

NMED AIR QUALITY TITLE V RENEWAL APPLICATION

**New Mexico State University
NMSU – Las Cruces Campus**

Prepared By:
Andrew Kaczmarek – Assistant Director EHS&RM

NEW MEXICO STATE UNIVERSITY
PO Box 30001, Dept. 3578
Las Cruces, NM 88003
(575) 646-5428

Daniel Dolce - Consultant

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

December 2025

Project 0253201.5066





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

December 12, 2025

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

*RE: Application for Renewal to Title V Permit No. P172-R4
New Mexico State University Las Cruces Campus*

Dear Permit Programs Manager:

On behalf of New Mexico State University (NMSU), Trinity Consultants is submitting this application for a Title V Renewal for the New Mexico State University Las Cruces Campus. This facility is located in the southern Las Cruces, New Mexico in Doña Ana County. The facility is currently authorized to operate under TV Operating Permit P172-R4 and NSR Permit 1640-M1-R7.

Title V Permit P172-R4 expires on December 21, 2025. NMSU is submitting this application in accordance with 20.2.70.300.B.(2) NMAC, requiring a timely application for a Title V renewal be submitted at least 12 months prior to the date of permit expiration.

The format and content of this application are consistent with the Bureau's current policy regarding Title V renewal applications; it is a complete application package using the most current application forms. Enclosed is one original and one working hard copy of the application, including the original certification page. Electronic files shall be sent to NMED immediately upon request. Please feel free to contact me at (505) 266-6611 or by email at Daniel.Dolce@trinityconsultants.com if you have any questions regarding this application. Alternatively, you may contact Andrew Kaczmarek with NMSU at (575) 646-5428 or by email at Kaczmare@nmsu.edu.

Sincerely,

TRINITY CONSULTANTS

Daniel Dolce
Consultant

cc: Andrew Kaczmarek (New Mexico State University)
Trinity Project File 0253201.5066

HEADQUARTERS

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



Air Permit Application Compliance History Disclosure Form

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

Permittee/Applicant Company Name		Expected Application Submittal Date
New Mexico State University Las Cruces Campus		December 12, 2025
Permittee/Company Contact	Phone	Email
Andrew Kaczmarek	(575) 646-5428	Kaczmare@nmsu.edu
Within the 10 years preceding the expected date of submittal of the application, has the permittee or applicant:		
1	Knowingly misrepresented a material fact in an application for a permit?	☐ Yes ☒ No
2	Refused to disclose information required by the provisions of the New Mexico Air Quality Control Act?	☐ Yes ☒ No
3	Been convicted of a felony related to environmental crime in any court of any state or the United States?	☐ Yes ☒ No
4	Been convicted of a crime defined by state or federal statute as involving or being in restraint of trade, price fixing, bribery, or fraud in any court of any state or the United States?	☐ Yes ☒ No
5a	Constructed or operated any facility for which a permit was sought, including the current facility, without the required air quality permit(s) under 20.2.70 NMAC, 20.2.72 NMAC, 20.2.74 NMAC, 20.2.79 NMAC, or 20.2.84 NMAC?	☐ Yes ☒ No
5b	If "No" to question 5a, go to question 6. If "Yes" to question 5a, state whether each facility that was constructed or operated without the required air quality permit met at least one of the following exceptions: a. The unpermitted facility was discovered after acquisition during a timely environmental audit that was authorized by the Department; or b. The operator of the facility estimated that the facility's emissions would not require an air permit, and the operator applied for an air permit within 30 calendar days of discovering that an air permit was required for the facility.	☐ Yes ☐ No
6	Had any permit revoked or permanently suspended for cause under the environmental laws of any state or the United States?	☐ Yes ☒ No
7	For each "yes" answer, please provide an explanation and documentation.	

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

Universal Air Quality Permit Application

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

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

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

Acknowledgements:

- ☒ I acknowledge that a pre-application meeting is available to me upon request. ☒ Title V Operating, Title IV Acid Rain, and NPR applications have no fees.
- ☐ \$500 NSR application Filing Fee enclosed **OR** ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).
- ☐ Check No.: N/A
- ☒ I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.
- ☒ I acknowledge there is an annual fee for permits in addition to the permit review fee: www.env.nm.gov/air-quality/permit-fees-2/.
- ☐ This facility qualifies for the small business fee reduction per 20.2.75.11.C. NMAC. The full \$500.00 filing fee is included with this application and I understand the fee reduction will be calculated in the balance due invoice. The Small Business Certification Form has been previously submitted or is included with this application. (Small Business Environmental Assistance Program Information: www.env.nm.gov/air-quality/small-biz-eap-2/.)

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.70.300.B.(2) NMAC** (e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

Section 1 – Facility Information

Section 1-A: Company Information

		AI # if known (see 1 st 3 to 5 #s of permit IDEA ID No.): 144	Updating Permit/NOI #: P172-R4
1	Facility Name: New Mexico State University (NMSU) – Las Cruces Campus		Plant primary SIC Code (4 digits): 8221
			Plant NAIC code (6 digits): 611310
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): 1620 Standley Drive, ARC-C Room 109, PO Box 30001, Dept. 3578, Las Cruces, NM 88003-8001		
2	Plant Operator Company Name: NMSU, Victor Palafox		Phone/Fax: (575) 646-3192 / (575) 646-1399
a	Plant Operator Address: PO Box 30001, Dept. 3545, Las Cruces, NM 88003-8001		

b	Plant Operator's New Mexico Corporate ID or Tax ID: N/A	
3	Plant Owner(s) name(s): Board of Regents, NMSU	Phone/Fax: (575) 646-4745 / (575) 646-1399
a	Plant Owner(s) Mailing Address(s): PO Box 30001, Dept. 3545, Las Cruces, NM 88003-8001	
4	Bill To (Company): NMSU	Phone/Fax: (575) 646-3327 / (575)-646-7898
a	Mailing Address: PO Box 30001, Dept. 3578, Las Cruces, NM 88003-8001	E-mail: kaczmare@nmsu.edu
5	☐ Preparer: ☒ Consultant: Trinity Consultants, Inc.	Phone/Fax: (505) 266-6611/ N/A
a	Mailing Address: 9400 Holly Ave. NE, Bldg. 3, Ste. B, Albuquerque, NM 87122	E-mail: Daniel.Dolce@trinityconsultants.com
6	Plant Operator Contact: Victor Palafox	Phone/Fax: (575) 646-3192 / (575) 646-1399
a	Address: PO Box 30001, Dept. 3545, Las Cruces, NM 88003-8001	E-mail: VPalafox@nmsu.edu
7	Air Permit Contact: Andrew Kaczmarek	Title: Assistant Director EHS&RM
a	E-mail: Kaczmare@nmsu.edu	Phone/Fax: (575) 646-5428 / (575) 646-7898
b	Mailing Address: PO Box 30001, Dept. 3578, Las Cruces, NM 88003-8001	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? ☒ Yes ☐ No	1.b If yes to question 1.a, is it currently operating in New Mexico? ☒ Yes ☐ No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? ☐ Yes ☒ No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? ☒ Yes ☐ No
3	Is the facility currently shut down? ☐ Yes ☒ No	If yes, give month and year of shut down (MM/YY): N/A
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☒ Yes ☐ No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? ☐ Yes ☐ No ☒ N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? ☒ Yes ☐ No	If yes, the permit No. is: P-172-R4
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 1640-M1-R7
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: N/A	Daily: N/A	Annually: N/A
b	Proposed	Hourly: N/A	Daily: N/A	Annually: N/A
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: N/A	Daily: N/A	Annually: N/A
b	Proposed	Hourly: N/A	Daily: N/A	Annually: N/A

Section 1-D: Facility Location Information

1	Section: 28/29	Range: 2E	Township: 23S	County: Doña Ana	Elevation (ft): 3,900
2	UTM Zone: ☐ 12 or ☒ 13			Datum: ☐ NAD 27 ☐ NAD 83 ☒ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 334,910			UTM N (in meters, to nearest 10 meters): 3,572,790	
b	AND Latitude (deg., min., sec.): 32°16'47"			Longitude (deg., min., sec.): 106°45'11"	
3	Name and zip code of nearest New Mexico town: Las Cruces, NM 88001				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): From the New Mexico Environment Department Las Cruces Office, located at 2301 Entrada Del Sol, Las Cruces, NM 88001, head east on Entrada Del Sol and turn right onto Triviz Drive. Continue south for approximately 2.9 miles and turn right onto Wells Street. Proceed west for 0.5 miles and turn left onto Locust Street. Continue south for 0.2 miles and turn right onto Standley Drive. The Academic Building will be located on the left.				
5	The facility is located in the south portion of Las Cruces, NM.				
6	Status of land at facility (check one): ☐ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☒ Other: Government				
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: City of Las Cruces, NM; Doña Ana County, NM				
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/aqb/modeling/class1areas.html)? ☐ Yes ☒ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: N/A				
9	Name nearest Class I area: Gila Wilderness				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 147 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: AO is on a university campus.				
12	Method(s) used to delineate the Restricted Area: N/A "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: N/A			
4	Month and year of anticipated construction completion: N/A			
5	Month and year of anticipated startup of new or modified facility: N/A			
6	Will this facility operate at this site for more than one year? ☒ Yes ☐ No			

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ☒ No If yes, specify: N/A		
a	If yes, NOV date or description of issue: N/A	If yes, NOV date or description of issue: N/A	
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes ☒ No If Yes, provide the 1c & 1d info below:		
c	Document Title: N/A	Document Title: N/A	Document Title: 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: El Paso Electric. 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): Patrick Chavez		Phone: (575) 646-5956
a	R.O. Title: Executive Director of Energy Services	R.O. e-mail: PChavez@nmsu.edu	
b	R. O. Address: NMSU, P.O. Box 30001, Dept. 3545, Las Cruces, NM 88003-8001		
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): Polly Saenz		Phone: (575)-646-3327
a	A. R.O. Title: Executive Director EHS&RM	A. R.O. e-mail: PWagner@nmsu.edu	
b	A. R. O. Address: NMSU, P.O. Box 30001, Dept. 3578, Las Cruces, NM 88003-8001		
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.): N/A		
a	Address of Parent Company: N/A		
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): N/A		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: Victor Palafox (575) 646-3192 / Andrew Kaczmarek (575) 646-5428		

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: State of Texas, 32 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-toe 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.
- 3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two CD** copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a **single CD** submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB’s secure file transfer service.

Electronic files sent by (check one):

☐ CD/DVD attached to paper application

☒ secure electronic transfer. Air Permit Contact Name: Daniel Dolce, Email: Daniel.Dolce@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 #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/Reconstruction ²	Emissions vented to Stack #				
269-1	Boiler	Keeler	DS-10-10	14311-1	54.2 MMBtu/hr	54.2 MMBtu/hr	1965	N/A	10200602	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							1966	1				
269-2	Boiler	Keeler	DS-10-10	14311-2	54.2 MMBtu/hr	54.2 MMBtu/hr	1965	N/A	10200602	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							1966	2				
269-3	Boiler	Cleaver Brooks	CBI 700-500-150	0L101367	25.1 MMBtu/hr	25.1 MMBtu/hr	2001	N/A	10200602	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							12/6/2001	3				
269-4	Turbine	Solar Taurus	60-7301	OHI25-T1577	4.5 MW	4.5 MW	1996	N/A	20100201	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☒ To Be Modified ☐ To be Replaced	N/A	N/A
							1996	4				
237-1	Facilities and Services Paint Booth	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							N/A	N/A				
999-1	Chemical Inventory	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							N/A	N/A				
999-2	Agricultural Activities	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							N/A	N/A				
Engines	Various emergency generators	Please see Attachment A from TV Permit P172-R4 in Section 20 of this application for applicable information.								☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☒ To Be Modified ☐ To be Replaced	See Section 20	
										☐ 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 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 Activities¹ (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 20.2.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at <https://www.env.nm.gov/wp-content/uploads/sites/2/2017/10/InsignificantListTitleV.pdf>. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No.	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 One
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction ²	
N/A	Print Shops	N/A	N/A	N/A	20.2.72.202.A.1	Unknown	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	N/A	Item #1.a	Unknown	
N/A	Woodworking	N/A	N/A	N/A	20.2.72.202.A.1	Unknown	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	N/A	Item #1.a	Unknown	
N/A	Plating	N/A	N/A	N/A	20.2.72.202.A.1	Unknown	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	N/A	Item #1.a	Unknown	
N/A	Miscellaneous Equipment	N/A	N/A	N/A	20.2.72.202.A.1	Unknown	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	N/A	Item #1.a	Unknown	
N/A	Surface Coating	N/A	N/A	N/A	20.2.72.202.B.6	Unknown	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	N/A	Item #2	Unknown	
N/A	Natural gas fueled space heaters	Various	N/A	<5 MMBtu/hr	20.2.72.202.B.1.a	Unknown	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	N/A	Item #3	Unknown	
N/A	Distillate fueled space heaters	Various	N/A	<1 MMBtu/hr	20.2.72.202.B.1.b	Unknown	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	N/A	Item #4	Unknown	
N/A	Lubricating oil, chemical and solvent storage tanks, antifreeze storage and surge tanks, and similar tanks for substances having a vp < 10 mmHg	Unknown	N/A	N/A	20.2.72.202.B.2	Unknown	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	N/A	Item #5	Unknown	
N/A	Chemical storage tanks < 500 gallon capacity	Unknown	N/A	<500 gallons	N/A	Unknown	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	N/A	Item #5	Unknown	
N/A	Drums & barrels for lubricants, solvents, fuels, and various chemicals	Unknown	N/A	N/A	N/A	Unknown	☒ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
			N/A	N/A	Item #5	Unknown	
							☐ 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.

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 (c) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions.

[illegible]

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

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

[illegible]

Printed 11/24/2025 3:18 PM

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 ₂ S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
269-1*	6.00	26.20	5.00	22.00	0.32	1.40	0.040	0.20	0.50	2.00	0.50	2.00	-	-	-	-	-	-
269-2*	6.00	26.20	5.00	22.00	0.32	1.40	0.040	0.20	0.50	2.00	0.50	2.00	-	-	-	-	-	-
269-3*	3.50	15.20	2.30	10.20	0.15	0.67	0.017	0.10	0.30	1.50	0.21	0.92	-	-	-	-	-	-
269-4*	30.40	132.90	6.50	28.30	1.80	8.10	0.13	0.55	-	-	-	-	-	-	-	-	-	-
237-1*	-	-	-	-	-	14.70	-	-	-	-	-	-	-	-	-	-	-	-
999-1*	-	-	-	-	*	17.20	-	-	-	-	-	-	-	-	-	-	-	-
999-2*	-	-	-	-	*	7.30	-	-	*	39.10	*	19.60	-	-	-	-	-	-
Engines ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	45.80	200.60	18.90	82.60	2.70	50.90	0.21	1.00	1.20	44.60	1.20	24.50	-	-	-	-	-	-

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

²The emergency generators are exempt pursuant to 20.2.72.202.B.3; therefore, emissions are not represented.

* Emissions presented here as in 2016 NSR 1640-M1-R2 application.

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:

* The turbine will exhaust through the HRSG by-pass stack (stack 4) or by the main stack (stack 5).

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.

[illegible]

* Emissions presented here as in 2016 NSR 1640-M1-R2 application.

