NMED AIR QUALITY SIGNIFICANT REVISION TO NSR PERMIT #2831-M2R1

FARMINGTON ELECTRIC UTILITY SYSTEMS
BLUFFVIEW POWER PLANT

Prepared By:

Adam Erenstein – Manager of Consulting Services

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

June 2023

Project 233201.0026

Trinity Consultants

Trinity Consultants
9400 Holly Ave NE, Bldg 3, Ste B, Albuquerque, NM 87122 / P 505.266.6611 / **trinityconsultants.com**

June 12, 2023

Permit Programs Manager
NMED Air Quality Bureau
525 Camino de los Marquez Suite 1
Santa Fe, NM 87505-1816

RE: NSR Permit #2831-M2R1 Significant Revision Application
Farmington Electric Utility Systems – Bluffview Power Plant

Permit Programs Manager:

Farmington Electric Utility Systems is submitting a significant revision to NSR permit #2831-M2R1 application for Bluffview Power plant. The facility is located at 755 West Murray Dr., Farmington, NM 87401. The facility has a total production of 609.20 MMBtu/hr energy and includes two (2) new compressor engines, one (1) natural gas fired combustion turbine generator, one (1) Forney heat recovery steam generator (HRSG), one (1) cooling tower, and one (1) emergency fire pump.

The format and content of this application are consistent with the Bureau's current policy regarding NSR Significant Revision applications; it is a complete application package using the most current application forms. Enclosed is a hard copy of the application, including the original certification. Please feel free to contact either myself at (505) 266-6611 or by email at aerenstein@trinityconsultants.com if you have any questions regarding this application. Alternatively, you may contact Ann Woods, Environmental Scientist for Farmington Electric Utility Systems, at (505) 599-8345 or by email at awoods@fmtn.org.

Sincerely,

Adam Erenstein
Manager of Consulting Services

Trinity Project File 233201.0026

Mail Application To:		**For Department use only:**
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		

Universal Air Quality Permit Application

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

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

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

Acknowledgements:

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

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

☑ Check No.: in the amount of $500

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

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

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

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

Section 1 – Facility Information

Section 1-A: Company Information

		AI # if known (see 1st 3 to 5 #s of permit IDEA ID No.): 3535	Updating Permit/NOI #: NSR 2831-M2R1
1	Facility Name: Bluffview Power Plant	Plant primary SIC Code (4 digits): 4911	
		Plant NAIC code (6 digits): 22112	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): 755 West Murray Drive, Farmington, NM 87401		
2	Plant Operator Company Name: City of Farmington	Phone/Fax: (505) 599-8345/ N/A	
a	Plant Operator Address: 800 Municipal Drive, Farmington, NM 87401		

b	Plant Operator's New Mexico Corporate ID or Tax ID: 85-6000129	
3	Plant Owner(s) name(s): Farmington Electric Utility Systems	Phone/Fax: (505) 599-8345/ N/A
a	Plant Owner(s) Mailing Address(s): 800 Municipal Drive, Farmington, NM 87401	
4	Bill To (Company): City of Farmington	Phone/Fax: (505) 599-8345/ N/A
a	Mailing Address: 800 Municipal Drive, Farmington, NM 87401	E-mail: bchesnut@fmtn.org
5	☑ Preparer: Adam Erenstein ☑ Consultant: Trinity Consultants, Inc.	Phone/Fax: (505) 266-6611
a	Mailing Address: 9400 Holly Ave NE, Bldg. 3, Ste, B, Albuquerque, NM 87122	E-mail: aerenstein@trinityconsultants.com
6	Plant Operator Contact: Britt Chesnut	Phone/Fax: (505) 599-8342/N/A
a	Address: 501 McCormick School Rd., Farmington, NM 87401	E-mail: bchesnut@fmtn.org
7	Air Permit Contact: Ann Woods	Title: Environmental Scientist
a	E-mail: awoods@fmtn.org	Phone/Fax: (505) 599-8345/ N/A
b	Mailing Address: 101 N Browning Parkway, Farmington, NM 87401.	
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: P228-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 2831-M2R1
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: 455.00 x 10^6 Btu	Daily: 10.92 x 10^9 Btu	Annually: 3.99 x 10^{12} Btu
b	Proposed	Hourly: 609.20 x 10^6 Btu	Daily: 14.62 x 10^9 Btu	Annually: 5.34 x 10^{12} Btu
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: 455.00 x 10^6 Btu	Daily: 10.92 x 10^9 Btu	Annually: 3.99 x 10^{12} Btu

b	Proposed	Hourly: 609.20 x 10^6 Btu	Daily: 14.62 x 10^9 Btu	Annually: 5.34 x 10^{12} Btu

Section 1-D: Facility Location Information

1	Section: 21	Range: 13W	Township: 29N	County: San Juan	Elevation (ft): 5290
2	UTM Zone: ☑ 12 or ☐ 13			Datum: ☐ NAD 27 ☐ NAD 83 ☑ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 748,748 m			UTM N (in meters, to nearest 10 meters): 4,067,078 m	
b	**AND** Latitude (deg., min., sec.): 36°43'0.65"N			Longitude (deg., min., sec.): 108°12'53.77"W	
3	Name and zip code of nearest New Mexico town: Farmington, NM 87401				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): Head south onto US-64 BYP E/W Murray Drive, turn right onto S Lake St. after 1.3 mi, facility gate is on the left after 0.2 mi.				
5	The facility is **located** within the **City of Farmington**, NM 87401.				
6	Status of land at facility (check one): ☐ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☑ Other: City of Farmington				
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: Navajo Nation, Farmington City, and San Juan County.				
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/air-quality/modeling-publications/)? ☑Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: Colorado (31.0 km) and Mesa Verde National Park (53.0 km)				
9	Name nearest Class I area: Mesa Verde National Park				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 53.0 km				
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: 125 m				
12	Method(s) used to delineate the Restricted Area: Fence "**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: upon receipt of permit.					
4	Month and year of anticipated construction completion: TBD					
5	Month and year of anticipated startup of new or modified facility: TBD					
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:		NOV Tracking No:
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: N/A		
2	Is air quality dispersion modeling or modeling waiver being submitted with this application? ☑ Yes ☐ No		
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes ☑ No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? ☑ Yes ☐ No		
a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** ☑ **Minor** (☑ <10 tpy of any single HAP **AND** ☑ <25 tpy of any combination of HAPS)		
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? ☑ Yes ☐ No		
a	If yes, include the name of company providing commercial electric power to the facility: Farmington Electric Utility System Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.		

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

1	☐ I have filled out Section 18, "Addendum for Streamline Applications." ☑ N/A (This is not a Streamline application.)

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

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

1	Responsible Official (R.O.) (20.2.70.300.D.2 NMAC): Britt Chesnut		Phone: (505) 599-8342
a	R.O. Title: Generation Manager	R.O. e-mail: bchesnut@fmtn.org	
b	R. O. Address: 501 McCormick School Rd., Farmington, NM 87401		
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): N/A		Phone: N/A
a	A. R.O. Title: N/A	A. R.O. e-mail: N/A	
b	A. R. O. Address: N/A		
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship): N/A		
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): City of Farmington		
a	Address of Parent Company: 800 Municipal Drive, Farmington, NM 87401		
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.): Farmington Electric Utility System		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: Britt Chesnut (505) 599-8342		

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: Navajo Nation (8.1 km) and Colorado (31.0 km)

Section 1-I – Submittal Requirements

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

Hard Copy Submittal Requirements:

1) One hard copy **original signed and notarized application package** **printed double sided** **'head-to-toe'** **2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be head-to-head. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required. Please include a copy of the check on a separate page.

2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This copy should be printed in book form, 3-hole punched, and **must be double sided**. Note that this is in addition to the head-to-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: Adam Erenstein,

Email: aerenstein@trinityconsultants.com

Phone number (505) 266-6611

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

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

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

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

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

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

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

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

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

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

Table of Contents

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

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 #	Manufact-urer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classi-fication Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
PD-CTG-1	Natural Gas Fired Combustion Turbine Generator	General Electric	7LM6000 PD-NGDG03	192-352	338 MMBtu/hr	338 MMBtu/hr	11/3/2021 5/5/2022	GTX-SCR-1 GT-1	20100201	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
PD-DB-1	Duct Burner	Forney	90-E	N/A	144 MMBtu/hr	144 MMBtu/hr	1/1/2004 1/1/2004	GTX-SCR-1 GT-1	31000414	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
PD-CT-1	Cooling Tower	Evapco	AT728048	12 individual cells cells A1-A4 W037812 cells B1-B4 W037813 cells C1-C4 W037814	31,123 gpm	31,123 gpm	5/1/2005 5/1/2005	N/A N/A	38500101	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
ENG-1	Compressor Engine	Wartsila	W20V34SG	TBD	9 MW	9 MW	TBD TBD	SCR-2, CAT-1 ENG-1	20200254	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
ENG-2	Compressor Engine	Wartsila	W20V34SG	TBD	9 MW	9 MW	TBD TBD	SCR-3, CAT-2 ENG-2	20200254	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

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

[2] Specify dates required to determine regulatory applicability.

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

[4] "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

Table 2-B: Insignificant Activities[1] (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pdf . TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction[2]	For Each Piece of Equipment, Check Once
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction[2]	
TK-1	Demineralized Water Storage Tank	Pittsburg Tank & Tower Co.	N/A	90,000 Gallons	20.2.72.202.B.5	2004	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			111M200	90,000 Gallons		2004	
TK-2	Turbine Washdown Tank	Four Corners Pre-Cast, Inc.	N/A	2,000 Gallons	20.2.72.202.B.5	2014	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	2,000 Gallons		2014	
TK-3	29% Aqua Ammonia Storage Tank	Baker Tank Co.	N/A	7,000 Gallons	20.2.72.202.B.5	2004	☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			4208	7,000 Gallons		2004	
PUMP-1	Diesel-Fired Firewater Pump	TBD	TBD	262 kW	20.2.72.202.A.4	TBD	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			TBD	262 kW		TBD	
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

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

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

[3] For information purposes only. These engines satisfy the federal definition of "nonroad engine" under 40 CFR §§ 89.2 and 90.3 (for compression and spark-ignition engines, respectively) and are therefore regulated by EPA as mobile sources and not subject to state NSR and Title V permitting for stationary sources.

Table 2-C: Emissions Control Equipment

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

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
PD-SCR-1	Selective Catalytic Reduction	9/24/2019	NOx	PD-CTG-1, PD-DB-1	Variable, 47% (ann. average basis)	Mfg. data
PD-CATOX-1	Catalytic Oxidation	4/9/2017	CO	PD-CTG-1, PD-DB-1	Variable, 47% (ann. average basis)	Mfg. data
PD-CATOX-1	Catalytic Oxidation	4/9/2017	VOC	PD-CTG-1, PD-DB-1	Variable, 70% (ann. average basis)	Mfg. data
SCR-2	Selective Catalytic Reduction	TBD	NOx	ENG-1	NOx= 96.9%	Mfg. data
SCR-3	Selective Catalytic Reduction	TBD	NOx	ENG-2	NOx= 96.9%	Mfg. data
CAT-1	Catalytic Oxidation	TBD	HCHO, VOC, CO	ENG-1	HCHO= 88.9% CO = 96.0% VOC = 59.9%	Mfg. data
CAT-2	Catalytic Oxidation	TBD	HCHO, VOC, CO	ENG-2	HCHO= 88.9% CO = 96.0% VOC = 59.9%	Mfg. data

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

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

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

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

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
PD-CTG-1 + PD-DB-1	42.80	187.5	42.8	187.5	5.50	24.09	2.62	11.46	12.83	56.20	12.83	56.20	12.83	56.20	-	-	-	-
PD-CT-1	-	-	-	-	-	-	-	-	3.11	13.64	0.19	0.83	0.19	0.83	-	-	-	-
ENG-1	66.98	293.38	105.15	460.55	26.80	117.38	0.44	1.93	1.61	7.05	1.61	7.05	1.61	7.05	-	-	-	-
ENG-2	66.98	293.38	105.15	460.55	26.80	117.38	0.44	1.93	1.61	7.05	1.61	7.05	1.61	7.05	-	-	-	-
Totals	176.77	774.27	253.10	1,108.60	59.10	258.85	3.50	15.32	19.16	83.95	16.24	71.14	16.24	71.14	-	-	-	-

[1] **Significant Figures Examples:** One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

[2] **Condensables:** Include condensable particulate matter emissions in particulate matter calculations.

"*" Indicates that an hourly limit is not appropriate for this operating situation and is not being requested

"-" Indicates emissions of this pollutant are not expected

Table 2-E: Requested Allowable Emissions

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

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
PD-CTG-1 + PD-DB-1	23.43	99.11	23.50	99.42	1.79	7.12	2.62	11.48	12.83	56.19	12.83	56.19	12.83	56.19	-	-	-	-
PD-CT-1	-	-	-	-	-	-	-	-	3.11	13.64	0.19	0.83	0.19	0.83	-	-	-	-
ENG-1	2.07	9.08	4.25	18.60	10.11	44.27	0.44	1.93	1.61	7.05	1.61	7.05	1.61	7.05	-	-	-	-
ENG-2	2.07	9.08	4.25	18.60	10.11	44.27	0.44	1.93	1.61	7.05	1.61	7.05	1.61	7.05	-	-	-	-
Totals	27.58	117.28	32.00	136.62	22.00	95.67	3.50	15.33	19.16	83.94	16.24	71.13	16.24	71.13	-	-	-	-

[1] **Significant Figures Examples**: One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

[2] **Condensables:** Include condensable particulate matter emissions in particulate matter calculations.

"*" Indicates that an hourly limit is not appropriate for this operating situation and is not being requested

"-" Indicates emissions of this pollutant are not expected

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

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

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

Unit No.	NOx		CO		VOC		SOx		PM[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals																		

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

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

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

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

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

Stack No.	Serving Unit Number(s) from Table 2-A	NOx		CO		VOC		SOx		PM		PM10		PM2.5		□ H_2S or □ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals:																	

Table 2-H: Stack Exit Conditions

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

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
GT-1	PD-CTG-1 + PD-DB-1	V	No	70	269	5384	2957	8.72	37.95	13.00
ENG-1	ENG-1	V	No	70	636	17,162			22.76	4.00
ENG-2	ENG-2	V	No	70	636	17,162			22.76	4.00

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

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

Stack No.	Unit No.(s)	Total HAPs		Formaldehyde ☑ HAP or ☐ TAP		Acetaldehyde ☑ HAP or ☐ TAP		Acrolein ☑ HAP or ☐ TAP		n-Hexane ☑ HAP or ☐ TAP		Benzene ☑ HAP or ☐ TAP		Toluene ☑ HAP or ☐ TAP		Ethylbenzene ☑ HAP or ☐ TAP		Xylenes ☑ HAP or ☐ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
GT-1	PD-CTG-1 + PD-DB-1	0.61	2.69	0.25	1.10	0.01	0.06	0.002	0.01	0.25	1.11	0.004	0.02	0.04	0.19	0.01	0.05	0.02	0.09
ENG-1	ENG-1	1.57	6.90	0.39	1.71	0.63	2.77	0.39	1.70	0.08	0.37	0.03	0.15	0.03	0.13	0.003	0.01	0.01	0.06
ENG-2	ENG-2	1.57	6.90	0.39	1.71	0.63	2.77	0.39	1.70	0.08	0.37	0.03	0.15	0.03	0.13	0.003	0.01	0.01	0.06
	Totals:	3.76	16.48	1.03	4.51	1.28	5.59	0.78	3.41	0.42	1.85	0.07	0.31	0.11	0.46	0.02	0.07	0.05	0.22

Table 2-J: Fuel

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

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, …)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
PD-CTG-1	Natural Gas	Pipeline quality natural gas	1000 Btu/scf	338 MMBtu/hr	3.0×10^{12} Btu/yr	2 gr S /100 SCF	-
PD-DB-1	Natural Gas	Pipeline quality natural gas	1000 Btu/scf	144 MMBtu/hr	1.3×10^{12} Btu/yr	2 gr S /100 SCF	-
ENG-1	Natural Gas	Pipeline quality natural gas	1000 Btu/scf	0.08 MMscf/hr	674.96 MMscf/hr	2 gr S /100 SCF	-
ENG-2	Natural Gas	Pipeline quality natural gas	1000 Btu/scf	0.08 MMscf/hr	674.96 MMscf/hr	2 gr S /100 SCF	-

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

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

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
N/A - This facility does not store any applicable liquids.									

Table 2-L: Tank Data

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

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
N/A - There are no tanks at this facility.													

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

Roof Type	Seal Type, Welded Tank Seal Type		Seal Type, Riveted Tank Seal Type		Roof, Shell Color	Paint Condition
FX: Fixed Roof	**Mechanical Shoe Seal**	**Liquid-mounted resilient seal**	**Vapor-mounted resilient seal**	**Seal Type**	**WH**: White	Good
IF: Internal Floating Roof	**A**: Primary only	**A**: Primary only	**A**: Primary only	**A**: Mechanical shoe, primary only	**AS**: Aluminum (specular)	Poor
EF: External Floating Roof	**B**: Shoe-mounted secondary	**B**: Weather shield	**B**: Weather shield	**B**: Shoe-mounted secondary	**AD**: Aluminum (diffuse)	
P: Pressure	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**LG**: Light Gray	
					MG: Medium Gray	
					BL: Black	
					OT: Other (specify)	

Note: 1.00 bbl = 0.159 M^3 = 42.0 gal

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

Material Processed				Material Produced			
Description	**Chemical Composition**	**Phase (Gas, Liquid, or Solid)**	**Quantity (specify units)**	**Description**	**Chemical Composition**	**Phase**	**Quantity (specify units)**
N/A - This facility is a power generation station.							

Table 2-N: CEM Equipment

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

Stack No.	Pollutant(s)	Manufacturer	Model No.	Serial No.	Sample Frequency	Averaging Time	Range	Sensitivity	Accuracy
PD-CTG-1 + PD-DB-1	NOx	Thermo	42i-LS	1170440021	10 sec	1 hr	0-20 and 0-200 ppm	1.0 ppm	0.5% precision
PD-CTG-1 + PD-DB-1	O2	Siemens Ultramat/Oxymat 6 Combo	6E	D9-022	10 sec	1 hr	0-25%	1.00%	0.5% precision
PD-CTG-1 + PD-DB-1	CO	Siemens Ultramat/Oxymat 6 Combo	6E	D9-022	10 sec	1 hr	0-20 and 0-400 ppm	1.0 ppm	0.5% precision

Table 2-O: Parametric Emissions Measurement Equipment

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

Unit No.	Parameter/Pollutant Measured	Location of Measurement	Unit of Measure	Acceptable Range	Frequency of Maintenance	Nature of Maintenance	Method of Recording	Averaging Time
PD-CTG-1	Fuel Flowrate	Feed to Combustor	SCFM	0-6500 (SCFM)	Annual	Orifice Plate Inspection and Fuel Flow Meter Calibration per 40 CFR 75	Continuous	1 second frequency/24 hour total
PD-DB-1	Fuel Flowrate	Feed to Combustor	SCFM	0-2500 (SCFM)	Annual	Orifice Plate Inspection and Fuel Flow Meter Calibration per 40 CFR 75	Continuous	1 second frequency/24 hour total

Table 2-P: Greenhouse Gas Emissions

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

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]						Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**							
PD-CTG-1 + PD-DB-1	**mass GHG**	273,822	0.52	5.16	-	-						273,828	
	CO_2e	273,822	154.96	129	-	-							274,106
ENG-1	**mass GHG**	39477	0.07	0.74	-	-						39478	
	CO2e	39477	22.17	18.60	-	-							39518
ENG-2	**mass GHG**	39477	0.07	0.74	-	-						39478	
	CO2e	39477	22.17	18.60	-	-							39518
	mass GHG												
	CO2e												
	mass GHG												
	CO2e												
	mass GHG												
	CO2e												
	mass GHG												
	CO2e												
	mass GHG												
	CO2e												
	mass GHG												
	CO2e												
	mass GHG												
	CO2e												
	mass GHG												
	CO2e												
	mass GHG												
	CO2e												
	mass GHG												
	CO2e												
	mass GHG												
	CO2e												
Total	**mass GHG**	352,777	1	7	-	-						352,784	
	CO_2e	352,777	155	129	-	-							353,061

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

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

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

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

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

Section 3

Application Summary

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

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

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

The Farmington Electric Utility Systems is submitting this application and accompanying the materials pursuant to 20.2.72.219.D(1) NMAC for a significant revision to NSR permit (Permit No. 2831-M2R1) for Bluffview Power Plant. The plant is a natural-gas electric generation and is located within Farmington City limit. The facility is currently operating under NSR 2831-M2R1, Title V Permit No. P228-R2, and Acid Rain Permit P228-AR3. The facility is currently an existing minor PSD source as well as a major source under the Title V program.

The proposed revision to the Bluffview Power Plant consists of the installation of two (2) new natural gas-fired reciprocating internal combustion engines (RICE) manufactured by Wartsila, rated at 9 megawatts each for a total of nominal 18 megawatts electrical demand. Each new engine will be equipped with a selective catalytic reduction system to reduce emissions of nitrogen oxides and an oxidation catalyst system to reduce emissions of carbon monoxide and volatile organic compounds. A new exempt 262 kW diesel engine driven fire water pump will also be installed for fire protection during emergencies.

Existing regulated emission sources include One (1) General Electric model LM6000-PD natural gas fired combustion turbine generator (CTG) rated at 338 million British thermal units per hour (MMBtu/hr), One (1) Forney heat recovery steam generator (HRSG), including a 144 MMBtu/hr supplemental duct burner also firing natural gas, and One (1) Evapco auxiliary wet surface cooling tower.

After the installation of the RICE units, and upon initial startup of these new units, the Bluffview Power Plant will be considered a major PSD and Title V source with regards to any future projects.

Startup, Shutdown, and Maintenance (SSM) routine or predictable emissions: Separate allowable startup, shutdown, and maintenance (SSM) emission limits are not required for this facility since the SSM emissions are predicted to be less than the established steady state emissions for this facility.

Section 4

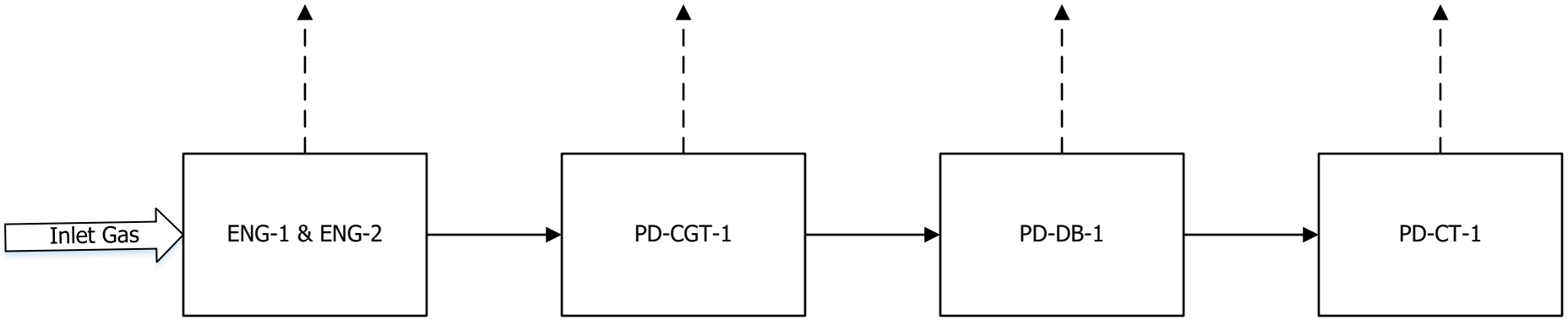
Process Flow Sheet

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.

A process flow sheet is attached.

Legend

Emissions



Farmington Electric Utility System - Bluffview 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.

A detailed plot plan is attached.

ITEM NO.	EQUIPMENT IDENTIFICATION LIST
1	ENGINE HALL
2	RADIATORS
3	CEMS ENCLOSURE (IF REQUIRED)
4	LUBE OIL UNLOADING AND STORAGE AREA
5	AMMONIA UNLOADING AND STORAGE AREA
6	OIL/WATER SEPARATOR
7	FIRE WATER PUMPS
8	ELECTRICAL EQUIPMENT & BATTERY BUILDING
9	MAINTENANCE WATER TANK
10	TRANSFORMER
11	GENERATOR STEP-UP TRANSFORMER
12	SUMP
13	EXISTING NEW MEXICO GAS YARD
14	EXISTING SWITCHYARD
15	EXISTING STEAM TURBINE GENERATOR BUILDING
16	EXISTING COMBUSTION TURBINE GENERATOR
17	EXISTING COOLING TOWERS
18	EXISTING STORM WATER POND
19	EXISTING ADMIN BUILDING
20	CULTURAL SIGNIFICANCE AREA

PLAN VIEW
SCALE: 1"=60'-0"

NOT TO BE USED FOR CONSTRUCTION

THE DISTRIBUTION AND USE OF THE NATIVE FORMAT CAD FILE OF THIS DRAWING IS UNCONTROLLED. THE USER SHALL VERIFY TRACEABILITY OF THIS DRAWING TO THE LATEST CONTROLLED VERSION.

NO	DATE	REVISIONS AND RECORD OF ISSUE	DRN	DES	CHK	PDE	APP
C	1-29-2019	ISSUED FOR INFORMATION	JHH	JHH		WOB	
B	1-21-2019	ISSUED FOR INFORMATION	JHH	JHH		WOB	
A	1-17-2019	ISSUED FOR INFORMATION	JHH	JHH		WOB	

60' 30' 0 60' 120'
1"=60'

FARMINGTON ELECTRIC UTILITY SYSTEM
BLUFFVIEW EXPANSION PROJECT

ENGINEER	WOB	DRAWN	JHH
CHECKED		DATE	1/17/19

SITE ARRANGEMENT
2 X 9 MW RICE UNITS

PROJECT	DRAWING NUMBER	REV
198479	-CSTA-G1004	C
CODE		
AREA		

ACAD 18.2s (LMS Tech)
1=1
A1ASL017 E1

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.

Wartsila W20V24SG Engines (Unit ID: ENG-1 and ENG-2)
NO_X, CO, VOC, PM, PM_{10}, and $PM_{2.5}$ emission rates were calculated using the highest emission factors based on the emission simulation data. SO_2 emissions are based on a conservative fuel sulfur content estimated of 2 gr S/100 scf and 100% conversion of elemental sulfur to SO_2. Table 3.2-2. Greenhouse gas emissions are estimated using emission factors from 40 CFR 98 Subpart C Tables C-1 and C-2. HAPs were calculated using AP-42 emission factors for 4SLB (Table 3.2-2).

