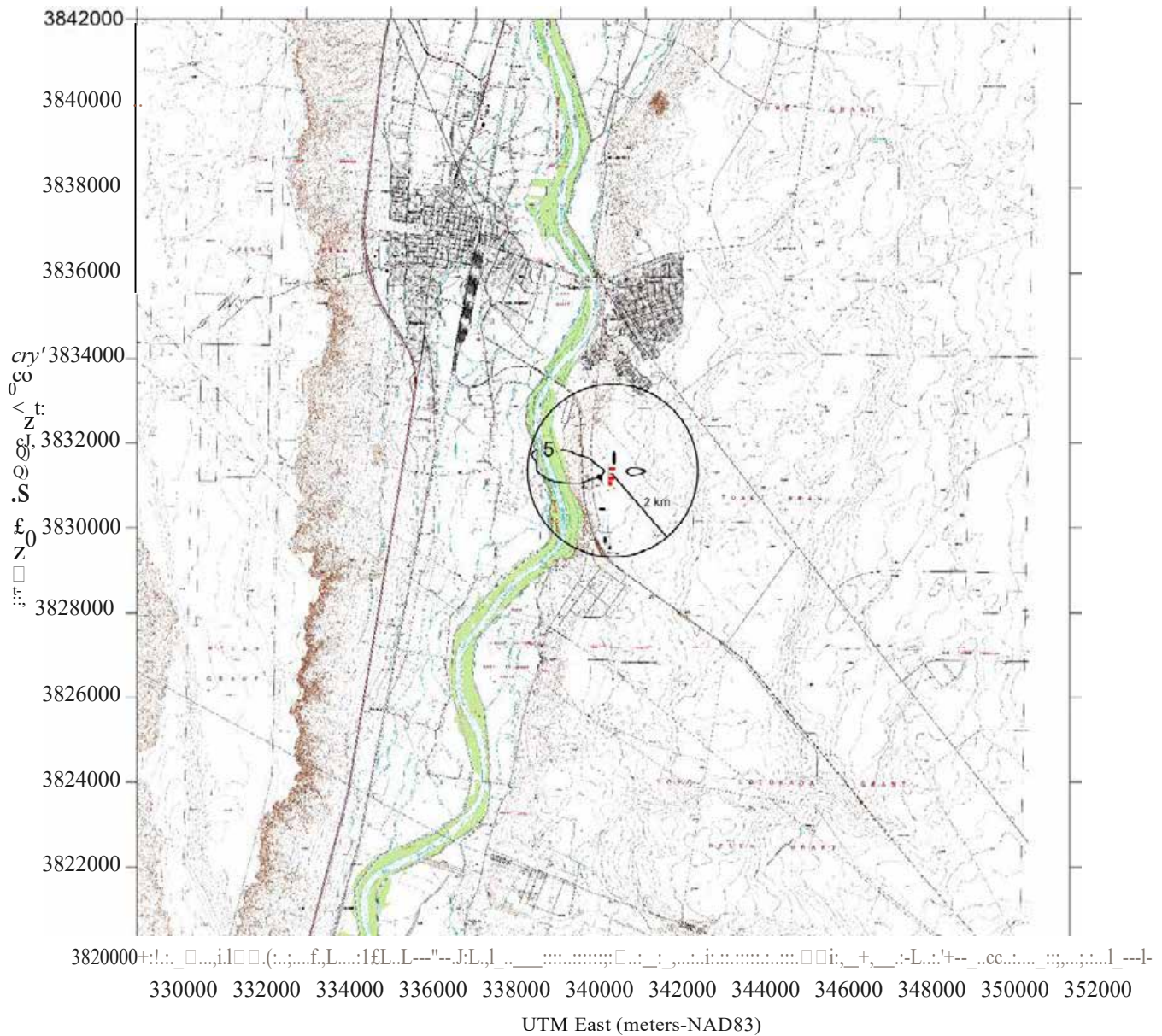
The highest eighth high PM_{2.5} multisource concentration from AERMOD is 12.10 $\mu\text{g}/\text{m}^3$. This concentration was then added to the 24-hour PM_{2.5} background concentration of 7.3 $\mu\text{g}/\text{m}^3$ to produce a total concentration of 19.4 $\mu\text{g}/\text{m}^3$. The resultant impact is less than the NAAQS of 35 $\mu\text{g}/\text{m}^3$. Thus, the project is not expected to cause an exceedance of the 24-hour PM_{2.5} standard.