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
269-1	Natural Gas	Pipeline quality natural gas	905 Btu/scf	54.2 MMBtu/hr	524.6 MMscf	N/A	N/A
269-2	Natural Gas	Pipeline quality natural gas	905 Btu/scf	54.2 MMBtu/hr	524.6 MMscf	N/A	N/A
269-3	Natural Gas	Pipeline quality natural gas	905 Btu/scf	25.1 MMBtu/hr	243.1 MMscf	N/A	N/A
269-4	Natural Gas	Pipeline quality natural gas	905 Btu/scf	4.5 MW	512.7 MMscf	N/A	N/A

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

[illegible]

Table 2-L: Tank Data

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

[illegible]

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

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

Note: $1.00 \text{ bbl} = 0.159 \text{ M}^3 = 42.0 \text{ gal}$

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

[illegible]

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

[illegible]

Table 2-O: Parametric Emissions Measurement Equipment

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

[illegible]

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.

[illegible]

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 CO₂e 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.

New Mexico State University (NMSU) – Las Cruces is an education institution owned and operated by the State of New Mexico through the NMSU Board of Regents. The primary emitting units at this facility include three boilers and one combustion turbine. These stationary sources are used to produce electric power and steam for heating. Additional fugitive sources are also located on campus, such as an instructional chemistry lab and agricultural areas, which are associated with the educational aspects of the facility.

This is an application for renewal to Operating Permit P172-R4. The renewal application is being submitted in accordance with 20.2.70.300.B.2 NMAC. This application incorporates multiple permit administrative revisions submitted to the air quality bureau since the last TV renewal; NSR Permit No. 1640-M1-R3 in reference to the like-kind combustion turbine (Unit 269-4) engine unit replacement on January 29, 2021; NSR Permit No. 1640-M1-R4 in reference to the replacement of the Police Department Emergency Generator (Unit EG-PD) with a different emergency generator; NSR Permit No. 1640-M1-R5 in reference to the new Emergency Generator installed at the DACC Main Server Building (Unit EG-DA); NSR Permit No. 1640-M1-R6 in reference to the new Emergency Generator installed at the Biomedical Building (Unit EG-BI); NSR Permit No. 1640-M1-R7 in reference to the new generator installed at Computer Center (EG-CO); and NSR Permit No. 1640-M1-R8 in reference to the like-kind combustion turbine (Unit 269-4) engine unit replacement on October 9, 2025. As mentioned above, the facility's primary function is an educational institution, which includes a natural gas fueled turbine, three boilers, and other fugitive non-combustion sources. In accordance with the Department's policy, startup, shutdown, and maintenance (SSM) of the gas turbine and boilers do not result in SSM emissions from these units.

NMSU will operate in accordance with the Startup, Shutdown, and Maintenance (SSM) Plan (Document Number ADM-09-903) initially issued January 27, 2009, and updated on September 9, 2014, March 3, 2022, and November 5, 2025. Emissions during the routine or predictable SSM of process or air pollution control equipment are considered part of the normal operation of an emission source. The proper application of approved procedures for the startup, operation and maintenance of emission source units will ensure compliance within permitted operations. Applications for a new or revised permit must also include consideration of these emissions in each applicable aspect of the application. A copy of the 2025 SSM memo enacting the SSM plan is attached in this section.

November 5, 2025

TO: Memorandum For Record

FROM: Drew Kaczmarek, NMSU Assistant Director, EHS&RM *Drew Kaczmarek*

SUBJECT: NMED SSM Plan Documentation

By this memo, New Mexico State University (NMSU) is documenting that we have permitted air emissions equipment subject to routine or predictable startup, shutdown, or scheduled maintenance (SSM) pursuant to 20.2.7.15 NMAC.

A summary of our permitted equipment is:

- (1) Solar Gas Turbine Generator (Emission Unit 269-4)
- (2) Keeler Water Tube Package Boilers (Emission Units 269-1 and 269-2)
- (1) Cleaver-Brooks Fire Tube Package Boiler (Emission Unit 269-3)
- (20) Emergency Backup Generators

NMSU does not believe that a Title V or NSR permit revision is necessary at this time for emissions generated during routine or predictable SSM for the above equipment. NMSU does not believe the above equipment generates emissions in excess of current permit limits during SSM because:

1. NMSU has equipment of the type referenced in NMED "Guidance for Including Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance in Permit Applications" dated July 29, 2008 (see attached copy). The references for turbines and boilers state these types of equipment do not typically have excess emissions.
2. Automatic emission control technology is built into the NMSU equipment by the manufacturers.
3. Equipment is installed by the manufacturers and significant maintenance activities (for example turbine engine replacements) are performed by the manufacturers.
4. NMSU Central Plant staff follow manufacturer SOPs for the routine SSM of the equipment.
5. The NMSU turbine and boilers are only fired on pipeline quality natural gas (non-detect sulfur levels).
6. The NMSU turbine is annually tested by an outside contractor for emission levels.
7. The NMSU Central Plant Staff conducts monthly operational inspections for boilers 269-1 and 269-2 and 269-3. Records are kept of all inspection results.
8. Generally, when backup generators reach steady state operation (15 minutes after start-up) they will not generate excess emissions.

GUIDANCE FOR INCLUDING EMISSIONS DURING ROUTINE OR PREDICTABLE STARTUP, SHUTDOWN, AND SCHEDULED MAINTENANCE IN PERMIT APPLICATIONS

A. GENERAL CONSIDERATIONS

1. Emissions during the routine or predictable startup, shutdown, or scheduled maintenance (SSM) of process or air pollution control equipment are considered to be part of the normal operation of a source. Consequently, the application for a new or revised permit must include a consideration of these emissions in each applicable aspect of the application.

a) If SSM emissions can be estimated, the quantity of those emissions should be included in the application and dispersion modeling, unless otherwise exempted under 20.2.72.202 NMAC.

b) No exemptions apply to SSM emissions for applications submitted pursuant to 20.2.74 NMAC, so SSM emissions must be included in the BACT analysis.

c) If SSM emissions cannot be estimated, the source must have operational procedures to minimize these emissions.

2. Several general principles may be considered when evaluating SSM emissions:

a) Smaller units have shorter periods of startup or shutdown.

b) It is difficult to obtain reliable data regarding emissions due to the short duration and dynamic nature of startup and shutdown, the unavailability of manufacturer data, and the unavailability of EPA method tests for non-steady-state operation.

c) Short spikes may not cause an exceedance of an allowable limit when considered over the designated averaging time.

d) NO_x emissions may be lower due to cooler temperatures during startup.

e) Some control devices may not be operational or effective during SSM events.

f) Some emission limits include a margin of safety which may be sufficient to authorize SSM emissions.

B. CONSIDERATIONS FOR SPECIFIC TYPES EMISSION UNITS

1. Flares and Related Combustion Devices

Flares and similar combustion devices can emit significant SSM emissions, which can be calculated using the flow rate and gas composition. Examples in the oil and gas industry include

the use of a combustion device to control process gas from blow-down events, or the temporary use of a flare to control acid gas when a sulfur recovery unit is not operating.

2. Engines

a) Uncontrolled. Generally, engines are started at no load with a rich mixture. As a result, emissions during startup would be minimized. Moreover, because engines take only minutes to reach operating temperature, emissions during startup normally would not cause an exceedance of an allowable limit. Similarly, emissions during shutdown normally would not cause an exceedance of an allowable limit because fuel and air flow cease within seconds of shutdown. Finally, although scheduled maintenance typically would not cause an exceedance of an allowable emission limit, the owner or operator must evaluate the variables to determine the impact on emissions.

b) Controlled. In addition to the considerations for uncontrolled engines, the owner or operator must consider the uncontrolled emissions emitted while a catalytic converter reaches operating temperature. If the converter requires only a few minutes to reach effective temperature, these uncontrolled emissions are not likely to cause an exceedance of the allowable limits when included in the averaging time with controlled emissions.

3. Turbines

a) Uncontrolled. Like engines, turbines typically are started at no load with a rich mixture, with a similar effect on emissions. However, turbines have a larger air flow and longer warm-up period than engines, so owners and operators must consider the effect on emissions. While shutdown may be longer for turbines than engines because the blades will continue to spin after the fuel supply is cut off, emissions should be less than steady-state operation.

b) Controlled. Like engines, turbines may have uncontrolled emissions while a catalytic converter reaches operating temperature. Additionally, turbines may have other control devices, such as low-NO_x combustors, water injection, and ammonia injection, which may affect emissions during startup.

4. Heaters/Boilers

a) Uncontrolled. Most heaters/boilers start with less fuel input than during steady-state operation, so emissions should be lower than during steady-state operation. During shutdown, fuel supply may stop quickly, but air flow may not, causing the continued formation of NO_x. Even so, with no fuel NO_x formation should be less than during steady-state operation.

b) Controlled. Most heaters/boilers do not have control devices. When heaters/boilers have such devices, the principles described above should be applicable. Some heaters are used to dry products, and as a result, use control devices such as baghouses, scrubbers, and cyclones, to control particulate emissions. Generally, the efficiency of these

devices does not depend on the heater's operation, so the heater's emissions should be less than during steady-state operation.

C. PERMIT APPLICATIONS

1. Identification of Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance

It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. For those cases when a source can calculate SSM emissions, the permit application will contain a table describing the short term and long term emissions associated with SSM. The applicant will use this table to show, for each emissions unit and pollutant, each emission rate that exceeds the amount authorized during steady-state operation. For example, if the short term rate during steady-state operation is 5.0 lbs/hr, and the SSM rate is 12.0 lbs/hr, then the source will enter 7.0 lbs/hr in the table. If the long term rate during steady-state operation is 21.9 TPY, and the additional expected emissions during SSM is 10 TPY, after adjusting for the lack of emissions during the shutdown, then the permit applicant will enter 10 TPY in the table.

2. Permit Content

The table approach allows NMED to quickly identify the units with SSM emissions that must be modeled for compliance with ambient air quality standards. Until test methods are available, NMED may choose not to establish emission limits for short term SSM emissions, and instead will rely on work practice standards to minimize such emissions. Conversely, NMED intends to adjust long term emission limits to include SSM emissions, resulting in more accurate estimates of annual emissions and more appropriate Title V permit fees. NMED may impose requirements for monitoring, recordkeeping, and reporting to ensure compliance with long term limits.

Pursuant to existing authority, NMED may incorporate certain elements of the application into the permit.

The SSM emissions table will be an Excel spreadsheet which can be placed in NMED's TEMPO database. The TPY of emissions during SSM will be placed in a data field that is separate from the TPY for emissions during steady-state operation.

3. Dispersion Modeling

Applicants must conduct dispersion modeling for the total short term emissions using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. The modeled emission rate for each unit and pollutant will be the sum of emissions during steady state operation and SSM identified in the tables described above. In the earlier example, 12 lbs/hr (5 +7) would be the appropriate value. If an entire facility is shutdown for maintenance periodically, the modeling analysis will include the SSM emissions that exceed emissions during steady-state operation for all units at the facility. If the facility does not plan or

schedule shutdowns of the entire facility, then the applicant must determine whether any combination of units may experience shutdown or startup together, and model these SSM emissions with emissions during steady state operation for the remaining units at the facility.



NEW MEXICO STATE UNIVERSITY STANDARD OPERATING PROCEDURE	DOCUMENT NUMBER	
	ADM-09-903	
	Date Created	27 Jan 09
STARTUP, SHUTDOWN & MAINTENANCE (SSM) PLAN (Per NMED Requirement)	Date Reviewed	Arden Hegmann Final 27 JAN 09

I. General -Emissions during the routine or predictable startup, shutdown, or maintenance (SSM)

of process or air pollution control equipment are considered to be part of the normal

operation of an emission source. The proper application of approved procedures for the

startup, operation and maintenance of emission source units will ensure compliance

within permitted operations. Applications for a new or revised permit must also include a

consideration of these emissions in each applicable aspect of the application.

II. References

A. Solar® Gas Turbine Generator

1. Solar System Operator's Guide Volume I, Section 1 thru 4
2. Solar System Operator's Guide Volume I, Safety Requirements S.1 thru S.14
3. Operating Permit No.172-R1
4. NMED Custom Fuel Monitoring Schedule for Stationary Gas Turbines Subject To 40 CFR Part 60 Subpart GG
5. Standard Operating Procedures CUP-02-200 thru CUP-02-208

B. Keeler Water Tube Package Boilers (2)

1. Keeler DS-10-10 Package Water Tube Boilers Manufacturers Manual
2. Operating Permit No.172-R1
3. Standard Operating Procedures CUP-01-100 and CUP-01-101

C. Cleaver-Brooks Firtube Package Boller

1. Cleaver Brooks Model CB, CB-LE Packaged Boiler Manufacturers Operation Manual
2. Cleaver Brooks Induced Flue Gas Recirculation (LE Option) Addendum
3. Operating Permit No.172-R1
4. Standard Operating Procedure CUP-01-102

III. Emission Units – Emission units within the scope of the SSM plan include three high pressure

boilers and one gas turbine unit, each fired utilizing high pressure pipeline quality natural gas.

A. Solar® Gas Turbine Generator Set (Emission Unit 269-4)

1. The Gas Turbine Generator is a Solar Taurus 60-T7300 industrial gas turbine.
2. The unit incorporates the Solar dry low NOx fuel combustion system **SoloNOx®** for the reduction of Nitric Oxide (NO), Nitrogen Dioxide (NOx) and Carbon Monoxide (CO) without the need for water injection or catalytic conversion.

B. Keeler Water Tube Package Boiler (Emission Units 269-1 and 269-2)

1. The Keeler boilers are high pressure water tube package boiler manufactured by E. Keeler Company. Each boiler capacity is rated at 44,000 lb/hr firing on natural gas.
2. Air-fuel ratio for correct burner management is provided by a Faber Air Register Burner Unit and a Neles-Jamesbury fuel gas control unit.
3. Excess O2 monitoring is provided by Rosemount Oxymitter™ 4000 analytical process transmitters.

C. Cleaver-Brooks Firetube Package Boiler (Emission Unit 269-3)

1. This boiler is a high pressure Model CBI 700 500 150 fire tube package boiler with IFGR (Induced Flue Gas Recirculation) system with LE (Low Emission) Option manufactured by Cleaver Brooks.
2. As noted within the package description the unit incorporates the IFGR system with the Low Emission Option for the reduction of Nitric Oxide (NO), Nitrogen Dioxide (NOx) and Carbon Monoxide (CO).

IV. Operations –

A. Solar® Gas turbine Generator

1. All startups, operations and shutdowns of the unit are accomplished only by approved

Standard Operating Procedures incorporating all manufacturers' references and safety

notices to minimize any possible occurrences of equipment failure.

2. Operation of the combustion gases emissions reduction system is completely automatic with all fuel

scheduling during startup, steady state operations and shutdowns being controlled by the Solar

Turbotronics® package with revised proprietary control system software.

3. Monitoring of gas fuel supply quality in conjunction with the SoLoNOx® emissions reduction

system will ensure unit operations and resultant emissions are within permitted parameters.

B. Keeler Water Tube Boilers

1. After initial setup of the burner management system components (Faber Air Register Burner

Unit and Neles-Jamesbury Fuel Gas Control Unit), by Keeler authorized representative to

establish correct air-fuel-ratio and excess O₂, no further action is required by the Boiler

Operator.

2. All startups, operations and shutdowns of the unit are accomplished only by approved

Standard Operating Procedures incorporating all manufacturers' references and safety

notices to minimize any possible occurrences of equipment failure and excess emissions.

C. Cleaver-Brooks Firetube Boiler

1. Initial IFGR linkage settings and adjustments must be established by a Cleaver-Brooks

authorized representative. Set up of the LE Option requires simultaneous consideration

of air-to-fuel ratios and NO_x levels. This can only be accomplished with proper combustion

emissions monitoring equipment with NO_x, O₂, CO, and smoke spot measuring capabilities.

2. After the IFGR system is initially set up, it will start up with the boiler as an integrated

boiler system.