Exempt Fire-Pump (Unit ID: PUMP-1)
CO and PM were estimated referenced from 40 CFR Part 60 Subpart III Table 4. SO_2 is calculated based on AP 42 Table 3.3-1. NO_X and NMHC were derived from NO_X + NMHC based on the assumption of 95% NO_X and 5% NMHC according to Table D-25 on California Environmental Protection Agency (Revised date: Dec 18, 2011). HAPs were calculated using AP-42 emission factors from Table 3.3-1 & 3.3-2.

Combustion Turbine (Unit ID: PD-CTG-1)
Emissions of nitrogen oxides (NO_X), carbon monoxide (CO), volatile organic compound (VOC), and particulate emissions PM_{10} and $PM_{2.5}$ from the turbine are calculated from manufacturer's data and HRSG performance modeling, as brought forward from the 2019 Title V renewal application. SO_2 emissions are based on a conservative fuel sulfur content estimated of 2 gr S/100 scf and 100% conversion of elemental sulfur to SO_2. Uncontrolled hazardous air pollutants (HAP) from the turbine are calculated using AP-42 Natural Gas Combustion Tables 1.4-3 and 1.4-4 emission factors.

HRSG Duct Burners (Unit ID: PD-DB-1)
Emissions of nitrogen oxides (NO_X), carbon monoxide (CO), volatile organic compound (VOC), and particulate emissions PM_{10} and $PM_{2.5}$ from the HRSG duct burners are calculated from manufacturer's data and HRSG performance modeling, as brought forward from the 2019 Title V renewal application. SO_2 emissions are based on a conservative fuel sulfur content estimated of 2 gr S/100 scf and 100% conversion of elemental sulfur to SO_2. Uncontrolled hazardous air pollutants (HAP) from the turbine are calculated using AP-42 Natural Gas Combustion Tables 1.4-3 and 1.4-4 emission factors.

Cooling Tower (PD-CT-1)
Particulate matter emissions PM_{10} and $PM_{2.5}$ from the cooling tower are calculated using drift emission factors from NSR permit 2831-M1 condition 1.q, as brought forward from the 2019 Title V renewal application. PM_{10} emissions are calculated using emission factors provided in paper "Calculating Realistic PM_{10} Emissions from Cooling Towers" presented at the 2001 Air and Waste Management Association (AWMA) annual meeting. $PM_{2.5}$ emissions are assumed to be equal to PM_{10} emissions.

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC) applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO_2e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO_2e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO_2e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO2e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following ☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Sources for Calculating GHG Emissions:

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

Global Warming Potentials (GWP):
Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO_2 over a specified time period.

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

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

Farmington Electric Utility System - Bluffview Power Plant

Emissions Summary

Uncontrolled Emissions																				
	NO_x		CO		VOC		SO_2		PM		PM_{10}		$PM_{2.5}$		H_2S		Total HAPs		Formaldehyde	
Unit	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PD-CTG-1 + PD-DB-1	42.80	187.50	42.80	187.50	5.50	24.09	2.62	11.46	12.83	56.19	12.83	56.20	12.83	56.20	-	-	0.61	2.69	0.25	1.10
PD-CT-1	-	-	-	-	-	-	-	-	3.11	13.64	0.19	0.83	0.19	0.83	-	-	-	-	-	-
ENG-1	66.98	293.38	105.15	460.55	26.80	117.38	0.44	1.93	1.61	7.05	1.61	7.05	1.61	7.05	-	-	4.68	20.52	3.50	15.33
ENG-2	66.98	293.38	105.15	460.55	26.80	117.38	0.44	1.93	1.61	7.05	1.61	7.05	1.61	7.05	-	-	4.68	20.52	3.50	15.33
Totals	**176.77**	**774.27**	**253.10**	**1108.60**	**59.10**	**258.85**	**3.50**	**15.32**	**19.16**	**83.94**	**16.24**	**71.14**	**16.24**	**71.14**	**-**	**-**	**9.98**	**43.73**	**7.25**	**31.76**

Farmington Electric Utility System - Bluffview Power Plant

Emissions Summary

Controlled Emissions																				
	NO_x		CO		VOC		SO_2		PM		PM_{10}		$PM_{2.5}$		H_2S		Total HAPs		Formaldehyde	
Unit	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/hr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PD-CTG-1 + PD-DB-1 [1]	23.43	99.11	23.50	99.42	1.79	7.12	2.62	11.48	12.83	56.19	12.83	56.19	12.83	56.19	-	-	0.61	2.69	0.25	1.10
PD-CT-1 [1]	-	-	-	-	-	-	-	-	3.11	13.64	0.19	0.83	0.19	0.83	-	-	-	-	-	-
ENG-1	2.07	9.08	4.25	18.60	10.11	44.27	0.44	1.93	1.61	7.05	1.61	7.05	1.61	7.05	-	-	1.57	6.90	0.39	1.71
ENG-2	2.07	9.08	4.25	18.60	10.11	44.27	0.44	1.93	1.61	7.05	1.61	7.05	1.61	7.05	-	-	1.57	6.90	0.39	1.71
Totals	**27.58**	**117.28**	**32.00**	**136.62**	**22.00**	**95.67**	**3.50**	**15.33**	**19.16**	**83.94**	**16.24**	**71.13**	**16.24**	**71.13**	**-**	**-**	**3.76**	**16.48**	**1.03**	**4.51**
Totals w/o FUG	**27.58**	**117.28**	**32.00**	**136.62**	**22.00**	**95.67**	**3.50**	**15.33**	**19.16**	**83.94**	**16.24**	**71.13**	**16.24**	**71.13**	**-**	**-**	**3.76**	**16.48**	**1.03**	**4.51**

Notes:

"*" Indicates that an hourly limit is not appropriate for this operating situation and is not being requested.

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

[1] Controlled emission data are based on "Allowable Emissions" on the Title V operating Permits #P228-R2.

Farmington Electric Utility System - Bluffview Power Plant

Engines Emissions

Units: ENG-1 and ENG-2
Description: Wartsila W20V24SG Reciprocating Compressor Engines
Control Equipment: Selective catalytic reduction (SCR) and Oxidation Catalyst
Type: 4SLB

Engine Data	Value	Unit	Notes
Horsepower:	12390	hp	Conversion factor: 1 kW = 1.34 hp
	9246	kW	Manufacturer Specification
Fuel consumption:	-	Btu/hp-hr	MFG Data
Fuel heat value: HHV	1000	Btu/scf	Site Specification Technical Data
Fuel heat value: LHV	-	Btu/scf	Site Specification Technical Data
Heating rate:	77.1	MMBtu/hr	
Fuel usage:	0.08	MMscf/hr	
	675	MMscf/yr	
Operating hours:	8760	hours/year	

Emission Rates for each engine[3]

Uncontrolled Emissions	NO_x[1]	CO[1]	VOC[1,4]	SO_2	PM_{10}[1]	$PM_{2.5}$[1]	HCHO[2]	Acetaldehyde[5]	Acrolein[5]	Benzene[5]	Ethylbenzene[5]	n-Hexane[5]	Toluene[5]	Xylene[5]	Total HAPs[5]		
	2.45	3.85	0.83													g/hp-hr	Simulation data
								8.36E-03	5.14E-03	4.40E-04	3.97E-05	1.11E-03	4.08E-04	1.84E-04		lb/MMBtu	AP-42 Table 3.2-2
Combustion Emission Factors								8.20E-03	5.04E-03	4.31E-04	3.89E-05	1.09E-03	4.00E-04	1.80E-04		lb/MMBtu	Scaled for Fuel Heat Value
					1.61	1.61	3.50									lb/hr	Simulation data
				2.0												gr S / 100 scf	NMED
Safety Factor	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*			
Total Emissions	**66.98**	**105.15**	**26.80**	**0.44**	**1.61**	**1.61**	**3.50**	**0.63**	**0.39**	**0.03**	**3.00E-03**	**0.08**	**0.03**	**0.01**	**4.68**	**lb/hr**	
	293.38	**460.55**	**117.38**	**1.93**	**7.05**	**7.05**	**15.33**	**2.77**	**1.70**	**0.15**	**0.01**	**0.37**	**0.13**	**0.06**	**20.52**	**tpy**	

Controlled Emissions	NO_x[1]	CO[1]	VOC[1,4]	SO_2	PM_{10}[1]	$PM_{2.5}$[1]	HCHO[2]	Acetaldehyde[5]	Acrolein[5]	Benzene[5]	Ethylbenzene[5]	n-Hexane[5]	Toluene[5]	Xylene[5]	Total HAPs[5]	Units	Notes
	0.08	0.16	0.33		1.60	1.60										g/hp-hr	Simulation data
	97%	96%	60%				89%	0%	0%	0%	0%	0%	0%	0%		%	Control Efficiency
								8.36E-03	5.14E-03	4.40E-04	3.97E-05	1.11E-03	4.08E-04	1.84E-04		lb/MMBtu	AP-42 Table 3.2-2
Combustion Emission Factors								8.20E-03	5.04E-03	4.31E-04	3.89E-05	1.09E-03	4.00E-04	1.80E-04		lb/MMBtu	Scaled for Fuel Heat Value
					1.61	1.61	0.39									lb/hr	Simulation data
				2.0												gr S / 100 scf	NMED
Safety Factor	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*		*Safety Factor*	
Combustion Emissions	**2.07**	**4.25**	**10.11**	**0.44**	**1.61**	**1.61**	**0.39**	**0.63**	**0.39**	**0.03**	**3.00E-03**	**0.08**	**0.03**	**0.01**	**1.57**	**lb/hr**	
	9.08	**18.60**	**44.27**	**1.93**	**7.05**	**7.05**	**1.71**	**2.77**	**1.70**	**0.15**	**0.01**	**0.37**	**0.13**	**0.06**	**6.90**	**tpy**	

GHG Calculations

CO_2	N_2O	CH_4	CO_2e		
53.06	0.0001	0.001		kg/MMBtu	40 CFR 98 Subpart C Tables C-1 and C-2
1	298	25		GWP	40 CFR 98 Table A-1
39477	0	1		tpy	Engine
39477	22	19	39518	tpy CO_2e	
		Total:	**39518**	tpy CO2e	

* N_2O, CH_4, and CO_2 tpy Emission Rate= EF* Fuel Usage * Fuel Heat Value * 2.20462 lb/1 kg * 1 ton/2000 lb

CO_2e tpy Emission Rate = CO_2 Emission Rate* GWP Factor + N_2O Emission Rate*GWP Factor +CH_4 Emission Rate*GWP Factor

Notes

[1] Simulation data provided by Farmington electric. Emission factors are based on highest emissions regardless of load percentage. File name: Exhibit C(Filled out by Wartsila)
[2] Uncontrolled and controlled emissions are based on the highest lb/hr rate on "Performace & Emission on Natural Gas" report , dated August 2019.
[3] Emission rates represent of each compressor engine emissions
[4] VOC emissions included aldehydes
[5] Total HAPs are calculated using AP42 emissions factors for a 4-Stroke Lean Burn Engine.

Exhaust Parameters		
velocity	22.76 ft/s	
velocity	1365.71 ft/min	
flow rate	17,162 ft^3/min	Engine Manufacturer @10% load
area	12.57 ft^2	
Stack diameter	4.00 ft	Per Client
Stack height	70 ft	Per Client
Stack Temperature	636 F	Catalyst Guarantee

Farmington Electric Utility System - Bluffview Power Plant

Turbine and Duct Burner Emissions

Values provided by manufacturer (turbine) or values determined by modeling HRSG performance

Uncontrolled Emission Summary

	NO_X		CO		VOC		SO_2		PM		H_2S	
Unit #	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PD-CTG-1 + PD-DB-1	42.76	187.28	28.47	121.20	1.79	7.12	2.62	11.48	12.83	56.19	-	-

Controlled Emission Summary

	NO_X		CO		VOC		SO_2		PM		H_2S	
Unit #	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PD-CTG-1 + PD-DB-1	23.43	99.11	23.50	99.42	1.79	7.12	2.62	11.48	12.83	56.19	-	-

Allowable Emissions [1]

	NO_X		CO		VOC		SO_2		PM		H_2S	
Unit #	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PD-CTG-1 + PD-DB-1	23.4	99.1	23.5	99.4	1.8	7.1	2.6	11.5	13.0	56.2	-	-

Notes:

[1] Tittle V Permit # P228-R2/P228-AR3

Turbine and Duct Burner Emissions

LM6000 PD-Sprint

Stack Diameter:	13.0	ft
	3.96	m
Stack Height:	70	ft
	21.33	m
Stack Area:	132.73	ft^2

		Average Annual Operation	Short-Term Operation										
		52°F 100% load	52°F 100% load	6°F / 100% Load	6°F / 100% Load	95°F / 100% Load	95°F / 100% Load	6°F / 50% Load	6°F / 50% Load	52°F / 50% Load	52°F / 50% Load	95°F / 50% Load	95°F / 50% Load
		none	chiller	heat	none	evap	chiller	heat	none	chiller	none	chiller	evap
Exhaust Component	**MW (g/g-mole)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**	**Exhaust Analysis (mole%)**
Argon	39.9	0.89	0.89	0.90	0.90	0.88	0.89	0.90	0.91	0.90	0.9	0.89	0.8815
Nitrogen (N_2)	28	75.06	75.06	75.72	75.75	73.87	74.79	75.58	75.87	75.03	75.04	74.77	73.8776
Oxygen (O_2)	32	13.95	13.95	14.28	14.33	13.64	13.87	13.87	14.71	13.87	13.9	13.79	13.6538
Carbon Dioxide	44	3.22	3.22	3.14	3.12	3.2	3.23	3.33	2.94	3.26	3.24	3.26	3.209
Water	18	6.87	6.87	5.94	5.89	8.38	7.22	6.30	5.57	6.94	6.91	7.28	8.3721
Sulfur Dioxide	64	-	-	-	-	-	-	-	-	-	-	0.00	-
MW of Exhaust (lb/lb-mole)		28.49	28.49	28.59	28.59	28.32	28.45	28.56	28.61	28.49	28.49	28.45	28.33
Exhaust Flow (lb/hr)		855,360	861480	897840	910,320	810,360	860,400	560,880	598,320	546,480	543,960	545,760	521,640
Exhaust Temperature (°F)		843	841	837	806	861	841	963	843	970	976	971	985
Exhaust Temperature (K)		723.7	722.6	720.4	703.2	733.7	722.6	790.4	723.7	794.3	797.6	794.8	802.6
Density of Exhaust (lb/ft^3)		0.025	0.025	0.025	0.026	0.024	0.025	0.023	0.025	0.023	0.023	0.023	0.022
Exhaust Flow (acfm)		574,252	577,473	597,980	591,748	554,936	577,472	410,170	399,991	402,683	402,500	402,965	390,626
Exhaust Flow Wet (lb-mol/hr)		30,024	30,239	31,409	31,843	28,619	30,239	19,636	20,913	19,183	19,095	19,183	18,416
Exhaust Flow Dry (lb-mol/hr)		27,961	28,161	29,542	29,968	26,220	28,056	18,398	19,748	17,853	17,775	17,786	16,874
Heat Input (MMBtu/hr)		317	319	326	328	301	320	217	203	207	201	207	195
Heat Input (Btu/KWH)		8388	8375	8228	8271	8537	8377	10929	10224	10836	10894	10844	11062
Duct Burning													
Duct Burner Heat Input (MMBtu/hr)		97.5	97.5	127.1	97.9	127.1	97.5		n/a		n/a		n/a
Fuel Heating Value (BTU/lb, LHV)		19,000	19,000	19,000	19,000	19,000	19,000		n/a		n/a		n/a
Duct Burner Gas Input (lb/hr)		5,132	5,132	6,689	5,153	6,689	5,132		n/a		n/a		n/a
Gas MW (lb/lb-mole) (1)		17.9	17.9	17.9	17.9	17.9	17.9		n/a		n/a		n/a
Duct Burner Gas Input (lb-mole/hr)		286.7	286.7	373.7	287.9	373.7	286.7		n/a		n/a		n/a
DB Gas CH4 Input (lb-mole/hr) (2)		266.9	266.9	347.9	268.0	347.9	266.9		n/a		n/a		n/a
DB Gas C2H6 Input (lb-mole/hr) (3)		12.61	12.61	16.44	12.67	16.44	12.61		n/a		n/a		n/a
DB Gas C3H8 Input (lb-mole/hr) (4)		2.01	2.01	2.62	2.01	2.62	2.01		n/a		n/a		n/a
DB Gas CO2 Input (lb-mole/hr) (5)		0.86	0.86	1.12	0.86	1.12	0.86		n/a		n/a		n/a
DB Gas N2 Input (lb-mole/hr) (6)		4.30	4.30	5.61	4.32	5.61	4.30		n/a		n/a		n/a

$CH_4 + 2O_2 = CO_2 + 2H_2O$ $2C_2H_6 + 7O_2 = 4CO_2 + 6H_2O$
$C_3H_8 + 5O_2 = 3CO_2 + 4H_2O$ (neglecting C4's and higher)

(1) calculated from fuel analysis (Alstom GTX100)
(2) 93.10%
(3) 4.40% assuming 4.4% C2 from Kern River analysis
(4) 0.70% assuming 0.7% C3 from Kern River
(5) 0.30% assuming 0.3% CO2 from Kern River Analysis
(6) 1.50% assuming 1.5% N2 from Kern River Analysis

	Average Annual Operation	Short-Term Operation										
	52°F 100% load	52°F 100% load	6°F / 100% Load	6°F / 100% Load	95°F / 100% Load	95°F / 100% Load	6°F / 50% Load	6°F / 50% Load	52°F / 50% Load	52°F / 50% Load	95°F / 50% Load	95°F / 50% Load
Turbine and Duct Burner Emissions												
Exhaust Before Duct Burning												
Argon (lb-mol/hr)	267.2	269.1	283.8	286.6	251.8	269.8		n/a		n/a		n/a
Nitrogen (lb-mol/hr)	22,535.9	22,697.2	23,784.1	24,121.1	21,140.5	22,616.0		n/a		n/a		n/a
Oxygen (lb-mol/hr)	4,188.3	4,218.3	4,485.3	4,563.1	3,903.6	4,193.1		n/a		n/a		n/a
Carbon Dioxide (lb-mol/hr)	966.8	973.7	986.9	993.5	915.8	975.5		n/a		n/a		n/a
Water (lb-mol/hr)	2,062.6	2,077.4	1,867.2	1,875.6	2,398.2	2,182.3		n/a		n/a		n/a
Exhaust After Duct Burning												
Argon (lb-mol/hr)	267.2	269.1	283.8	286.6	251.8	269.8		n/a		n/a		n/a
Nitrogen (lb-mol/hr)	22,540.2	22,701.5	23,789.7	24,125.4	21,146.1	22,620.3		n/a		n/a		n/a
Oxygen (lb-mol/hr)	3,600.4	3,630.3	3,718.8	3,972.7	3,137.1	3,605.2		n/a		n/a		n/a
Carbon Dioxide (lb-mol/hr)	1,264.9	1,271.8	1,375.6	1,292.9	1,304.5	1,273.6		n/a		n/a		n/a
Water (lb-mol/hr)	2,642.3	2,657.1	2,622.9	2,457.6	3,153.9	2,762.0		n/a		n/a		n/a
Total (lb-mol/hr)	30,315.0	30,529.8	31,790.7	32,135.2	28,993.4	30,531.0		n/a		n/a		n/a
MW of Fired Exhaust	28.38	28.38	28.44	28.48	28.17	28.34		n/a		n/a		n/a
Combined Cycle Operation												
Fired Exhaust Flow (lb/hr)	860,491	866,338	904,172.20	915,231	817,053	865,258		n/a		n/a		n/a
Fired Exhaust Temperature (°F)	204	204		225	205	204		n/a		n/a		n/a
Fired Exhaust Temperature (K)	368.7	368.7		380.4	369.3	368.7		n/a		n/a		n/a
MW of Fired Exhaust (lb/lb-mole)	28.38	28.38		28.48	28.18	28.34		n/a		n/a		n/a
Density of Fired Exhaust (lb/ft^3)	0.049	0.049		0.047	0.048	0.048		n/a		n/a		n/a
Fired Exhaust Flow (acfm)	295,401	297,494		323,046	282,948	297,505		n/a		n/a		n/a
Fired Exhaust Flow (scfm)	181,223	182,507				182,514						
Fired Exhaust Flow (dscfm)	165,427	166,623				166,002						
Fired Exit Velocity (ft/s)	37.09	37.36		40.56	35.53	37.36		n/a		n/a		n/a
Fired Exit Velocity (m/s)	11.3	11.4		12.4	10.8	11.4		n/a		n/a		n/a
Unfired Exhaust Flow (lb/hr)	855,360	861480	897840	910,080	810,360	860,400	560,880	598,320	546,480	543,960	545,760	521,640
Unfired Exhaust Temperature (°F)	226	226		226	228	226		205	194	194	194	195
Unfired Exhaust Temperature (K)	380.9	380.9		380.9	382.0	380.9		369.3	363.2	363.2	363.2	363.7
MW of Unfired Exhaust (lb/lb-mole)	28.49	28.49		28.59	28.32	28.45		28.61	28.49	28.49	28.45	28.33
Density of Unfired Exhaust (lb/ft^3)	0.047	0.047		0.047	0.047	0.047		0.049	0.049	0.049	0.049	0.049
Unfired Exhaust Flow (acfm)	302,262	304,424		320,492	288,954	304,424		204,090	184,114	183,261	184,114	177,017
Unfired Exhaust Flow (scfm)									114,678	114,147	114,678	
Unfired Exhaust Flow (dscfm)									106,723	106,259	106,324	
Unfired Exit Velocity (ft/s)	37.95	38.23		40.24	36.28	38.23		25.63	23.12	23.01	23.12	22.23
Unfired Exit Velocity (m/s)	11.6	11.7		12.3	11.1	11.7		7.8	7.0	7.0	7.0	6.8
Unfired NOx Calculation												
Pre-Controlled NOx Emissions (ppmvd @15% O2)	25	25	25	25	25	25		25	30	25	30	25
O2 (wt% dry)	14.98	14.98	15.18	15.23	14.89	14.95		15.58	14.90	14.93	14.87	14.90
NOx ppmvd (actual O2%)	25.09	25.09	24.24	24.05	25.47	25.23		22.59	30.48	25.28	30.64	25.41
NOx ppmvw (wet exhaust)	23.36	23.36	22.80	22.64	23.33	23.41		21.33	28.36	23.54	28.41	23.28
NOx lb/hr as NO2	32.27	32.50	32.94	33.16	30.72	32.56		20.52	25.03	20.67	25.07	19.72
Total Emissions (tpy)										90.55		
controlled:												
Post-Control NOx with SCR (ppmvd, @15% O2)	13.4	13.4	13.4	13.4	13.4	13.4		13.4	13.4	13.4	13.4	13.4
NOx ppmvd w/ SCR (actual O2%)	13.40	13.45	12.99	12.85	13.60	13.52		12.06	13.56	13.50	13.63	13.57
NOx ppmvw w/ SCR (wet exhaust)	12.48	12.52	12.22	12.09	12.46	12.55		11.39	12.62	12.57	12.64	12.43
NOx lb/hr as NO2 w/ SCR	17.23	17.42	17.66	17.71	16.40	17.45		10.96	11.14	11.04	11.16	10.53
Total Emissions (tpy)	75.47	76.30	77.33			76.44				48.35		
Reduction (%)										47%		

	Average Annual Operation	Short-Term Operation										
	52°F 100% load	52°F 100% load	6°F / 100% Load	6°F / 100% Load	95°F / 100% Load	95°F / 100% Load	6°F / 50% Load	6°F / 50% Load	52°F / 50% Load	52°F / 50% Load	95°F / 50% Load	95°F / 50% Load
Turbine and Duct Burner Emissions												
Unfired CO Calculation												
CO Emissions (ppm @15% O2)	25	25	25	25	25	25		25	45	25	45	25
CO ppmvd (actual O2%)	25.09	25.09	24.24	24.05	25.47	25.23		22.59		25.28		25.41
CO ppmvw (wet exhaust)	23.36	23.36	22.80	22.64	23.33	23.41		21.33		23.54		23.28
CO Emissions (lb/hr)	20	20	20	20	18	20		12	23	12	23	12
Total Emissions (tpy)								52.56				
controlled:												
CO ppmvd@15%O2	22.0	22.0	22.0	22.0	22.0	22.0		22.0	22.0	22.0	22.0	22.0
CO ppmvd (actual O2%)	22.08	22.08	21.33	21.17	22.41	22.20		19.88	22.35	22.25	22.47	22.36
CO ppmvw	20.56	20.56	20.06	19.92	20.53	20.60		18.77	20.80	20.71	20.83	20.49
CO lb/hr	17.28	17.41	17.64	17.76	16.45	17.44		10.99	11.17	11.07	11.19	10.57
Total Emissions (tpy)	75.70	76.25	77.28							48.50		
Reduction (%)										8%		
Unfired SO_2 Calculation												
SO_2 Emissions (lb/hr)*	1.99	2.01	2.05	2.06	1.89	2.01		1.27	1.30	1.26	1.30	1.23
Total Emissions (tpy)								5.58		5.52		
Unfired PM_{10} Calculation												
PM_{10} Emissions (lb/hr)**	12.1	12.1	12.1	12.1	12.1	12.1		12.1	12.1	12.1	12.1	12.1
Total Emissions (tpy)										53.00		
Unfired VOC Calculation												
VOC (lb/hr)	1.1	1.1	1.1	1.1	1.1	1.1		3.3	3.3	3.3	3.3	3.3
Total Emissions (tpy)										14.45		
Unfired NH3 in Stack Gas Calculation												
NH3 (ppmvw) ***	10.0			10.0	10.0			10.0		10.0		10.0
NH3 (lb/hr))	5.1			5.4	4.9			3.6		3.2		3.1
Total Emissions (tpy)	22.4			23.7	21.3			15.6		14.2		13.7
Fired NOx Calculation												
Flowrate lb-mol/hr wet (Turb+duct burn)	30,315	30,530	31,791	32,135	28,993	30,531		n/a		n/a		n/a
Flowrate lb-mol/hr dry (Turb+duct burn)	27,673	27,873	29,168	29,678	25,839	27,769		n/a		n/a		n/a
Oxygen vol % dry	13.0	13.0	12.7	13.4	12.1	13.0		n/a		n/a		n/a
uncontrolled:												
Gas Turbine Emissions (lb/hr)	32.27	32.50		33.16	30.72	32.56		n/a		n/a		n/a
Duct Burner Factor (lb/MMBtu, AP-42, Tab. 1.4-1)	0.0980	0.0980		0.0980	0.0980	0.0980		n/a		n/a		n/a
Duct Burner Emissions (lb/hr)	9.56	9.56		9.60	12.46	9.56		n/a		n/a		n/a
Total Emissions (lb/hr, turb. + duct burn.)	41.83	42.06		42.76	43.18	42.12		n/a		n/a		n/a
Total Emissions (tpy, turb. + duct burn.)	183.2	184.2		187.3	189.1	184.5		n/a		n/a		n/a
controlled:												
NOx ppmvd@15%O2	13.4	13.4		13.4	13.4	13.4		n/a		n/a		n/a
NOx ppmvd w/ SCR (actual O2%)	17.78	17.75		16.94	19.71	17.84		n/a		n/a		n/a
H_2O vol %	8.72	8.70		7.65	10.88	9.05		n/a		n/a		n/a
NOx ppmvw w/ SCR (wet exhaust)	16.23	16.20		15.65	17.57	16.22		n/a		n/a		n/a
NOx lb/hr as NO2 w/ SCR	22.63	22.75		23.13	23.43	22.79		n/a		n/a		n/a
Total Emissions (tpy, turb. + duct burn.)	99.11											
Reduction (%)	46%											