The maximum 24-hour NO₂ multisource concentration is 46.156 $\mu\text{g}/\text{m}^3$, which after conversion becomes 18.462 $\mu\text{g}/\text{m}^3$. While there is no NAAQS for 24-hour NO₂, the State of New Mexico has set a NMAAQs. The resultant impact is less than the NMAAQs of 188 $\mu\text{g}/\text{m}^3$ and thus, the project will comply with the State standard.

Figure 16-1
Valencia Power Project



Source: DRG Files for USGS 7.5' USGS Maps for
Belen, Tome, Turn (Casa Colorada), and Veguita

Figure 16-2**Valencia Power Project**

Source: DRG Files for USGS 7.5' USGS Maps for Belen,
Tome, Turn (Casa Colorada), and Vequita

Note: This Air Dispersion Modeling Analysis was prepared for an Application of a Significant Permit Revision, dated March 15, 2010. This application was submitted during NMENV's review of the initial Title V Application for the plant and was incorporated as R1 – Revised 09/17/10. The modeling analysis is reproduced in support of this Application to Renew Title V Permit 220

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 a summary of the Compliance Test History and the Compliance Certification submittal dates for the Valencia Power Plant.

Compliance Test History Table

FA CTG-1	1 st Half	2 nd Half	Annual Comp	RATA test dates
2020	8/3/2020	2/1/2021	1/27/2021	11/17/2020
2021	8/3/2021	2/2/2022	1/27/2022	(1)
2022	8/3/2022	2/6/2023	1/27/2023	9/7/2022
2023	8/4/2023	2/7/2024	1/26/2024	11/21/2023
2024	8/7/2024	2/7/2025	1/29/2025	(1)
2025	8/7/2025	2/5/2026	1/28/2026	8/24/2025

Note (1) – A RATA test was not done nor required to be done on Valencia CTG-1 as there had not been four successive QA operating quarters for CTG-1 since the last RATA. A RATA is required every four successive QA operating quarters or eight consecutive calendar quarters .

Section 18

Addendum for Streamline Applications

This Section is NOT APPLICABLE to the Plant and thus omitted in accordance with NMENV instructions.

Section 19

Requirements for Title V Program

Who Must Use this Attachment:

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

The Valencia Power Plant must complete this attachment as a major source as defined in 20.2.70 NMAC and subject as a facility to the Acid Rain program.

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

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

Applicable Requirements

In accordance with 20.2.70.302.A.1, Compliance Assurance Monitoring (CAM) as contained in 40 CFR Part 64 does not apply to this Plant. The SO₂ emissions are below the regulatory threshold since they are limited to 49.8 TPY. However, to help the AQB comply with 20.2.70 NMAC, the Plant is meeting the requirements of the provisions contained in subparts 3, 7, 9(a) and 9(b). The parameters required to demonstrate compliance with CAM are O₂ percentage and temperature of the inlet gas. These parameters are included in the data collected by the Continuous Emissions Monitoring System (CEMS) that has been installed and certified at the Plant.

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

Describe the facility's compliance status with each applicable requirement at the time this permit application is submitted. This statement should include descriptions of or references to all methods used for determining compliance. This statement should include descriptions of monitoring, recordkeeping and reporting requirements and test methods used to determine compliance with all applicable requirements. Refer to Section 2, Tables 2-N and 2-O of the Application Form as necessary. (20.2.70.300.D.11 NMAC) For facilities with

existing Title V permits, refer to most recent Compliance Certification for existing requirements. Address new requirements such as CAM, here, including steps being taken to achieve compliance.