3. All startups, operations and shutdowns of the unit are accomplished only by approved

Standard Operating Procedures incorporating all manufacturers' references and safety

notices to minimize any possible occurrences of equipment failure.

4. Operation of the combustion gases emissions reduction system is completely automatic with all fuel scheduling and flue gas recirculation during startup, steady state operations and shutdowns being controlled by the CB HAWK® combustion management system.

V. Maintenance

A. Solar® Gas Turbine Generator

1. Only Solar® factory authorized field service personnel are permitted to conduct any maintenance action on the gas turbine engine that requires change-out of any component of the gas producer that would change the air emissions quality of the unit.
2. No modification of the gas producer unit will be made at any time.
3. Annual testing of the combustion unit exhaust emission components will be conducted by contracted representatives authorized to accomplish certification by the State of New Mexico Environmental Department (NMED) Air Quality Bureau to certify compliance with applicable operating permit.
4. Monitoring of gas fuel supply quality utilizing Measurement Audit Reports provided by the natural gas supplier and semi-annual gas fuel sulfur content analysis conducted within the 1st and 3rd quarters following the NMED Custom Fuel Monitoring Schedule will ensure unit Operations and resultant emissions are within permitted parameters.

B. Keeler Water-Tube Boilers (2)

1. Only Keeler factory authorized service personnel are permitted to make any adjustments or modifications to the burner management system components consisting of the Faber Air Register Burner Unit and Neles-Jamesbury Fuel Gas Control Unit.
2. Monthly operational inspections/records of the boiler controls and appurtenances will be made to ensure the integrity of the system components.
3. Semi-annual excess air monitoring with records creation of operating boilers will be conducted by Operations personnel properly trained in the use of the appropriate test equipment that has been properly calibrated and certified for use by authorized factory technicians, with resultant reports submitted to the Utilities Operations Manager.

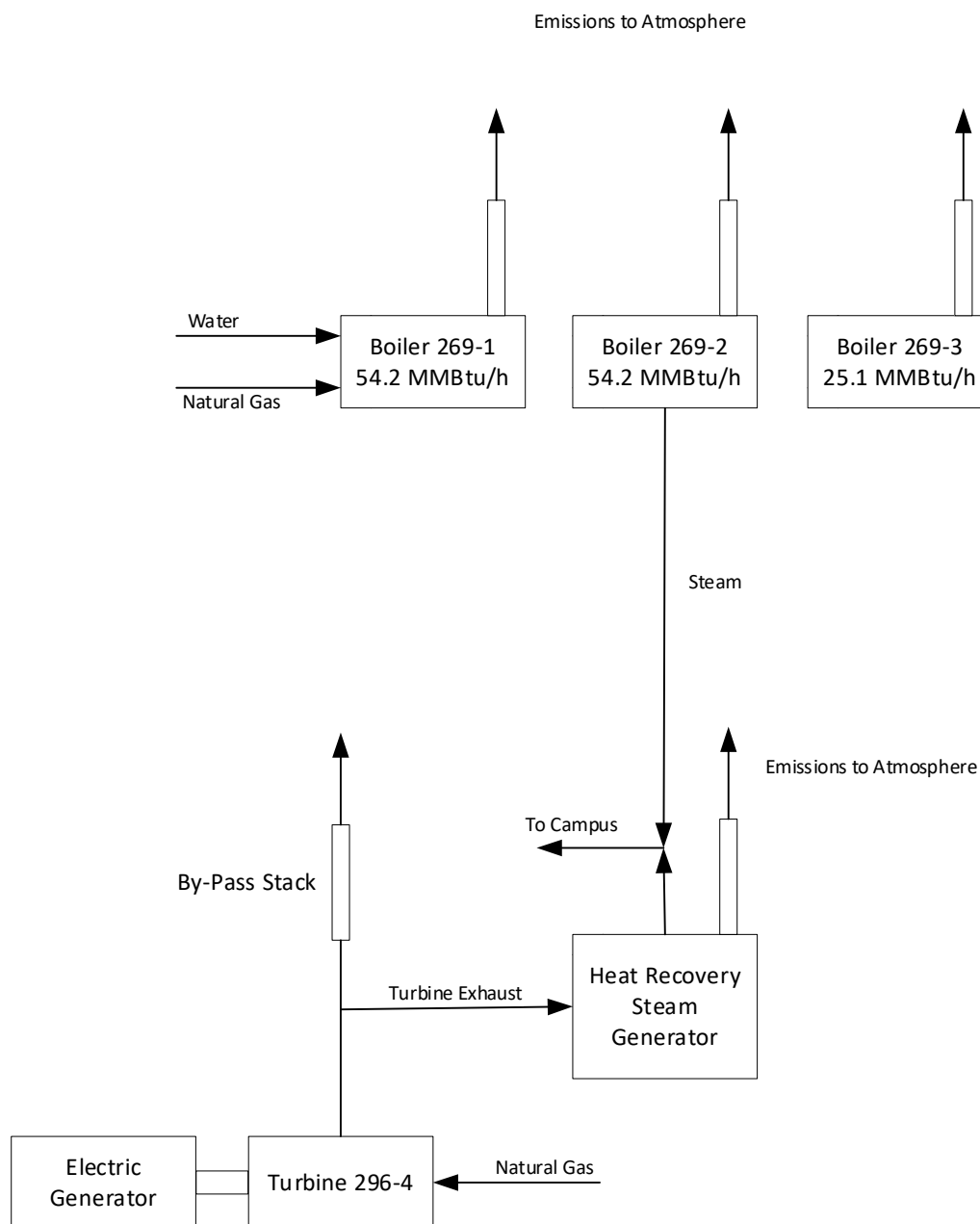
C. Cleaver-Brooks Firetube Boiler

1. Only Cleaver-Brooks factory authorized service personnel are permitted to make any adjustments or modifications to the IFGR (Induced Flue Gas Recirculation) system.
2. Annual operational inspections/records of the boiler will be made to ensure the integrity of the system components.

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.

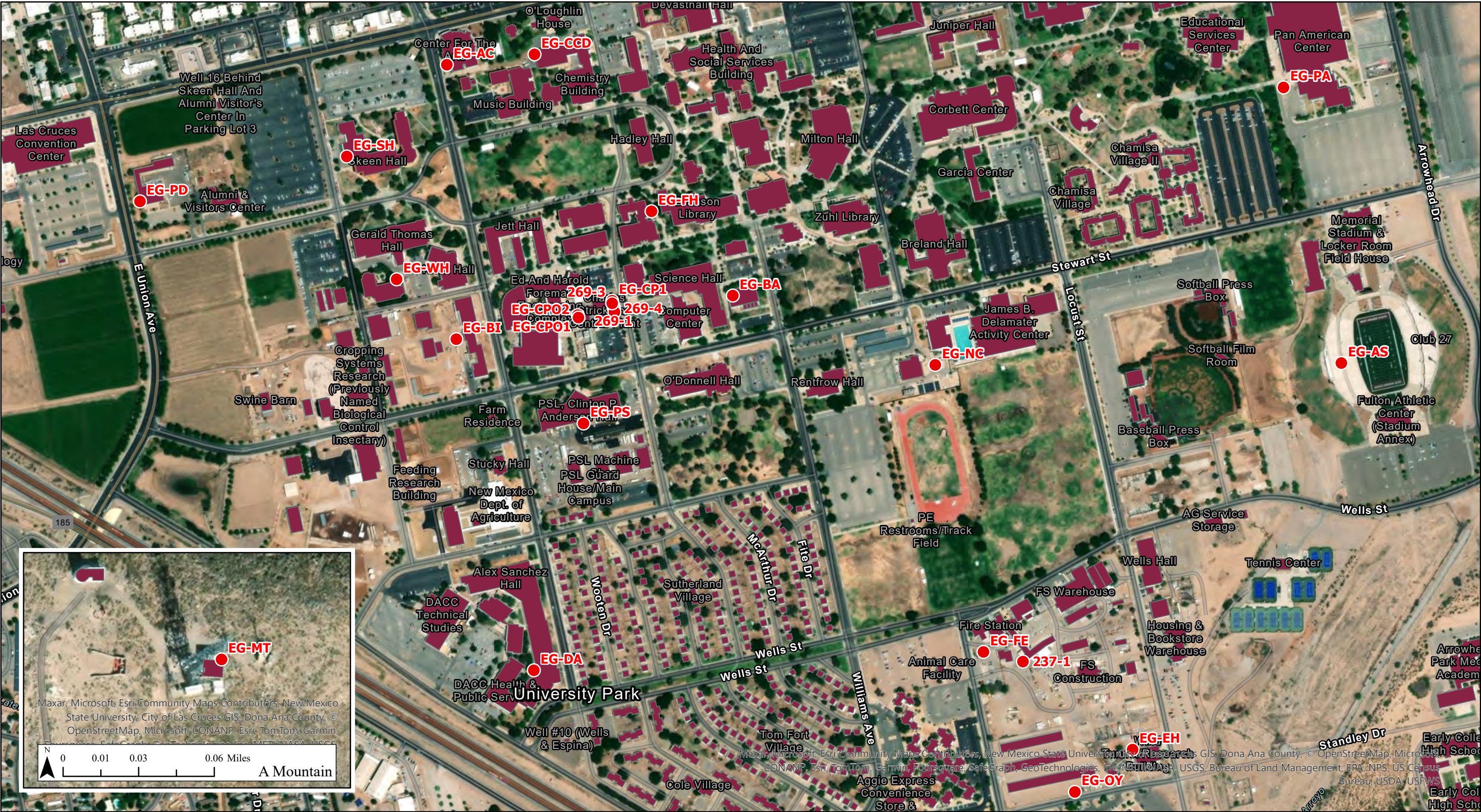


Section 5

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 current campus map of the facility is attached as a plot plan.



● Generators

■ Buildings

00.070.150.3 Miles

▲ N

F&S Office of Space Planning

NEW MEXICO STATE UNIVERSITY

Emission Points

Use the QR code to view the interactive version of this map.

Contact Paulina at pslust@nmsu.edu with any questions about this map.

November 12, 2024

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.

Emission Units at the facility include the following:

- Two Keeler dual-fueled fired boilers (Units 269-1 and 269-2);
- One Cleaver Brooks natural gas-fired boiler (Unit 269-3);
- One Solar Taurus 60-7301 turbine (Unit 269-4);
- Paint booth (Unit 237-1);
- Campus-wide emissions from NMSU's chemical inventory (Unit 999-1); and
- Agricultural activities (Unit 999-2).

All emission calculations remain the same as presented in the 2016 NSR 1640-M1R2 application.

Keeler Boilers (Units 269-1 and 269-2)

Uncontrolled emissions for natural gas combustion have been calculated using AP-42 emission factors from Table 1.4-1 and 1.4-2. The annual emission rates for this application were based on operating 8760 hours per year. HAP emissions for the boilers were calculated using GRI-HAPCalc 3.1. Detailed calculations are provided in this section. The most conservative available dataset for emission factors was used.

Cleaver Brooks Boiler (Unit 269-3)

Emissions calculations for this boiler are based on maximum nameplate heat input. Uncontrolled emissions have been calculated using factors from AP-42 Tables 1.4-1 and 1.4-2. A 25% safety factor has been added to the NO_x emissions rate (as established in previous versions of this application). HAP emissions for the boilers were calculated using GRI-HAPCalc 3.1. Detailed calculations are provided in this section.

Solar Taurus 60-7301 (Unit 269-4)

Emissions from the turbine were calculated based on manufacturer's data. SO₂ emissions are based on worst-case fuel sulfur content of 75 grains of total sulfur per 100 standard cubic feet. The value is based on the fuel supplier's (El Paso Natural Gas) allowable maximum total sulfur content in accordance with the Federal Energy Regulatory Commission (FERC) tariff. Annual emissions for this unit assumes 8,760 hours per year of operation at the worst-case hourly emission rate. HAP emissions were calculated using GRI-HAPCalc 3.1. Detailed calculations are provided within the application.

Facilities and Services Paint Booth (Unit 237-1)

This facility includes a paint booth for the use by the campus physical plant. The quantities of VOCs and HAPs vary for each paint type. Total paint usage is estimated to be substantially less than the permitted 10,000 gallons per year described and permitted in the facility's previous permit applications. Therefore, calculations for VOC and HAP emissions from the paint booth have not been revised in this application.

Chemical Inventory (Unit 999-1)

Emissions from chemical usage on campus were previously estimated by reviewing chemical purchasing and waste disposal records for the campus for one month. Each chemical in the purchasing and waste inventory was examined to estimate the contents of HAPs and VOCs. The data were extrapolated over a year and a 25% safety factor was applied.

NMSU believes the previous chemical inventory is still valid. Emission calculations for VOC and HAP emissions from the chemical inventory have therefore not been revised for this submission.

Agricultural Activities (Unit 999-2)

In the original application, emissions from agricultural activities were estimated based on various factors. These are summarized in the table below, along with the description of the site-specific issues that affect the emission calculations.

Activity	Pollutants	Emission Factor Source	Site-Specific Issues
Tilling	TSP and PM10	Control of Open Fugitive Dust Sources (EPA-450/3-88-008)	Acreage of agricultural area, changes to AP-42 or other emission factor
Harvesting	TSP and PM10	AP-42, Table 11.9-4	Acreage of agricultural area, changes to AP-42 or other emission factor
Wind Erosion	TSP and PM10	AP-42, Table 11.9-4	Acreage of agricultural area, changes to AP-42 or other emission factor
Fertilizer Application	VOCs and HAPs	AP-42, Table 9.2.2-4	Fertilizer purchases, changes to AP-42
Pesticide Application	VOCs and HAPs	AP-42, Table 9.2.2-4	Pesticide purchases, changes to AP-42

We reviewed the site-specific issues to determine if changes to the previous emission estimates are necessary. The results of this review are discussed below.

- **Tilling** – As with the original application, there are still not published emission factors for tilling in AP-42. Emission factors in *Control of Open Fugitive Dust Sources* have not changed. The site acreage has not changed. Emission estimates for this activity have therefore not been revised; previous estimates are assumed to be sufficient.
- **Harvesting** – There are no changes to either AP-42 for this activity or the acreage of area for agricultural activities. Emission estimates for this activity have therefore not been revised; previous estimates are assumed to be sufficient.
- **Wind Erosion** – There has been no change to the acreage of area for agricultural activities. This section of AP-42 has not been revised since the previous submission. Emission estimates for this activity have therefore not been revised; previous estimates are assumed to be sufficient.
- **Fertilizer Application** – The site acreage has not changed and fertilizer purchases have not changed. Emission factors for Fertilizer Application are available in AP-42 (AP-42 Section 9.2.i). However, this section of AP-42 is in ‘Draft’ status (emission factors have not been finalized), and the emission factors fall under emission factor rating E (poor). Emission estimates for this activity have therefore not been revised; previous estimates are assumed to be sufficient.
- **Pesticide Application** – There are no changes to either AP-42 for this activity or the acreage of area for agricultural activities. Pesticide purchases have not changed. Emission estimates for this activity have therefore not been revised; previous estimates are assumed to be sufficient.

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC) applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Calculating GHG Emissions:

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

Sources for Calculating GHG Emissions:

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

Global Warming Potentials (GWP):

Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO₂ over a specified time period.