	Average Annual Operation	Short-Term Operation									
	52°F 100% load	52°F 100% load	6°F / 100% Load	6°F / 100% Load	95°F / 100% Load	95°F / 100% Load	6°F / 50% Load	6°F / 50% Load	52°F / 50% Load	52°F / 50% Load	95°F / 50% Load	95°F / 50% Load
Turbine and Duct Burner Emissions												
Fired CO Calculation												
Flowrate lb-mol/hr dry (Turb+duct burn)	27,673	27,873		29,678	25,839	27,769		n/a		n/a		n/a
Oxygen vol % dry	13.0	13.0		13.4	12.1	13.0		n/a		n/a		n/a
uncontrolled:												
CO lb/hr	19.64	20.00		20.00	18.00	20.00		n/a		n/a		n/a
Duct Burner Factor (lb/MMBtu, AP-42, Tab. 1.4-1)	0.0824	0.0824		0.0824	0.0824	0.0824		n/a		n/a		n/a
Duct Burner Emissions (lb/hr)	8.03	8.03		8.06	10.47	8.03		n/a		n/a		n/a
Total Emissions (lb/hr, turb. + duct burn.)	27.67	28.03		28.06	28.47	28.03						
Total Emissions (tpy, turb. + duct burn.)	121.20			122.91	124.69	122.77						
controlled:												
CO ppmvd@15%O2	22.0	22.0		22.0	22.0	22.0		n/a		n/a		n/a
CO ppmvd (actual O2%)	29.29	29.24		27.92	32.48	29.40		n/a		n/a		n/a
H_2O vol %	8.72	8.70		7.65	10.88	9.05		n/a		n/a		n/a
CO ppmvw	26.74	26.70		25.78	28.95	26.74		n/a		n/a		n/a
CO lb/hr	22.70	22.82		23.20	23.50	22.86		n/a		n/a		n/a
Total Emissions (tpy, turb. + duct burn.)	99.42											
Reduction (%)	18%											
Fired SO_2 Calculation												
uncontrolled:												
Gas Turbine Emissions (lb/hr)*	1.99	2.01		2.06	1.89	2.01		n/a		n/a		n/a
Duct Burner Emissions (lb/hr)*	0.6	0.6		0.6	0.7	0.6		n/a		n/a		n/a
Total Emissions (lb/hr, turb. + duct burn.)	2.55	2.56		2.62	2.62	2.57		n/a		n/a		n/a
Total Emissions (tpy, turb. + duct burn.)	11.16			11.48								
Fired PM_{10} Calculation												
uncontrolled:												
Gas Turbine Emissions (lb/hr)**	12.1	12.1		12.1	12.1	12.1		n/a		n/a		n/a
Duct Burner Factor (lb/MMBtu, AP-42, Tab. 1.4-2)	0.007	0.007		0.007	0.007	0.007		n/a		n/a		n/a
Duct Burner Emissions (lb/hr)	0.73	0.73		0.73	0.95	0.73		n/a		n/a		n/a
Total Emissions (lb/hr, turb. + duct burn.)	12.83	12.83		12.83	13.05	12.83		n/a		n/a		n/a
Total Emissions (tpy, turb. + duct burn.)	56.18			56.2								
Fired VOC Calculation												
uncontrolled:												
Gas Turbine Emissions (lb/hr)	1.1	1.1		1.1	1.1	1.1		n/a		n/a		n/a
Duct Burner Factor (lb/MMBtu, AP-42, Tab. 1.4-2)	0.005	0.005		0.005	0.005	0.005		n/a		n/a		n/a
Duct Burner Emissions (lb/hr)	0.53	0.53		0.53	0.69	0.53		n/a		n/a		n/a
Total Emissions (lb/hr, turb. + duct burn.)	1.63	1.63		1.63	1.79	1.63		n/a		n/a		n/a
Total Emissions (tpy, turb. + duct burn.)	7.12	7.12		7.13								
Fired NH3 in Stack Gas Calculation												
NH3 (ppmvw) ***	10.0			10.0	10.0			n/a		n/a		n/a
NH3 (lb/hr))	5.1			5.4	4.9			n/a		n/a		n/a
Total Emissions (tpy)	22.4			23.7	21.3			n/a		n/a		n/a

* SO2 emission rate calculated using the default factor for Sulfur content in pipeline quality natural gas [2gr/100scf * fuel use (scfh) *64/32/7000]
* 64 = MW of SO2
* 32 = MW of S
** Reported PM_{10} emissions are estimate of filterable+condensable fraction (i.e. front and back-half emissions)
(based on Manufacturer data from the FT8 TwinPac, LM6000 manufacturer did not provide PM data)
*** based on ammonia slip of 10 ppmvw @ 15 % O2

Notes

Exhaust flow (acfm) = mass flow (lb/hr) / density of exhaust (lb/ft^3) / 60 min/hr

Density of exhaust (lb/ft^3) = MW * Pa / R / T

where:

MW	=	molecular weight of exhaust (lb/lb-mole)
Pa	=	12.18 psi (pressure at ~5,300 ft msl)
R	=	10.73 gas constant
Ta	=	temperature of exhaust (K)

Farmington Electric Utility System - Bluffview Power Plant

Turbine Exhaust HAP Emissions Calculations

Unit Number: PD-CTG-1
Description: GE turbine

Note: The data on this worksheet applies to each individual emissions unit identified above.

Fuel Consumption

338.00	MMBtu/hr	Capacity	Mfg. data - worst case heat input
8,760	hr/yr	Annual operating time	City of Farmington
2,960,880	MMBtu/yr	Annual fuel consumption	MMBtu/hr x hr/yr

Steady-State Emission Rates

Pollutants	Emission Factors, lb/MMBtu	Uncontrolled Emission Rates, pph	tpy
1,3-Butadiene	4.30E-07	1.45E-04	6.37E-04
Acetaldehyde	4.00E-05	0.01	5.92E-02
Acrolein	6.40E-06	2.16E-03	9.47E-03
Benzene	1.20E-05	4.06E-03	1.78E-02
Ethylbenzene	3.20E-05	1.08E-02	4.74E-02
Formaldehyde	7.10E-04	0.24	1.05
Naphthalene	1.30E-06	4.39E-04	1.92E-03
PAH	2.20E-06	7.44E-04	3.26E-03
Propylene Oxide	2.90E-05	9.80E-03	4.29E-02
Toluene	1.30E-04	4.39E-02	1.92E-01
Xylenes	6.40E-05	2.16E-02	9.47E-02
	HAP Total	0.35	1.52

Emission factors taken from AP-42, Table 3.1-3
Uncontrolled Emission Rates (pph) = lb/MMBtu x MMBtu/hr
Uncontrolled Emission Rates (tpy) = Uncontrolled Emission Rates (pph) x hr/yr / 2,000 lb/ton

Farmington Electric Utility System - Bluffview Power Plant

HRSG Duct Burner Exhaust HAP Emissions Calculations

Unit Number: PD-DB-1
Description: HRSG Duct Burner

Note: The data on this worksheet applies to each individual emissions unit identified above.

Fuel Consumption

144.00	MMBtu/hr	Capacity	Mfg. data - worst case heat input
1,020	Btu/scf	Fuel gas heating value	Nominal heat content
141,176	scf/hr	Hourly fuel consumption	MMBtu/hr x 1,000,000 / Btu/scf
8,760	hr/yr	Annual operating time	City of Farmington
1,261,440	MMBtu/yr	Annual fuel consumption	MMBtu/hr x hr/yr
1,236.71	MMscf/yr	Annual fuel consumption	scf/hr x hr/yr / 1,000,000

Steady-State Emission Rates

Pollutants	Emission Factors, lb/mmscf	Uncontrolled Emission Rates, pph	Uncontrolled Emission Rates, tpy
Arsenic	2.00E-04	2.82E-05	1.24E-04
Benzene	2.10E-03	2.96E-04	1.30E-03
Beryllium	1.20E-05	1.69E-06	7.42E-06
Cadmium	1.10E-03	1.55E-04	6.80E-04
Chromium	1.40E-03	1.98E-04	8.66E-04
Cobalt	8.40E-05	1.19E-05	5.19E-05
Dichlorobenzene	1.20E-03	1.69E-04	7.42E-04
Formaldehyde	7.50E-02	1.06E-02	4.64E-02
Hexane	1.80E+00	0.25	1.11
Manganese	3.80E-04	5.36E-05	2.35E-04
Mercury	2.60E-04	3.67E-05	1.61E-04
Naphthalene	6.10E-04	8.61E-05	3.77E-04
Nickel	2.10E-03	2.96E-04	1.30E-03
POM	8.82E-05	1.25E-05	5.45E-05
Selenium	2.40E-05	3.39E-06	1.48E-05
Toluene	3.40E-03	4.80E-04	2.10E-03
	HAP Total	0.27	1.17

Emission factors taken from AP-42, Tables 1.4-3 and 1.4-4
Uncontrolled Emission Rates (pph) = lb/MMBtu x MMBtu/hr
Uncontrolled Emission Rates (tpy) = Uncontrolled Emission Rates (pph) x hr/yr / 2,000 lb/ton

Farmington Electric Utility System - Bluffview Power Plant

Cooling Tower Emissions

Unit Number PD-CT-1
Description: Cooling Tower

Note: The data on this worksheet applies to each individual emissions unit identified above.

Dissolved Solids		Source
10,000 ppmw	Water solids content by wieght	City of Farmington
31,123 gal/min	Water circulation rate	City of Farmington
8,760 hr/yr	Annual operating time	City of Farmington

Steady-State Emission Rates

Pollutants	Drift, gal drift/gal flow	Flow Rates, gal/hr	TDS, lb/gal drift	Drift Solids Emitted, %	Uncontrolled Emission Rates, pph	tpy
TSP	2.00E-05	1,867,380	0.0834	100	3.11	13.64
PM10	2.00E-05	1,867,380	0.0834	6	0.19	0.83
PM2.5	2.00E-05	1,867,380	0.0834	6	0.19	0.83

Cooling tower is an induced draft, cross flow tower
Drift rate based on NSR permit 2831-M1, condition 1.q
Flow Rate (gal/hr) = gal/min x 60 min/hr
Total dissolved solids (TDS) are calculated as follows:

TDS (lb/gal drift) = ppmw x $density_{H2O}$ / 1,000,000

TSP emissions are calculated assuming all dissolved solids in the drift are emitted as TSP (Drift Solids Emitted = 100)
PM10 emissions are obtained from Figure 1 of the "Frisbie" paper, for a circulating water TDS concentration of 10,000 ppmw as brought forward from 2011 TV renewal application
PM2.5 emissions are assumed to be equal to PM10 emissions
Uncontrolled Emission Rates (pph) = gal drift/gal x gal/hr x lb/gal drift x (% / 100)
Uncontrolled Emission Rates (tpy) = Uncontrolled Emission Rates (pph) x hr/yr / 2,000 lb/ton

Farmington Electric Utility System - Bluffview Power Plant

Exempt Firewater Pump

Emission Unit:	PUMP-1
Source Description:	Diesel-Fired Firewater Pump
Manufacturer:	TBD
Model:	TBD
Type:	N/A

Fuel Consumption

Rated Engine Power (BHP)	262	kW			Manufacturer Site Rating
	351	hp			
Fuel consumption	19.00	gal/hr	2.54	scf/hr	Manufacturer Spec Sheet
Max operating hours	500	hr			
Diesel Heat Value [4]	137000	Btu/gal			
Heat Input:	0.26	MMBtu/hr			

Uncontrolled Emissions														
	NO_x [5]	CO [1]	NMHC [5]	SO_2 [2]	NO_X+NMHC [1]	PM [1]	Formaldehyde [3]	Acetaldehyde [3]	Acrolein [3]	Benzene [3]	E-Benzene [3]	Toluene [3]	Xylene [3]	Total HAP	Units
Emission Factors	3.80	3.50	0.20		4	0.20									g/kW-hr
				0.29			1.18E-03	7.67E-04	9.25E-05	9.33E-04	-	4.09E-04	2.85E-04		lb/MMBtu
															gr/scf
Hourly Totals	2.19	2.02	0.12	0.08		0.12	3.07E-04	2.00E-04	2.41E-05	2.43E-04	-	1.06E-04	7.42E-05	9.54E-04	lb/hr
Annual Totals	0.55	0.51	0.03	0.02		0.03	7.68E-05	4.99E-05	6.02E-06	6.07E-05	-	2.66E-05	1.85E-05	2.39E-04	ton/yr

Notes

[1] Emissions factors are referenced from 40 CFR Part 60 Subpart IIII Table 4.

[2] SO_2 is calculated based on AP 42 Table 3.3-1.

[3] HAPs emissions factors are referenced from AP-42 Table 3.3-1 & 3.3-2

[4] Appendix A, AP 42

[5] NO_X amd NMHC are derived from NO_X+NMHC based on the assumption of 95% NO_X and 5% NMHC according to Table D-25 on California Environmental Protection Agency (Revised date: Dec 18, 2011)

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.

Documentation used to support calculation in this permit application

- Current version of AP-42 located at: http://www.epa.gov/ttn/chief/ap42/index.html. Specific sections used in this application:
  - Subsection 1.4 – Natural Gas Combustion (Table 1.4-3 & 1.4-4) **[Units PD-CTB-1 & PD-DB-1]**
  - Subsection 3.3 – Gasoline and Diesel Industrial Engines (Table 3.3-1 & 13.3-2) **[Unit PUMP-1]**
  - Subsection 3.2 – Natural Gas-Fired Reciprocating Engines (Table 3.2-2) **[Units ENG-1 & ENG-2]**
- Compressor Emission simulation data **[Units ENG-1 & ENG-2]**
- Cooling tower manufacturer data **[Unit PD-CT-1]**
- 40 CFR Subpart C (Table C-1 and C-2) **[Units ENG-1 & ENG-2]**
- 40 CFR Part 60 Subpart III (Table 4) **[Unit PUMP-1]**

TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION[a]

CAS No.	Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
91-57-6	2-Methylnaphthalene[b, c]	2.4E-05	D
56-49-5	3-Methylcholanthrene[b, c]	<1.8E-06	E
	7,12-Dimethylbenz(a)anthracene[b,c]	<1.6E-05	E
83-32-9	Acenaphthene[b,c]	<1.8E-06	E
203-96-8	Acenaphthylene[b,c]	<1.8E-06	E
120-12-7	Anthracene[b,c]	<2.4E-06	E
56-55-3	Benz(a)anthracene[b,c]	<1.8E-06	E
71-43-2	Benzene[b]	2.1E-03	B
50-32-8	Benzo(a)pyrene[b,c]	<1.2E-06	E
205-99-2	Benzo(b)fluoranthene[b,c]	<1.8E-06	E
191-24-2	Benzo(g,h,i)perylene[b,c]	<1.2E-06	E
207-08-9	Benzo(k)fluoranthene[b,c]	<1.8E-06	E
106-97-8	Butane	2.1E+00	E
218-01-9	Chrysene[b,c]	<1.8E-06	E
53-70-3	Dibenzo(a,h)anthracene[b,c]	<1.2E-06	E
25321-22-6	Dichlorobenzene[b]	1.2E-03	E
74-84-0	Ethane	3.1E+00	E
206-44-0	Fluoranthene[b,c]	3.0E-06	E
86-73-7	Fluorene[b,c]	2.8E-06	E
50-00-0	Formaldehyde[b]	7.5E-02	B
110-54-3	Hexane[b]	1.8E+00	E
193-39-5	Indeno(1,2,3-cd)pyrene[b,c]	<1.8E-06	E
91-20-3	Naphthalene[b]	6.1E-04	E
109-66-0	Pentane	2.6E+00	E
85-01-8	Phenanathrene[b,c]	1.7E-05	D
74-98-6	Propane	1.6E+00	E

TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION (Continued)

CAS No.	Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
129-00-0	Pyrene[b, c]	5.0E-06	E
108-88-3	Toluene[b]	3.4E-03	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $1b/10^6$ scf to lb/MMBtu, divide by 1,020. Emission Factors preceeded with a less-than symbol are based on method detection limits.

[b] Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

[c] HAP because it is Polycyclic Organic Matter (POM). POM is a HAP as defined by Section 112(b) of the Clean Air Act.

[d] The sum of individual organic compounds may exceed the VOC and TOC emission factors due to differences in test methods and the availability of test data for each pollutant.

TABLE 1.4-4. EMISSION FACTORS FOR METALS FROM NATURAL GAS COMBUSTION[a]

CAS No.	Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
7440-38-2	Arsenic[b]	2.0E-04	E
7440-39-3	Barium	4.4E-03	D
7440-41-7	Beryllium[b]	<1.2E-05	E
7440-43-9	Cadmium[b]	1.1E-03	D
7440-47-3	Chromium[b]	1.4E-03	D
7440-48-4	Cobalt[b]	8.4E-05	D
7440-50-8	Copper	8.5E-04	C
7439-96-5	Manganese[b]	3.8E-04	D
7439-97-6	Mercury[b]	2.6E-04	D
7439-98-7	Molybdenum	1.1E-03	D
7440-02-0	Nickel[b]	2.1E-03	C
7782-49-2	Selenium[b]	<2.4E-05	E
7440-62-2	Vanadium	2.3E-03	D
7440-66-6	Zinc	2.9E-02	E

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. Emission factors preceeded by a less-than symbol are based on method detection limits. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by l6. To convert from $lb/10^6$ scf to 1b/MMBtu, divide by 1,020.

[b] Hazardous Air Pollutant as defined by Section 112(b) of the Clean Air Act.

Table 3.3-1. EMISSION FACTORS FOR UNCONTROLLED GASOLINE AND DIESEL INDUSTRIAL ENGINES[a]

Pollutant	Gasoline Fuel (SCC 2-02-003-01, 2-03-003-01)		Diesel Fuel (SCC 2-02-001-02, 2-03-001-01)		EMISSION FACTOR RATING
	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	
NO_x	0.011	1.63	0.031	4.41	D
CO	6.96 E-03[d]	0.99[d]	6.68 E-03	0.95	D
SO_x	5.91 E-04	0.084	2.05 E-03	0.29	D
PM-10[b]	7.21 E-04	0.10	2.20 E-03	0.31	D
CO_2[c]	1.08	154	1.15	164	B
Aldehydes	4.85 E-04	0.07	4.63 E-04	0.07	D
TOC					
Exhaust	0.015	2.10	2.47 E-03	0.35	D
Evaporative	6.61 E-04	0.09	0.00	0.00	E
Crankcase	4.85 E-03	0.69	4.41 E-05	0.01	E
Refueling	1.08 E-03	0.15	0.00	0.00	E

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

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

[c] Assumes 99% conversion of carbon in fuel to CO_2 with 87 weight % carbon in diesel, 86 weight % carbon in gasoline, average BSFC of 7,000 Btu/hp-hr, diesel heating value of 19,300 Btu/lb, and gasoline heating value of 20,300 Btu/lb.

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

Table 3.3-2. SPECIATED ORGANIC COMPOUND EMISSION FACTORS FOR UNCONTROLLED DIESEL ENGINES[a]

EMISSION FACTOR RATING: E

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

[a] Based on the uncontrolled levels of 2 diesel engines from References 6-7. Source Classification Codes 2-02-001-02, 2-03-001-01. To convert from lb/MMBtu to ng/J, multiply by 430.
[b] Hazardous air pollutant listed in the *Clean Air Act*.
[c] Based on data from 1 engine.

Table 3.2-2. UNCONTROLLED EMISSION FACTORS FOR 4-STROKE LEAN-BURN ENGINES[a]
(SCC 2-02-002-54)

Pollutant	Emission Factor (lb/MMBtu)[b] (fuel input)	Emission Factor Rating
Criteria Pollutants and Greenhouse Gases		
NO_x[c] 90 - 105% Load	4.08 E+00	B
NO_x[c] <90% Load	8.47 E-01	B
CO[c] 90 - 105% Load	3.17 E-01	C
CO[c] <90% Load	5.57 E-01	B
CO_2[d]	1.10 E+02	A
SO_2[e]	5.88 E-04	A
TOC[f]	1.47 E+00	A
Methane[g]	1.25 E+00	C
VOC[h]	1.18 E-01	C
PM10 (filterable)[i]	7.71 E-05	D
PM2.5 (filterable)[i]	7.71 E-05	D
PM Condensable[j]	9.91 E-03	D
Trace Organic Compounds		
1,1,2,2-Tetrachloroethane[k]	<4.00 E-05	E
1,1,2-Trichloroethane[k]	<3.18 E-05	E
1,1-Dichloroethane	<2.36 E-05	E
1,2,3-Trimethylbenzene	2.30 E-05	D
1,2,4-Trimethylbenzene	1.43 E-05	C
1,2-Dichloroethane	<2.36 E-05	E
1,2-Dichloropropane	<2.69 E-05	E
1,3,5-Trimethylbenzene	3.38 E-05	D
1,3-Butadiene[k]	2.67E-04	D
1,3-Dichloropropene[k]	<2.64 E-05	E
2-Methylnaphthalene[k]	3.32 E-05	C
2,2,4-Trimethylpentane[k]	2.50 E-04	C
Acenaphthene[k]	1.25 E-06	C

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

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

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

Pollutant	Emission Factor (lb/MMBtu)[b] (fuel input)	Emission Factor Rating
n-Octane	3.51 E-04	C
n-Pentane	2.60 E-03	C
Naphthalene[k]	7.44 E-05	C
PAH[k]	2.69 E-05	D
Phenanthrene[k]	1.04 E-05	D
Phenol[k]	2.40 E-05	D
Propane	4.19 E-02	C
Pyrene[k]	1.36 E-06	C
Styrene[k]	<2.36 E-05	E
Tetrachloroethane[k]	2.48 E-06	D
Toluene[k]	4.08 E-04	B
Vinyl Chloride[k]	1.49 E-05	C
Xylene[k]	1.84 E-04	B

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

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

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

[c] Emission tests with unreported load conditions were not included in the data set.

[d] Based on 99.5% conversion of the fuel carbon to CO_2. CO_2 [lb/MMBtu] = (3.67)(%CON)(C)(D)(1/h), where %CON = percent conversion of fuel carbon to CO_2, C = carbon content of fuel by weight (0.75), D = density of fuel, 4.1 E+04 lb/10^6 scf, and

h = heating value of natural gas (assume 1020 Btu/scf at 60°F).

[e] Based on 100% conversion of fuel sulfur to SO_2. Assumes sulfur content in natural gas of 2,000 gr/10^6scf.

[f] Emission factor for TOC is based on measured emission levels from 22 source tests.

[g] Emission factor for methane is determined by subtracting the VOC and ethane emission factors from the TOC emission factor. Measured emission factor for methane compares well with the calculated emission factor, 1.31 lb/MMBtu vs. 1.25 lb/MMBtu, respectively.

[h] VOC emission factor is based on the sum of the emission factors for all speciated organic compounds less ethane and methane.

[i] Considered ≤ 1 μm in aerodynamic diameter. Therefore, for filterable PM emissions, PM10(filterable) = PM2.5(filterable).

[j] PM Condensable = PM Condensable Inorganic + PM-Condensable Organic

[k] Hazardous Air Pollutant as defined by Section 112(b) of the Clean Air Act.

[l] For lean burn engines, aldehyde emissions quantification using CARB 430 may reflect interference with the sampling compounds due to the nitrogen concentration in the stack. The presented emission factor is based on FTIR measurements. Emissions data based on CARB 430 are available in the background report.