The Plant is in full compliance with all applicable emission limits, emission control requirements, reporting, and record keeping requirements.

The Plant has missed the deadline for the renewal of this Title V Permit as described in the Facility Specific Requirements A101 Permit Duration (expiration). The Plant has been in communication with NMENV Title V Management to disclose this deviation and to work with staff to expedite the submittal of this application and successful permit renewal prior to the permit expiration date of 01/10/2027. The reporting of this deviation will be included in the semiannual Compliance Report. This deviation has not resulted in any increase in emissions, reduction in emission controls, or change in normal operations.

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

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

The Plant has established operational procedures and instrumentation flags to assure management that the Plant will be operated to continue compliance with all applicable requirements including emission limits, specific conditions, normal operating parameters, and general condition of the NSR Permit.

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

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

As discussed with NMENV during the Title V Permit renewal application process, the Plant is aware that the annual Title V compliance certification is to be submitted in accordance with the schedule requirements established in section A109 of the Title V permit. Certifications have been submitted on:

Compliance Test History Table

FA CTG-1	1 st Half	2 nd Half	Annual Comp	RATA test dates
2020	8/3/2020	2/1/2021	1/27/2021	11/17/2020
2021	8/3/2021	2/2/2022	1/27/2022	(1)
2022	8/3/2022	2/6/2023	1/27/2023	9/7/2022
2023	8/4/2023	2/7/2024	1/26/2024	11/21/2023
2024	8/7/2024	2/7/2025	1/29/2025	(1)
2025	8/7/2025	2/5/2026	1/28/2026	8/24/2025

Note (1) – A RATA test was not done nor required to be done on Valencia CTG-1 as there had not been four successive QA operating quarters for CTG-1 since the last RATA. A RATA is required every four successive QA operating quarters or eight consecutive calendar quarters.

19.5 - Stratospheric Ozone and Climate Protection

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

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

The Plant commissioned two Chillers CH100A and CH100B in May 2008. A R123 refrigerant charge of 3,200 lbs. was added to each chiller during commissioning of the equipment. The Plant's Ozone Annual Report for 2015 identified that 700 lb. of R134A was added to CH100B during the year. No additional refrigerant was added to CH100A. The Plant has the following local air conditioning equipment on-site. No system has a charge greater than 50 lbs.

Area	Refrigerant	Charge (lbs.)
Admin Building	R22	7.15
Admin Building	R22	7.15
Control Room	R22	9.0
Control Room	R22	9.0
Chiller Package	R22	12.4
Chiller Package	R22	12.4
Chiller Control Room	R22	4.2
PEECC	R22	12.4
PEECC	R22	12.4
LEC Compartment	R22	8.75
PDC	R22	7.25
PDC	R22	7.25

19.6 - Compliance Plan and Schedule

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

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

- **The Plant is in full compliance with all applicable emission limits, emission control requirements, reporting, and record keeping requirements.**

The Plant has missed the deadline for the renewal of this Title V Permit as described in the Facility Specific Requirements A101 Permit Duration (expiration). The Plant has been in communication with NMENV Title V Management to disclose this deviation and to work with staff to expedite the submittal of this application and successful permit renewal prior to the permit expiration date of 01/10/2027. The reporting of this deviation will be included in the semiannual Compliance Report. This deviation has not resulted in any increase in emissions, reduction in emission controls, or change in normal operations.

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

- No compliance plan is required.

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

- No compliance schedule is required.

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

- N/A

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

- The Plant has been issued Acid Rain Operating Permit Number P220AR1 and has acquired the required SO₂ allowances, thus it is following the applicable Title IV Acid Rain Program requirements.

NOTE: The Acid Rain program has additional forms. See www.env.nm.gov/air-quality/air-quality-title-v-operating-permits-guidance-page/. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

An Acid Rain Permit renewal Application is included with this Title Renewal application.

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

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

The Plant has no chemicals on site that trigger the Section 112(r) requirements.