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

Metric to Short Ton Conversion:

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

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

New Mexico State University - Las Cruces Campus
Emission Summary

Unit #	Description	NO _x		CO		VOC		SO ₂		TSP		PM ₁₀		PM _{2.5} ¹		HAPs		CO ₂ e	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
269-1	Boiler-1	5.99	26.23	5.03	22.03	0.33	1.44	0.036	0.16	0.46	1.99	0.46	1.99	-	-	0.14	0.62	6,346.68	27,798.46
269-2	Boiler-2	5.99	26.23	5.03	22.03	0.33	1.44	0.036	0.16	0.46	1.99	0.46	1.99	-	-	0.14	0.62	6,346.68	27,798.46
269-3	Boiler-3	3.50	15.20	2.33	10.20	0.20	0.67	0.017	0.10	0.30	1.50	0.21	0.92	-	-	0.068	0.30	2,939.15	12,873.46
269-4	Turbine ²	30.35	132.94	6.46	28.30	1.85	8.10	0.13	0.55	-	-	-	-	-	-	0.56	2.44	6,202.51	27,167.00
237-1	Plant Paint Booth	-	-	-	-	-	14.70	-	-	-	-	-	-	-	-	-	-	-	-
999-1	Chemical Inventory	-	-	-	-	*	17.20	-	-	-	-	-	-	-	-	-	-	-	-
999-2	Agricultural Activities	-	-	-	-	*	7.31	-	-	*	39.10	*	19.60	-	-	-	-	-	-
Total		45.83	200.60	18.85	82.58	2.71	50.86	0.21	0.96	1.21	44.59	1.12	24.51	-	-	0.91	3.98	21,835.02	95,637.38

¹PM_{2.5} emission not provided in 2001 NSR, 2009, 2015 NSR applications. Additionally, the facility has not been modified since the 2015 NSR.

²TSP, PM₁₀, and PM_{2.5} emissions not provided in 2001 NSR & 2015 NSR applications for Unit 269-4 (Turbine).

* An hourly limit is not appropriate for this unit

NOTE: Emissions represented here differ slightly from emission in Table 2-E due to rounding error. Facility has not been modified since 2016 NSR 1640-M1R2.

New Mexico State University - Las Cruces Campus

Boiler Emissions

Emission Unit Data

Source Description	Water Tube Boiler
Emission Unit No.	269-1 and 269-2
Manufacturer	Keeler
Unit 269-1 Serial No.	14311-1
Unit 269-2 Serial No.	14311-2
Mfg. Date	1965
Regulatory Applicability	20.2.61 NMAC

Fuel type	Natural Gas
Input heat rate	54.2 MMBtu/hr mfg. Data
Fuel Heat Value	905 BTU/scf LHV, nominal for natural gas
Fuel Rate	59.9 Mscf/hr Input heat rate / fuel heat value
Annual fuel Usage	525 MMscf/yr Assume 8760 hours/yr operation

Emission Calculations

	NO _x ^{1,2}	CO ^{1,2}	VOC ^{1,2}	SO ₂ ^{1,2}	PM ^{1,2,3}	PM ₁₀ ^{1,2,3}	PM _{2.5} ⁴	HAPs ⁵	CO ₂ e ⁶	CO ₂	CH ₄	NO ₂	Units	Comments
Natural Gas	100	84	5.5	0.60	7.60	7.60				53.06	1.00E-03	1.00E-04	lb/MMscf	AP-42 Table 1.4-1 and Table 1.4-2
										2875.85	0.054	5.42E-03	kg/MMBtu	40 CFR 98, Subpart C, Tables C-1 and C-2
													kg/hr	(kg/MMBtu)*(MMBtu/hr)
Calculated Emission Rates	5.99	5.03	0.33	0.036	0.46	0.46	-	0.14	6,346.68	6,340.17	0.12	0.012	lb/hr	lb/MMscf * MMscf/hr
	26.23	22.03	1.44	0.16	1.99	1.99	-	0.62	27,798.46	27,769.94	0.52	0.052	tpy	based on 8760 hours of operation

Notes

¹Emission factors for NO_x, CO, VOC, SO₂, and PM₁₀ are based on AP-42 Table 1.4-1 and Table 1.4-2.

²Emission calculation based on AP-42 emission rate * calculated nameplate fuel usage (MMscf/hr)

³TSP and PM₁₀ emission are based on AP-42 emission rate for Total PM

⁴PM_{2.5} emission not provided in 2001 NSR & 2015 NSR applications. Additionally the facility has not been modified since the 2015 NSR application.

⁵HAPs estimated using HAPCalc assuming natural gas combustion only.

⁶GWP (Global Warming Potential) are based on 40 CFR 98, Subpart C, Table C-1 and C-2

GWP	
CO2 (tons/yr)	1
CH4 (tons/yr)	28
N2O (tons/yr)	265

New Mexico State University - Las Cruces Campus

Boiler Emissions

Emission Unit Data

Source Description Water Tube Boiler
Emission Unit No. 269-3
Manufacturer Cleaver Brooks
Model CB1 700-500-150
Serial No. 0L101367
Mfg. Date 2001
Regulatory Applicability 40 CFR 60 Subpart Dc, 20.2.61 NMAC

Fuel type Natural Gas
Input heat rate 25.1 MMBtu/hr mfg. Data
Fuel Heat Value 905 BTU/scf LHV, nominal for natural gas
Fuel Rate 27.7 Mscf/hr Input heat rate / fuel heat value
Annual fuel Usage 243.0 MMscf/yr Assume 8760 hours/yr operation

Emission Calculations

	NO _x ^{1,2,3}	CO ^{1,2}	VOC ^{1,2}	SO ₂ ^{1,2}	PM ^{1,2,4}	PM ₁₀ ^{1,2,4}	PM _{2.5} ⁵	HAPs ⁶	CO ₂ e ⁷	CO ₂	CH ₄	NO ₂	Units	Comments
Calculated Emission Rate using Emission Factors	100	84	5.5	0.6	7.6	7.6							lb/MMscf	AP-42 Table 1.4-1 and Table 1.4-2
	125												lb/Mscf	25% safety factor
									53.06	1.00E-03	1.00E-04		kg/MMBtu	40 CFR 98, Subpart C, Tables C-1 and C-2
									1331.806	0.025	2.51E-03		kg/hr	(kg/MMBtu)*(MMBtu/hr)
Current Permitted Emission Limits	3.47	2.33	0.15	0.017	0.21	0.21	-	0.065	2,939.15	2,936.13	0.055	5.53E-03	lb/hr	lb/MMscf * MMscf/hr
	15.18	10.20	0.67	0.073	0.92	0.92	-	0.29	12,873.46	12,860.25	0.24	0.024	tpy	based on 8760 hours of operation
Requested Emission Rates	3.50	2.30	0.20	0.017	0.30	0.20	-	0.068	-	-	-	-	lb/hr	NSR Application (2015)
	15.2	10.20	0.67	0.10	1.50	0.90	-	0.3	-	-	-	-	tpy	NSR Application (2015)
Requested Emission Rates	3.50	2.33	0.20	0.02	0.30	0.21	-	0.068	2,939.15	2,936.13	0.055	5.53E-03	lb/hr	
	15.20	10.20	0.67	0.10	1.50	0.92	-	0.30	12,873.46	12,860.25	0.24	0.024	tpy	

Notes

¹Emission factors for NO_x, CO, VOC, SO₂, and PM₁₀ are based on AP-42 Table 1.4-1 and Table 1.4-2.

²Emission calculation based on AP-42 emission rate * calculated nameplate fuel usage (MMscf/hr)

³A 25% safety factor was added to NO_x to maintain consistency with previous permit applications.

⁴TSP and PM₁₀ emission are based on AP-42 emission rate for Total PM

⁵PM_{2.5} emission not provided in 2001 NSR & 2015 NSR applications. Additionally, the facility has not been modified since the 2015 NSR.

⁶HAPs estimated using HAPCalc assuming natural gas combustion only.

⁷GWP (Global Warming Potential) are based on 40 CFR 98, Subpart C, Table C-1 and C-2

GWP	
CO2 (tons/yr)	1
CH4 (tons/yr)	28
N2O (tons/yr)	265

New Mexico State University - Las Cruces Campus

Turbine Emissions

Emission Unit Data

Source Description	Natural Gas Turbine
Emission Unit No.	269-4
Manufacturer	Solar
Model	Taurus 60-7301
Serial No.	OHI25-T1577
Mfg. Date	1996
Regulatory Applicability	40 CFR 60 Subpart GG, 20.2.61 NMAC

Fuel Consumption

Fuel type	Natural Gas		
ISO Rating	5444	kW	ISO Rating
Site Rating	4542	kW	mfg. data, full load, 3900 ft AMSL, 40 F
Site Rating	6090.9	HP	mfg. data, full load, 3900 ft AMSL, 40 F
Heat Rate	11662	BTU/kW-hr	Mfg. Data
Input heat rate	52.97	MMBtu/hr	Heat rate * site power
Fuel Heat Value	905	Btu/scf	LHV, nominal for natural gas
Fuel Rate	58.53	Mscf/hr	input heat rate / fuel heat value (scf/Mscf)
Annual fuel usage	512.71	MMscf/yr	hourly fuel rate *8760 hr/yr

	NO _x ^{1,2}	CO ^{1,2}	VOC ^{1,2}	SO ₂ ³	TSP ⁴	PM ₁₀ ⁴	PM _{2.5} ⁴	HAPs ⁵	CO ₂ e ⁶	CO ₂	CH ₄	NO ₂	Units	Comments
¹ Natural Gas	0.57	0.12	0.035	0.13						53.06	1.00E-03	1.00E-04	lb/MMBtu	Mfg. Data
										2810.52	0.053	5.30E-03	lb/hr	0.75 gr S/100scf fuel gas
													kg/MMBtu	40 CFR 98, Subpart C, Tables C-1 and C-2
													kg/hr	(kg/MMBtu)*(MMBtu/hr)
Calculated Emission Rates	30.35	6.46	1.85	0.13	-	-	-	0.56	6,202.51	6,196.15	0.12	0.012	lb/hr	
	132.94	28.30	8.10	0.55	-	-	-	2.44	27,167.00	27,139.12	0.51	0.051	tpy	

Notes

¹NO_x, CO, and VOC emission rates are based on manufacture data UHC=VOC

²Emission calculation based on Manufacture Emission Factor (lb/MMBtu) * calculated nameplate fuel usage (MMscf/hr)

³SO₂ emission rates based on 0.75 gr S / 100 scf

S gr/100sdf * 0.000143 lb/gr * fuel scf/hr * 64 lb SO₂/ 32lb S = So₂ lb/hr

(0.75 gr/100scf) * (1 lb S/7000grS)*(fuel rate scf/hr)*(64lb SO₂/32lb S)

⁴TSP, PM₁₀, and PM_{2.5} emissions not provided in 2001 NSR & 2015 NSR applications. Additionally, the facility has not been modified since the 2015 NSR

⁵HAP emissions estimated using HAPCalc

⁶GWP (Global Warming Potential) are based on 40 CFR 98, Subpart C, Table C-1 and C-2

GWP	
CO2 (tons/yr)	1
CH4 (tons/yr)	28
N2O (tons/yr)	265

EMISSION UNIT NO: 269-3

Model: Cleaver Brooks

Description: Fire tube boiler

Basis/Methodology

GRI-HAP Calc emission factors for small external combustion devices.

Emission Factor Source

GRI-HAP Calc, Section 4.5

CalculationGRI-HAP Calc benzene emission factor = $2.0e-6$ lb/MMBtu

Heat rate = 25.11 MMBtu/hr (permit application)

20 NMAC 2.70 benzene emissions = $(2.0e-6 \text{ lb/MMBtu}) * (25.11 \text{ MMBtu/hr})$ *20 NMAC 2.70 benzene emissions = $5.0e-5$ lb/hr = $2.2e-4$ tpy***PPD PAINT BOOTH****Paint Booth Emissions****EMISSION UNIT NO: 237-1**

Description: Physical Plant Department Paint Booth

Total Paint Used: 10,000 gal/yr

Paints used	% of total	gal/yr	VOC g/L	VOC lb/gal	VOC lb/yr	VOC tpy	%HAP	HAP lb/yr	HAP tpy
Alkyd gloss enamel	2%	200	376	3.14	627	0.31	6%	38	0.019
Alkyd semi-gloss enam	35%	3500	113	0.94	3300	1.65		0	0
Alkyd flat	40%	4000	425	3.55	14,185	7.09		0	0
Latex flat	2%	200	451	3.76	753	0.38		0	0
Primer	3%	300	411	3.43	1029	0.51		0	0
Epoxy	1%	100	468	3.91	391	0.20	2%	7.81	0.004
Polyurethane	1%	100	350	2.92	292	0.15		0	0
Sealer/finish	1%	100	543	4.53	453	0.23		0	0
Lacquer	5%	500	629	5.25	2624	1.31	10%	262	0.13
Lacquer sealer	5%	500	676	5.64	2820	1.41	10%	282	0.14
Oil stain	5%	500		5.75	2875	1.44	8%	230	0.12
Totals	100%	10000			29,350	14.7		820	0.41

The above table summarizes calculated emissions from the PPD paint booth. The following sample calculation illustrates the method of calculation.

Paint Booth Emission Calculations

EMISSION UNIT NO: 237-1

Description: Physical Plant Department Paint Booth

Sample Calculations

VOC (from alkyd gloss enamel only)

Basis/Methodology

Total paint usage (10,000 gal/yr) based on purchasing records

2% of total is alkyd gloss enamel

VOC content based on MSDS

Calculation

Total alkyd gloss enamel usage = $10,000 \text{ gal/yr} \times 2\% = 200 \text{ gal/yr}$

VOC content of alkyd gloss enamel = $376 \text{ g/L} \times 3.785 \text{ L/gal} \div 453.6 \text{ g/lb} = 3.14 \text{ lb/gal}$

VOC emissions = $200 \text{ gal/yr} \times 3.14 \text{ lb/gal} = 627 \text{ lb/yr}$

20 NMAC 2.70 VOC emissions = 627 lb/yr = 0.31 tpy

HAP (from alkyd gloss enamel only)

Basis/Methodology

Total paint usage (10,000 gal/yr) based on purchasing records

2% of total is alkyd gloss enamel

HAP content based on MSDS

Calculation

Total alkyd gloss enamel usage = $10,000 \text{ gal/yr} \times 2\% = 200 \text{ gal/yr}$

HAP content of alkyd gloss enamel = 6% of VOC

HAP emissions = $627 \text{ lb/yr} \times 6\% = 38 \text{ lb/yr}$

20 NMAC 2.70 HAP emissions = 38 lb/yr = 0.019 tpy

CHEMICAL INVENTORY

Campus-wide Emissions from Chemical Inventory

EMISSION UNIT NO: 999-1

Description: Chemical Inventory

VOC emissions, lb/yr 34,335

VOC emissions, tons/yr 17.2

HAP emissions, lb/yr 8820

HAP emissions, tons/yr 4.41

See Campus-wide Emissions from Chemical Inventory Calculations for emission calculations.
Supporting data is included later in this section.