Engine Emission Data

CLIENT NAME: Bluffview Expansion Project B&V PROJECT: 198479
REVISION: 0 | DATE: 28-MAY-2019
TITLE: PERFORMANCE & EMISSIONS ON NATURAL GAS

EXHIBIT C

CASE NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Load Condition	percent	100%	75%	50%	25%	MECL	100%	75%	50%	25%	MECL	100%	75%	50%	25%	MECL
Inlet Loss	in H2O	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD
Exhaust Pressure Loss	in H2O	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD
Ambient Temperature	°F	93	93	93	93	93	53	53	53	53	53	12	12	12	12	12
Ambient Relative Humidity	percent	13	13	13	13	13	25	25	25	25	25	35	35	35	35	35
Fuel Type		See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300
Fuel Temperature @ Engine	°F	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Fuel Pressure @ Engine	psia	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM	Per OEM
Fuel LHV	Btu/lb	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300	See D300
Gross Electrical Output at Generator Terminals	kW	8370	6277	4185	2092	839	9370	7027	4685	2342	937	9370	7027	4685	2342	937
Gross Electrical Heat Rate at Generator Terminals	Btu/kWh (LHV)	7700	8118	8628	10105	14576	7520	7935	8390	9681	13592	7455	7863	8310	9577	13401
Exhaust Flow	x 10^3 lb/h (+/- 5%)	106.7	80.8	56.1	34.2	21.2	118.3	89.6	61.1	36.7	22.1	117.7	89.2	60.8	36.5	22
Exhaust Temperature	°F (+/- 27F)	651	711	754	781	797	636	698	751	782	800	641	704	757	787	805
Engine Block Jacket Cooling Duty	MBtu/hr (+/- 10%)	16.95	12.65	8.59	4.08	1.98	16.81	12.53	8.79	4.11	1.86	14.46	10.90	7.82	3.64	1.63
Cooling Water Inlet Temperature (out of radiator)	°F	107.0	111.1	114.2	100.7	94.4	103.8	110.2	79.5	53.6	53.1	66.1	33.0	33.0	33.0	33.0
Cooling Water Inlet Flow	x 10^3 lb/h	255989	245989	238940	132806	70887	250210	245502	133422	57677	29858	157094	97086	68774	34829	17065
UNCONTROLLED ENGINE EMISSIONS		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
NOx	ppmvd @ 15% O2	110	110	110	110	130	110	110	110	110	130	110	110	110	110	130
NOx AS NO2	lb/hr	28.0	22.1	15.6	9.0	6.1	30.8	24.3	17.1	11.5	6.4	30.6	24.2	17.0	11.4	6.3
NOx AS NO2	g/hp-hr	1.13	1.20	1.26	1.45	2.45	1.11	1.17	1.24	1.66	2.30	1.11	1.16	1.23	1.65	2.28
CO	ppmvd @ 15% O2	172	189	211	229	311	166	183	209	221	306	166	183	209	221	306
CO	lb/hr	27.4	24.0	18.7	11.6	9.5	27.7	24.1	19.2	11.5	9.5	27.8	24.2	19.4	11.6	9.5
CO	g/hp-hr	1.11	1.29	1.51	1.88	3.85	1.00	1.16	1.39	1.66	3.42	1.01	1.17	1.40	1.68	3.44
VOC	ppmvd @ 15% O2	63	65	75	107	126	59	62	67	101	121	58	61	66	98	118
VOC	lb/hr	5.6	4.6	3.7	3.0	2.1	5.8	4.8	3.6	3.1	2.1	5.6	4.7	3.5	3.0	2.0
VOC	g/hp-hr	0.23	0.25	0.30	0.49	0.83	0.21	0.23	0.26	0.45	0.75	0.20	0.22	0.25	0.43	0.72
Particulates (PM10 Front half)	lb/hr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Particulates (PM10 Total)	lb/hr	1.43	1.13	1.19	0.86	0.52	1.6	1.26	1.33	0.88	0.53	1.6	1.26	1.33	0.88	0.53
Particulates (PM2.5 Front half)	lb/hr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Particulates (PM2.5 Total)	lb/hr	1.43	1.13	1.19	0.86	0.52	1.6	1.26	1.33	0.88	0.53	1.6	1.26	1.33	0.88	0.53
Formaldehyde (Approx)[1]	lb/mmBtu (HHV)	0.05	0.06	0.09	0.15	0.24	0.05	0.06	0.08	0.14	0.23	0.05	0.06	0.08	0.14	0.23
Formaldehyde (Approx)[1]	lb/hr	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

SCR Ammonia Consumption		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
NOx reduction	lb/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pure Ammonia Consumption for Nox Removal	lb/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia Slip Concentration	ppmvw	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Pure Ammonia Slip	lb/hr	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Aqueous Ammonia Consumption **(19 wt% solution)**	lb/hr	82	64	46	25	18	92	72	51	28	20	92	72	51	28	20
CONTROLLED ENGINE EMISSIONS		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
NOx	ppmvd @ 15% O2	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
NOx AS NO2	lb/hr	1.10	0.87	0.61	0.35	0.19	1.23	0.97	0.68	0.39	0.21	1.23	0.97	0.68	0.39	0.21
NOx AS NO2	g/hp-hr	0.04	0.05	0.05	0.06	0.08	0.04	0.05	0.05	0.06	0.08	0.04	0.05	0.05	0.06	0.08
CO	ppmvd @ 15% O2	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CO	lb/hr	2.23	1.76	1.24	0.70	0.39	2.5	1.97	1.39	0.78	0.43	2.5	1.97	1.39	0.78	0.43
CO	g/hp-hr	0.09	0.09	0.10	0.11	0.16	0.09	0.09	0.10	0.11	0.16	0.09	0.09	0.10	0.11	0.16
VOC	ppmvd @ 15% O2	26	26	37	49	56	26	26	37	49	56	26	26	37	49	56
VOC	lb/hr	2.22	1.75	1.75	1.30	0.82	2.48	1.96	1.96	1.46	0.92	2.48	1.96	1.96	1.46	0.92
VOC	g/hp-hr	0.09	0.09	0.14	0.21	0.33	0.09	0.09	0.14	0.21	0.33	0.09	0.09	0.14	0.21	0.33
Particulates (PM10 Front half)	lb/hr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Particulates (PM10 Total)	lb/hr	1.43	1.13	1.19	0.86	0.52	1.6	1.26	1.33	0.88	0.53	1.6	1.26	1.33	0.88	0.53
Particulates (PM2.5 Front half)	lb/hr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Particulates (PM2.5 Total)	lb/hr	1.43	1.13	1.19	0.86	0.52	1.6	1.26	1.33	0.88	0.53	1.6	1.26	1.33	0.88	0.53
Formaldehyde (Approx)[1]	lb/hr	0.39	0.31	0.33	0.24	0.15	0.39	0.31	0.33	0.24	0.15	0.39	0.31	0.33	0.24	0.15
Formaldehyde (Approx)[1]	%	88.86%	91.14%	90.57%	93.14%	95.71%	88.86%	91.14%	90.57%	93.14%	95.71%	88.86%	91.14%	90.57%	93.14%	95.71%
SITE CONDITIONS		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Site Elevation	feet	5395	5395	5395	5395	5395	5395	5395	5395	5395	5395	5395	5395	5395	5395	5395
Site Pressure	psia	12.05	12.05	12.05	12.05	12.05	12.05	12.05	12.05	12.05	12.05	12.05	12.05	12.05	12.05	12.05
Power Factor (lag)		0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

Notes:

MECL = Minimum emissions compliance load.

No tolerance applied to Gross Electrical Heat Rate (HHV) per ISO 3046.

[1] Based on the "performance & Emissions On Natural Gas" report on Bluffview Expansion Project report, date August 2019

Calculating Realistic PM_{10} Emissions from Cooling Towers

Abstract No. 216 Session No. AM-1b

Joel Reisman and Gordon Frisbie
Greystone Environmental Consultants, Inc., 650 University Avenue, Suite 100, Sacramento, California 95825

ABSTRACT

Particulate matter less than 10 micrometers in diameter (PM_{10}) emissions from wet cooling towers may be calculated using the methodology presented in EPA's AP-42[1] , which assumes that all total dissolved solids (TDS) emitted in "drift" particles (liquid water entrained in the air stream and carried out of the tower through the induced draft fan stack.) are PM_{10}. However, for wet cooling towers with medium to high TDS levels, this method is overly conservative, and predicts significantly higher PM_{10} emissions than would actually occur, even for towers equipped with very high efficiency drift eliminators (e.g., 0.0006% drift rate). Such over-prediction may result in unrealistically high PM_{10} modeled concentrations and/or the need to purchase expensive Emission Reduction Credits (ERCs) in PM_{10} non-attainment areas. Since these towers have fairly low emission points (10 to 15 m above ground), over-predicting PM_{10} emission rates can easily result in exceeding federal Prevention of Significant Deterioration (PSD) significance levels at a project's fenceline. This paper presents a method for computing realistic PM_{10} emissions from cooling towers with medium to high TDS levels.

INTRODUCTION

Cooling towers are heat exchangers that are used to dissipate large heat loads to the atmosphere. Wet, or evaporative, cooling towers rely on the latent heat of water evaporation to exchange heat between the process and the air passing through the cooling tower. The cooling water may be an integral part of the process or may provide cooling via heat exchangers, for example, steam condensers. Wet cooling towers provide direct contact between the cooling water and air passing through the tower, and as part of normal operation, a very small amount of the circulating water may be entrained in the air stream and be carried out of the tower as "drift" droplets. Because the drift droplets contain the same chemical impurities as the water circulating through the tower, the particulate matter constituent of the drift droplets may be classified as an emission. The magnitude of the drift loss is influenced by the number and size of droplets produced within the tower, which are determined by the tower fill design, tower design, the air and water patterns, and design of the drift eliminators.

AP-42 METHOD OF CALCULATING DRIFT PARTICULATE

EPA's AP-42[1] provides available particulate emission factors for wet cooling towers, however, these values only have an emission factor rating of "E" (the lowest level of confidence acceptable). They are also rather high, compared to typical present-day manufacturers' guaranteed drift rates, which are on the order of 0.0006%. (Drift emissions are typically

expressed as a percentage of the cooling tower water circulation rate). AP-42 states that "a *conservatively high* PM_{10} emission factor can be obtained by (a) multiplying the total liquid drift factor by the TDS fraction in the circulating water, and (b) assuming that once the water evaporates, all remaining solid particles are within the PM_{10} range." (Italics per EPA).

If TDS data for the cooling tower are not available, a source-specific TDS content can be estimated by obtaining the TDS for the make-up water and multiplying it by the cooling tower cycles of concentration. [The cycles of concentration is the ratio of a measured parameter for the cooling tower water (such as conductivity, calcium, chlorides, or phosphate) to that parameter for the make-up water.]

Using AP-42 guidance, the total particulate emissions (PM) (after the pure water has evaporated) can be expressed as:

$$PM = \text{Water Circulation Rate} \times \text{Drift Rate} \times TDS \qquad [1]$$

For example, for a typical power plant wet cooling tower with a water circulation rate of 146,000 gallons per minute (gpm), drift rate of 0.0006%, and TDS of 7,700 parts per million by weight (ppmw):

$$PM = 146{,}000 \text{ gpm} \times 8.34 \text{ lb water/gal} \times 0.0006/100 \times 7{,}700 \text{ lb solids}/10^6 \text{ lb water} \times 60 \text{ min/hr} = \underline{3.38 \text{ lb/hr}}$$

On an annual basis, this is equivalent to almost 15 tons per year (tpy). Even for a state-of-the-art drift eliminator system, this is not a small number, especially if assumed to all be equal to PM_{10}, a regulated criteria pollutant. However, as the following analysis demonstrates, only a very small fraction is actually PM_{10}.

COMPUTING THE PM_{10} FRACTION

Based on a representative drift droplet size distribution and TDS in the water, the amount of solid mass in each drop size can be calculated. That is, for a given initial droplet size, assuming that the mass of dissolved solids condenses to a spherical particle after all the water evaporates, and assuming the density of the TDS is equivalent to a representative salt (e.g., sodium chloride), the diameter of the final solid particle can be calculated. Thus, using the drift droplet size distribution, the percentage of drift mass containing particles small enough to produce PM_{10} can be calculated. This method is conservative as the final particle is assumed to be perfectly spherical; hence as small a particle as can exist.

The droplet size distribution of the drift emitted from the tower is critical to performing the analysis. Brentwood Industries, a drift eliminator manufacturer, was contacted and agreed to provide drift eliminator test data from a test conducted by Environmental Systems Corporation (ESC) at the Electric Power Research Institute (EPRI) test facility in Houston, Texas in 1988 (Aull[2], 1999). The data consist of water droplet size distributions for a drift eliminator that achieved a tested drift rate of 0.0003 percent. As we are using a 0.0006 percent drift rate, it is reasonable to expect that the 0.0003 percent drift rate would produce smaller droplets, therefore,

this size distribution data can be assumed to be conservative for predicting the fraction of PM_{10} in the total cooling tower PM emissions.

In calculating PM_{10} emissions the following assumptions were made:

- Each water droplet was assumed to evaporate shortly after being emitted into ambient air, into a single, solid, spherical particle.
- Drift water droplets have a density (ρ_w) of water; $1.0\ g/cm^3$ or $1.0 * 10^{-6}\ \mu g/\mu m^3$.
- The solid particles were assumed to have the same density (ρ_{TDS}) as sodium chloride, (i.e., 2.2 g/cm^3).

Using the formula for the volume of a sphere, $V = 4\pi r^3/3$, and the density of pure water, $\rho_w = 1.0\ g/cm^3$, the following equations can be used to derive the solid particulate diameter, D_p, as a function of the TDS, the density of the solids, and the initial drift droplet diameter, D_d :

$$\text{Volume of drift droplet} = (4/3)\pi(D_d/2)^3 \qquad [2]$$

$$\text{Mass of solids in drift droplet} = (TDS)(\rho_w)(\text{Volume of drift droplet}) \qquad [3]$$

substituting,

$$\text{Mass of solids in drift} = (TDS)(\rho_w)(4/3)\pi(D_d/2)^3 \qquad [4]$$

Assuming the solids remain and coalesce after the water evaporates, the mass of solids can also be expressed as:

$$\text{Mass of solids} = (\rho_{TDS})\ (\text{solid particle volume}) = (\rho_{TDS})(4/3)\pi(D_p/2)^3 \qquad [5]$$

Equations [4] and [5] are equivalent:

$$(\rho_{TDS})(4/3)\pi(D_p/2)^3 = (TDS)(\rho_w)(4/3)\pi(D_d/2)^3 \qquad [6]$$

Solving for D_p:

$$D_p = D_d\ [(TDS)(\rho_w/\rho_{TDS})]^{1/3} \qquad [7]$$

Where,

TDS is in units of ppmw
D_p = diameter of solid particle, micrometers (μm)
D_d = diameter of drift droplet, μm

Using formulas [2] – [7] and the particle size distribution test data, Table 1 can be constructed for drift from a wet cooling tower having the same characteristics as our example; 7,700 ppmw TDS and a 0.0006% drift rate. The first and last columns of this table are the particle size distribution derived from test results provided by Brentwood Industries. Using straight-line interpolation for a solid particle size 10 μm in diameter, we conclude that approximately 14.9 percent of the mass emissions are equal to or smaller than PM_{10}. The balance of the solid

particulate are particulate greater than 10 μm. Hence, PM_{10} emissions from this tower would be equal to PM emissions x 0.149, or 3.38 lb/hr x 0.149 = 0.50 lb/hr. The process is repeated in Table 2, with all parameters equal except that the TDS is 11,000 ppmw. The result is that approximately 5.11 percent are smaller at 11,000 ppm. Thus, while total PM emissions are larger by virtue of a higher TDS, overall PM_{10} emissions are actually lower, because more of the solid particles are larger than 10 μm.

Table 1. Resultant Solid Particulate Size Distribution (TDS = 7700 ppmw)

EPRI Droplet Diameter (μm)	Droplet Volume (μm^3) [2][1]	Droplet Mass (μg) [3]	Particle Mass (Solids) (μg) [4]	Solid Particle Volume (μm^3)	Solid Particle Diameter (μm) [7]	EPRI % Mass Smaller
10	524	5.24E-04	4.03E-06	1.83	1.518	0.000
20	4189	4.19E-03	3.23E-05	14.66	3.037	0.196
30	14137	1.41E-02	1.09E-04	49.48	4.555	0.226
40	33510	3.35E-02	2.58E-04	117.29	6.073	0.514
50	65450	6.54E-02	5.04E-04	229.07	7.591	1.816
60	113097	1.13E-01	8.71E-04	395.84	9.110	5.702
70	179594	1.80E-01	1.38E-03	628.58	10.628	21.348
90	381704	3.82E-01	2.94E-03	1335.96	13.665	49.812
110	696910	6.97E-01	5.37E-03	2439.18	16.701	70.509
130	1150347	1.15E+00	8.86E-03	4026.21	19.738	82.023
150	1767146	1.77E+00	1.36E-02	6185.01	22.774	88.012
180	3053628	3.05E+00	2.35E-02	10687.70	27.329	91.032
210	4849048	4.85E+00	3.73E-02	16971.67	31.884	92.468
240	7238229	7.24E+00	5.57E-02	25333.80	36.439	94.091
270	10305995	1.03E+01	7.94E-02	36070.98	40.994	94.689
300	14137167	1.41E+01	1.09E-01	49480.08	45.549	96.288
350	22449298	2.24E+01	1.73E-01	78572.54	53.140	97.011
400	33510322	3.35E+01	2.58E-01	117286.13	60.732	98.340
450	47712938	4.77E+01	3.67E-01	166995.28	68.323	99.071
500	65449847	6.54E+01	5.04E-01	229074.46	75.915	99.071
600	113097336	1.13E+02	8.71E-01	395840.67	91.098	100.000

[1] Bracketed numbers refer to equation number in text.

The percentage of PM_{10}/PM was calculated for cooling tower TDS values from 1000 to 12000 ppmw and the results are plotted in Figure 1. Using these data, Figure 2 presents predicted PM_{10} emission rates for the 146,000 gpm example tower. As shown in this figure, the PM emission rate increases in a straight line as TDS increases, however, the PM_{10} emission rate increases to a maximum at around a TDS of 4000 ppmw, and then begins to decline. The reason is that at higher TDS, the drift droplets contain more solids and therefore, upon evaporation, result in larger solid particles for any given initial droplet size.

CONCLUSION

The emission factors and methodology given in EPA's AP-42[1] Chapter 13.4 *Wet Cooling Towers*, do not account for the droplet size distribution of the drift exiting the tower. This is a critical factor, as more than 85% of the mass of particulate in the drift from most cooling towers will result in solid particles larger than PM_{10} once the water has evaporated. Particles larger than PM_{10} are no longer a regulated air pollutant, because their impact on human health has been shown to be insignificant. Using reasonable, conservative assumptions and a realistic drift

droplet size distribution, a method is now available for calculating realistic PM_{10} emission rates from wet mechanical draft cooling towers equipped with modern, high-efficiency drift eliminators and operating at medium to high levels of TDS in the circulating water.

Table 2. Resultant Solid Particulate Size Distribution (TDS = 11000 ppmw)

EPRI Droplet Diameter (μm)	Droplet Volume (μm^3) [2][1]	Droplet Mass (μg) [3]	Particle Mass (Solids) (μg) [4]	Solid Particle Volume (μm^3)	Solid Particle Diameter (μm) [7]	EPRI % Mass Smaller
10	524	5.24E-04	5.76E-06	2.62	1.710	0.000
20	4189	4.19E-03	4.61E-05	20.94	3.420	0.196
30	14137	1.41E-02	1.56E-04	70.69	5.130	0.226
40	33510	3.35E-02	3.69E-04	167.55	6.840	0.514
50	65450	6.54E-02	7.20E-04	327.25	8.550	1.816
60	113097	1.13E-01	1.24E-03	565.49	10.260	5.702
70	179594	1.80E-01	1.98E-03	897.97	11.970	21.348
90	381704	3.82E-01	4.20E-03	1908.52	15.390	49.812
110	696910	6.97E-01	7.67E-03	3484.55	18.810	70.509
130	1150347	1.15E+00	1.27E-02	5751.73	22.230	82.023
150	1767146	1.77E+00	1.94E-02	8835.73	25.650	88.012
180	3053628	3.05E+00	3.36E-02	15268.14	30.780	91.032
210	4849048	4.85E+00	5.33E-02	24245.24	35.909	92.468
240	7238229	7.24E+00	7.96E-02	36191.15	41.039	94.091
270	10305995	1.03E+01	1.13E-01	51529.97	46.169	94.689
300	14137167	1.41E+01	1.56E-01	70685.83	51.299	96.288
350	22449298	2.24E+01	2.47E-01	112246.49	59.849	97.011
400	33510322	3.35E+01	3.69E-01	167551.61	68.399	98.340
450	47712938	4.77E+01	5.25E-01	238564.69	76.949	99.071
500	65449847	6.54E+01	7.20E-01	327249.23	85.499	99.071
600	113097336	1.13E+02	1.24E+00	565486.68	102.599	100.000

Figure 1: Percentage of Drift PM that Evaporates to PM10

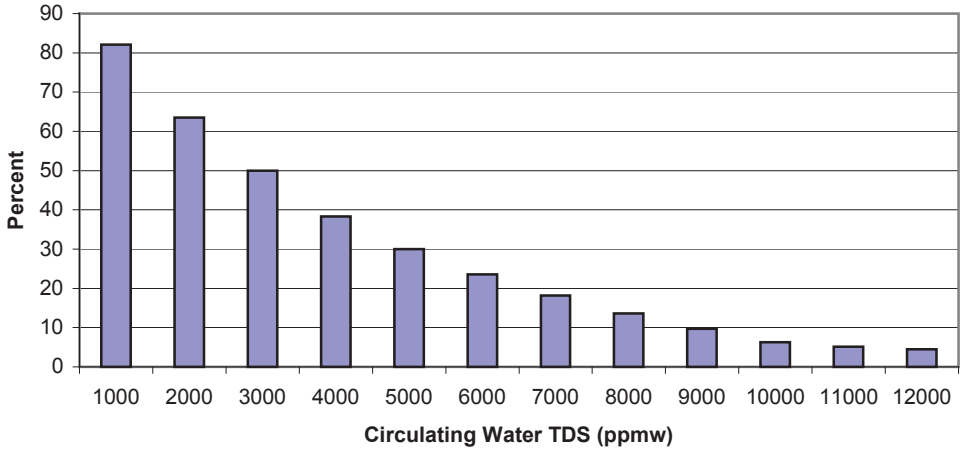
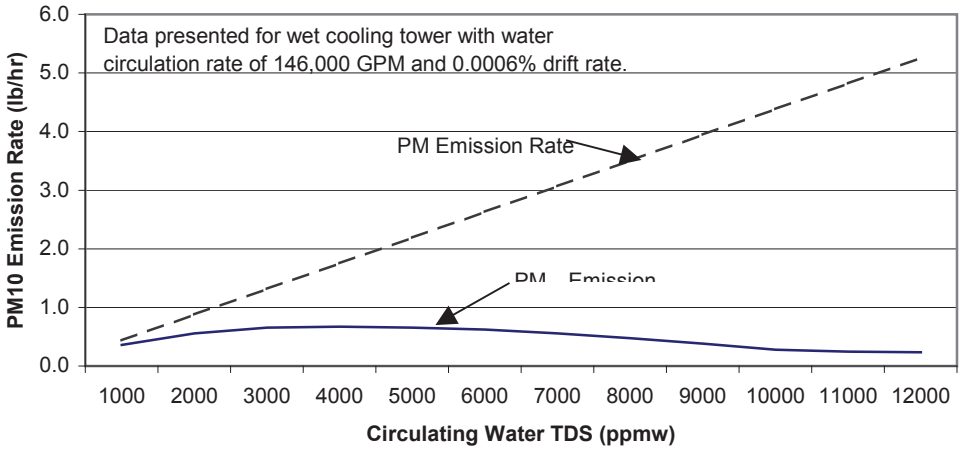


Figure 2: PM_{10} Emission Rate vs. TDS



REFERENCES

1. EPA, 1995. Compilation of Air pollutant Emission Factors, AP-42 Fifth edition, Volume I: *Stationary Point and Area Sources*, Chapter 13.4 Wet Cooling Towers, http://www.epa.gov/ttn/chief/ap42/, United States Environmental Protection Agency, Office of Air Quality Planning and Standards, January.

2. Aull, 1999. Memorandum from R. Aull, Brentwood Industries to J. Reisman, Greystone, December 7, 1999.

KEY WORDS

Drift
Drift eliminators
Cooling tower
PM_{10} emissions
TDS

TABLE 1.4-4. EMISSION FACTORS FOR METALS FROM NATURAL GAS COMBUSTION[a]

CAS No.	Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
7440-38-2	Arsenic[b]	2.0E-04	E
7440-39-3	Barium	4.4E-03	D
7440-41-7	Beryllium[b]	<1.2E-05	E
7440-43-9	Cadmium[b]	1.1E-03	D
7440-47-3	Chromium[b]	1.4E-03	D
7440-48-4	Cobalt[b]	8.4E-05	D
7440-50-8	Copper	8.5E-04	C
7439-96-5	Manganese[b]	3.8E-04	D
7439-97-6	Mercury[b]	2.6E-04	D
7439-98-7	Molybdenum	1.1E-03	D
7440-02-0	Nickel[b]	2.1E-03	C
7782-49-2	Selenium[b]	<2.4E-05	E
7440-62-2	Vanadium	2.3E-03	D
7440-66-6	Zinc	2.9E-02	E

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. Emission factors preceeded by a less-than symbol are based on method detection limits. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by l6. To convert from $lb/10^6$ scf to 1b/MMBtu, divide by 1,020.

[b] Hazardous Air Pollutant as defined by Section 112(b) of the Clean Air Act.