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

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

Yes, see following Table 19.8-1 of distances

Table 19.8 - 1				
Is the Plant Located within		Approximate Distance		
50 Miles of:		(miles)		
Other States?				
No		NA		
Local Pollution Control Programs?				
Yes		Bernalillo County		
		30		
Indian Tribes and Pueblos?				
Navajo Nation Reservation		25		
Acoma Pueblo		40		
Isleta Pueblo		0		
Laguna Pueblo		40		
Sandia Pueblo		35		
Other Tribal Lands?				
Pueblo Santa Ana and Pueblo San Felipe Joint-use Area		50		
Acoma Off-Reservation Trust Lands		40		
Laguan Off Reservation Trust Lands		20		
Tribal Casino's?				
Dancing Eagle Casino, Blanca		40		
Inn of the Mountain Gods Resort & Casino, Mescalero		50		
Isleta Casino, Albuquerque		30		
Route 66 Casino, Albuquerque		30		
Sandia Casino, Albuquerque		30		
Sky City Casino, Acoma		30		

19.9 - Responsible Official

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

- The Designated Responsible Official (DRO) is Mr. Bailey (Hud) Griffith, Plant Manager of the Valencia Power Plant. Mr. Griffith's job responsibilities meet the requirements of 20.2.70.7.AD NMAC. Mr. Griffith was recently reaffirmed by Mr. Chris Riker ("Delegating Official" being Senior Vice president of Operations of Onward Energy Holdings, LLC) as the Responsible Official and Duly Authorized Representative for all permitting activities, and Designated Representative for the Acid Rain and other EPA or state authorized allowance trading programs, and to perform similar policy or decision-making functions for Valencia Power, LLC.

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.

The Valencia Power Plant requests the renewal of the current Title V and Acid Rain permits with no changes in emission sources, emission rates, air dispersion modeling and impact assessment, and no change to applicable state and federal regulations.

The application for the renewal of Acid Rain Permit No: P220AR under 40 CFR 72 is inserted into the pages following Section 20. Section 21 – Addendum for Landfill Applications is deleted as not applicable to this Title V and Acid Rain permit renewal for a power plant.

Section 21

Acid Rain Permit Renewal

New Mexico Environmental Department Air Quality Bureau's
Acid Rain Program Permit Renewal Form Follows



New Mexico Environment Department Air Quality Bureau

Acid Rain Program

Instructions for Phase II Permit Application (20.2.84 NMAC and 40 CFR 72.30 – 72.31)

The Acid Rain Program requires the designated representative to submit an Acid Rain permit application for each source with an affected unit. A complete Certificate of Representation must be received by EPA before the permit application is submitted to the New Mexico Environment Department Air Quality Bureau (NMED/AQB). A complete Acid Rain permit application, once submitted, is binding on the owners and operators of the affected source and is enforceable in the absence of a permit until the NMED/AQB either issues a permit to the source or disapproves the application.

Please type or print. The alternate designated representative may sign in lieu of the designated representative. If assistance is needed, contact the New Mexico Environment Department Air Quality Bureau at (505) 476-4300.

STEP 1 Use the plant name and ORIS Code listed on the Certificate of Representation for the plant. An ORIS code is a 4 digit number assigned by the Energy Information Agency (EIA) at the U.S. Department of Energy to power plants owned by utilities. If the plant is not owned by a utility but has a 5 digit facility code (also assigned by EIA), use the facility code. If no code has been assigned or if there is uncertainty regarding what the code number is, contact EIA at (202) 287-1730 (for ORIS codes), or (202) 287-1927 (for facility codes).

STEP 2 For column "a," identify each affected unit at the affected source by providing the appropriate unit identification numbers, consistent with the unit identification numbers entered on the Certificate of Representation and with unit identification numbers used in reporting to DOE and/or EIA. For new units without identification numbers, owners and operators may assign such numbers consistent with EIA and DOE requirements.

For columns "c" and "d," enter the commence operation date(s) and monitor certification deadline(s) for new units in accordance with 40 CFR 72.2 and 75.4, respectively.