Campus-wide Emissions from Chemical Inventory Calculations

EMISSION UNIT NO: 999-1

Description: Chemical Inventory

VOC

Basis/Methodology

Chemical purchases for month of October 1996 (plus 25% safety factor) minus VOC waste disposed off-site (from waste disposal records)

Calculation

VOC purchases for month of October 1996 = 2869 lb

Safety factor added = 25%

VOC disposed per year = 8700 lb (flammables)

VOC emissions = $(2869 \text{ lb/mo} \times 12 \text{ mo/yr} \times 1.25) - 8700 \text{ lb/yr} = 34,335 \text{ lb/yr}$

$34,335 \text{ lb/yr} \div 2000 \text{ lb/ton} = 17.2 \text{ tpy}$

20 NMAC 2.70 VOC emissions = 17.2 tpy

HAP

Basis/Methodology

Chemical purchases for month of October 1996 (plus 25% safety factor) minus HAP waste disposed off-site (from waste disposal records)

Calculation

HAP purchases for month of October 1996 = 788 lb

Safety factor added = 25%

HAP waste disposed per year = 3000 lb (assumed 50% of heavy metals in acid solution are HAPs)

HAP emissions = $(788 \text{ lb/mo} \times 12 \text{ mo/yr} \times 1.25) - 3000 \text{ lb/yr} = 8820 \text{ lb/yr}$

$8820 \text{ lb/yr} \div 2000 \text{ lb/ton} = 4.41 \text{ tpy}$

20 NMAC 2.70 HAP emissions = 4.41 tpy

AGRICULTURAL ACTIVITIES

Emissions from Agricultural Activities

Emission Unit No: 999-2

Total area: 100 acres 0.16

Harvests/yr: 2

es

Activity	TSP		PM-10		VOC	
	lb/yr	tpy	lb/yr	tpy	lb/yr	tpy
Tilling	2280	1.14	1142	0.57	—	—
Wind erosion	76,000	38	38,000	19	—	—
Fertilizer application	—	—	—	—	13,920	6.96
Pesticide application	—	—	—	—	696	0.35
Harvesting	2.51	0.001	2.51	0.001	—	—
Totals	78,283	39.1	39,145	19.6	14,616	7.31

See Agricultural Activities Calculations for emission calculations.

Agricultural Activities Calculations

Emission Unit No: 999-2

Description: Plowed fields

AP-42 emissions for agricultural activities is a work in progress and is not available at this time for use. As an alternative, we used the AP-42 emissions factors for wind erosion of exposed areas (a similar activity) at mines. We did not use EPA's Control of Open Fugitive Dust Sources for wind erosion because it results in anomalously high emission rates, according to its author, Dr. Chatten Cowherd.

TSP (from Tilling)

Basis/Methodology

Emission factor from *Control of Open Fugitive Dust Sources*, EPA-450/3-88-008

$E = k(4.80)(s)^{0.6}$ lb/acre (Emission factor)

$k = 0.21$ for PM-10, assume double or 0.42 for TSP

s = silt content (assume 18% default)

Total acreage: 100 acres

Assume tilled twice per year

Calculation

TSP emission factor = $0.42 * 4.80 * 18^{0.6}$ lb/acre = 11.4 lb/acre

TSP emissions = 11.4 lb/acre * 100 acres * 2/yr = 2280 lb/yr

20 NMAC 2.70 TSP emissions = 2280 lb/yr = 1.14 tpy

PM-10 (from Tilling)

Basis/Methodology

Emission factor from *Control of Open Fugitive Dust Sources*, EPA-450/3-88-008

$E = k(4.80)(s)^{0.6}$ lb/acre (Emission factor)

$k = 0.21$ for PM-10

s = silt content (assume 18% default)

Total acreage: 100 acres

Assume tilled twice per year



Calculation

PM-10 emission factor = $0.21 * 4.80 * 18^{0.6}$ lb/acre = 5.71 lb/acre

PM-10 emissions = 5.71 lb/acre * 100 acres * 2/yr = 1142 lb/yr

20 NMAC 2.70 PM-10 emissions = 1142 lb/yr = 0.57 tpy

TSP (from Wind Erosion)

Basis/Methodology

Emission factor from AP-42, Table 11.9-4

E = 0.38 Tons/acre/yr

Total acreage: 100 acres

Calculation

TSP emission factor = 0.38 tons/acre/yr

TSP emissions = 0.38 tons/acre/yr * 100 acres = 38 tons/yr

20 NMAC 2.70 TSP emissions = 38 tpy

PM-10 (from Wind Erosion)

Basis/Methodology

Emission factor from AP-42, Table 11.9-4, assume PM-10 is 50% of TSP (0.19)

E = 0.19 tons/acre/yr

Total acreage: 100 acres

Calculation

PM-10 emission factor = 0.19 tons/acre/yr

PM-10 emissions = 0.19 tons/acre/yr * 100 acres = 19 tons/yr

20 NMAC 2.70 PM-10 emissions = 19 tpy

VOC (from Fertilizer application)

Basis/Methodology

Fertilizer purchases for October 1996 (approximately 1 ton) extrapolated to entire year

Emission factor for high vapor pressure pesticides (AP-42 table 9.2.2-4) = 1160 lb/ton

Calculation

VOC emissions = 1 ton/mo * 12 mo/yr * 1160 lb/ton = 13,920 lb/yr

20 NMAC 2.70 VOC emissions = 13,920 lb/yr = 6.96 tpy

VOC (from Pesticide application)

Basis/Methodology

Pesticide purchases for October 1996 (less than 100 lb) extrapolated to entire year

Emission factor for high vapor pressure pesticides (AP-42 table 9.2.2-4) = 1160 lb/ton

Calculation

VOC emissions = $100 \text{ lb/mo} * 12 \text{ mo/yr} \div 2000 \text{ lb/ton} * 1160 \text{ lb/ton} = 696 \text{ lb/yr}$

20 NMAC 2.70 VOC emissions = 696 lb/yr = 0.35 tpy

TSP and PM-10 (from Harvesting)

Basis/Methodology

Emission factors for grain harvesting from AP-42 table 9.3.2 (1/95)

Maximum emission factors (sorghum) were used as a conservative measure.

Harvest machine = 6.5 lb/mi^2

Truck loading = 0.13 lb/mi^2

Field transport = 1.2 lb/mi^2

Total acreage = 100 acres

Assume 2 harvests per year

Assume PM-10 = TSP

Calculation

Total TSP emission factor = $(6.5 + 0.13 + 1.2) \text{ lb/mi}^2 = 7.83 \text{ lb mi}^2$

Total acreage = $100 \text{ acres} * 43560 \text{ ft}^2/\text{acre} \div 5280^2 \text{ ft}^2/\text{mi}^2 = 0.16 \text{ mi}^2$

TSP emissions = $7.83 \text{ lb/mi}^2 * 0.16 \text{ mi}^2 * 2/\text{yr} = 2.50 \text{ lb/yr}$

20 NMAC 2.70 TSP emissions = 2.51 lb/yr = 0.001 tpy

20 NMAC 2.70 PM-10 emissions = 2.51 lb/yr = 0.001 tpy

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.
-

Attachments in this section include:

- Historic AP-42 (from previous permit applications) emission factors for boilers
- HAPCalc outputs
- Manufacturer data for Solar Turbine
- Letter from El Paso natural gas RE sulfur content of purchased fuel
- Legacy application support data for turbine emission cales
- Legacy application support data for paint booths
- Legacy application support data for campus-wide chemical inventory
- Legacy application support data for agricultural activities

Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO)
FROM NATURAL GAS COMBUSTION*

Combustion Type (MMBtu/hr Heat Input)	NO _x ^b		CO	
	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01] Uncontrolled (Pre-NSPS) ^c Uncontrolled (Post-NSPS) ^c Controlled - Low NO _x burners Controlled - Flue gas recirculation	280	A	84	B
	190	A	84	B
	140	A	84	B
	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03] Uncontrolled Controlled - Low NO _x burners Controlled - Low NO _x burners/Flue gas recirculation	100	B	84	B
	50	D	84	B
	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04] Uncontrolled Controlled - Flue gas recirculation	170	A	24	C
	76	D	98	D
Residential Furnaces (<0.5) [No SCC]	94	B	40	B
Uncontrolled				

* Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from lb/10⁶ scf to kg/10⁶ m³, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

^b Expressed as NO_x. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_x emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_x emission factor.

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

supplied data -
Boilers 269-1, 269-2
and 269-3

Support Data
 Carbon 169.1, 169.2
 and 169.3

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION^a

Pollutant	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
CO ₂ ^b	120,000	A
Lead	0.0005	D
N ₂ O (Uncontrolled)	2.2	E
N ₂ O (Controlled-low-NO _x burner)	0.64	E
PM (Total) ^c	7.6	D
PM (Condensable) ^c	5.7	D
PM (Filterable) ^c	1.9	B
SO ₂ ^d	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	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/10⁶ scf to kg/10⁶ m³, multiply by 16. To convert from lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

^b Based on approximately 100% conversion of fuel carbon to CO₂. CO₂ [lb/10⁶ scf] = (3.67) (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO₂, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2x10⁴ lb/10⁶ scf.

^c All PM (total, condensable, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM₁₀, PM_{2.5}, or PM₁ emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

^d Based on 100% conversion of fuel sulfur to SO₂. Assumes sulfur content is natural gas of 2,000 grains/10⁶ scf. The SO₂ emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO₂ emission factor by the ratio of the site-specific sulfur content (grains/10⁶ scf) to 2,000 grains/10⁶ scf.

GRI-HAPCalc® 3.01
Turbine Report

Facility ID: NMSU
 Operation Type: GAS PLANT
 Facility Name:
 User Name:
 Units of Measure: U.S. STANDARD

Notes:

*Note: Emissions less than 5.00E-09 tons (or tonnes) per year are considered insignificant and are treated as zero.
 These emissions are indicated on the report with a "0".
 Emissions between 5.00E-09 and 5.00E-05 tons (or tonnes) per year are represented on the report with "0.0000".*

Turbine Unit

Unit Name: TURBINE

Hours of Operation: 8,760 Yearly
 Rate Power: 6091 hp
 Fuel Type: NATURAL GAS
 Emission Factor Set: FIELD > EPA > LITERATURE
 Additional EF Set: -NONE-

Calculated Emissions (ton/yr)

<u>Chemical Name</u>	<u>Emissions</u>	<u>Emission Factor</u>	<u>Emission Factor Set</u>
<u>HAPs</u>			
PAHs	0.0006	0.00000970 g/bhp-hr	EPA
Formaldehyde	0.9953	0.01693680 g/bhp-hr	GRI Field
Acetaldehyde	1.0187	0.01733570 g/bhp-hr	GRI Field
1,3-Butadiene	0.0036	0.00006160 g/bhp-hr	GRI Field
Acrolein	0.0153	0.00026000 g/bhp-hr	GRI Field
Propional	0.0508	0.00086500 g/bhp-hr	GRI Field
Propylene Oxide	0.0075	0.00012730 g/bhp-hr	EPA
Benzene	0.0316	0.00053840 g/bhp-hr	GRI Field
Toluene	0.0242	0.00041100 g/bhp-hr	GRI Field
Ethylbenzene	0.0083	0.00014050 g/bhp-hr	EPA
Xylenes(m,p,o)	0.0731	0.00124410 g/bhp-hr	GRI Field
2,2,4-Trimethylpentane	0.0943	0.00160530 g/bhp-hr	GRI Field
n-Hexane	0.0885	0.00150580 g/bhp-hr	GRI Field
Phenol	0.0065	0.00011010 g/bhp-hr	GRI Field
Naphthalene	0.0004	0.00000760 g/bhp-hr	GRI Field
2-Methylnaphthalene	0.0001	0.00000130 g/bhp-hr	GRI Field
Biphenyl	0.0194	0.00033050 g/bhp-hr	GRI Field
Phenanthrene	0.0000	0.00000050 g/bhp-hr	GRI Field
Chrysene	0.0001	0.00000100 g/bhp-hr	GRI Field
Beryllium	0.0000	0.00000010 g/bhp-hr	GRI Field
Phosphorus	0.0038	0.00006520 g/bhp-hr	GRI Field
Chromium	0.0005	0.00000820 g/bhp-hr	GRI Field
Manganese	0.0010	0.00001750 g/bhp-hr	GRI Field
Nickel	0.0004	0.00000610 g/bhp-hr	GRI Field
Cobalt	0.0001	0.00000160 g/bhp-hr	GRI Field

Arsenic	0.0000	0.00000060 g/bhp-hr	GRI Field
Selenium	0.0000	0.00000030 g/bhp-hr	GRI Field
Cadmium	0.0000	0.00000020 g/bhp-hr	GRI Field
Mercury	0.0002	0.00000270 g/bhp-hr	GRI Field
Lead	0.0002	0.00000340 g/bhp-hr	GRI Field

Total		2.4445	
--------------	-------	--------	--

Criteria Pollutants

PM	1.7025	0.02897200 g/bhp-hr	EPA
CO	123.8899	2.10828420 g/bhp-hr	GRI Field
NMHC	11.3929	0.19387800 g/bhp-hr	GRI Field
NMEHC	0.5417	0.00921840 g/bhp-hr	EPA
NOx	73.5813	1.25216290 g/bhp-hr	GRI Field
SO2	0.0604	0.00102720 g/bhp-hr	GRI Field

Other Pollutants

Methane	58.0108	0.98719230 g/bhp-hr	GRI Field
Acetylene	0.4211	0.00716540 g/bhp-hr	GRI Field
Ethylene	0.8200	0.01395450 g/bhp-hr	GRI Field
Ethane	8.8194	0.15008370 g/bhp-hr	GRI Field
Propane	0.9402	0.01600000 g/bhp-hr	GRI Field
Isobutane	0.2821	0.00480000 g/bhp-hr	GRI Field
Butane	0.3056	0.00520000 g/bhp-hr	GRI Field
Cyclopentane	0.0970	0.00165110 g/bhp-hr	GRI Field
Butyrald/Isobutyraldehyde	0.0787	0.00134000 g/bhp-hr	GRI Field
n-Pentane	4.7686	0.08115000 g/bhp-hr	GRI Field
Cyclohexane	0.3599	0.00612400 g/bhp-hr	GRI Field
Methylcyclohexane	0.5190	0.00883120 g/bhp-hr	GRI Field
n-Octane	0.1874	0.00318890 g/bhp-hr	GRI Field
1,3,5-Trimethylbenzene	0.1763	0.00300000 g/bhp-hr	GRI Field
n-Nonane	0.0313	0.00053260 g/bhp-hr	GRI Field
CO2	28,374.8486	482.86607780 g/bhp-hr	EPA
Vanadium	0.0000	0.00000070 g/bhp-hr	GRI Field
Copper	0.0012	0.00002050 g/bhp-hr	GRI Field
Molybdenum	0.0012	0.00002030 g/bhp-hr	GRI Field
Barium	0.0013	0.00002290 g/bhp-hr	GRI Field

GRI-HAPCalc® 3.01
External Combustion Devices Report

Facility ID: NMSU
 Operation Type: GAS PLANT
 Facility Name:
 User Name:
 Units of Measure: U.S. STANDARD

Notes:

*Note: Emissions less than 5.00E-09 tons (or tonnes) per year are considered insignificant and are treated as zero. These emissions are indicated on the report with a "0".
 Emissions between 5.00E-09 and 5.00E-05 tons (or tonnes) per year are represented on the report with "0.0000".*

External Combustion Devices

Unit Name: BOILER-3

Hours of Operation: 8,760 Yearly
 Heat Input: 25.10 MMBtu/hr
 Fuel Type: NATURAL GAS
 Device Type: BOILER
 Emission Factor Set: EPA > FIELD > LITERATURE
 Additional EF Set: -NONE-

Calculated Emissions (ton/yr)