Table A-1 to Subpart A of Part 98—Global Warming Potentials

GLOBAL WARMING POTENTIALS

[100-Year Time Horizon]

Name	CAS No.	Chemical formula	Global warming potential (100 yr.)
Carbon dioxide	124-38-9	CO_2	1
Methane	74-82-8	CH_4	[a]25
Nitrous oxide	10024-97-2	N_2O	[a]298
HFC-23	75-46-7	CHF_3	[a]14,800
HFC-32	75-10-5	CH_2F_2	[a]675
HFC-41	593-53-3	CH_3F	[a]92
HFC-125	354-33-6	C_2HF_5	[a]3,500
HFC-134	359-35-3	$C_2H_2F_4$	[a]1,100
HFC-134a	811-97-2	CH_2FCF_3	[a]1,430
HFC-143	430-66-0	$C_2H_3F_3$	[a]353
HFC-143a	420-46-2	$C_2H_3F_3$	[a]4,470
HFC-152	624-72-6	CH_2FCH_2F	53
HFC-152a	75-37-6	CH_3CHF_2	[a]124
HFC-161	353-36-6	CH_3CH_2F	12
HFC-227ea	431-89-0	C_3HF_7	[a]3,220
HFC-236cb	677-56-5	$CH_2FCF_2CF_3$	1,340
HFC-236ea	431-63-0	CHF_2CHFCF_3	1,370
HFC-236fa	690-39-1	$C_3H_2F_6$	[a]9,810
HFC-245ca	679-86-7	$C_3H_3F_5$	[a]693
HFC-245fa	460-73-1	$CHF_2CH_2CF_3$	1,030
HFC-365mfc	406-58-6	$CH_3CF_2CH_2CF_3$	794
HFC-43-10mee	138495-42-8	$CF_3CFHCFHCF_2CF_3$	[a]1,640
Sulfur hexafluoride	2551-62-4	SF_6	[a]22,800
Trifluoromethyl sulphur pentafluoride	373-80-8	SF_5CF_3	17,700
Nitrogen trifluoride	7783-54-2	NF_3	17,200
PFC-14 (Perfluoromethane)	75-73-0	CF_4	[a]7,390
PFC-116 (Perfluoroethane)	76-16-4	C_2F_6	[a]12,200
PFC-218 (Perfluoropropane)	76-19-7	C_3F_8	[a]8,830
Perfluorocyclopropane	931-91-9	$C\text{-}C_3F_6$	17,340
PFC-3-1-10 (Perfluorobutane)	355-25-9	C_4F_{10}	[a]8,860
PFC-318 (Perfluorocyclobutane)	115-25-3	$C\text{-}C_4F_8$	[a]10,300
PFC-4-1-12 (Perfluoropentane)	678-26-2	C_5F_{12}	[a]9,160
PFC-5-1-14 (Perfluorohexane, FC-72)	355-42-0	C_6F_{14}	[a]9,300
PFC-9-1-18	306-94-5	$C_{10}F_{18}$	7,500
HCFE-235da2 (Isoflurane)	26675-46-7	$CHF_2OCHClCF_3$	350
HFE-43-10pccc (H-Galden 1040x, HG-11)	E1730133	$CHF_2OCF_2OC_2F_4OCHF_2$	1,870

HFE-125	3822-68-2	CHF_2OCF_3	14,900
HFE-134 (HG-00)	1691-17-4	CHF_2OCHF_2	6,320
HFE-143a	421-14-7	CH_3OCF_3	756
HFE-227ea	2356-62-9	$CF_3CHFOCF_3$	1,540
HFE-236ca12 (HG-10)	78522-47-1	$CHF_2OCF_2OCHF_2$	2,800
HFE-236ea2 (Desflurane)	57041-67-5	$CHF_2OCHFCF_3$	989
HFE-236fa	20193-67-3	$CF_3CH_2OCF_3$	487
HFE-245cb2	22410-44-2	$CH_3OCF_2CF_3$	708
HFE-245fa1	84011-15-4	$CHF_2CH_2OCF_3$	286
HFE-245fa2	1885-48-9	$CHF_2OCH_2CF_3$	659
HFE-254cb2	425-88-7	$CH_3OCF_2CHF_2$	359
HFE-263fb2	460-43-5	$CF_3CH_2OCH_3$	11
HFE-329mcc2	134769-21-4	$CF_3CF_2OCF_2CHF_2$	919
HFE-338mcf2	156053-88-2	$CF_3CF_2OCH_2CF_3$	552
HFE-338pcc13 (HG-01)	188690-78-0	$CHF_2OCF_2CF_2OCHF_2$	1,500
HFE-347mcc3 (HFE-7000)	375-03-1	$CH_3OCF_2CF_2CF_3$	575
HFE-347mcf2	171182-95-9	$CF_3CF_2OCH_2CHF_2$	374
HFE-347pcf2	406-78-0	$CHF_2CF_2OCH_2CF_3$	580
HFE-356mec3	382-34-3	$CH_3OCF_2CHFCF_3$	101
HFE-356pcc3	160620-20-2	$CH_3OCF_2CF_2CHF_2$	110
HFE-356pcf2	50807-77-7	$CHF_2CH_2OCF_2CHF_2$	265
HFE-356pcf3	35042-99-0	$CHF_2OCH_2CF_2CHF_2$	502
HFE-365mcf3	378-16-5	$CF_3CF_2CH_2OCH_3$	11
HFE-374pc2	512-51-6	$CH_3CH_2OCF_2CHF_2$	557
HFE-449s1 (HFE-7100)	163702-07-6	$C_4F_9OCH_3$	297
Chemical blend	163702-08-7	$(CF_3)_2CFCF_2OCH_3$	
HFE-569sf2 (HFE-7200)	163702-05-4	$C_4F_9OC_2H_5$	59
Chemical blend	163702-06-5	$(CF_3)_2CFCF_2OC_2H_5$	
Sevoflurane (HFE-347mmz1)	28523-86-6	$CH_2FOCH(CF_3)_2$	345
HFE-356mm1	13171-18-1	$(CF_3)_2CHOCH_3$	27
HFE-338mmz1	26103-08-2	$CHF_2OCH(CF_3)_2$	380
(Octafluorotetramethy-lene) hydroxymethyl group	NA	$X\text{-}(CF_2)_4CH(OH)\text{-}X$	73
HFE-347mmy1	22052-84-2	$CH_3OCF(CF_3)_2$	343
Bis(trifluoromethyl)-methanol	920-66-1	$(CF_3)_2CHOH$	195
2,2,3,3,3-pentafluoropropanol	422-05-9	$CF_3CF_2CH_2OH$	42
PFPMIE (HT-70)	NA	$CF_3OCF(CF_3)CF_2OCF_2OCF_3$	10,300

[a]The GWP for this compound is different than the GWP in the version of Table A-1 to subpart A of part 98 published on October 30, 2009.

Table C-1 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

DEFAULT CO_2 EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

Fuel type	Default high heat value	Default CO_2 emission factor
Coal and coke	mmBtu/short ton	kg CO_2/mmBtu
Anthracite	25.09	103.69
Bituminous	24.93	93.28
Subbituminous	17.25	97.17
Lignite	14.21	97.72
Coal Coke	24.80	113.67
Mixed (Commercial sector)	21.39	94.27
Mixed (Industrial coking)	26.28	93.90
Mixed (Industrial sector)	22.35	94.67
Mixed (Electric Power sector)	19.73	95.52
Natural gas	mmBtu/scf	kg CO_2/mmBtu
(Weighted U.S. Average)	1.026×10^{-3}	53.06
Petroleum products	mmBtu/gallon	kg CO_2/mmBtu
Distillate Fuel Oil No. 1	0.139	73.25
Distillate Fuel Oil No. 2	0.138	73.96
Distillate Fuel Oil No. 4	0.146	75.04
Residual Fuel Oil No. 5	0.140	72.93
Residual Fuel Oil No. 6	0.150	75.10
Used Oil	0.138	74.00
Kerosene	0.135	75.20
Liquefied petroleum gases (LPG)[1]	0.092	61.71
Propane[1]	0.091	62.87
Propylene[2]	0.091	67.77
Ethane[1]	0.068	59.60
Ethanol	0.084	68.44
Ethylene[2]	0.058	65.96
Isobutane[1]	0.099	64.94
Isobutylene[1]	0.103	68.86
Butane[1]	0.103	64.77
Butylene[1]	0.105	68.72
Naphtha (<401 deg F)	0.125	68.02
Natural Gasoline	0.110	66.88
Other Oil (>401 deg F)	0.139	76.22
Pentanes Plus	0.110	70.02

Petrochemical Feedstocks	0.125	71.02
Petroleum Coke	0.143	102.41
Special Naphtha	0.125	72.34
Unfinished Oils	0.139	74.54
Heavy Gas Oils	0.148	74.92
Lubricants	0.144	74.27
Motor Gasoline	0.125	70.22
Aviation Gasoline	0.120	69.25
Kerosene-Type Jet Fuel	0.135	72.22
Asphalt and Road Oil	0.158	75.36
Crude Oil	0.138	74.54
Other fuels—solid	mmBtu/short ton	kg CO_2/mmBtu
Municipal Solid Waste	9.95[3]	90.7
Tires	28.00	85.97
Plastics	38.00	75.00
Petroleum Coke	30.00	102.41
Other fuels—gaseous	mmBtu/scf	kg CO_2/mmBtu
Blast Furnace Gas	0.092×10^{-3}	274.32
Coke Oven Gas	0.599×10^{-3}	46.85
Propane Gas	2.516×10^{-3}	61.46
Fuel Gas[4]	1.388×10^{-3}	59.00
Biomass fuels—solid	mmBtu/short ton	kg CO_2/mmBtu
Wood and Wood Residuals (dry basis)[5]	17.48	93.80
Agricultural Byproducts	8.25	118.17
Peat	8.00	111.84
Solid Byproducts	10.39	105.51
Biomass fuels—gaseous	mmBtu/scf	kg CO_2/mmBtu
Landfill Gas	0.485×10^{-3}	52.07
Other Biomass Gases	0.655×10^{-3}	52.07
Biomass Fuels—Liquid	mmBtu/gallon	kg CO_2/mmBtu
Ethanol	0.084	68.44
Biodiesel (100%)	0.128	73.84
Rendered Animal Fat	0.125	71.06
Vegetable Oil	0.120	81.55

[1]The HHV for components of LPG determined at 60 °F and saturation pressure with the exception of ethylene.

[2]Ethylene HHV determined at 41 °F (5 °C) and saturation pressure.

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

[4]Reporters subject to subpart X of this part that are complying with §98.243(d) or subpart Y of this part may only use the default HHV and the default CO_2 emission factor for fuel gas combustion under the conditions prescribed in §98.243(d)(2)(i) and (d)(2)(ii) and §98.252(a)(1) and (a)(2), respectively. Otherwise, reporters subject to subpart X or subpart Y shall use either Tier 3 (Equation C-5) or Tier 4.

[5]Use the following formula to calculate a wet basis HHV for use in Equation C-1: $HHV_w = ((100 - M)/100)*HHV_d$where HHV_w = wet basis HHV, M = moisture content (percent) and HHV_d = dry basis HHV from Table C-1.

[78 FR 71950, Nov. 29, 2013]

Back to Top

Table C-2 to Subpart C of Part 98—Default CH_4 and N_2O Emission Factors for Various Types of Fuel

Fuel type	Default CH_4 emission factor (kg CH_4/mmBtu)	Default N_2O emission factor (kg N_2O/mmBtu)
Coal and Coke (All fuel types in Table C-1)	1.1×10^{-02}	1.6×10^{-03}
Natural Gas	1.0×10^{-03}	1.0×10^{-04}
Petroleum (All fuel types in Table C-1)	3.0×10^{-03}	6.0×10^{-04}
Fuel Gas	3.0×10^{-03}	6.0×10^{-04}
Municipal Solid Waste	3.2×10^{-02}	4.2×10^{-03}
Tires	3.2×10^{-02}	4.2×10^{-03}
Blast Furnace Gas	2.2×10^{-05}	1.0×10^{-04}
Coke Oven Gas	4.8×10^{-04}	1.0×10^{-04}
Biomass Fuels—Solid (All fuel types in Table C-1, except wood and wood residuals)	3.2×10^{-02}	4.2×10^{-03}
Wood and wood residuals	7.2×10^{-03}	3.6×10^{-03}
Biomass Fuels—Gaseous (All fuel types in Table C-1)	3.2×10^{-03}	6.3×10^{-04}
Biomass Fuels—Liquid (All fuel types in Table C-1)	1.1×10^{-03}	1.1×10^{-04}

Note: Those employing this table are assumed to fall under the IPCC definitions of the “Energy Industry” or “Manufacturing Industries and Construction”. In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC “Energy Industry” category may employ a value of 1g of CH_4/mmBtu.

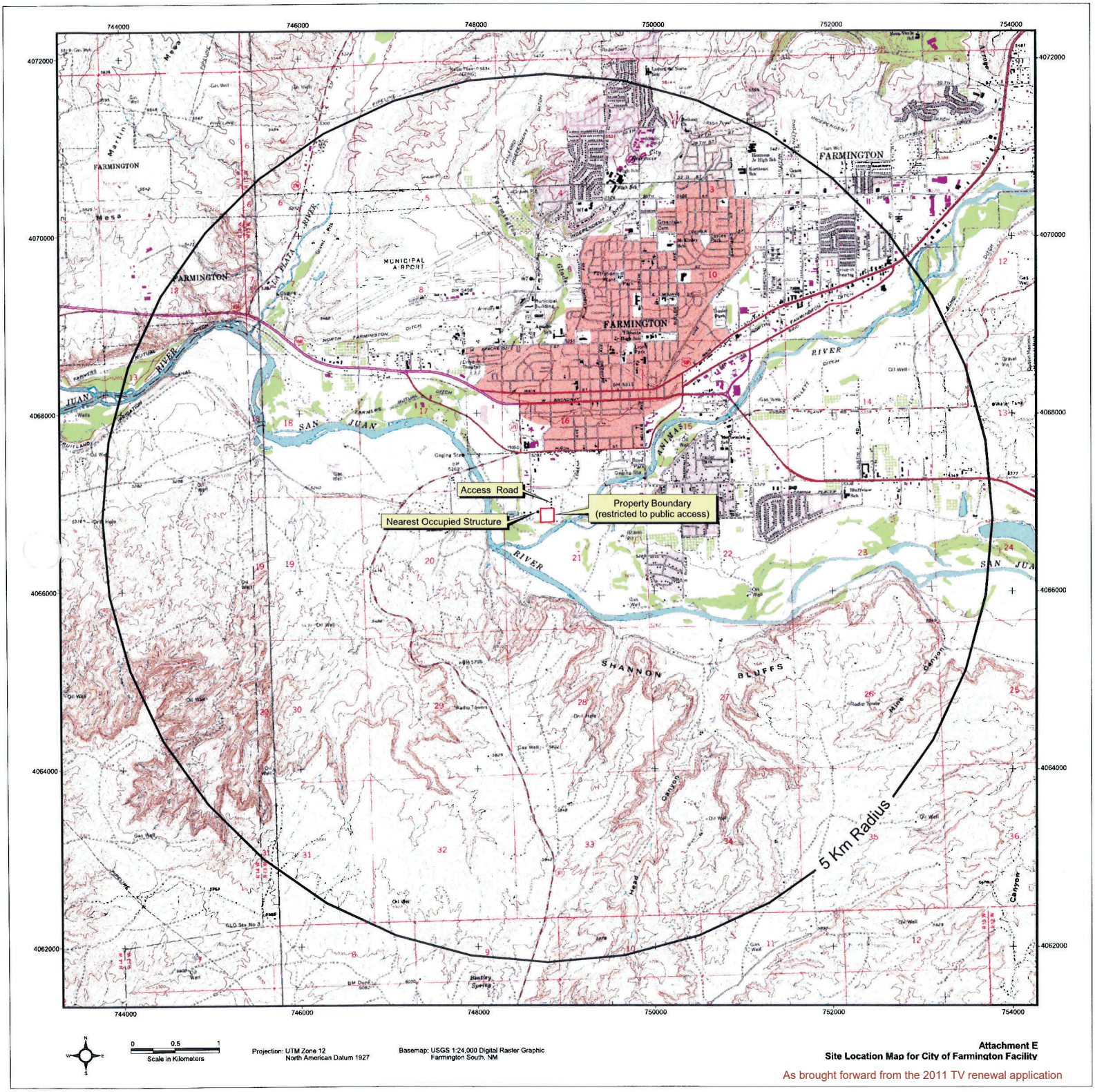
Section 8

Map(s)

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

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

A topographic map is attached.



Attachment E
Site Location Map for City of Farmington Facility

As brought forward from the 2011 TV renewal application

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")

☑ **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 land owners of record.

All public notice requirements have been completed and are included in this section.

May 22, 2023

To Whom it may concern

Farmington Electric Utility Systems announces its application submittal to the New Mexico Environment Department for an air quality permit for the **NSR significant revision** of its **Bluffview Power Plant**. The expected date of application submittal to the Air Quality Bureau is **May 22, 2023.**

The exact location for the proposed facility known as **Bluffview Power Plant**, will be at latitude **36** deg**, 43** min, **0.65** sec and longitude **-108** deg**, 12** min, **53.77** sec. The exact location of this facility is **755 West Murray Dr., Farmington, NM 87401.**

The proposed revision consists of adding two new compressor engines to the facility.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM	21	92
PM_{10}	18	78
$PM_{2.5}$	18	78
Sulfur Dioxide (SO_2)	4	17
Nitrogen Oxides (NO_x)	31	133
Carbon Monoxide (CO)	37	157
Volatile Organic Compounds (VOC)	27	118
Total sum of all Hazardous Air Pollutants (HAPs)	4	18
Green House Gas Emissions as Total CO_2e	N/A	388,456

The standard and maximum operating schedules of the facility will be continuous; **7** days a week and a maximum of **52** weeks a year.

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

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

Attención

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

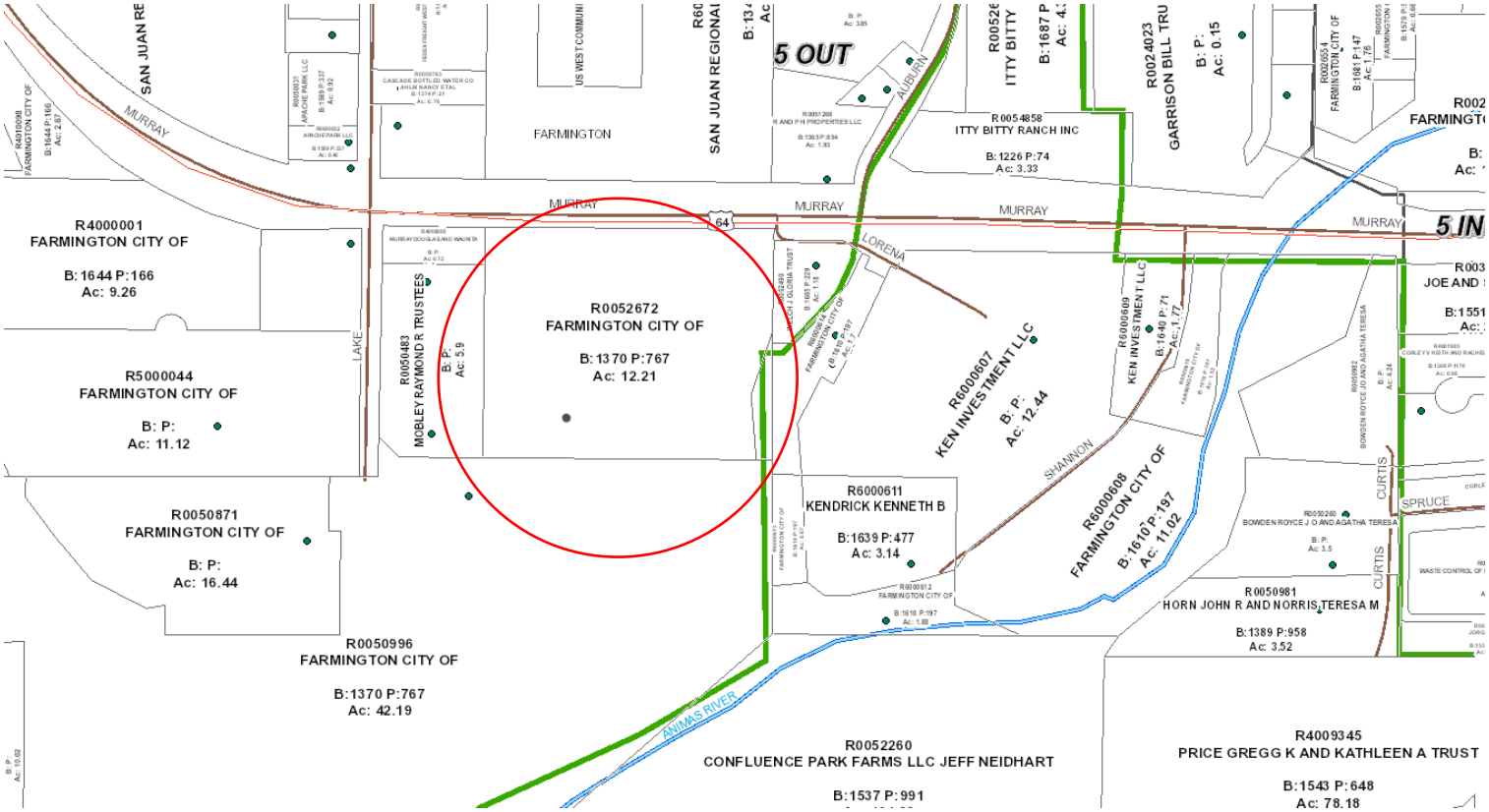
Sincerely,

Farmington Electric Utility Systems

800 Municipal Dr., Farmington, NM 87401

Notice of Non-Discrimination

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



Assessors Map – 100 feet from Bluffview Power Plant Fenceline

Section 9 - Table of Noticed Citizens, Counties, Municipalities and Tribes

PROPERTY OWNERS			
ACCOUNT	OWNER NAME	ADDRESS	CITY, STATE, ZIPCODE
R0050483	MOBLEY RAYMOND R TRUSTEES	PO BOX 223	FARMINGTON, NM 87499
R4008888	MURRAY DOUGLAS AND WAUNITA	1004 S Lake ST	FARMINGTON, NM 87401
R0052490	WELCH J GLORIA TRUST	1100 S LORENA AVE	FARMINGTON, NM 87401

TRIBES			
TRIBES	NAME	ADDRESS	CITY, STATE, ZIP
N/A			

COUNTIES			
COUNTY	NAME	ADDRESS	CITY, STATE, ZIP
San Juan County	COUNTY MANAGER	100 S Oliver Drive	Aztec, NM 87410

MUNICIPALITIES			
MUNICIPALITY	NAME	ADDRESS	CITY, STATE, ZIP
Farmington	CITY MANAGER	800 Municipal Drive	Farmington. NM 87401

NOTICE OF AIR QUALITY PERMIT APPLICATION

Farmington Electric Utility Systems announces its application submittal to the New Mexico Environment Department for an air quality permit for the **NSR significant revision** of its **Bluffview Power Plant**. The expected date of application submittal to the Air Quality Bureau is **May 22, 2023.**

The exact location for the proposed facility known as **Bluffview Power Plant**, will be at latitude **36** deg**, 43** min, **0.65** sec and longitude **-108** deg**, 12** min, **53.77** sec. The exact location of this facility is **755 West Murray Dr., Farmington, NM 87401.**

The proposed revision consists of adding two new compressor engines to the facility.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM	21	92
PM_{10}	18	78
$PM_{2.5}$	18	78
Sulfur Dioxide (SO_2)	4	17
Nitrogen Oxides (NO_x)	31	133
Carbon Monoxide (CO)	37	157
Volatile Organic Compounds (VOC)	27	118
Total sum of all Hazardous Air Pollutants (HAPs)	4	18
Green House Gas Emissions as Total CO_2e	N/A	388,456

The standard and maximum operating schedules of the facility will be continuous; **7** days a week and a maximum of **52** weeks a year.

The owner of the Facility is:

Farmington Electric Utility Systems
800 Municipal Dr., Farmington, NM 87401.

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

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

General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section-home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-372-8373.

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

General Posting of Notices – Certification

I, Andreanne Woods, the undersigned, certify that on **May** 15, 2023, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the **Farmington** of **San Juan** County, State of New Mexico on the following dates:

1. Location 1: Bluffview Power Plant - gate Date: 5/15/23
2. Location 2: City of Farmington - City Hall - bulletin board Date: 5/15/23
3. Location 3: Farmington Electric Utility Date: 5/15/23
4. Location 4: Farmington Public Library Date: 5/15/23

Signed this 15 day of May, 2023.

Signature

5/15/23
Date

Andreanne Woods
Printed Name

Environmental Scientist
Title


SALES CALL
APPOINTMENT ONLY
GATE CLOSES AUTOMATICALLY
AUTHORIZED ACCESS ONLY
RING BUZZER TO REQUEST ENTRANCE
PUSH BUZZER ONCE IF NO ONE ANSWERS PUSH AND HOLD FOR 10 SECONDS

NOTICE OF AIR QUALITY PERMIT APPLICATION

Farmington Electric Utility Systems announces its application submittal to the New Mexico Environment Department for an air quality permit for the **NSR significant revision** of its **Bluffview Power Plant**. The expected date of application submittal to the Air Quality Bureau is **May 22, 2023.**

The exact location for the proposed facility known as **Bluffview Power Plant**, will be at latitude **36** deg, **43** min, **0.65** sec and longitude **-108** deg, **12** min, **53.77** sec. The exact location of this facility is **755 West Murray Dr., Farmington, NM 87401.**

The proposed revision consists of adding two new compressor engines to the facility.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM	21	92
PM_{10}	18	78
$PM_{2.5}$	18	78
Sulfur Dioxide (SO_2)	4	17
Nitrogen Oxides (NO_x)	31	133
Carbon Monoxide (CO)	37	157
Volatile Organic Compounds (VOC)	27	118
Total sum of all Hazardous Air Pollutants (HAPs)	4	18
Green House Gas Emissions as Total CO_2e	N/A	388,456

The standard and maximum operating schedules of the facility will be continuous; **7** days a week and a maximum of **52** weeks a year.

The owner of the Facility is:

Farmington Electric Utility Systems
800 Municipal Dr., Farmington, NM 87401.

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

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

General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section-home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-372-8373.

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

NOTICE
Inspection of Public Records

Persons have the right to inspect public records of the City of Farmington in accordance with the Inspection of Public Records Act (Article 14, Chapter 2, N.M.S.A. 1978) and the Farmington City Council recognizes its responsibility as a public body to make public records available for inspection.

A request to inspect public records may be submitted orally or in writing during regular business hours to the City Clerk as the custodian of City records at 800 Municipal Drive, Farmington, New Mexico 87401 (phone 505-599-1101, fax 505-599-1113 or email www.fmtn.org. A written request must contain the name, address and telephone number of the person submitting the request and the records sought must be described in sufficient detail to enable the City Clerk to identify and locate the records. Requests to inspect public records will be processed in accordance with the procedures set forth in the Act.

Copies of City records may be obtained at a cost of $.50 per page. The City Clerk may request that applicable fees for copying public records be paid in advance and a receipt will be provided for copy fees paid.

Andrea Jones, MMC
City Clerk

NOTICE OF AIR QUALITY PERMIT APPLICATION

Farmington Electric Utility System announces its application submittal to the New Mexico Environment Department for an air quality permit for the **NSR significant revision** of its **Bluffview Power Plant**. The expected date of application submittal to the Air Quality Bureau is **May 22, 2023.**

The exact location for the proposed facility known as **Bluffview Power Plant**, will be at latitude **36** deg, **43** min, **0.65** sec and longitude **-108** deg, **12** min, **53.77** sec. The exact location of this facility is **755 West Murray Dr., Farmington, NM 87401.**

The proposed revisions consists of adding two new compressor engines to the facility.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM	21	92
PM_{10}	18	78
$PM_{2.5}$	18	78
Sulfur Dioxide (SO_2)	4	17
Nitrogen Oxides (NO_x)	31	133
Carbon Monoxide (CO)	37	157
Volatile Organic Compounds (VOC)	27	118
Total sum of all Hazardous Air Pollutants (HAPs)	4	18
Green House Gas Emissions as Total CO_{2e}	N/A	388,456

The standard and maximum operating schedules of the facility will be continuous, 7 days a week and a maximum of **52** weeks a year.

The owner of the Facility is:

Farmington Electric Utility Systems
800 Municipal Dr., Farmington, NM 87401.

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

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

General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section-home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Atinción

Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-372-8351.