Submission Deadlines

For new units, an initial Acid Rain permit application must be submitted to the NMED/AQB 24 months before the date the unit commences operation. Acid Rain permit renewal applications must be submitted at least 12 months in advance of the expiration of the acid rain portion of a title V permit, or such longer time as provided for under the NMED/AQB operating permits regulation.

Submission Instructions

Mail this form to:

New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505-1816

Along with this application, include a copy of the Certificate of Representation Form and relevant permitting forms submitted to EPA (ie, Phase II NOx Compliance Plan and Averaging Plan and New Unit Exemption Form).

If you have questions regarding this form, contact the New Mexico Environment Department Air Quality Bureau at (505) 476-4300 or call EPA's Acid Rain Hotline at (202) 343-9620.

Paperwork Burden Estimate

The burden on the public for collecting and reporting information under this request is estimated at 17 hours per response. Send comments regarding this collection of information, including suggestions for reducing the burden, to: Chief, Information Policy Branch (PM-223), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, D.C. 20460; and to: Paperwork Reduction Project (OMB#2060-0258), Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503. **Do not submit forms to these addresses; see the submission instructions above.**

Phase II Permit Application, Acid Rain, Version: September 16, 2015

1

NEW MEXICO ENVIRONMENT DEPARTMENT AIR QUALITY BUREAU ACID RAIN PROGRAM PHASE II PERMIT APPLICATION For more information, see instructions and refer to 20.2.84 NMAC and 40 CFR 72.30 – 72.31
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This submission is:

☐

New

☐

Revised

☒

Renewal

STEP 1: Identify the source by plant name, State, and ORIS code.

Plant Name	State	ORIS Code
Valencia Power Plant	N M	55802

STEP 2: Enter the unit ID# for each affected unit at the affected source in column "A." For new units, enter the requested information in columns "C" and "D."

A	B	C	D
Unit ID #	Unit will hold Allowances in Accordance with 40 CFR Part 72.9(c)(1)	New Units Commence Operation Date	New Units Monitor Certification Deadline
CTG-FA1	YES	Existing Unit	
CTG-FA 2	YES	Planned Unit- TBD	TBD
	YES		
	YES		
	YES		
	YES		
	YES		
	YES		
	YES		
	YES		

STEP 3: Complete the additional information sheet and provide here or on the attached sheet a brief description of each unit.Description of Facility - [See attached page for description of the facility and equipment.](#)

Additional Information**Applicant:**
(Facility Owner and Operator)Name Valencia Power LLV
Mailing Address 55 Christine Drive
Belen, NM 87002
Phone: 505-208-7710
Fax: 505-918-8049**Name and Location of
Proposed Facility:**Facility Name: Valencia Power Plant
Driving Directions: East on NM-309, South on NM-47, South on
NM-304, left on Novarro Rd, left onto
Christine Drive.
Address: 55 Christine Drive, Belen, NM 87002
Section: 33
Range:: 2 East
Township: 5 North
Elevation: 4,900 ft
Latitude: 34° 36" 16.63' N
Longitude: 106° 43" 59.07' W
UTM Zone: 13
UTMH:
UTMV:**SIC Code:** (Primary, Secondary 4911)**Designated Representative
(DR):** (Name, or provide copy of
EPA Certificate of Representation
form.)Name: Hud Griffith
Title: Plant Manager
Company Phone: 303-208-7710 Fax
Email address: Hud.Griffith@OnwardEnergy.com**Alternate DR:**Name (same)
Title Company Phone: Fax
Email address:**Contact Person:**Name: Hud Griffith
Title: Plant Manager
Company Phone: 303-208-7710 Fax
Email address: Hud.Griffith@OnwardEnergy.com

STEP 4: Read the standard requirements and certification, enter the name of the designated representative, sign and date

Permit Requirements

- (1) The designated representative of each affected source and each affected unit at the source shall:
 - (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
 - (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
- (2) The owners and operators of each affected source and each affected unit at the source shall:
 - (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
 - (ii) Have an Acid Rain Permit. [See Existing Acid Rain Permit Account Detail on Attached page](#)

Monitoring Requirements

- (1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

- (1) The owners and operators of each source and each affected unit at the source shall:
 - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)), or in the compliance subaccount of another affected unit at the same source to the extent provided in 40 CFR 73.35(b)(3), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
 - (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
 - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

- (1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
- (2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:
 - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
 - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:

- (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
 - (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
 - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
- (6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension

Liability, Cont'd.

plans) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.