<u>Chemical Name</u>	<u>Emissions</u>	<u>Emission Factor</u>	<u>Emission Factor Set</u>
HAPs			
3-Methylcholanthrene	0.0000	0.0000000018 lb/MMBtu	EPA
7,12-Dimethylbenz(a)anthracene	0.0000	0.0000000157 lb/MMBtu	EPA
Formaldehyde	0.0081	0.0000735294 lb/MMBtu	EPA
Methanol	0.0476	0.0004333330 lb/MMBtu	GRI Field
Acetaldehyde	0.0320	0.0002909000 lb/MMBtu	GRI Field
1,3-Butadiene	0.0000	0.0000001830 lb/MMBtu	GRI Field
Benzene	0.0002	0.0000020588 lb/MMBtu	EPA
Toluene	0.0004	0.0000033333 lb/MMBtu	EPA
Ethylbenzene	0.0000	0.0000000720 lb/MMBtu	GRI Field
Xylenes(m,p,o)	0.0001	0.0000010610 lb/MMBtu	GRI Field
2,2,4-Trimethylpentane	0.0036	0.0000323000 lb/MMBtu	GRI Field
n-Hexane	0.1940	0.0017647059 lb/MMBtu	EPA
Phenol	0.0000	0.0000000950 lb/MMBtu	GRI Field
Naphthalene	0.0001	0.0000005980 lb/MMBtu	EPA
2-Methylnaphthalene	0.0000	0.0000000235 lb/MMBtu	EPA
Acenaphthylene	0.0000	0.0000000018 lb/MMBtu	EPA
Biphenyl	0.0001	0.0000011500 lb/MMBtu	GRI Field
Acenaphthene	0.0000	0.0000000018 lb/MMBtu	EPA
Fluorene	0.0000	0.0000000027 lb/MMBtu	EPA
Anthracene	0.0000	0.0000000024 lb/MMBtu	EPA
Phenanthrene	0.0000	0.0000000167 lb/MMBtu	EPA
Fluoranthene	0.0000	0.0000000029 lb/MMBtu	EPA
Pyrene	0.0000	0.0000000049 lb/MMBtu	EPA
Benz(a)anthracene	0.0000	0.0000000018 lb/MMBtu	EPA

Chrysene	0.0000	0.0000000018	lb/MMBtu	EPA
Benzo(a)pyrene	0.0000	0.0000000012	lb/MMBtu	EPA
Benzo(b)fluoranthene	0.0000	0.0000000018	lb/MMBtu	EPA
Benzo(k)fluoranthene	0.0000	0.0000000018	lb/MMBtu	EPA
Benzo(g,h,i)perylene	0.0000	0.0000000012	lb/MMBtu	EPA
Indeno(1,2,3-c,d)pyrene	0.0000	0.0000000018	lb/MMBtu	EPA
Dibenz(a,h)anthracene	0.0000	0.0000000012	lb/MMBtu	EPA
Lead	0.0001	0.0000004902	lb/MMBtu	EPA

Total 0.2863

Criteria Pollutants

VOC	0.5928	0.0053921569	lb/MMBtu	EPA
PM	0.8191	0.0074509804	lb/MMBtu	EPA
PM, Condensable	0.6144	0.0055882353	lb/MMBtu	EPA
PM, Filterable	0.2048	0.0018627451	lb/MMBtu	EPA
CO	9.0537	0.0823529410	lb/MMBtu	EPA
NMHC	0.9377	0.0085294118	lb/MMBtu	EPA
NOx	10.7782	0.0980392157	lb/MMBtu	EPA
SO2	0.0646	0.0005880000	lb/MMBtu	EPA

Other Pollutants

Dichlorobenzene	0.0001	0.0000011765	lb/MMBtu	EPA
Methane	0.2479	0.0022549020	lb/MMBtu	EPA
Acetylene	0.5861	0.0053314000	lb/MMBtu	GRI Field
Ethylene	0.0579	0.0005264000	lb/MMBtu	GRI Field
Ethane	0.3341	0.0030392157	lb/MMBtu	EPA
Propylene	0.1026	0.0009333330	lb/MMBtu	GRI Field
Propane	0.1725	0.0015686275	lb/MMBtu	EPA
Butane	0.2263	0.0020588235	lb/MMBtu	EPA
Cyclopentane	0.0045	0.0000405000	lb/MMBtu	GRI Field
Pentane	0.2802	0.0025490196	lb/MMBtu	EPA
n-Pentane	0.2199	0.0020000000	lb/MMBtu	GRI Field
Cyclohexane	0.0050	0.0000451000	lb/MMBtu	GRI Field
Methylcyclohexane	0.0186	0.0001691000	lb/MMBtu	GRI Field
n-Octane	0.0056	0.0000506000	lb/MMBtu	GRI Field
n-Nonane	0.0005	0.0000050000	lb/MMBtu	GRI Field
CO2	12,933.8824	117.6470588235	lb/MMBtu	EPA

GRI-HAPCalc® 3.01
External Combustion Devices Report

Facility ID:	NMSU	Notes:
Operation Type:	COMPRESSOR STATION	
Facility Name:	NEW MEXICO STATE UNIVERSITY	
User Name:		
Units of Measure:	U.S. STANDARD	

*ote: Emissions less than 5.00E-09 tons (or tonnes) per year are considered insignificant and are treated as zero.
These emissions are indicated on the report with a "0".
Emissions between 5.00E-09 and 5.00E-05 tons (or tonnes) per year are represented on the report with "0.0000".*

External Combustion Devices

Unit Name: 269-1

Hours of Operation: 8,760 Yearly
Heat Input: 54.20 MMBtu/hr
Fuel Type: NATURAL GAS
Device Type: BOILER
Emission Factor Set: EPA > FIELD > LITERATURE
Additional EF Set: -NONE-

Calculated Emissions (ton/yr)

<u>Chemical Name</u>	<u>Emissions</u>	<u>Emission Factor</u>	<u>Emission Factor Set</u>
HAPs			
3-Methylcholanthrene	0.0000	0.0000000018 lb/MMBtu	EPA
7,12-Dimethylbenz(a)anthracene	0.0000	0.0000000157 lb/MMBtu	EPA
Formaldehyde	0.0175	0.0000735294 lb/MMBtu	EPA
Methanol	0.1029	0.0004333330 lb/MMBtu	GRI Field
Acetaldehyde	0.0691	0.0002909000 lb/MMBtu	GRI Field
1,3-Butadiene	0.0000	0.0000001830 lb/MMBtu	GRI Field
Benzene	0.0005	0.0000020588 lb/MMBtu	EPA
Toluene	0.0008	0.0000033333 lb/MMBtu	EPA
Ethylbenzene	0.0000	0.0000000720 lb/MMBtu	GRI Field
Xylenes(m,p,o)	0.0003	0.0000010610 lb/MMBtu	GRI Field
2,2,4-Trimethylpentane	0.0077	0.0000323000 lb/MMBtu	GRI Field
n-Hexane	0.4189	0.0017647059 lb/MMBtu	EPA
Phenol	0.0000	0.0000000950 lb/MMBtu	GRI Field
Naphthalene	0.0001	0.0000005980 lb/MMBtu	EPA
2-Methylnaphthalene	0.0000	0.0000000235 lb/MMBtu	EPA
Acenaphthylene	0.0000	0.0000000018 lb/MMBtu	EPA
Biphenyl	0.0003	0.0000011500 lb/MMBtu	GRI Field
Acenaphthene	0.0000	0.0000000018 lb/MMBtu	EPA
Fluorene	0.0000	0.0000000027 lb/MMBtu	EPA
Anthracene	0.0000	0.0000000024 lb/MMBtu	EPA
Phenanthrene	0.0000	0.0000000167 lb/MMBtu	EPA
Fluoranthene	0.0000	0.0000000029 lb/MMBtu	EPA
Pyrene	0.0000	0.0000000049 lb/MMBtu	EPA
Benz(a)anthracene	0.0000	0.0000000018 lb/MMBtu	EPA
Chrysene	0.0000	0.0000000018 lb/MMBtu	EPA
Benzo(a)pyrene	0.0000	0.0000000012 lb/MMBtu	EPA

Benzo(k)fluoranthene	0.0000	0.0000000018	lb/MMBtu	EPA
Benzo(g,h,i)perylene	0.0000	0.0000000012	lb/MMBtu	EPA
Indeno(1,2,3-c,d)pyrene	0.0000	0.0000000018	lb/MMBtu	EPA
Dibenz(a,h)anthracene	0.0000	0.0000000012	lb/MMBtu	EPA
Lead	0.0001	0.0000004902	lb/MMBtu	EPA

Total 0.6182

Criteria Pollutants

VOC	1.2801	0.0053921569	lb/MMBtu	EPA
PM	1.7688	0.0074509804	lb/MMBtu	EPA
PM, Condensable	1.3266	0.0055882353	lb/MMBtu	EPA
PM, Filterable	0.4422	0.0018627451	lb/MMBtu	EPA
CO	19.5503	0.0823529410	lb/MMBtu	EPA
NMHC	2.0248	0.0085294118	lb/MMBtu	EPA
NOx	23.2741	0.0980392157	lb/MMBtu	EPA
SO2	0.1396	0.0005880000	lb/MMBtu	EPA

Other Pollutants

Dichlorobenzene	0.0003	0.0000011765	lb/MMBtu	EPA
Methane	0.5353	0.0022549020	lb/MMBtu	EPA
Acetylene	1.2657	0.0053314000	lb/MMBtu	GRI Field
Ethylene	0.1250	0.0005264000	lb/MMBtu	GRI Field
Ethane	0.7215	0.0030392157	lb/MMBtu	EPA
Propylene	0.2216	0.0009333330	lb/MMBtu	GRI Field
Propane	0.3724	0.0015686275	lb/MMBtu	EPA
Butane	0.4888	0.0020588235	lb/MMBtu	EPA
Cyclopentane	0.0096	0.0000405000	lb/MMBtu	GRI Field
Pentane	0.6051	0.0025490196	lb/MMBtu	EPA
n-Pentane	0.4748	0.0020000000	lb/MMBtu	GRI Field
Cyclohexane	0.0107	0.0000451000	lb/MMBtu	GRI Field
Methylcyclohexane	0.0401	0.0001691000	lb/MMBtu	GRI Field
n-Octane	0.0120	0.0000506000	lb/MMBtu	GRI Field
n-Nonane	0.0012	0.0000050000	lb/MMBtu	GRI Field
CO2	27,928.9412	117.6470588235	lb/MMBtu	EPA

Unit Name: 269-2

Hours of Operation: 8,760 Yearly
Heat Input: 54.20 MMBtu/hr
Fuel Type: NATURAL GAS
Device Type: BOILER
Emission Factor Set: EPA > FIELD > LITERATURE
Additional EF Set: -NONE-

Calculated Emissions (ton/yr)

<u>Chemical Name</u>	<u>Emissions</u>	<u>Emission Factor</u>	<u>Emission Factor Set</u>
HAPs			
3-Methylcholanthrene	0.0000	0.0000000018	lb/MMBtu EPA
7,12-Dimethylbenz(a)anthracene	0.0000	0.0000000157	lb/MMBtu EPA
Formaldehyde	0.0175	0.0000735294	lb/MMBtu EPA
Methanol	0.1029	0.0004333330	lb/MMBtu GRI Field

1,3-Butadiene	0.0000	0.0000001830	lb/MMBtu	GRI Field
Benzene	0.0005	0.0000020588	lb/MMBtu	EPA
Toluene	0.0008	0.0000033333	lb/MMBtu	EPA
Ethylbenzene	0.0000	0.0000000720	lb/MMBtu	GRI Field
Xylenes(m,p,o)	0.0003	0.0000010610	lb/MMBtu	GRI Field
2,2,4-Trimethylpentane	0.0077	0.0000323000	lb/MMBtu	GRI Field
n-Hexane	0.4189	0.0017647059	lb/MMBtu	EPA
Phenol	0.0000	0.0000000950	lb/MMBtu	GRI Field
Naphthalene	0.0001	0.0000005980	lb/MMBtu	EPA
2-Methylnaphthalene	0.0000	0.0000000235	lb/MMBtu	EPA
Acenaphthylene	0.0000	0.0000000018	lb/MMBtu	EPA
Biphenyl	0.0003	0.0000011500	lb/MMBtu	GRI Field
Acenaphthene	0.0000	0.0000000018	lb/MMBtu	EPA
Fluorene	0.0000	0.0000000027	lb/MMBtu	EPA
Anthracene	0.0000	0.0000000024	lb/MMBtu	EPA
Phenanthrene	0.0000	0.0000000167	lb/MMBtu	EPA
Fluoranthene	0.0000	0.0000000029	lb/MMBtu	EPA
Pyrene	0.0000	0.0000000049	lb/MMBtu	EPA
Benz(a)anthracene	0.0000	0.0000000018	lb/MMBtu	EPA
Chrysene	0.0000	0.0000000018	lb/MMBtu	EPA
Benzo(a)pyrene	0.0000	0.0000000012	lb/MMBtu	EPA
Benzo(b)fluoranthene	0.0000	0.0000000018	lb/MMBtu	EPA
Benzo(k)fluoranthene	0.0000	0.0000000018	lb/MMBtu	EPA
Benzo(g,h,i)perylene	0.0000	0.0000000012	lb/MMBtu	EPA
Indeno(1,2,3-c,d)pyrene	0.0000	0.0000000018	lb/MMBtu	EPA
Dibenz(a,h)anthracene	0.0000	0.0000000012	lb/MMBtu	EPA
Lead	0.0001	0.0000004902	lb/MMBtu	EPA

Total

0.6182

Criteria Pollutants

VOC	1.2801	0.0053921569	lb/MMBtu	EPA
PM	1.7688	0.0074509804	lb/MMBtu	EPA
PM, Condensable	1.3266	0.0055882353	lb/MMBtu	EPA
PM, Filterable	0.4422	0.0018627451	lb/MMBtu	EPA
CO	19.5503	0.0823529410	lb/MMBtu	EPA
NMHC	2.0248	0.0085294118	lb/MMBtu	EPA
NOx	23.2741	0.0980392157	lb/MMBtu	EPA
SO2	0.1396	0.0005880000	lb/MMBtu	EPA

Other Pollutants

Dichlorobenzene	0.0003	0.0000011765	lb/MMBtu	EPA
Methane	0.5353	0.0022549020	lb/MMBtu	EPA
Acetylene	1.2657	0.0053314000	lb/MMBtu	GRI Field
Ethylene	0.1250	0.0005264000	lb/MMBtu	GRI Field
Ethane	0.7215	0.0030392157	lb/MMBtu	EPA
Propylene	0.2216	0.0009333330	lb/MMBtu	GRI Field
Propane	0.3724	0.0015686275	lb/MMBtu	EPA
Butane	0.4888	0.0020588235	lb/MMBtu	EPA
Cyclopentane	0.0096	0.0000405000	lb/MMBtu	GRI Field
Pentane	0.6051	0.0025490196	lb/MMBtu	EPA
n-Pentane	0.4748	0.0020000000	lb/MMBtu	GRI Field
Cyclohexane	0.0107	0.0000451000	lb/MMBtu	GRI Field
Methylcyclohexane	0.0401	0.0001691000	lb/MMBtu	GRI Field

press [CTRL-K] for help with keyboard -----

DATE RUN: 14-JUN-00
 RUN BY: Bette Hiltunen

Fuel: SD NATURAL GAS Customer: NMQU
Water Injection: NO Inquiry Number:
Number of Engines Tested: 6
Model: TAURUS 60-77300 GSC STANDARD GAS
(P/N 198630-300)
Emissions Data: REV. 1.0

1. Short term permitting values such as EPMV or lbs/hr should be based on worst case actual operating conditions specific to the application and the site. Worst case for one pollutant is not necessarily the same for another. The values on this form are only predicted emissions at one specific operating condition; not necessarily the worst case.
2. Long term reference emission units (a.g. tons/yr) should reference the average conditions at the site (a.g. ISO). That number should not be derived from the worst case value referenced above, or conversely this average must not be used to calculate worst case.
3. Nominal values are based on actual test results, or predicted in the case of no actual engine tests. Expected maximum values should be referenced for permitting.
4. If a Solenox model is planned to be installed in the future, use no less than 50 EPMV CO.