Notice of Non-Discrimination

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

NOTICE OF REGULAR PUBLIC MEETINGS OF THE CITY COUNCIL AND OTHER POLICY-MAKING BODIES OF THE CITY OF FARMINGTON

NOTICE IS HEREBY GIVEN, pursuant to the provisions of Resolution No. 2013-1466 of the City Council of the City of Farmington, that there is set forth below a list of the names, the day, time and place of the regularly scheduled meeting of each commission, board, and policymaking body of the City of Farmington, including the City Council, for which notice of the regular meeting of each body is required to be given under the Resolution aforesaid and under the Open Meeting Act (Sec. 10-15-1 et seq. NMSA 1978), to-wit:

NAME:	REGULAR MEETINGS HELD ON:	REGULAR MEETINGS HELD AT:	LOCATION WHERE A COPY OF AGENDA MAY BE INSPECTED PRIOR TO MTG:
Administrative Review Board	1st Thursday following the 1st Tuesday of each month, 6:00 p.m.	Council Chambers*	Community Development Dept., Municipal Annex, 805 Municipal Drive
Airport Advisory Commission	2nd Tuesday of each month, 4:00 p.m.	Executive Conference Room*	Airport Manager's Office, Four Corners Regional Airport, 1296 W. Navajo St.
Animal Services Advisory Commission	1st Tuesday of months of January, April, July, and Oct., 6:00 p.m.	Executive Conference Room*	Parks, Rec., & Cultural Affairs Office, 901 Fairgrounds Road
Cable and Communications Commission	On Call**		
Capital Improvements Advisory Commission	On Call**		
Citizen Police Advisory Committee	3rd Tuesday of months of January, March, May, July, Sept, and Nov., 6:00 p.m.	Executive Conference Room*	Administration Office*
City Council	2nd & 4th Tuesday of each month, 6:00 p.m.	Council Chambers*	City Clerk's Office*
City Council Work Session	3rd Tuesday of each month, 9:00 a.m.	Executive Conference Room*	City Clerk's Office*
Community Relations Commission	1st Monday of each month, 4:00 p.m. unless this day is a City of Farmington Holiday, then the following Monday at 4:00 p.m.	Executive Conference Room*	Administration Office*

CITY OF FARMINGTON, NEW MEXICO

NOTICE OF CITY COUNCIL WORK SESSION MEETING

NOTICE IS HEREBY GIVEN that a Work Session Meeting of the Farmington City Council will be held at the hour of 9:00 a.m. on the 16th day of May, 2023 in the Executive Conference Room at the Municipal Building, 800 Municipal Drive, Farmington, New Mexico, and at such meeting the matters set forth in the attached Agenda will be considered.

Andrea Jones, City Clerk

Date and time posted:
May 12, 2023
@ 9:31am

Date and time removed:

CITY OF FARMINGTON

NOTICE OF REGULAR MEETING OF THE
METROPOLITAN REDEVELOPMENT AGENCY (MRA)
BOARD OF COMMISSIONERS

NOTICE IS HEREBY GIVEN that the regular meeting of the Metropolitan Redevelopment Agency Commission is scheduled for **Tuesday, May 16, 2023 at 4:00 p.m.** in the Executive Conference Room at 800 Municipal Dr., Farmington, New Mexico, and at such meeting, the matters set forth in the attached Agenda will be considered.

Andrea Jones
Andrea Jones, City Clerk

Date and time posted:
May 4, 2023
@ 3:40pm
Andrea Jones, City Clerk

Date and time removed:

Andrea Jones, City Clerk

CITY OF FARMINGTON

NOTICE OF REGULAR MEETING OF THE
CITIZEN POLICE ADVISORY COMMITTEE

NOTICE IS HEREBY GIVEN that the regular meeting of the Citizen Police Advisory Committee is scheduled for **Tuesday, May 16, 2023 at 6:00 p.m.** in the Executive Conference Room of City Hall, 800 Municipal Drive, Farmington, New Mexico, and at such meeting the matters set forth in the attached agenda will be considered.

Andrea Jones, City Clerk

Date and Time Posted:
May 10, 2023
@ 9:40am
Andrea Jones, City Clerk

Date and Time Removed:

Andrea Jones, City Clerk

NOTICE OF REGULAR PARKS, RECREATION, AND CULTURAL AFFAIRS COMMISSION MEETING

NOTICE IS HEREBY GIVEN that a Regular Meeting of the Farmington Parks, Recreation, and Cultural Affairs Commission will be held at the hour of 6:15 p.m. on Thursday, the 18th, day of May, 2023, at the Executive Conference Room, 800 Municipal Drive, Farmington, New Mexico, and at such meeting the matters set forth in the attached agenda will be considered.

Andrea Jones
Andrea Jones City Clerk

Date and time posted:
May 15, 2023
9:40 am
A. Jones

Date and time removed:

FMPO
Farmington Metropolitan Planning Organization
Office: 100 W. Broadway, 2nd Floor- Farmington
Phone: (505) 599-1466 www.FarmingtonMPO.org

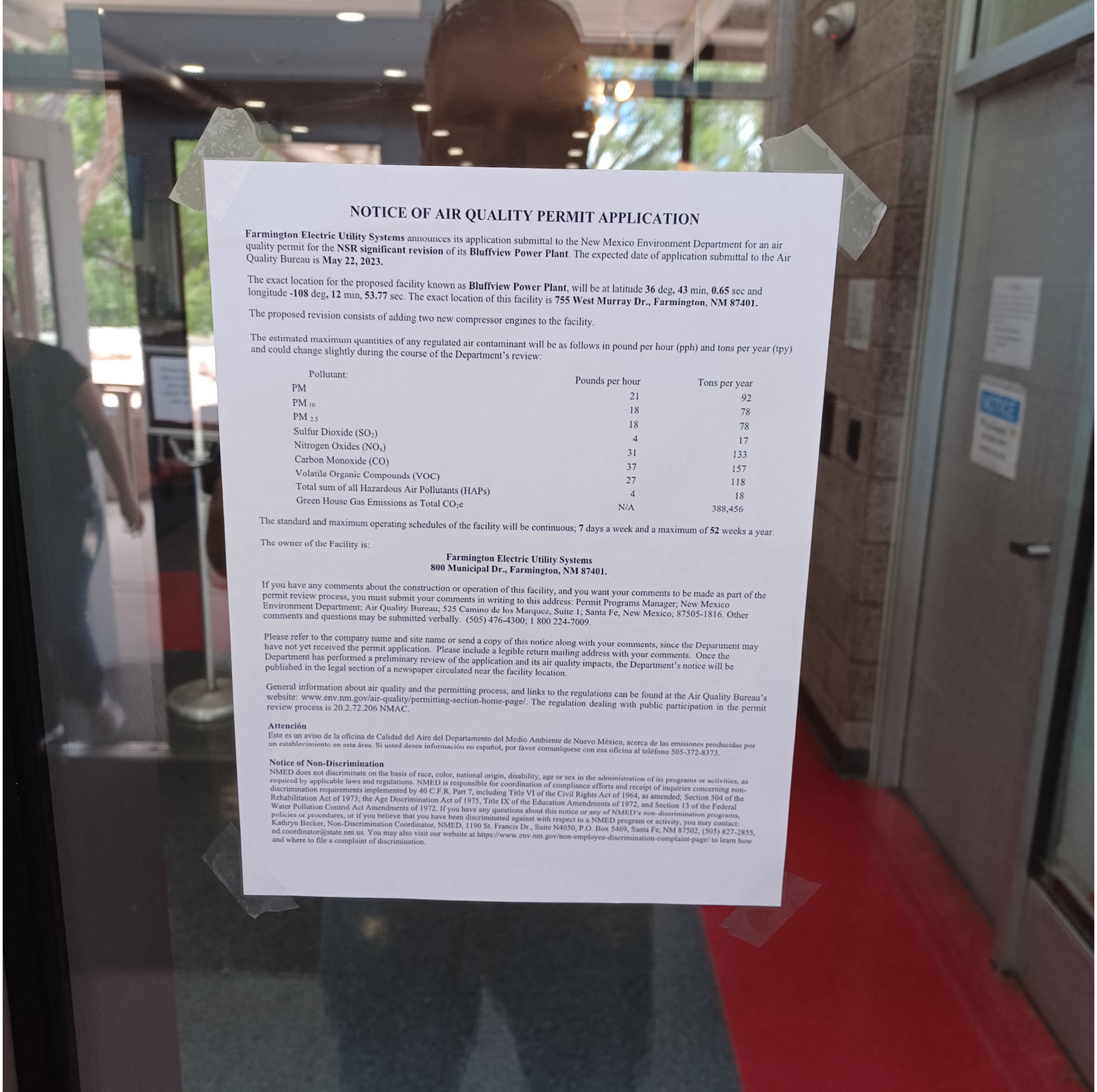
FMPO 2023 Committee Meeting Schedule

Aztec City Hall Commission Chambers 201 W. Chaco Street Aztec, NM	Bloomfield City Hall Council Chambers 915 N. First Street Bloomfield, NM	Kirtland Town Hall Council Chambers 47 Road 6568 Kirtland, NM	Farmington City Hall Executive Conf. Room 800 Municipal Drive Farmington, NM	San Juan County Commission Chambers 100 S. Oliver Street Aztec, NM

Technical Committee 10:00 AM Recommend approval of TIP Amendments in the highlighted months		Policy Committee 10:30 AM Consider approval of TIP Amendments in the highlighted months	
January 11, 2023	Bloomfield	January 26, 2023	Bloomfield
February 8, 2023	Kirtland	February 23, 2023	Aztec
March 8, 2023	Aztec	No Meeting	
April 12, 2023	Farmington	April 27, 2023	Farmington
May 10, 2023	San Juan County	May 25, 2023	San Juan County
June 14, 2023	Bloomfield	June 22, 2023	Kirtland
July 12, 2023	Kirtland	No Meeting	
August 9, 2023	Aztec	August 24, 2023	Farmington
September 13, 2023	Farmington	September 28, 2023	San Juan County
October 11, 2023	San Juan County	No Meeting	
November 8, 2023	Bloomfield	November 16, 2023	Bloomfield
December 13, 2023	Kirtland	No Meeting	

Public participation will continue to be available via GoToMeeting links shown on the meeting agenda and posted on the FMPO website

Posted:
January 3, 2023
9:25 am



NOTICE OF AIR QUALITY PERMIT APPLICATION

Farmington Electric Utility Systems announces its application submittal to the New Mexico Environment Department for an air quality permit for the **NSR significant revision** of its **Bluffview Power Plant**. The expected date of application submittal to the Air Quality Bureau is **May 22, 2023.**

The exact location for the proposed facility known as **Bluffview Power Plant**, will be at latitude **36** deg, **43** min, **0.65** sec and longitude **-108** deg, **12** min, **53.77** sec. The exact location of this facility is **755 West Murray Dr., Farmington, NM 87401.**

The proposed revision consists of adding two new compressor engines to the facility.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM	21	92
PM_{10}	18	78
$PM_{2.5}$	18	78
Sulfur Dioxide (SO_2)	4	17
Nitrogen Oxides (NO_x)	31	133
Carbon Monoxide (CO)	37	157
Volatile Organic Compounds (VOC)	27	118
Total sum of all Hazardous Air Pollutants (HAPs)	4	18
Green House Gas Emissions as Total CO_2e	N/A	388,456

The standard and maximum operating schedules of the facility will be continuous; **7** days a week and a maximum of **52** weeks a year.

The owner of the Facility is:

Farmington Electric Utility Systems
800 Municipal Dr., Farmington, NM 87401.

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

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

General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section-home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Atención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-372-8373.

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

7014 2870 0001 4722 8173

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To MURRAY DOUGLAS AND WAUNITA
Street & Apt. No., or PO Box No. 1004 S LAKE ST.
City, State, ZIP+4 FARMINGTON, NM 87401

PS Form 3800, July 2014 See Reverse for Instructions

7014 2870 0001 4722 8180

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To WELCH J GLORIA TRUST
Street & Apt. No., or PO Box No. 1100 S LORENA AVE
City, State, ZIP+4 FARMINGTON, NM 87401

PS Form 3800, July 2014 See Reverse for Instructions

7014 2870 0001 4722 7978

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To MOBLEY RAYMOND R TRUSTEES
Street & Apt. No., or PO Box No. PO BOX 223
City, State, ZIP+4 FARMINGTON, NM 87499

PS Form 3800, July 2014 See Reverse for Instructions

7014 2870 0001 4722 7961

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To City Manager / Farmington City
Street & Apt. No., or PO Box No. 800 Municipal Drive
City, State, ZIP+4 Farmington, NM 87401

PS Form 3800, July 2014 See Reverse for Instructions

7014 2870 0001 4722 7954

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To County Manager / San Juan County
Street & Apt. No., or PO Box No. 10 S. Oliver Dr.
City, State, ZIP+4 Aztec, NM 87410

PS Form 3800, July 2014 See Reverse for Instructions

Farmington Daily Times
PART OF THE USA TODAY NETWORK

Affidavit of Publication

Ad # 0005702838

This is not an invoice

TRINITY CONSULTANTS
9400 HOLLY AVE NE

ALBUQUERQUE, NM 87122-2968

I, being duly sworn say: **Farmington Daily Times**, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newsaper duly qualified for the purpose within the State of New Mexico for publication and appeared in the internet at The Daily Times web site on the following days(s):

05/17/2023

D. Roberts
Legal Clerk

Subscribed and sworn before me this May 17, 2023:

Vicky Felty
State of WI, County of Brown
NOTARY PUBLIC

9.19.25
My commission expires

VICKY FELTY
Notary Public
State of Wisconsin

Ad # 0005702838
PO #: 233201.0026
# of Affidavits 1

This is not an invoice

NOTICE OF AIR QUALITY PERMIT APPLICATION

Farmington Electric Utility Systems announces its application submittal to the New Mexico Environment Department for an air quality permit for the **NSR significant revision** of its **Bluffview Power Plant**. The expected date of application submittal to the Air Quality Bureau is **May 22, 2023**.

The exact location for the proposed facility known as **Bluffview Power Plant**, will be at latitude **36** deg, **43 min, 0.65** sec and longitude **-108** deg, **12** min, **53.77** sec. The exact location of this facility is **755 West Murray Dr., Farmington, NM 87401**.

The proposed revision consists of adding two new compressor engines to the facility.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM	21	92
PM 10	18	78
PM 2.5	18	78
Sulfur Dioxide (SO2)	4	17
Nitrogen Oxides (NOx)	31	133
Carbon Monoxide (CO)	37	157
Volatile Organic Compounds (VOC)	27	118
Total sum of all Hazardous Air Pollutants (HAPs)	4	18
Green House Gas Emissions as Total CO2e	N/A	388,456

The standard and maximum operating schedules of the facility will be continuous; 7 days a week and a maximum of **52** weeks a year.

The owner of the Facility is:

Farmington Electric Utility Systems
800 Municipal Dr., Farmington, NM 87401.

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

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

General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section-home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-372-8373.

Notice of Non-Discrimination
NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or pro-

cedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kathryn Becker, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.
#5702838, The Daily Times, May 17, 2023

Farmington Daily Times
PART OF THE USA TODAY NETWORK

Affidavit of Publication

Ad # GCI1061537

This is not an invoice

TRINITY CONSULTANTS
9400 HOLLY AVE NE

ALBUQUERQUE, NM 87122-2968

I, being duly sworn say: **Farmington Daily Times**, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newsaper duly qualified for the purpose within the State of New Mexico for publication and appeared in the internet at The Daily Times web site on the following days(s):

05/17/2023

Legal Clerk

Subscribed and sworn before me this May 17, 2023:

State of WI, County of Brown
NOTARY PUBLIC

9.19.25
My commission expires

VICKY FELTY
Notary Public
State of Wisconsin

Ad # GCI1061537
PO #: 233201.0026
# of Affidavits:1

This is not an invoice

NOTICE OF AIR QUALITY PERMIT APPLICATION

Farmington Electric Utility Systems announces its application submittal to the New Mexico Environment Department for an air quality permit for the **NSR significant revision** of its **Bluffview Power Plant.** The expected date of application submittal to the Air Quality Bureau is **May 22, 2023.**

The exact location for the proposed facility known as **Bluffview Power Plant,** will be at latitude **36** deg, **43** min, **0.65** sec and longitude **-108** deg, **12** min, **53.77** sec. The exact location of this facility is **755 West Murray Dr., Farmington, NM 87401.**

The proposed revision consists of adding two new compressor engines to the facility.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM	21	92
PM 10	18	78
PM 2.5	18	78
Sulfur Dioxide (SO2)	4	17
Nitrogen Oxides (NOx)	31	133
Carbon Monoxide (CO)	37	157
Volatile Organic Compounds (VOC)	27	118
Total sum of all Hazardous Air Pollutants (HAPs)	4	18
Green House Gas Emissions as Total CO2e	N/A	388,456

The standard and maximum operating schedules of the facility will be continuous; 7 days a week and a maximum of **52** weeks a year.

The owner of the Facility is:

Farmington Electric Utility Systems
800 Municipal Dr., Farmington, NM 87401.

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

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

General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section-home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-372-8373.

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

Legal Notices | Legal Notices | Legal Notices

PUBLIC NOTICE

U. S. EPA Navajo Abandoned Uranium Mine (NAUM) Information Repositories

The U.S. Environmental Protection Agency is required to establish administrative records for actions being undertaken with regard to the Abandoned Uranium Mines on Navajo (commonly referred to as "NAUM"). An administrative record consists of the documents that the Agency relies on to develop and evaluate potential cleanup plans for a Superfund site and in this case, abandoned uranium mine site(s). The location of the records is often referred to as an "Information Repository".

The U.S. EPA has set up Information Repositories for the public on NAUM activities at the following locations.

Window Rock DOE Community Outreach Network Office
Address: Window Rock Shopping Center
Highway 264 & Indian Route 12, Suite 10
Window Rock, Arizona 86515
Phone number: (928) 810-2100
Please call to make an appointment

Kayenta-Public Library
1/4 Mile N. U.S. Highway 163
Kayenta, Arizona 86033
(928) 697-5563

Tuba City Public Library
78 Main St
Tuba City, Arizona 86045
(928) 283-5856

Gallup - Octavia Fellin Public Library
115 West Hill Ave.
Gallup, NM. 87301
(505) 863-1291

Tolikan Chapter House - NAUM Liaison, Perry Tso
Teec Nos Pos, AZ 86514
(928) 429-0977

Cove Chapter House – NAUM Liaison, Tina Ulrich
Red Valley, AZ 86544
(970) 759-7274

Additional Online Access Locations:
Dine College - Senator John Pinto Library
Hwy 64 and N570
Shiprock. NM 87420

EPA Contact:
Rebecca Jamison
Analyst, Tribal Lands Cleanup Branch
Jamison.rebecca@epa.gov

NAUM WEBSITE https://www.epa.gov/navajo-nation-uranium-cleanup

An **Online Repository** is also available at https://www.epa.gov/navajo-nation-uranium-cleanup/administrative-records-abandoned-mines-and-other-superfund-cleanups

Or use these search terms: EPA, Navajo, uranium, repository

TX-GC11056329-01

Legal Notices | Legal Notices | Legal Notices

NOTICE OF AIR QUALITY PERMIT APPLICATION

Farmington Electric Utility Systems announces its application submittal to the New Mexico Environment Department for an air quality permit for the **NSR significant revision** of its **Bluffview Power Plant.** The expected date of application submittal to the Air Quality Bureau is **May 22, 2023.**

The exact location for the proposed facility known as **Bluffview Power Plant**, will be at latitude **36** deg, **43** min, **0.65** sec and longitude **-108** deg, **12** min, **53.77** sec. The exact location of this facility is **755 West Murray Dr., Farmington, NM 87401** .

The proposed revision consists of adding two new compressor engines to the facility.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM	21	92
PM 10	18	78
PM 2.5	18	78
Sulfur Dioxide (SO2)	4	17
Nitrogen Oxides (NOx)	31	133
Carbon Monoxide (CO)	37	157
Volatile Organic Compounds (VOC)	27	118
Total sum of all Hazardous Air Pollutants (HAPs)	4	18
Green House Gas Emissions as Total CO2e	N/A	388,456

The standard and maximum operating schedules of the facility will be continuous; 7 days a week and a maximum of **52** weeks a year.

The owner of the Facility is:
Farmington Electric Utility Systems
800 Municipal Dr., Farmington, NM 87401.

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

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

General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section-home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-372-8373.

Notice of Non-Discrimination
NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kathryn Becker, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at https://www.env.nm.gov/non-employee-discrimination-complaint-page/ to learn how and where to file a complaint of discrimination.
#5702838, The Daily Times, May 17, 2023

Business & Service Directory

to advertise, email: **servicedirectory@daily-times.com**

Landscaping

T&R Tree and Landscaping
33 Years Experience
Free Estimates
Licensed & Bonded
Handyman Services Available
Yard Cleanup, Powerraking,
Pruning & Debris Removal
No Job Too Big or Small!
We Take Emergency Calls!
505-360-7900

Lawn - Garden Care

Aztec/Farmington Home Serv ices
Swamp Cooler Services
Sprinkler Systems & Repairs
Gutters & Chimneys Cleaned
Roof Repairs, Shingles Replaced,
Painting, Plumbing, Moving,
Hauling & Yard Clean-Up
505-334-4000
Helper Wanted $15/$20 an hour

HAUL IT OUT YARD CLEAN UP
LANDSCAPING & LAWN SERVICE
Commercial & Residential
Scheduled Lawn Maintenance, Yard & Leaf Cleanup, Brush Hogging, Gravel Work
Tree Pruning & Junk Removal
License & Insured
10 + Years of Experience
Call for FREE Estimate
505-419-4769
haulitout@yahoo.com

Painting

Aragon's Pro Painting
505-486-7101 Call *Rudy*
Christian Family Owned/Operated
Blessing Homes & Families with
Over 30 yrs Painting Experience
Interior and Exterior Painting
Residential/Commercial/Ind.
Concrete, Deck, and Fence
Painting and Staining
Drywall Repair
Trim Repair/Replacement
Pressure Washing

PLP Stucco & Painting
Specializing in Stucco & Painting.
Stucco with CrackMaster Mesh,
Parapit Repair, Recolor Coat.
Crack Repair. Venetian Plaster,
Interior & Exterior Painting
FREE ESTIMATES
Call - 505-360-0909

Roofing - Siding

THE BEST ROOF MONEY CAN BUY!!
RELIABLE ROOFING
CALL (505) 716-3977
PRO-PANEL METAL ROOFS
PROTECT & PRESERVE YOUR HOME FOR 50 YEARS & GENERATIONS TO COME!

(See Our Ad in Farmington Craigslist under Services & Skilled Trade)
FREE ESTIMATES & SENIOR DISCOUNTS
* Also - Seamless Gutter System & Exterior House Painting

Tree Service

Tree Trimming & Removal,
Leaf Clean-up, Lawn Care, Gravel
Licensed & Insured
Reasonable Prices - - Free Estimates
505-326-2142 or 505-402-3513
R & J TREE SERVICE

SELL YOUR CAR
FIND A HOME
GET A JOB
ADOPT A PET
BUY A BOAT
HIRE A HANDYMAN
Check out the classified ads everyday.

Make your ad special!
Add a logo, headline and ask for **bold!**

Homes

LOCAL NEWS

CALENDER OF EVENTS

Morning Storytime takes place at 10:30 a.m. Wednesday, May 17 at the Bloomfield Public Library, 333 S. 1st St. in Bloomfield. Free. Call 505-632-8315.
A Brown Bag Birding session will be held at noon Wednesday, May 17 at the Riverside Nature Center in Animas Park off Browning Parkway in Farmington. Participants are invited to bring lunch and join the center staff in the observation room to watch wildlife. Free. Call 505-599-1422.
Jose Villareal performs at 7 p.m. Wednesday, May 17 at Clancy's Irish Cantina, 2701 E. 20th St. in Farmington. Free. Call 505-325-8176.

Shooter

Continued from Page 1A

Hebbe said in a video statement that it appeared the gunman had no specific target, but rather roamed through a quarter mile of the neighborhood firing at least three different weapons including what Hebbe described as an "AR style" rifle.

Around 11 a.m., four Farmington police officers initially responded to "multiple calls" of gunshots in the area. Crum said those responding officers found and fired at the shooter, killing him.

Crum said the suspect shot and killed three people prior to police confronting him.

"Several other parties were injured due to the gun fire," Crum said.

Among them, Crum confirmed, were a Farmington Police Department officer and New Mexico State Police officers. Hebbe said the Farmington office was treated and discharged; the NMSP officer drove himself to San Juan Regional Medical Center for treatment but was in stable condition.

A Farmington police officer mans a roadblock at the corner of North Dustin Avenue and East Comanche Street on Monday after a shooting in the area.
PHOTOS BY MIKE EASTERLING/THE DAILY TIMES

The Farmington Police Department mobile command post is parked at the north end of Boundless Adventure Park in Farmington on Monday after a shooting in the area.

Hebbe confirmed six homes and three vehicles were shot as the gunman "randomly fired at whatever entered his head to shoot at."

To read additional reporting go to www.daily-times.com.

Reaction

Continued from Page 1A

He said he was especially concerned about how Monday's incident affected the mental health of students at two nearby elementary schools, Apace Elementary and McKinley Elementary, both of which were forced to go into lockdown.

"My wife and I were talking (about that)," he said. "We don't need that to become the norm, kids going on lockdown."

In a video message released by the Farmington Police Department Monday night, Chief Steve Hebbe characterized the incident as devastating, describing the shooter's actions as "a rampage."

Hebbe

"I don't even know what to say in an event like this, how to address it," he said.

Hebbe noted the professionalism and courage of his officers who responded to the scene.

"I'm incredibly proud of our responding officers with the threat they faced with the chaos of the scene and all that calls that came in," he said, adding that at least nine residents called emergency dispatch to report the shooting.

Ferrari issued a statement on his campaign Facebook page Monday night, explaining that he was still processing what he described as "the emotional overload" of the experience.

"I want to give the friends and families of the three lives lost my deepest condolences," he wrote. "I know their beautiful families, and that makes my heart hurt more. I pray the wounded have a speedy recovery and for the Lord to ease your pain. We are thankful you are alive."

Farmington Mayor Nate Duckett described the incident as a "horrific tragedy" in a statement released Monday evening.

Duckett

"It is with profound sorrow that I acknowledge a shooting that occurred in our midst, an act of violence that has left us reeling in anguish and disbelief," he said in a lengthy statement issued Monday night. "Our thoughts and prayers go out to the victims and their families during this incomprehensible time of pain and loss."