(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

- (1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
- (2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
- (3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
- (4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
- (5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

STEP 5: Read the certification statement, sign, and date.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name	<i>Bailey Hudson Griffith</i>  03/20/2026 08:13 AM MDT
Designated Representative or Alternate Representative Signature	Date 03-20-2026

Acid Rain Permit Renewal Application Additional Information Attachment

STEP 3: Description of Unit

The Plant has installed and operates one of two permitted FA Combustion Turbine Generators (CTGs). FA CTG-1 is a GE built turbine (Serial No: GT 298299) with a fabrication start date of January 3, 2003. The turbine has a rated capacity of 159.5 MW power production. The current and planned CTGs have no add-on pollution control devices. Engineering design and process controls are used to optimize performance and thus control air emissions that are vented through Stack 1. A Cooling Tower (CT-1) and chiller are used to maintain the inlet air temperature to the CTG. During startup, emissions of CO will exceed those during any normal operating mode. The startup and comparable shutdown emissions were included in the total annual emission estimates summarized in Table 2E of Section 3 of the Plant's Title V Permit renewal application. In addition, air dispersion modeling demonstrated that startup emissions would not cause an exceedance of any NAAQS or NMAAQS.

The initial developers of the Plant incorporated into the Air Quality Permit Application (as submitted to the NMENV for the Construction Permit) and accepted Specific Conditions on emission limits and operating conditions in the NSR permit that allow operations flexibility to meet fluctuating market demand for electricity. The Plant may be operated at different load levels with varied hours of daily operation depending on market demand for electricity. During periods when demand is high, one or both turbines may need to operate at full or partial load for 24 hours per day. In periods of decreased demand, one or both turbines may operate at fewer hours per day, at a reduced load or both.

STEP 4 : Permit Requirements 2(ii) – Existing Acid Rain Permit Account Details:

EPA Download Allowance Detail	
Program	03-2026 ARP 164542348
Account Number	055802FACLT
Account Name	Valencia Power Plant
Facility ID (ORISPL)	55802
Unit ID	
State	NM
EPA Region	6
NERC Region	WECC
Source Category	
Operating Status	
Owner	Valencia Power, LLC (Operator) Valencia Power, LLC (Owner)
Representative (Primary)	Bailey Griffith (604605)
Representative (Secondary)	
Account Type	F
Allowance Vintage Year	1996
Total Allowance	6

<https://ampd.epa.gov/ampd/>

Section 22: Certification

Company Name: Valencia Power, LLC

I, Bailey Hudson Griffith, 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 20th day of March, 2026, upon my oath or affirmation, before a notary of the State of

Colorado.

Bailey Hudson Griffith



03/20/2026 08:13 AM MDT

*Signature

03-20-2026

Date

Bailey Hudson Griffith

Printed Name

Plant Manager

Title

STATE OF COLORADO)
CITY & COUNTY OF DENVER)

Scribed and sworn before me on this 20th day of March, 2026, by Bailey Hudson Griffith.

My authorization as a notary of the State of Colorado expires on the 24th day of June, 2027.

Kristen Janette Berg



03/20/2026 08:17 AM MDT

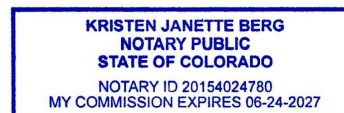
Kristen Janette Berg, Notary Public

03-20-2026

Date

Kristen Janette Berg

Notary's Printed Name



Online Notary Public. This notarial act involved the use of
online audio/video communication technology. Notarization
facilitated by SIGNIX®

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