Wk= 4542, Full Load= 100.0, Elev= 3900 ft, WAX= 30.0, Temperature= 40.0 F

[illegible]

OTHER IMPORTANT NOTES

1. Solar does not provide maximum values for water-to-fuel ratio, SOx, particulates, or conditions outside those above without separate written approval.
2. Solar can optionally provide factory testing in San Diego to ensure the actual unit(s) meet the above values within the tolerances quoted. Pricing and schedule impact will be provided upon request.
3. Fuel must meet Solar standard fuel specification ES 9-98. Predicted emissions are based on the attached fuel composition, or, San Diego natural gas or equivalent.
4. If the above information is being used regarding existing equipment, it should be verified by actual site testing.

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE CODE REV. 2.85
CUSTOMER: NMSU
JOB ID: 0000

DATE RUN: 14-JUN-00
RUN BY: Russ Sylvester

NEW EQUIPMENT PREDICTED EMISSION PERFORMANCE
DATA FOR POINT NUMBER 2

Fuel: SD NATURAL GAS Customer: NMSU
Water Injection: NO Inquiry Number:
Number of Engines Tested: 6
Model: TAURUS 60-T1300 GSC STANDARD GAS
(P/N 198510-300)
Emissions Data: REV. 1.0

CRITICAL WARNINGS IN USE OF DATA FOR PERMITTING

1. Short term permitting values such as PPMV or lbs/hr should be based on worst case actual operating conditions specific to the application and the site. Worst case for one pollutant is not necessarily the same for another. The values on this form are only predicted emissions at one specific operating condition; not necessarily the worst case.
2. Long term reference emission units (e.g. tons/yr) should reference the average conditions at the site (e.g. ISO). That number should not be derived from the worst case value referenced above, or conversely this average must not be used to calculate worst case.
3. Nominal values are based on actual test results, or predicted in the case of no actual engine tests. Expected maximum values should be referenced for permitting.
4. If a SolarMax model is planned to be installed in the future, use no less than 50 PPMV CO.

The following predicted emissions performance is based on the following specific single point: (see attached)

kw= 4215, Full Load= 100.0, Elev= 3900 ft, RH= 30.0, Temperature= 59.0 F

NOX		CO		UHC		
NOM	MAX	NOM	MAX	NOM	MAX	
91.15	143.00	3.67	50.00	0.710	25.000	PPMvd at 15% O2
80.85	125.58	1.96	26.73	0.217	7.635	ton/yr
0.364	0.572	0.009	0.122	0.0010	0.0349	lbm/McStu (Fuel LHV)
4.10	6.43	0.10	1.37	0.011	0.392	lbm/(MWe-hr)
						(gen. terminal pwc)

OTHER IMPORTANT NOTES

1. Solar does not provide maximum values for water-to-fuel ratio, SOx, particulates, or conditions outside those above without separate written approval.
2. Solar can optionally provide factory testing in San Diego to ensure the actual unit(s) meet the above values within the tolerances quoted. Pricing and schedule impact will be provided upon request.
3. Fuel must meet Solar standard fuel specification ES 9-98. Predicted emissions are based on the attached fuel composition, or, San Diego natural gas or equivalent.
4. If the above information is being used regarding existing equipment, it should be verified by actual site testing.

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE CODE REV. 2.83
CUSTOMER: MMSU
JOB ID: 0000

DATE RUN: 14-JUN-00
RUN BY: Russ Sylvester

NEW EQUIPMENT PREDICTED EMISSION PERFORMANCE
DATA FOR POINT NUMBER 3

Fuel: SD NATURAL GAS Customer: MMSU
Water Injection: NO Inquiry Number:
Number of Engines Tested: 6
Model: TAURUS 60-T7300 GSC STANDARD GAS
(P/W 198630-300)
Emissions Data: REV. 1.0

CRITICAL WARNINGS IN USE OF DATA FOR PERMITTING

1. Short term permitting values such as PPMV or lbs/hr should be based on worst case actual operating conditions specific to the application and the site. Worst case for one pollutant is not necessarily the same for another. The values on this form are only predicted emissions at one specific operating condition; not necessarily the worst case.
2. Long term reference emission units (e.g. tons/yr) should reference the average conditions at the site (e.g. ISO). That number should not be derived from the worst case value referenced above, or conversely this average must not be used to calculate worst case.
3. Nominal values are based on actual test results, or predicted in the case of no actual engine tests. Expected maximum values should be referenced for permitting.
4. If a Solenox model is planned to be installed in the future, use no less than 50 PPMV CO.

The following predicted emissions performance is based on the following specific single point: (see attached)

kW= 1835, Full Load= 100.0, Elev= 3900 ft, RH= 30.0, Temperature= 80.0 F

NOX		CO		UHC		
NOM	MAX	NOM	MAX	NOM	MAX	
89.32	143.00	4.18	50.00	0.769	25.000	PPMvd at 15% O2
73.42	117.34	2.09	25.02	0.220	7.166	ton/yr
0.336	0.569	0.010	0.121	0.0011	0.0347	lbm/MMBtu (Fuel LHV)
4.11	6.59	0.12	1.40	0.012	0.401	lbm/(MWe-hr) (gen. terminal pow)

OTHER IMPORTANT NOTES

1. Solar does not provide maximum values for water-to-fuel ratio, SOx, particulates, or conditions outside those above without separate written approval.
2. Solar can optionally provide factory testing in San Diego to ensure the actual unit(s) meet the above values within the tolerances quoted. Pricing and schedule impact will be provided upon request.
3. Fuel must meet Solar standard fuel specification ES 9-98. Predicted emissions are based on the attached fuel composition, or, San Diego natural gas or equivalent.
4. If the above information is being used regarding existing equipment, it should be verified by actual site testing.

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE CODE REV. 2.85
CUSTOMER: NYSU
JOB ID: 0000

DATE RUN: 14-JUN-00
RUN BY: Russ Sylvester

NEW EQUIPMENT PREDICTED EMISSION PERFORMANCE
DATA FOR POINT NUMBER 4

Fuel: SD NATURAL GAS Customer: NYSU
Water Injection: NO Inquiry Number:
Number of Engines Tested: 6
Model: TATRON 60-77300 GSC STANDARD GAS
(P/N 198630-300)
Emissions Data: REV. 1.0

CRITICAL WARNINGS IN USE OF DATA FOR PERMITTING

1. Short term permitting values such as PPMV or lbs/hr should be based on worst case actual operating conditions specific to the application and the site. Worst case for one pollutant is not necessarily the same for another. The values on this form are only predicted emissions at one specific operating condition; not necessarily the worst case.
2. Long term reference emission units (e.g. tons/yr) should reference the average conditions at the site (e.g. ISO). That number should not be derived from the worst case value referenced above, or conversely this average must not be used to calculate worst case.
3. Nominal values are based on actual test results, or predicted in the case of no actual engine tests. Expected maximum values should be referenced for permitting.
4. If a SolonCM model is planned to be installed in the future, use no less than 30 PPMV CO.

The following predicted emissions performance is based on the following specific single point: (see attached)

KW= 1682, Full Load= 100.0, Elev= 3900 ft, RH= 30.0, Temperature= 90.0 F

NOX		CO		LHC		
NOM	MAX	NOM	MAX	NOM	MAX	
86.80	143.00	4.36	50.00	0.789	25.000	PPMvd at 13% O2
69.16	113.80	2.11	24.22	0.219	6.937	ton/yr
0.345	0.568	0.011	0.121	0.0011	0.0346	lbm/MWh (Fuel LHV)
4.05	6.66	0.12	1.42	0.013	0.406	lbm/(MWh-hr) (gen. terminal pwr)

OTHER IMPORTANT NOTES

1. Solar does not provide maximum values for water-to-fuel ratio, SOx, particulates, or conditions outside those above without separate written approval.
2. Solar can optionally provide factory testing in San Diego to ensure the actual unit(s) meet the above values within the tolerances quoted. Pricing and schedule impact will be provided upon request.
3. Fuel must meet Solar standard fuel specification ES 9-98. Predicted emissions are based on the attached fuel composition, or, San Diego natural gas or equivalent.
4. If the above information is being used regarding existing equipment, it should be verified by actual site testing.

SOLAR TURBINES INCORPORATED
ENGINE PERFORMANCE CODE REV. 2.85
CUSTOMER: MASU
JOB ID: 0000

DATE RUN: 14-JUN-00
RUN BY: Russ Sylvester

NEW EQUIPMENT PREDICTED EMISSION PERFORMANCE
DATA FOR POINT NUMBER 5

Fuel: SD NATURAL GAS
Water Injection: NO
Number of Engines Tested: 6
Model: TAURUS 60-T1300 GSC STANDARD GAS
(B/M 198630-300)
Emissions Data: REV. 1.0

Customer: MASU
Inquiry Number:

CRITICAL WARNINGS IN USE OF DATA FOR PERMITTING

1. Short term permitting values such as PPMV or lbs/hr should be based on worst case actual operating conditions specific to the application and the site. Worst case for one pollutant is not necessarily the same for another. The values on this form are only predicted emissions at one specific operating condition; not necessarily the worst case.
2. Long term reference emission units (e.g. tons/yr) should reference the average conditions at the site (e.g. ISO). That number should not be derived from the worst case value referenced above, or conversely this average must not be used to calculate worst case.
3. Nominal values are based on actual test results, or predicted in the case of no actual engine tests. Expected maximum values should be referenced for permitting.
4. If a Solenox model is planned to be installed in the future, use no less than 50 PPMV CO.

The following predicted emissions performance is based on the following specific single point: (see attached)

kW= 3492, Full Load= 100.0, Elev= 3500 ft, RH= 30.0, Temperature= 100.0 F

SOX		CO		UHC		
NOM	MAX	NOM	MAX	NOM	MAX	
83.11	143.00	4.51	50.00	0.808	25.000	PPMvd at 15% O2
63.82	109.81	2.11	23.39	0.216	6.634	ton/yr
0.329	0.566	0.011	0.120	0.0011	0.0345	lbm/lbmstd (Fuel LHV)
3.94	6.77	0.13	1.44	0.013	0.013	lbm/(kW-hr) (gen. terminal power)

OTHER IMPORTANT NOTES

1. Solar does not provide maximum values for water-to-fuel ratio, SOX, particulates, or conditions outside those above without separate written approval.
2. Solar can optionally provide factory testing in San Diego to ensure the actual unit(s) meet the above values within the tolerances quoted. Pricing and schedule impact will be provided upon request.
3. Fuel must meet Solar standard fuel specification RS 9-98. Predicted emissions are based on the attached fuel composition, or, San Diego natural gas or equivalent.
4. If the above information is being used regarding existing equipment, it should be verified by actual site testing.



*Support Unit -
Training 10/9/96* P.01

P.O. BOX 1490
EL PASO, TEXAS 79914
PHONE 915.544.2800

November 22, 1996

Mr. James G. White
City of Las Cruces
P. O. Box 2000
Las Cruces, NM 80004

Dear Mr. White:

In your letter of October 28, 1996, you asked that we provide a daily sulfur content of natural gas summarized in a monthly report to Mr. Lucio Garcia at New Mexico State University. As we discussed in today's meeting, following is the information that may assist you and Mr. Garcia in completing the reports to the EPA Air Quality Board.

El Paso currently monitors the gas quality throughout our operating system. The typical or average amount of sulfur contained in El Paso's natural gas deliveries made in the southern New Mexico area is less than 0.3 grains per 100 standard cubic feet. The sources of natural gas transported on the El Paso's system do change on a daily basis. These changes in sources of supplies may reflect a higher and lower level of sulfur.

El Paso's FERC Gas Tariff, Second Revised Volume No. 1-A allows gas volumes in the El Paso System to contain the following levels of sulfur:

Total Sulfur (TS)	0.75 grains/100 scf
Mercaptan Sulfur (RSH)	0.30 grains/100 scf
Organic Sulfur (OS)	0.50 grains/100 scf
Hydrogen Sulfide (H ₂ S)	0.25 grains/100 scf

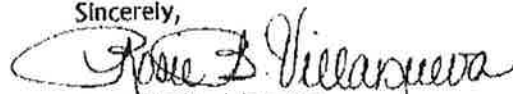
To insure that New Mexico State University reports their gas sulfur levels accurately to the EPA Air Quality Board, a sulfur chromatograph or analyzer should be installed at their delivery point. I have discussed this with Mr. Lucio Garcia and he will be talking with you about this option at a later date.

Mr. James G. White
City of Las Cruces
November 22, 1996
Page 2

As we also discussed today, enclosed are two originals of Exhibit B to transportation service agreement 982M reflecting the removal of the Chamberino delivery point. Please execute and return both originals and I will return one fully-executed copy for your files.

It was a pleasure working on these issues with you today. Please let me know if you have any questions or if I can be of any further assistance.

Sincerely,


Rosie Borja Villanueva
Transportation Marketing

letter5
Enclosures

NMSU Las Cruces—Operating Permit Application
Turbine Supporting Data

Table 4-2

**Emission Factors for Pipeline Gas-Fired Engines
(g/hp-hr)**

Component	2-Stroke Lean Burn	4-Stroke Lean Burn	4-Stroke Rich Burn
Acetaldehyde	0.0027	0.0169	0.0039
Acrolein	0.0018	0.0074	0.0034
Benzene	0.0066	0.0043	0.0046
Formaldehyde	0.0879	0.1011	0.0623
Toluene	0.0016	0.0269	0.0016
Xylenes	--- ^a	0.0009	0.0014

^aNo xylene data is currently available in the database specific to 2-stroke lean burn engines.

Table 4-3

**Emission Factors for Field Gas-Fired Engines
(g/hp-hr)**

Component	2-Stroke Lean Burn	4-Stroke Lean Burn	4-Stroke Rich Burn
Benzene	0.0446	0.0052	0.0221
Formaldehyde	0.2432	0.1683	0.0381
Toluene	0.0157	0.0021	0.0071
Xylenes	0.0055	0.0014	0.0017

4.4

Emission Factors for Combustion Turbines

Emission factors for combustion turbines were also developed from the Phase I GRI Air Toxics database.⁵ The database contains formaldehyde emissions data collected from two non-utility turbines firing pipeline quality natural gas. Insufficient data were available to distinguish emissions from combustion turbines firing pipeline gas from those firing field gas; therefore, the emission factor (0.0159 g/hp-hr) in GRI-HAPCalc™ is used for turbines firing either fuel.

NMSU Las Cruces—Operating Permit Application
Boilers Supporting Data

Table 1.4-1 (Metric And English Units) EMISSION FACTORS FOR PARTICULATE MATTER (PM)
FROM NATURAL GAS COMBUSTION^a

Combustor Type (Size, 10 ⁶ Btu/hr Heat Input) (SCC) ^b	Filterable PM ^c			Condensable PM ^d		
	kg/10 ⁶ m ³	lb/10 ⁶ ft ³	RATING	kg/10 ⁶ m ³	lb/10 ⁶ ft ³	RATING
Utility/large industrial boilers (> 100) (1-01-006-01, 1-01-006-04)	16 - 80	1 - 5	B	ND	ND	NA
Small industrial boilers (10 - 100) (1-02-006-02)	99	6.2	B	120	7.5	D
Commercial boilers (0.3 - < 10) (1-03-006-03)	72	4.5	C	120	7.5	C
Residential furnaces (< 0.3) (No SCC)	2.8	0.18	C	180	11	D

^a References 9-14. All factors represent uncontrolled emissions. Units are kg of pollutant/10⁶ cubic meters natural gas fired and lb of pollutant/10⁶ cubic feet natural gas fired. Based on an average natural gas higher heating value of 8270 kcal/m³ (1000 Btu/scf). The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. ND = no data. NA = not applicable.

^b SCC = Source Classification Code

^c Filterable PM is that particulate matter collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train.
^d Condensable PM is that particulate matter collected using EPA Method 202, (or equivalent). Total PM is the sum of the filterable PM and condensable PM. All PM emissions can be assumed to be less than 10 micrometers in aerodynamic equivalent diameter (PM-10).