Duckett noted that two police officers — an officer for the Farmington Police Department and the New Mexico State Police — were among those wounded by the 18-year-old gunman who was shot and killed by officers.

"Our prayers are with the officers and their families as they recover," he said.

Duckett praised the work of all the law enforcement agencies that responded to the incident – the Farmington Police Department, the San Juan County Sheriff's Office, the State Police and the Bloomfield Police Department.

"Countless lives were saved because of their timely response," he said.

Duckett said he had received calls of support for the community from the New Mexico congressional delegation in Washington, the White House, the Navajo Nation and mayors across the state.

"We are a resilient community, a community that cares for each other," he said. "In the face of adversity, we must stand together, comfort one another, and make a determined effort to heal these wounds so we can emerge stronger and not allow this act of violence to define us."

San Juan County Commission Chairman Steve Lanier issued a statement via email on Tuesday, May 16 in which he said the shooting would forever be ingrained in the fabric of San Juan County.

Lanier

"I am deeply saddened to hear about the tragic loss of life," he said. "To families who are grieving, please know that you are not alone in your grief and you have my sincerest condolences during this difficult time. May the memories of those who have passed bring you comfort and may they rest in peace."

Lanier said he was praying for the recovery of those injured in the shooting and expressed his gratitude for the quick response by law enforcement officials to end the threat posed by the shooter. He also singled out the roles played by firefighters, emergency medical personnel, the San Juan Regional Medical Center staff and public safety dispatchers in addressing the incident.

"I am most grateful for the people of this community who come together in times of crisis," he said. "We rally around those who are in need and lift each other up in times of trouble."

In a message she posted on her Facebook page, U.S. Rep. Teresa Leger Fernandez, a Democrat whose 3rd Congressional District includes Farmington, said the shooting paralyzed Farmington in fear.

"I praise the heroes who drove to danger to stop the violence," she stated. "I pray for the quick recovery the wounded and for the families of those we lost."

Leger Fernandez acknowledged that New Mexico is not immune to the mass shootings that occur across the country on a regular basis, disrupting otherwise peaceful lives.

"Every day that peace is shattered," she stated. "Every day we are reminded we don't live in that world. Today is no exception."

A Facebook message posted on U.S. Sen. Ben Ray Lujan's Facebook page on behalf of the state's entire congressional delegation — U.S. Sen. Martin Heinrich, U.S. Rep. Melanie Stansbury, U.S. Rep. Gabe Vasquez and Leger Fernandez, as well as Lujan — said the group was devastated by the shooting. The lawmakers expressed their gratitude to the law enforcement officers who responded to the scene and to the health care workers who treated the victims.

"Our hearts are with the families of the deceased and those injured," they wrote. "We will continue working to ensure federal resources are made available as today's shooting is investigated."

The members of the state's delegation, all Democrats, wrote that, although Congress took action to combat gun violence last year by adopting the Bipartisan Safer Communities Act, "today is a painful reminder that we must do more. We are committed to fighting for sensible gun safety measures that will keep New Mexicans safe."

Mike Easterling can be reached at 505-564-4610 or measterling@daily-times.com .

NOTICE OF AIR QUALITY PERMIT APPLICATION

Farmington Electric Utility Systems announces its application submittal to the New Mexico Environment Department for an air quality permit for the **NSR significant revision** of its **Bluffview Power Plant.** The expected date of application submittal to the Air Quality Bureau is **May 22, 2023.**

The exact location for the proposed facility known as **Bluffview Power Plant,** will be at latitude **36** deg, **43** min, **0.65** sec and longitude **-108** deg, **12** min, **53.77** sec. The exact location of this facility is **755 West Murray Dr., Farmington, NM 87401.**

The proposed revision consists of adding two new compressor engines to the facility.

The estimated maximum quantities of any regulated air contaminant will be as follows in pound per hour (pph) and tons per year (tpy) and could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
PM	21	92
PM 10	18	78
PM 2.5	18	78
Sulfur Dioxide (SO2)	4	17
Nitrogen Oxides (NOx)	31	133
Carbon Monoxide (CO)	37	157
Volatile Organic Compounds (VOC)	27	118
Total sum of all Hazardous Air Pollutants (HAPs)	4	18
Green House Gas Emissions as Total CO2e	N/A	388,456

The standard and maximum operating schedules of the facility will be continuous; 7 days a week and a maximum of **52** weeks a year.

The owner of the Facility is:

Farmington Electric Utility Systems
800 Municipal Dr., Farmington, NM 87401.

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

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

General information about air quality and the permitting process, and links to the regulations can be found at the Air Quality Bureau's website: www.env.nm.gov/air-quality/permitting-section-home-page/. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC.

Attención
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-372-8373.

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

TX-GCI1061537-01

Approximately 150 people gathered at The Hills Church in Farmington Monday for a candlelight vigil held to honor the victims of Monday's shooting. PROVIDED BY DEVIN NEELEY

From:	Atiqur Rahman
To:	shenderson@basinbroadcasting.com
Cc:	Adam Erenstein
Subject:	Public Service Announcement - Bluffview Power Plant
Date:	Wednesday, May 17, 2023 12:38:49 PM

Dear KNDN Radio, 960 kHz AM,

Per New Mexico Administrative Code 20.2.72.203.B NMAC and according to the Guidance for Public Notice for Air Quality Permit Applications – **(5) Notifications: Submittal of Public Service Announcement (PSA):** A public service announcement required for permits and significant permit revisions must be submitted to at least one radio or television station, which services the municipality, or county which the facility is or will be located. **Therefore, based on the above, we respectfully ask you to air the information shown below as a Public Service Announcement.**

The public service announcement request must contain the following information about the facility or proposed facility (20.2.72.203.D NMAC).

a. The name: **Bluffview Power Plant,** location: latitude **36** deg**, 43** min, **0.65** sec and longitude -**108** deg**, 12** min, **53.77** sec. The exact location of this facility is **755 West Murray Drive, Farmington, NM 87401** and type of business: **Electricity generation facility.**
b. The name and principal owner or operator: **City of Farmington** – owner and **Farmington Electric Utility System –** operator.
c. The type of process or change for which the permit is sought: **Significant revision to NSR permit.**
d. Locations where the notices have been posted in Loving, NM: **(1) Bluffview Power Plant Facility's Entrance (2) City of Farmington – City Hall (3) Farmington Electric Utility (4) Farmington Public Library.**
e. The Department's address or telephone number to which comments may be directed: **Permit Programs manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 (800) 224-7009.**

Thank you!
Atiqur Rahman (He/Him)
Associate Consultant

P 505.266.6611 M 575.489.8334
Email: Atiqur.rahman@trinityconsultants.com
Address: 9400 Holly Avenue NE, Building 3, Suite B, Albuquerque, NM 87122

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.

The Bluffview Power Plant produces electrical power using a General Electric model LM6000-PD combustion turbine to generate a nominal 60 megawatts (MW) for the Farmington system. The turbine also utilizes a heat recovery steam generator (HRSG) with duct burners to produce additional power during peak electrical demand. Both the combustion turbine and the HRSG duct burners are fired exclusively with pipeline quality natural gas fired and are rated at 338 MMBtu/hr and 144 MMBtu/hr, respectively.

The new RICE units will only fire pipeline natural gas. Selective catalytic reduction (SCR) for NO_X control and an oxidation catalyst for CO and VOC control is included in the design of the RICE units. Each unit will exhaust through their own individual stack. Each unit is intended to operate in base load fashion, with nearly continuous operation.

The Bluffview Power Plant uses the following emissions control equipment:

- Dry low-NO_X burners in the combustion turbine and a selective catalytic reduction (SCR) system to reduce NO_X emissions from the combustion turbine and HRSG duct burners; and
- An oxidation catalyst to reduce CO, VOC, and HAP emissions from the combustion turbine and HRSG duct burners.

The plant also operates a wet surface cooling tower to remove heat from the facility's ancillary equipment.

The facility includes several exempt storage tanks containing water, wastewater, and aqueous ammonia, which are used in the SCR system to control NO_X emissions from the combustion turbine and HRSG duct burners. This facility will have an exempt diesel-fired firewater pump after proposed revision.

The facility is permitted to operate continuously.

Section 11
Source Determination

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

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

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under common ownership or control, and that are contiguous or adjacent constitute a single stationary source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes. Submission of your analysis of these factors in support of the responses below is optional, unless requested by NMED.

A. Identify the emission sources evaluated in this section (list and describe)**: Please refer to Table 2A for the list of emission sources.**

B. Apply the 3 criteria for determining a single source:

SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, OR surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source.

☑ **Yes** ☐ **No**

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

☑ **Yes** ☐ **No**

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

☑ **Yes** ☐ **No**

C. Make a determination:

☑ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "**YES**" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "**NO**" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.

☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A
PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

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

A. This facility is:

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

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

a. **NOx: XX.X TPY**
b. **CO: XX.X TPY**
c. **VOC: XX.X TPY**
d. **SOx: XX.X TPY**
e. **PM: XX.X TPY**
f. **PM10: XX.X TPY**
g. **PM2.5: XX.X TPY**
h. **Fluorides: XX.X TPY**
i. **Lead: XX.X TPY**
j. **Sulfur compounds (listed in Table 2): XX.X TPY**
k. **GHG: XX.X TPY**

C. **Netting was not performed as the modification includes only new emission sources.**

D. **BACT** is **not required for this modification.**

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. **[existing facility is not a major PSD source]**

Section 13

Determination of State & Federal Air Quality Regulations

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

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

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

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

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

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

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

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

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

Table for State Regulations:

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.1 NMAC	General Provisions	Yes	Facility	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	Facility	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.
20.2.7 NMAC	Excess Emissions	Yes	Facility	This regulation establishes requirements for the facility if operations at the facility result in any excess emissions. The owner or operator will operate the source at the facility having an excess emission, to the extent practicable, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions. The facility will also notify the NMED of any excess emission per 20.2.7.110 NMAC.
20.2.23 NMAC	Fugitive Dust Control	No	N/A	This facility is authorized under a construction permit pursuant to the New Mexico Air Quality Control Act and is therefore not subject to this regulation.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	Yes	PD-DB-1	This facility has a gas burning equipment (external combustion emission sources, such as gas fired boilers and heaters) having a heat input of greater than 1,000,000 million British Thermal Units per year per unit.
20.2.34 NMAC	Oil Burning Equipment: NO_2	No	N/A	This facility does not have oil burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit. The facility is not subject to this regulation and does not have emission sources that meet the applicability requirements under 20.2.34.108 NMAC.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	N/A	The purpose of this regulation is to establish sulfur emissions standards for natural gas processing plants [20.2.35.6 NMAC]. This facility is not a natural gas processing plant, as defined in the regulation [20.2.35.7 NMAC]. As this facility is not defined as a natural gas processing plant under this regulation, the facility is not subject to this regulation.
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	N/A	N/A	The purpose of this regulation is to minimize emissions from petroleum or natural gas processing facilities [20.2.37.6 NMAC]. This facility is not a natural gas or petroleum processing facility, as defined in the regulation [20.2.37.7 NMAC]. As this facility is not defined as a natural gas or petroleum processing facility, the facility is not subject to this regulation.
20.2.38 NMAC	Hydrocarbon Storage Facility	No	N/A	This regulation applies to storage facilities which are operated in conjunction with a petroleum production or petroleum processing facility. The Bluffview Power Plant facility is not a petroleum production or processing facility; therefore, this regulation does not apply.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	This regulation establishes sulfur emission standards for sulfur recovery plants which are not part of petroleum or natural gas processing facilities. This regulation does not apply to this facility because it does not have elements of a sulfur recovery plant.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	PD-CTG-1, PD-DB-1, ENG-1, and ENG-2	This regulation limits opacity to 20% applies to Stationary Combustion Equipment, including the combustion turbine, its duct burners and reciprocating engines.
20.2.70 NMAC	Operating Permits	Yes	Facility	The facility's PTE emissions are greater than the major source thresholds for all regulated air pollutants and hazardous air pollutants (HAP) and is an 'acid rain source' or an affected source in the regulations promulgated under Title IV of the federal act, the facility is also subject to the Title V Part 70 program and must obtain an operating permit (20.2.70.200.C NMAC)
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	Because the facility is subject to 20.2.70 NMAC and its permit includes numerical ton per year emission limits, the facility is subject to 20.2.71 NMAC.
20.2.72 NMAC	Construction Permits	Yes	Facility	This regulation applies because the facility's potential emission rate (PER) is greater than 10 pph or greater than 25 tpy for NO_X, CO, PM_{10} and $PM_{2.5}$. Therefore, the facility is required to apply for and obtain an NSR permit. The

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.)
				facility construction permit issued under 20.2.72 NMAC complies with the requirement.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	The facility is a Title V major source and must meet the requirements of 20.2.73.300 NMAC for emissions inventory reporting.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	N/A	This facility will become a major PSD source after this modification. Therefore, this regulation is not applicable for this facility.
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	This facility is applying for signification revisions to its NSR permit (Permit No. 2831-M2R1). Therefore, this regulation applies to this facility.
20.2.77 NMAC	New Source Performance	Yes	PD-CTG-1, PD-DB-1, ENG-1, and ENG-2	The Bluffview Power Plant facility includes stationary sources that are subject to the requirements of 40 CFR Part 60, therefore this regulation applies.
20.2.78 NMAC	Emission Standards for HAPS	No	N/A	This facility emits hazardous air pollutants which are subject to the requirements of 40 CFR Part 61. However, the facility is a minor source of HAPs and therefore not subject to this regulation.
20.2.79 NMAC	Permits – Nonattainment Areas	No	N/A	This regulation establishes the requirements for obtaining a nonattainment area permit. The facility is not located in a non-attainment area and therefore is not subject to this regulation.
20.2.80 NMAC	Stack Heights	No	Facility	This regulation establishes requirements for the evaluation of stack heights and other dispersion techniques. This regulation does not apply as all stacks at the facility follow good engineering practice.
20.2.82 NMAC	MACT Standards for source categories of HAPS	No	N/A	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63. There are no units subject to 40 CFR 63, therefore not subject to this regulation.
20.2.84 NMAC	Acid Rain Program	Yes	PD-CTG-1, PD-DB-1, ENG-1 and ENG-2	This facility is a power generation plant and Units PD-CTG-1, PD-DB-1, ENG-1 and ENG-2 are subject to 40 CFR 72. Thus, this regulation applies to this facility.

Table for Applicable Federal Regulations:

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 50	NAAQS	Yes	Facility	This regulation defines national ambient air quality standards. The facility meets all applicable national ambient air quality standards for NO_x, CO, SO_2, lead, ozone, PM_{10}, and $PM_{2.5}$ under this regulation.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	PD-CTG-1, PD-DB-1, ENG-1, and ENG-2	The facility includes turbines, steam generation units and spark ignite internal compressor engines that are subject to the 40 CFR 60 Subpart GG, Subpart Db and Subpart JJJJ respectively. Thus, this regulation is applicable to this facility.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for **Electric Utility Steam Generating Units**	No	N/A	Since the HRSG duct burner (unit # PD-DB-1) is associated with a stationary combustion turbine, only emissions from the duct burners are potentially subject to this regulation ((§60.40Da(e)(2)). This unit # PD-DB-1 has a 144 MMBtu/hr heat input, which is less than the 250 MMBtu/hr applicability threshold (§60.40Da(e)(1)).
NSPS 40 CFR60.40b Subpart Db	**Electric Utility Steam Generating Units**	Yes	PD-DB-1	The affected facility (unit # PD-DB-1) commenced construction in 2005, after the June 19, 1984 applicability date, and has a heat input capacity from fuels combusted (natural gas) of 144 MMBtu/hr, greater than the 100 MMBtu/hr threshold ((§60.40b(a)). The regulation establishes NO_x standards for Unit PD-DB-1 at §60.44b(a)(4). Since the unit fires only natural gas, there are no applicable SO_2 or PM standards (§60.42b and §60.43b, respectively).
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No	N/A	The affected facility (unit # PD-DB-1) commenced construction in 2005, after the June 9, 1989 applicability date, and has a heat input capacity from fuels combusted (natural gas) of 144 MMBtu/hr, which exceeds the 100 MMBtu/hr threshold of applicability, therefore this regulation does not apply.
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	N/A	This regulation establishes performance standards for storage vessels for petroleum liquids for which construction, reconstruction, or modification commenced after May 18, 1978, and prior to July 23, 1984. There are no petroleum liquid storage vessels located at the facility which are an affected facility under this subpart. Therefore, this regulation does not apply.
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	N/A	This regulation establishes performance standards for storage vessels 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. There are no storage vessels which are affected under this subpart; therefore, this regulation is not applicable §60.110b(b)].
NSPS 40 CFR 60.330 Subpart GG	**Stationary Gas Turbines**	Yes	PD-CTG-1	The affected facility (unit # PD-CTG-1) commenced construction in 2005, after the October 3, 1977 applicability date, and has a heat input capacity from fuels combusted (natural gas) of 338 MMBtu/hr, greater than the 10 MMBtu/ hour threshold (§60.330).

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
				The regulation establishes NOx standards for Unit PD-CTG-1 at §60.332(a)(1) and SO_2 standards at §60.333.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from **Onshore Gas Plants**	No	N/A	This facility is a power generation plant. Thus, this regulation is not applicable to this regulation.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for **Onshore Natural Gas Processing**: SO_2 Emissions	No	N/A	This facility is a power generation plant. Thus, this regulation is not applicable to this regulation.
NSPS 40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015	No	N/A	The rule applies to "affected" facilities that are constructed, modified, or reconstructed after Aug 23, 2011: 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. This facility does not contain any "affected" facilities. This regulation is not applicable to this facility.
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	N/A	The rule applies to "affected" facilities that are constructed, modified, or reconstructed after September 18, 2015: 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. This facility does not contain any "affected" facilities. This regulation is not applicable to this facility.
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	Yes	PUMP-1	PUMP-1 is a diesel-fired firewater pump and is manufactured after July 1, 2006. Thus, this facility is subject to this regulation.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	Yes	ENG-1 & ENG-2	The new reciprocating engines are spark ignite internal combustion engines. Thus, this regulation is applicable to this facility.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No	N/A	The stationary combustion turbine (unit # PD-CTG-1) and the steam generating unit (unit # PD-DB-1) were constructed in 2005, prior to the January 8, 2014 applicability date of this regulation (§60.5508).

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No	N/A	The stationary combustion turbine (unit # PD-CTG-1) and the steam generating unit (unit # PD-DB-1) that could potentially be affected by this regulation were constructed in 2005, prior to the January 8, 2014 applicability date (§60.5710).
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No	N/A	This facility is a power generation plant. Thus, this regulation is not applicable to this regulation.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	N/A	No other Subpart in 40 CFR 61 applies.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for **Mercury**	No	N/A	This regulation establishes a national emission standard for mercury. The facility does not have stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge [40 CFR Part 61.50]. The facility is not subject to this regulation.
NESHAP 40 CFR 61 Subpart V	National Emission Standards for **Equipment Leaks** (Fugitive Emission Sources)	No	N/A	This regulation establishes national emission standards for equipment leaks (fugitive emission sources). The facility does not have equipment that operates in volatile hazardous air pollutant (VHAP) service [40 CFR Part 61.240]. The regulated activities subject to this regulation do not take place at this facility. The facility is not subject to this regulation.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	ENG-1 & ENG-2	ENG-1 & ENG-2 are subject to 40 CFR Part 63 Subpart ZZZZ.
MACT 40 CFR 63.760 Subpart HH	**Oil and Natural Gas Production Facilities**	No	N/A	This facility is a power generation plant and does not have any applicable units defined in this regulation. Thus, this regulation is not applicable to this regulation.
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No	N/A	This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards. However, Bluffview Power Plant does not operate any boilers or process heaters that would be subject to this regulation.
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric	No	N/A	The Bluffview Power Place does not utilize coal or oil-fired utility steam generating units that would be applicable under this subpart, therefore this regulation does not apply.

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
	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	ENG-1 & ENG-2	ENG-1 & ENG-2 are internal combustion engines. The facility will comply with this regulation via being in compliance with 40 CFR 60 Subpart JJJJ.
40 CFR 64	**Compliance Assurance Monitoring**	No	N/A	PTE emissions from this facility are permitted at less than Part 70 Title V major source thresholds. CAM applies only to Title V Major Sources. After the requested modification the facility will become a major Title V source. The facility is subject to Part 70 permitting because it is an acid rain source (20.2.70.200.A and C NMAC).
40 CFR 68	**Chemical Accident Prevention**	No	N/A	This facility does not store more than a threshold quantity of a regulated substance in a process (§68.115).
Title IV – Acid Rain 40 CFR 72	**Acid Rain**	Yes	PD-CTG-1, PD-DB-1, ENG-1, and ENG-2	The generator (PD-CTG-1) at this facility is new and greater than 25 MW total and thus, an affected unit (§72.6(a)).
Title IV – Acid Rain 40 CFR 73	**Sulfur Dioxide** Allowance Emissions	Yes	PD-CTG-1, PD-DB-1, ENG-1, and ENG-2	This facility is subject to this requirement as an affected unit (PD-CTG-1, PDDB-1, ENG-1, & ENG-2) pursuant to §72.6 (§73.2(a)).
Title IV-Acid Rain 40 CFR 75	**Continuous Emissions Monitoring**	Yes	PD-CTG-1 & PD-DB-1	This facility is subject to this requirement as an affected unit (PD-CTG-1 & PDDB-1) pursuant to §72.6 (§75.2(a)).
Title IV – Acid Rain 40 CFR 76	**Acid Rain** Nitrogen Oxides **Emission Reduction Program**	No	N/A	The potentially affected units (PD-CTG-1 & PD-DB-1) are natural gas fired and not coal-fired (§76.1).
Title VI – 40 CFR 82	Protection of **Stratospheric Ozone**	No	N/A	This facility does not produce, manufacture, transform, destroy, import, or export ozone-depleting substances; does not maintain or service motor vehicle air conditioning units or refrigeration equipment; and does not sell, distribute, or offer for sale or distribution any product that contains ozone-depleting substances.

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.

Startup and shutdown procedures are performed according to guidelines, which dictate proper procedural sequence to minimize emissions from the facility during such activities.

Equipment located at the plant is equipped with various safety devices that aid in preventing excess emissions to the atmosphere in the event of an operational emergency. In the event of a malfunction, startup, shutdown, or scheduled maintenance in which emission rates from the facility exceed permitted allowable emissions, the Farmington Electric Utility Systems will notify the AQB in accordance with 20.2.7 NMAC and the equipment responsible for the exceedance will be repaired as soon as possible.

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.

There will be no alternative operation scenarios are being requested for the existing facility.

Section 16

Air Dispersion Modeling

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

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

Check each box that applies:

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

Universal Application 4

Air Dispersion Modeling Report

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

16-A: Identification

1	Name of facility:	Bluffview Power Plant
2	Name of company:	City of Farmington
3	Current Permit number:	NSR 2831-M2R1
4	Name of applicant's modeler:	Mingcheng Ren
5	Phone number of modeler:	505.266.6611
6	E-mail of modeler:	mingcheng.ren@trinityconsultants.com

16-B: Brief

1	Was a modeling protocol submitted and approved?	Yes☒	No☐
2	Why is the modeling being done?	Adding New Equipment	
3	Describe the permit changes relevant to the modeling.		
	The proposed modification to the Bluffview Power Plant consists of the installation of two (2) new natural gas-fired reciprocating internal combustion engines (RICE) manufactured by Wartsila, rated at 9 megawatts each for a total of nominal 18 megawatts electrical demand (ENG-1 and ENG-2). Each new engine will be equipped with a selective catalytic reduction system to reduce emissions of nitrogen oxides and an oxidation catalyst system to reduce emissions of carbon monoxide and volatile organic compounds. A new 350-horsepower diesel engine-driven fire water pump will also be installed for fire protection during emergencies (exempt from modeling).		

4	What geodetic datum was used in the modeling?	WGS84	
5	How long will the facility be at this location?	Permanent	
6	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	Yes☐	No☒
7	Identify the Air Quality Control Region (AQCR) in which the facility is located	014	
8	List the PSD baseline dates for this region (minor or major, as appropriate).		
	NO_2	6/6/1989	
	SO_2	8/7/1978	
	PM_{10}	8/7/1978	
	$PM_{2.5}$	Not Established	
9	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits).		
	N/A 53.30 km Mesa Verde National Park		
10	Is the facility located in a non-attainment area? If so describe below	Yes☐	No☒
11	Describe any special modeling requirements, such as streamline permit requirements.		
	N/A		

16-C: Modeling History of Facility

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

1

Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
CO	N/A	N/A	N/A
NO_2	N/A	N/A	N/A
SO_2	N/A	N/A	N/A
H_2S	N/A	N/A	N/A
$PM_{2.5}$	P228R1	June 11, 2013	Per Eric Peters' email, the latest permit numbers are 2831M2 (withdrawn) and P228R1. The 2831M2 action had no modeling report and was withdrawn.
PM_{10}	N/A	N/A	N/A
Lead	N/A	N/A	N/A
Ozone (PSD only)	N/A	N/A	N/A
NM Toxic Air Pollutants (20.2.72.402 NMAC)	N/A	N/A	N/A

16-D: Modeling performed for this application

1

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

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

16-E: New Mexico toxic air pollutants modeling

1

List any New Mexico toxic air pollutants (NMTAPs) from Tables A and B in 20.2.72.502 NMAC that are modeled for this application.
N/A

2

List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required.

Pollutant	Emission Rate (pounds/hour)	Emission Rate Screening Level (pounds/hour)	Stack Height (meters)	Correction Factor	Emission Rate/ Correction Factor
N/A	N/A	N/A	N/A	N/A	N/A

16-F: Modeling options

1

Was the latest version of AERMOD used with regulatory default options? If not explain below.	Yes☒	No☐
N/A		

16-G: Surrounding source modeling

1

Date of surrounding source retrieval	4/24/2023

2

If the surrounding source inventory provided by the Air Quality Bureau was believed to be inaccurate, describe how the sources modeled differ from the inventory provided. If changes to the surrounding source inventory were made, use the table below to describe them. Add rows as needed.

AQB Source ID	Description of Corrections
	Please find the description of the changes in the attachment with UA4.

16-H: Building and structure downwash

1	How many buildings are present at the facility?	24	
2	How many above ground storage tanks are present at the facility?	0	
3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes☒	No☐
4	Building comments	N/A	

16-I: Receptors and modeled property boundary

1	"Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility. Describe the fence or other physical barrier at the facility that defines the restricted area.					
	The facility will install a fence line for the restricted area.					
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?				Yes☐	No☒
3	Are restricted area boundary coordinates included in the modeling files?				Yes☒	No☐
4	Describe the receptor grids and their spacing. The table below may be used, adding rows as needed.					
	Grid Type	Shape	Spacing (m)	Start distance from restricted area or center of facility	End distance from restricted area or center of facility	Comments
	Fenceline	Fenceline	25	-	-	-
	Discrete	Circular	50	0	800	Very fine grid
	Discrete	Circular	100	800	3000	Fine grid
	Discrete	Circular	250	3000	6000	Medium grid
	Discrete	Circular	500	6000	10000	Coarse grid
	Discrete	Circular	1000	10000	50000	Very coarse grid
5	Describe receptor spacing along the fence line.					
	The facility fenceline was modeled using 25-meter grid spacing.					
6	Describe the PSD Class I area receptors.					
	PSD Class I modeling is not required.					

16-J: Sensitive areas

1	Are there schools or hospitals or other sensitive areas near the facility? If so describe below. This information is optional (and purposely undefined) but may help determine issues related to public notice.	Yes☐	No☒
3	The modeling review process may need to be accelerated if there is a public hearing. Are there likely to be public comments opposing the permit application?	Yes☐	No☒

16-K: Modeling Scenarios

1	Identify, define, and describe all modeling scenarios. Examples of modeling scenarios include using different production rates, times of day, times of year, simultaneous or alternate operation of old and new equipment during transition periods, etc. Alternative operating scenarios should correspond to all parts of the Universal Application and should be fully described in Section 15 of the Universal Application (UA3).		
	The modeled facility operates 24 hours a day, 7 days a week, and 8760 hours a year.		
2	Which scenario produces the highest concentrations? Why?		
	N/A		
3	Were emission factor sets used to limit emission rates or hours of operation? (This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.)	Yes☐	No☒
4	If so, describe factors for each group of sources. List the sources in each group before the factor table for that group. (Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.) Sources: N/A		

5

Hour of Day	Factor	Hour of Day	Factor								
1		13									
2		14									
3		15									
4		16									
5		17									
6		18									
7		19									
8		20									
9		21									
10		22									
11		23									
12		24									

If hourly, variable emission rates were used that were not described above, describe them below.

N/A

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

16-L: NO_2 Modeling

1	Which types of NO_2 modeling were used? Check all that apply.	
	☒	ARM2
	☐	100% NO_X to NO_2 conversion
	☐	PVMRM
	☐	OLM
	☐	Other:
2	Describe the NO_2 modeling.	
	Following NMED AQB's Modeling Guidelines, for 1-hour NO_2, the entire facility was modeled and the 98th percentile 1-hour background concentration was added to the high 8th high modeled value to compare to the design value. For annual NO_2, the entire facility was modeled, and the annual background concentration was added to the high first high to compare to the design value. For annual NO_2 PSD, the monitored background value was added to the modeled high first high value from the facility as a conservative approach to the increment consumption.	
3	Were default NO_2/NO_X ratios (0.5 minimum, 0.9 maximum or equilibrium) used? If not describe and justify the ratios used below.	Yes☒ / No☐
4	Describe the design value used for each averaging period modeled.	
	1-hour: High eighth high Annual: Other (Describe): 5-year annual average	

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.	
	☐	PM2.5
	☐	PM10
	☒	None
2	Describe the particle size distributions used. Include the source of information.	
	N/A	
3	Does the facility emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2? Sources that emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2 are considered to emit significant amounts of precursors and must account for secondary formation of PM2.5.	Yes☒ / No☐
4	Was secondary PM modeled for PM2.5?	Yes☐ / No☒
5	If MERPs were used to account for secondary PM2.5 fill out the information below. If another method was used describe below.	

NO_X (ton/yr)	SO_2 (ton/yr)	$[PM2.5]_{annual}$	$[PM2.5]_{24\text{-hour}}$
117.28	15.33	0.000599	0.00483

16-N: Setback Distances

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

16-O: PSD Increment and Source IDs

1	The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. Do these match? If not, provide a cross-reference table between unit numbers if they do not match below.	Yes☐	No☒
	Unit Number in UA-2	Unit Number in Modeling Files	
	PD-CT-1 is the cooling tower unit that consists of 12 individual cells. This unit will be modeled as 12 point-sources.	PDCT1_1 through PDCT1_12	
2	The emission rates in the Tables 2-E and 2-F should match the ones in the modeling files. Do these match? If not, explain why below.	Yes☒	No☐
3	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?	Yes☐	No☒
4	Which units consume increment for which pollutants?		
	All units consume increments for NO_2, SO_2, and PM_{10} at this facility ($PM_{2.5}$ PSD baseline date not established for this region).		
5	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).	N/A	
6	Are all the actual installation dates included in Table 2A of the application form, as required? This is necessary to verify the accuracy of PSD increment modeling. If not please explain how increment consumption status is determined for the missing installation dates below.	Yes☒	No☐
	N/A		

16-P: Flare Modeling

1	For each flare or flaring scenario, complete the following			
	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)
	N/A	N/A	N/A	N/A

16-Q: Volume and Related Sources

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

16-R: Background Concentrations

1	Were NMED provided background concentrations used? Identify the background station used below. If non-NMED provided background concentrations were used describe the data that was used.	Yes☒	No☐
	CO: N/A		
	NO_2: Bloomfield (350450009)		
	PM2.5: Farmington Environment Department Office, 1FO, (350450019)		
	PM10: Bloomfield (350450009)		
	SO_2: Bloomfield(350450009)		
	Other:		
	Comments: N/A		
2	Were background concentrations refined to monthly or hourly values? If so describe below.	Yes☐	No☒
	N/A		

16-S: Meteorological Data

1	Was NMED provided meteorological data used? If so select the station used. Four Corners (Bloomfield) 2015-2019	Yes☒	No☐
2	If NMED provided meteorological data was not used describe the data set(s) used below. Discuss how missing data were handled, how stability class was determined, and how the data were processed.		
	N/A		

16-T: Terrain

1	Was complex terrain used in the modeling? If not, describe why below.	Yes☒	No☐
2	What was the source of the terrain data?		
	USGS - TNM Download (v2.0) https://apps.nationalmap.gov/downloader/ (1 arc-second DEM)		

16-U: Modeling Files

1 Describe the modeling files:

File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
Bluffview_CO SIL_v3 2023-0510 MR	CO	SIA
Bluffview_NO2 SIL_v3 2023-0510 MR	NO_2	SIA
Bluffview_PM10 SIL_v3 2023-0510 MR	PM_{10}	SIA
Bluffview_PM25 SIL_v3 2023-0510 MR	$PM_{2.5}$	SIA
Bluffview_SO2 SIL_v3 2023-0510 MR	SO_2	SIA
Bluffview_NO2 CIA 1hr_2023-0530 MR	NO_2	Cumulative analysis
Bluffview_PM10 CIA 24HR 2023-0530 MR	PM_{10}	Cumulative analysis, Class II PSD
Bluffview_PM25 24HR CIA 2023-0530 MR	$PM_{2.5}$	Cumulative analysis
Bluffview_PM25 annual CIA 2023-0530 MR	$PM_{2.5}$	Cumulative analysis
Bluffview_SO2 CIA 1HR_2023-0530 MR	SO_2	Cumulative analysis

16-V: PSD New or Major Modification Applications

1	A new PSD major source or a major modification to an existing PSD major source requires additional analysis. Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)?	Yes☐	No☒
2	If not, did AQB approve an exemption from preconstruction monitoring?	Yes☐	No☐

3	Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption.		
	N/A		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC.		
	N/A		
5	If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? If so describe below.	Yes☐	No☐
	N/A		

16-W: Modeling Results

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

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
CO 8-hr SIL	37.36	-	-	-	-	500	7.5%	748649.0	4065977.0	5487.8
CO 1-hr SIL	80.90	-	-	-	-	2000	4.0%	748949.0	4065977.0	5487.5
NO_2 Annual SIL	0.82	-	-	-	-	1	81.5%	748649.0	4065977.0	5487.8
NO_2 24-hr SIL	9.05	-	-	-	-	5	Significant	748649.0	4065977.0	5487.8
NO_2 1-hr SIL	35.46	-	-	-	-	7.52	Significant	748949.0	4065977.0	5487.5
$PM_{2.5}$ Annual SIL	0.70	-	-	-	-	0.2	Significant	748649.0	4065977.0	5487.8
$PM_{2.5}$ 24-hr SIL	4.57	-	-	-	-	1.2	Significant	748649.0	4065977.0	5487.8
PM_{10} Annual SIL	0.70	-	-	-	-	1	70.5%	748649.0	4065977.0	5487.8
PM_{10} 24-hr SIL	7.82	-	-	-	-	5	Significant	748649.0	4065977.0	5487.8
SO_2 Annual SIL	0.19	-	-	-	-	1	19.3%	748649.0	4065977.0	5487.8
SO_2 24-hr SIL	2.14	-	-	-	-	5	42.8%	748649.0	4065977.0	5487.8
SO_2 3-hr SIL	6.71	-	-	-	-	25	26.8%	748949.0	4065977.0	5487.5
SO_2 1-hr SIL	8.38	-	-	-	-	7.8	Significant	748949.0	4065977.0	5487.5

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (ft)
NO_2 1-hr NAAQS	35.35	-	-	61.40	96.75	188.03	51%	749249.0	4065677.0	5621.8
$PM_{2.5}$ Annual NAAQS	1.018	2.573	0.00060	4.19	6.76	12	56%	748499.0	4067127.0	5286.3
$PM_{2.5}$ 24-hr NAAQS	3.51	7.04	0.00483	11.77	18.81	35	54%	749049.0	4065077.0	5522.3
PM_{10} 24-hr NAAQS	7.77	10.70	-	66.00	76.70	150	51%	748649.0	4065877.0	5491.8
SO_2 1-hr NAAQS	7.67	-	-	3.50	11.17	196.4	6%	748949.0	4065977.0	5487.5
PM_{10} 24-hr Class II PSD	7.77	8.43	-	-	8.43	30	28%	748649.0	4065977.0	5487.8

16-X: Summary/conclusions

1	A statement that modeling requirements have been satisfied and that the permit can be issued.
	This modeling analysis demonstrates that operation of the facility described in this report neither causes nor contributes to any exceedances of applicable air quality standards. The permit can be issued based on this modeling analysis.

Attachment: Description of the Changes for Surrounding Sources

Per emails from Eric Peters at NMED-AQB (05/31 - 06/01/2023), the following surrounding sources have been modified for this modeling.

Surrounding Sources ID	X UTM, m	Y UTM, m	Updated X UTM, m	Updated Y UTM, m
1177E1	234985.1	4069276	770352.1	4069334
1177E2	234955.1	4069294	770322.1	4069352
1177E3	235015.1	4069294	770382.1	4069352
1177E4	234908.1	4069112	770275.1	4069170
1177E5	234908	4069107	770275	4069165
1177E6	234907	4069101	770274	4069159
1177E7	324921.4	4069099	770288.4	4069157
1177E23	234984.1	4069193	770351.1	4069251
1177E24	234984.1	4069193	770351.1	4069251
1177E25	235062.6	4069310	770429.6	4069368
20138E9	232976.9	4054104	768343.9	4054162
1156E1	234294.8	4065681	769661.8	4065739
1156E3	234294.8	4065681	769661.8	4065739
1156E4	234294.8	4065681	769661.8	4065739
1156E7	234294.8	4065681	769661.8	4065739
1156E8	234284.9	4065691	769651.9	4065749
1156E9	234294.8	4065681	769661.8	4065739
1156E10	234294.8	4065681	769661.8	4065739
1156E18	234284.8	4065681	769651.8	4065739
1156E19	234294.8	4065681	769661.8	4065739
1156R3	234420.1	4065411	769787.1	4065469
1156R13	234413.3	4065418	769780.3	4065476
1158E6	235995.3	4062181	771362.3	4062239
1158E15	235995.3	4062181	771362.3	4062239
1158E16	235995.3	4062181	771362.3	4062239
1158E29	235995.3	4062181	771362.3	4062239
1158E31	235305.9	4062309	770672.9	4062367
1158E35	235312.9	4062304	770679.9	4062362
1158E50	235321.5	4062306	770688.5	4062364
1158E51	235327.2	4062313	770694.2	4062371
1158E81	235995.3	4062181	771362.3	4062239
1158E83	235995.3	4062181	771362.3	4062239
1158E93	235995.3	4062181	771362.3	4062239
1158E72	235302.9	4062322	770669.9	4062380
1158E88	235995.3	4062181	771362.3	4062239
1158E90	235995.3	4062181	771362.3	4062239
1158E91	235995.3	4062181	771362.3	4062239
1158E92	235995.3	4062181	771362.3	4062239

1147E1	235519.3	4069258	770886.3	4069316
1147E2	235519.3	4069258	770886.3	4069316
1147E3	235519.3	4069258	770886.3	4069316
1147E4	235519.3	4069258	770886.3	4069316
1147E5	235519.3	4069258	770886.3	4069316
1147E6	235519.3	4069258	770886.3	4069316
1147E7	235519.3	4069258	770886.3	4069316
1147E9	235519.3	4069258	770886.3	4069316
1147E10	235519.3	4069258	770886.3	4069316
1147E11	235519.3	4069258	770886.3	4069316
1147E12	235519.3	4069258	770886.3	4069316
1147E13	235519.3	4069258	770886.3	4069316
1147E17	235489.2	4069279	770856.2	4069337
1147E19	235449.2	4069144	770816.2	4069202
1147E20	235449.2	4069139	770816.2	4069197
1147E21	235449.3	4069134	770816.3	4069192
1147E23	235435.2	4069261	770802.2	4069319
1147E24	235435.2	4069261	770802.2	4069319
1147E25	235435.2	4069261	770802.2	4069319
1147E28	235595.3	4069181	770962.3	4069239
1147E14	235519.3	4069258	770886.3	4069316
1182E1	236015.2	4068965	771382.2	4069023
1182E10	236104.4	4068883	771471.4	4068941
1182E11	236104.4	4068883	771471.4	4068941
1182E12	236149.4	4068883	771516.4	4068941
1182E14	236191.5	4069077	771558.5	4069135
1182E15	236191.5	4069077	771558.5	4069135
1182E16	236083.4	4069071	771450.4	4069129
1182E18	236172.4	4069071	771539.4	4069129
1182E19	236082.4	4069071	771449.4	4069129
1182E20	236127.4	4069071	771494.4	4069129
1182E23	235995.4	4069181	771362.4	4069239
1182E24	235995.4	4069181	771362.4	4069239
1182E25	235995.4	4069181	771362.4	4069239
1182E28	235995.4	4069181	771362.4	4069239
1182E29	236165.4	4069206	771532.4	4069264
1277E1	237355.7	4069548	772722.7	4069606
1277E2	237355.7	4069560	772722.7	4069618
1277E35	237321.7	4069604	772688.7	4069662
1277E40	237340.7	4069586	772707.7	4069644
1277E10	772691.9	4069684	1308059	4069742
1277E11	772707.7	4069644	1308075	4069702
1277E32	237359.8	4069665	772726.8	4069723

1277E33	237312.7	4069665	772679.7	4069723
1192E4	236721.6	4068747	772088.6	4068805
1192E10	236721.6	4068747	772088.6	4068805
1192E12	236721.6	4068747	772088.6	4068805
1192E13	236721.5	4068737	772088.5	4068795
3552E6	235528.4	4069289	770895.4	4069347
3552E7	235536	4069296	770903	4069354
3552E8	235529.2	4069299	770896.2	4069357
3552R7	235521.6	4069297	770888.6	4069355
3552R7	235521.6	4069297	770888.6	4069355
89E39401	233877.7	4064688	769244.7	4064746
24976E1	234109.8	4070070	769476.8	4070128
Facility - 26718	-	-	761649.0	4072401
Facility - 25854	-	-	770872.0	4069765

AIR DISPERSION MODELING PROTOCOL

NSR Significant Revision Modeling Protocol

Farmington Electric Utility Systems
Bluffview Power Plant

Prepared By:

Mingcheng Ren – Consultant

TRINITY CONSULTANTS
9400 Holly Avenue NE
Building 3, Suite B
Albuquerque, NM 87122
(505) 266-6611

May 2023

Project 233201.0026

Trinity Consultants

1. INTRODUCTION

1.1 Purpose of Modeling

Bluffview Power Plant (the facility) is a steam electric generating facility owned and operated by Farmington Electric Utility Systems (FEUS). The facility is located approximately 3.5 miles southwest of Farmington, in San Juan County.

FEUS is submitting an application pursuant to 20.2.72.219.D.1.a NMAC for the Significant Revision of the NSR Permit. FEUS proposes to install the new generation at the City of Farmington's existing Bluffview Power Plant (current operating permit No. P228-R2, NSR permit No. 2831M2R1). The proposed modification to the Bluffview Power Plant consists of the installation of two (2) new natural gas-fired reciprocating internal combustion engines (RICE) manufactured by Wartsila, rated at 9 megawatts each for a total of nominal 18 megawatts electrical demand (ENG-1 and ENG-2). Each new engine will be equipped with a selective catalytic reduction system to reduce emissions of nitrogen oxides and an oxidation catalyst system to reduce emissions of carbon monoxide and volatile organic compounds. A new 350-horsepower diesel engine-driven fire water pump will also be installed for fire protection during emergencies (exempt from modeling).

FEUS seeks to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS), New Mexico Ambient Air Quality Standards (NMAAQS), and PSD Increment standards as applicable for the following pollutants and averaging periods: NO_2 (1-hour and annual), CO (1-hour and 8-hour), SO_2 (1-hour, 3-hour, 24-hour, and annual), $PM_{2.5}$ (24-hour and annual), and PM_{10} (24-hour and annual).

1.2 Facility Description and Location

The approximate UTM coordinates of the facility are 748,748 meters east and 4,067,078 meters north with WGS84 datum Zone 12 at an elevation of approximately 5,285 feet above mean sea level.

2. PROPOSED MODELING

2.1 Model Input Options

The latest version of the AERMOD dispersion model (version 22112) will be used for this analysis. The model will be run in regulatory mode with all default options. The ARM2 method will be used to convert NO_X to NO_2. Default minimum and maximum ambient ratios will be utilized.

Table 1 shows the emission sources and stack parameters for the facility including the new units (ENG-1 and ENG-2, PD-CTG-1 + PD-DB-1, and PD-CT-1). The modeled scenario represents the most conservative emission conditions.

Table 1- Emission sources and stack parameters to be included in the air dispersion modeling.

Unit Number	NO_x lb/hr	CO lb/hr	SO_x lb/hr	PM_{10} lb/hr	$PM_{2.5}$ lb/hr	H_2S lb/hr	Height ft	Temp F	Velocity ft/s	Diam. ft
ENG-1	2.46	4.92	0.44	1.61	1.61	-	70	616	22.76	4
ENG-2	2.46	4.92	0.44	1.61	1.61	-	70	616	22.76	4
PD-CTG-1 + PD-DB-1	23.43	23.50	2.62	12.83	12.83	-	70	269	37.95	13
PD-CT-1*	-	-	-	0.19	0.19	-	20	100	31.30	13

*PD-CT-1 is the cooling tower unit that consists of 12 individual cells. This unit will be modeled as 12 point-sources.

A downwash analysis using the latest version of BPIP will be conducted and incorporated into the modeling analysis to account for potential effluent downwash due to structures at the facility.

2.2 Receptor Grid Description and Elevation Data

The center point of the facility will be designated at 748,749 meters east and 4,067,077 meters north. This center point will serve as the center point for a variable-density circular receptor grid. The facility fenceline will be modeled using 25-meter grid spacing. A 50-meter grid spacing will extend out to 800 meters in each direction from the facility center point for a very fine grid resolution. A 100-meter grid spacing will extend from 800 meters to 3,000 meters in each direction for a fine grid resolution. A 250-meter grid spacing will extend from 3,000 meters to 6,000 meters in each direction for a medium grid resolution. A 500-meter grid spacing will extend from 6,000 meters to 10,000 meters in each direction for a coarse grid resolution. A 1000-meter grid spacing will extend from 10,000 meters to 50,000 meters in each direction for a very coarse grid resolution. It is expected that the highest impacts from the proposed source will be at or near the facility property.

The elevations of receptors and facility sources will be determined using the most recent NED data currently available obtained from USGS (1 arc-second DEM).

2.3 Meteorological Data

We will use the Bloomfield dataset for five meteorological years (2015-2019) available on the NMED website. As the site is in San Juan County, the Bloomfield dataset is the most representative location for the meteorological conditions of the facility.

2.4 Significance Analysis (SIL) and Cumulative Impact Analysis (CIA)

The modeled ground-level concentrations will be compared to the corresponding significant impact levels (SILs) to determine whether any modeled ground-level concentrations at any receptor locations are greater than the SIL (i.e., "significant" receptors). If the significance analysis reveals that modeled ground-level concentrations for a particular pollutant and averaging period are greater than the applicable SIL, a Cumulative Impact Analysis (CIA) will be performed at the significant receptors. The CIA will include impacts from the facility sources and background concentrations/surrounding sources if applicable.

If necessary,

- The background concentration used for NO_2 will be from the Bloomfield-Patrol District 162 Hwy 544 Monitor (1ZB).
- The background concentration for $PM_{2.5}$ will be the 3400 Messina Dr. Suite 5000, Farmington, NM 87402 Monitor (1FO).
- The background concentration for PM_{10} will be the Bloomfield-Patrol District 162 Hwy 544 Monitor (1ZB).
- The background concentration for SO_2 will be the Bloomfield-Patrol District 162 Hwy 544 Monitor (1ZB).

The inclusion of background concentrations will follow the guidance shown in Table 20: "Modeling the Design Value Summary (Default Modeling)" from the Modeling Guidelines.

For SO_2 modeling, based on the NMED Modeling Guidelines, since the facility is not in the Pecos-Permian Basin Intrastate AQCR (AQCR 155), we will either model the facility and surrounding sources or use representative background concentration.

For $PM_{2.5}$ and PM_{10} modeling, we will include modeling the facility and nearby sources and adding secondary formation (if applicable) and a background concentration. For modeling nearby sources, all sources within 10 km of the facility will be included in the model. An inventory of the surrounding sources will be obtained from the NMED's MergeMaster. Based on EPA's Guidance for $PM_{2.5}$ Permit Modeling and NMED'S Modeling Guidelines, sources that emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2 are considered to emit significant amounts of precursors. Sources with significant increases of $PM_{2.5}$ precursors must qualitatively and/or quantitatively account for the secondary formation of $PM_{2.5}$. The secondary formation of $PM_{2.5}$ will be calculated in this modeling following the NMED Modeling Guidelines.

2.5 PSD Increment Analysis

If the results of the ROI analysis for NO_X, SO_2, or PM_{10} indicate concentrations greater than significance levels, PSD increment analysis will be conducted for the appropriate averaging periods. If required, the PSD increment analysis will be conducted including all PSD increment consuming and expanding sources within 25 km of the facility, plus sources emitting over 1000 pounds per hour within 50 km of the facility. These surrounding sources' information will be obtained from NMED-AQB's MergeMaster. The predicted maximum concentrations will be compared to the appropriate Class II PSD Standard.

2.6 Class I Areas Analysis

The nearest Class I area is Mesa Verde National Park at 53.3 km from the facility. Class I area impacts are negligible for minor sources over 50 km from a Class I area. Modeling is not required.

From: Mustafa, Sufi A., ENV
To: Mingcheng Ren
Cc: bbanks@fmtn.org; awoods@fmtn.org; Peters, Eric, ENV; Adam Erenstein; Atiqur Rahman
Subject: RE: [EXTERNAL] Modeling Protocol: Farmington Electric - Bluffview Power Plant
Date: Wednesday, May 10, 2023 3:38:27 PM
Attachments: image002.png
image003.png

Mingcheng
This modeling protocol is acceptable.
Thank you.

Sufi A. Mustafa, Ph.D.
Manager Air Dispersion Modeling and Emission Inventory Section
New Mexico Environment Department's Air Quality Bureau
Office: (505) 629 6186
sufi.mustafa@state.nm.us
525 Camino de los Marquez
Suite 1
Santa Fe, New Mexico, 87505
https://www.env.nm.gov/air-quality/

"Innovation, Science, Collaboration, Compliance"

From: Mingcheng Ren <Mingcheng.Ren@trinityconsultants.com>
Sent: Wednesday, May 10, 2023 10:45 AM
To: Mustafa, Sufi A., ENV <sufi.mustafa@env.nm.gov>
Cc: bbanks@fmtn.org; awoods@fmtn.org; Peters, Eric, ENV <eric.peters@env.nm.gov>; Adam Erenstein <AErenstein@trinityconsultants.com>; Atiqur Rahman <Atiqur.Rahman@trinityconsultants.com>
Subject: [EXTERNAL] Modeling Protocol: Farmington Electric - Bluffview Power Plant

Good morning, Sufi,

I hope you are doing well. Attached is the modeling protocol for Farmington Electric – Bluffview Power Plant for your review.

Please contact me if you have any questions. Thank you.

Have a great day!

Best,
Mingcheng

Mingcheng Ren, Ph.D.
Consultant

9400 Holly Avenue NE, Building 3, Suite B, Albuquerque, NM 87122
Email: Mingcheng.Ren@trinityconsultants.com
(603)-866-0968

Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

Compliance Test History Table

Unit No.	Test Description	Test Date
PD-CTG-1 & PD-DB-1	Tested in accordance with EPA 40 CFR 75 Linearity Check and Relative Accuracy Test Audit (RATA) test methods for NO_X and CO as required by Title V permit P228-R1.	03/15/2017

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.

N/A – No other relevant information.

Section 22: Certification

Company Name: Farmington Electric Utility Systems

I, Britt D. Chesnut, 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 12 day of June, 2023, upon my oath or affirmation, before a notary of the State of New Mexico.

Britt D. Chesnut
*Signature

6/12/2023
Date

Britt D. Chesnut
Printed Name

Generation Manager
Title

Scribed and sworn before me on this 12th day of June, 2023.

My authorization as a notary of the State of New Mexico expires on the 20th day of March, 2024.

OFFICIAL SEAL
BEVERLY A. FARRELL
NOTARY PUBLIC - STATE OF NEW MEXICO
My commission expires: 3/20/24

Beverly A. Farrell
Notary's Signature

June 12, 2023
Date

Beverly A. Farrell
Notary's Printed Name

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