Boilers 269-1+269-2
Scenario 1
✓ Boiler 269-3

Table 1.4-2 (Metric And English Units). EMISSION FACTORS FOR SULFUR DIOXIDE (SO₂), NITROGEN OXIDES (NO_x), AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION^a

Combustor Type (Size, 10 ⁶ Btu/hr Heat Input) (SCC) ^b	SO ₂ ^c		NO _x ^d		CO ^e	
	kg/10 ⁶ m ³	lb/10 ⁶ ft ³	RATING	kg/10 ⁶ m ³	lb/10 ⁶ ft ³	RATING
Utility/Large Industrial Boilers (> 100) (1-01-006-01, 1-01-006-04)						
Uncontrolled	9.6	0.6	A	8800	550 ^f	A
Controlled - Low NO _x burners	9.6	0.6	A	1300	81 ^f	D
Controlled - Flue gas recirculation	9.6	0.6	A	850	53 ^f	D
Small Industrial Boilers (10 - 100) (1-02-006-02)						
Uncontrolled	9.6	0.6	A	2240	140 ^f	A
Controlled - Low NO _x burners	9.6	0.6	A	1300	81 ^f	D
Controlled - Flue gas recirculation	9.6	0.6	A	480	30	C
Commercial Boilers (0.3 - <10) (1-03-006-03)						
Uncontrolled	9.6	0.6	A	1600	100	B
Controlled - Low NO _x burners	9.6	0.6	A	270	17	C
Controlled - Flue gas recirculation	9.6	0.6	A	580	36	D
Residential Furnaces (<0.3) (No SCC)						
Uncontrolled	9.6	0.6	A	1500	94	B

Units are kg of pollutant/10⁶ cubic meters natural gas fired and lb of pollutant/10⁶ cubic feet natural gas fired. Based on an average natural gas fired higher heating value of 8270 kcal/m³ (1000 Btu/scf). The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. ND = no data. NA = not applicable.

^b SCC = Source Classification Code.

^c Reference 7. Based on average sulfur content of natural gas, 4600 g/10⁶ Nm³ (2000 gr/10⁶ scf).

Table 1.4-3 (Metric And English Units). EMISSION FACTORS FOR CARBON DIOXIDE (CO₂) AND TOTAL ORGANIC COMPOUNDS (TOC) FROM NATURAL GAS COMBUSTION^a

Combustor Type (Size, 10 ⁶ Btu/hr Heat Input) (SCC) ^b	CO ₂ ^c		TOC ^d	
	kg/10 ⁶ m ³	lb/10 ⁶ ft ³	kg/10 ⁶ m ³	lb/10 ⁶ ft ³
Utility/large industrial boilers (> 100) (1-01-006-01, 1-01-006-04)	ND ^e	ND	28 ^f	1.7 ^f
Small industrial boilers (10 - 100) (1-02-006-02)	1.9 E+06	1.2 E+05	92 ^g	5.8 ^g
Commercial boilers (0.3 - < 10) (1-03-006-03)	1.9 E+06	1.2 E+05	128 ^h	8.0 ^h
Residential furnaces (No SCC)	2.0 E+06	1.3 E+05	180 ^h	11 ^h

^a All factors represent uncontrolled emissions. Units are kg of pollutant/10⁶ cubic meters and lb of pollutant/10⁶ cubic feet. Based on an average natural gas higher heating value of 2270 kcal/m³ (1000 Btu/scf). The emission factors in this table may be converted to other natural gas heating values by multiplying the given factor by the ratio of the specified heating value to this average heating value.

^b NA = not applicable.

^c SCC = Source Classification Code.

^d References 10,22-23.

^e References 9-10,18.

^f ND = no data.

^g Reference 8: methane comprises 17% of organic compounds.

^h Reference 8: methane comprises 52% of organic compounds.

ⁱ Reference 8: methane comprises 34% of organic compounds.

Emission Factors for Small External Combustion Devices

The emission factors in GRI-HAPCalc™ for small combustion devices, including natural gas-fired process heaters, boilers, and reboiler burners (e.g., glycol and amine regenerator reboiler burners), were based on very limited test data from Western States Petroleum Association (WSPA).⁶ The test data were from a single natural gas-fired steam generator and include emission measurements for benzene, formaldehyde, toluene, and xylenes. The following emission factors are included in GRI-HAPCalc™:

<u>Component</u>	<u>Factor (lb/MMBtu)</u>
Benzene	2.0×10^{-6}
Toluene	6.2×10^{-6}
Xylenes	9.1×10^{-6}
Formaldehyde	8.4×10^{-6}

Insufficient data were available to distinguish emissions from sources firing pipeline quality gas from those firing field gas; therefore, the emission factors in GRI-HAPCalc™ are identical in both cases.

Emission Estimates for Fugitives

GRI-HAPCalc™ offers two sets of emission factors for estimating fugitive emissions of benzene, toluene, ethylbenzene, xylenes, and hexane from equipment leaks at natural gas production facilities, gas processing plants, or compressor stations. The first set of emission factors for fugitive emissions in GRI-HAPCalc™ was developed by the EPA for gas plants as part of their equipment leak program.⁷ The second set of emission factors for fugitive emissions were based on data collected at gas facilities as part of a joint program by the American Petroleum Institute (API) and GRI to evaluate fugitive hydrocarbon emissions from oil and gas production operations.⁸

GRI-HAPCalc™ also provides the option of estimating fugitive emissions using correlation equations developed in the API/GRI fugitives program.⁸ This option is slightly more refined than the emission factor approaches in that it estimates emissions as a function of screened leak rates.

EPA Emission Factors

The fugitive emission factors developed by the EPA were based on screening data collected at six gas processing plants in studies conducted by the EPA and API.⁷ The EPA emission factors were derived for valves, compressor seals, pressure relief valves, connectors, and open-ended lines, without distinguishing between vapor or liquid service. An emission factor was also developed for pump seals in liquid service. All of the emission factors developed in the EPA study were for total organic compound emissions as shown in Table 4-4 below:

Boiler's 264-1 + 269-2
Scenario 2

Table 1.3-2 (English Units). CRITERIA POLLUTANT EMISSION FACTORS FOR UNCONTROLLED FUEL OIL COMBUSTION

Firing Configuration (SCC) ^a	SO ₂ ^b		SO ₃ ^c		NO _x ^d		CO ^{e,f}		Filterable PM ^{g,h}	
	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING
Utility boilers										
No. 6 oil fired, normal firing (1-01-004-01)	157S	A	5.7S	C	67	A	5	A	9.19(S) = 3.22	A
No. 6 oil fired, tangential firing (1-01-004-04)	157S	A	5.7S	C	42	A	5	A	9.19(S) = 3.22	A
No. 5 oil fired, normal firing (1-01-004-05)	157S	A	5.7S	C	67	A	5	A	10	B
No. 5 oil fired, tangential firing (1-01-004-06)	157S	A	5.7S	C	42	A	5	A	10	B
No. 4 oil fired, normal firing (1-01-005-04)	150S	A	5.7S	C	67	A	5	A	7	B
No. 4 oil fired, tangential firing (1-01-005-05)	150S	A	5.7S	C	42	A	5	A	7	B
Industrial boilers										
No. 6 oil fired (1-02-004-01/02/03)	157S	A	2S	A	55	A	5	A	9.19(S) = 3.22	A
No. 5 oil fired (1-02-004-04)	157S	A	2S	A	55	A	5	A	10	B
Distillate oil fired (1-02-005-01/02/03)	142S	A	2S	A	20	A	5	A	2	A
No. 4 oil fired (1-02-005-04)	150S	A	2S	A	20	A	5	A	7	B
Commercial/institutional/residential combustors										
No. 6 oil fired (1-03-004-01/02/03)	157S	A	2S	A	55	A	5	A	9.19(S) = 3.22	A
No. 5 oil fired (1-03-004-04)	157S	A	2S	A	55	A	5	A	10	B
Distillate oil fired (1-03-005-01/02/03)	142S	A	2S	A	20	A	5	A	2	A
No. 4 oil fired (1-03-005-04)	150S	A	2S	A	20	A	5	A	7	B
Residential furnaces (A2104004/A2104011)	142S	A	2S	A	18	A	5	A	3	A

Table 1.3-2 (cont.).

- ^a SCC = Source Classification Code.
- ^b References 1-6,23,42-46. S indicates that the weight % of sulfur in the oil should be multiplied by the value given. For example, if the fuel is 1.0% sulfur, then S equals 1.0.
- ^c References 1-5,45-46,22.
- ^d References 3-4,10,15,24,42-46,48-49. Expressed as NO₂. Test results indicate that at least 95% by weight of NO_x is NO for all boiler types except residential furnaces, where about 75% is NO. For utility vertical fired boilers use 105 lb/10³ gal at full load and normal (> 15%) excess air. Nitrogen oxides emissions from residual oil combustion in industrial and commercial boilers are related to fuel nitrogen content, estimated by the following empirical relationship: lb NO₂/10³ gal = 20.54 + 104.39(N), where N is the weight percent of nitrogen in the oil. For example, if the fuel is 1.0% Nitrogen, then N equals 1.0.
- ^e References 3-5,8-10,23,42-46,48. CO emissions may increase by factors of 10 to 100 if the unit is improperly operated or not well maintained.
- ^f Emission factors for CO₂ from oil combustion should be calculated using lb CO₂/10³ gal oil = 259 C (distillate) or 288 C (residual). C equals the weight percent carbon in the fuel. For example, if the fuel is 86% carbon, then C equals 86.
- ^g References 3-5,7,21,23-24,42-46,47,49. Filterable PM is that particulate collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. PM-10 values include the sum of that particulate collected on the PM-10 filter of an EPA Method 201 or 201A sampling train and condensable emissions as measured by EPA Method 202.
- ^h Particulate emission factors for residual oil combustion are, on average, a function of fuel oil grade and sulfur content: where S is the weight % of sulfur in oil. For example, if the fuel is 1.0% sulfur, then S equals 1.0.

Table 1.3-4 (English Units). EMISSION FACTORS FOR TOTAL ORGANIC COMPOUNDS (TOC), METHANE, AND NONMETHANE TOC (NMTOC) FROM UNCONTROLLED FUEL OIL COMBUSTION

Firing Configuration (SCC) ^a	TOC ^b		Methane ^b		NMTOC ^b	
	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING	lb/10 ³ gal	EMISSION FACTOR RATING
Utility boilers						
No. 6 oil fired, normal firing (1-01-004-01)	1.04	A	0.28	A	0.76	A
No. 6 oil fired, tangential firing (1-01-004-04)	1.04	A	0.28	A	0.76	A
No. 5 oil fired, normal firing (1-01-004-05)	1.04	A	0.28	A	0.76	A
No. 5 oil fired, tangential firing (1-01-004-06)	1.04	A	0.28	A	0.76	A
No. 4 oil fired, normal firing (1-01-005-04)	1.04	A	0.28	A	0.76	A
No. 4 oil fired, tangential firing (1-01-005-05)	1.04	A	0.28	A	0.76	A
Industrial boilers						
No. 6 oil fired (1-02-004-01/02/03)	1.28	A	1.0	A	0.28	A
No. 5 oil fired (1-02-004-04)	1.28	A	1.0	A	0.28	A
Distillate oil fired (1-02-005-01/02/03)	0.252	A	0.052	A	0.2	A
No. 4 oil fired (1-02-005-04)	0.252	A	0.052	A	0.2	A
Commercial/institutional/residential combustors						
No. 6 oil fired (1-03-004-01/02/03)	1.605	A	0.475	A	1.13	A
No. 5 oil fired (1-03-004-04)	1.605	A	0.475	A	1.13	A
Distillate oil fired (1-03-005-01/02/03)	0.556	A	0.216	A	0.34	A
No. 4 oil fired (1-03-005-04)	0.556	A	0.216	A	0.34	A
Residential furnace (No SCC)	2.493	A	1.78	A	0.713	A

^a SCC = Source Classification Code.

^b References 16-19. Volatile organic compound emissions can increase by several orders of magnitude if the boiler is improperly operated or is not well maintained.

combustion (SC), reduced air preheat (RAP), low NO_x burners (LNBs), or some combination thereof may result in NO_x reductions of 5 to 60 percent. Load reduction (LR) can likewise decrease NO_x production. Nitrogen oxides emissions may be reduced from 0.5 to 1 percent for each percentage reduction in load from full load operation. It should be noted that most of these variables, with the exception of excess air, influence the NO_x emissions only of large oil fired boilers. Low excess air-firing is possible in many small boilers, but the resulting NO_x reductions are less significant.

Recent N₂O emissions data indicate that direct N₂O emissions from oil combustion units are considerably below the measurements made prior to 1988. Nevertheless, the N₂O formation and reaction mechanisms are still not well understood or well characterized. Additional sampling and research is needed to fully characterize N₂O emissions and to understand the N₂O formation mechanism. Emissions can vary widely from unit to unit, or even from the same unit at different operating conditions. It has been shown in some cases that N₂O increases with decreasing boiler temperature. For this update, average emission factors based on reported test data have been developed for conventional oil combustion systems. These factors are presented in Table 1.3-9.

Table 1.3-9 (Metric And English Units). EMISSION FACTORS FOR NITROUS OXIDE (N₂O), POLYCYCLIC ORGANIC MATTER (POM), AND FORMALDEHYDE (HCOH) FROM FUEL OIL COMBUSTION

EMISSION FACTOR RATING: E

Firing Configuration (SCC) ^a	Emission Factor, kg/10 ³ L (lb/10 ³ gal)		
	N ₂ O ^b	POM ^c	HCOH ^e
Utility/industrial/commercial boilers			
No. 6 oil fired (1-01-004-01, 1-02-004-01, 1-03-004-01)	0.013 (0.11)	0.00013-0.00015 (0.0011-0.0013)	0.0029-0.0073 (0.024-0.061)
Distillate oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)	0.013 (0.11)	0.00040 (0.0033)	0.0042-0.0073 (0.035-0.061)
Residential furnaces (No SCC)	0.006 (0.05)	ND	ND

^a SCC = Source Classification Code. ND = no data.

^b References 28-29.

^c References 16-19.

^d Particulate and gaseous POM.

^e Particulate POM only.

The new source performance standards (NSPS) for PM, SO₂, and NO_x emissions from residual oil combustion in fossil fuel-fired boilers are shown in Table 1.3-10.

1.3.2.4 Carbon Monoxide Emissions¹⁶⁻¹⁹

The rate of CO emissions from combustion sources depends on the oxidation efficiency of the fuel. By controlling the combustion process carefully, CO emissions can be minimized. Thus if a unit is operated improperly or not well maintained, the resulting concentrations of CO (as well as organic compounds) may increase by several orders of magnitude. Smaller boilers, heaters, and furnaces tend to emit more of these pollutants than larger combustors. This is because smaller units

NMSU Las Cruces—Operating Permit Application
PPD's Paint Booth Emissions Supporting Data



TECH DATA

ALL PURPOSE SYN-LUSTRO

Alkyd Gloss Enamel

System # 22720

DESCRIPTION:

Wellborn's ALL PURPOSE SYN-LUSTRO Alkyd Gloss Enamel is an interior/exterior, oil based, enamel finish that features excellent adhesion, penetration and durability. ALL PURPOSE SYN-LUSTRO Alkyd Gloss Enamel cleans up with mineral spirits. For use on properly primed metal and wood surfaces such as sash and trim, lawn furniture, kitchen and bathroom walls, cabinets and shelves and is recommended for industrial maintenance applications.

SPECIFICATIONS:

5/93

FINISH

High Gloss (80% to 90% on a 60° gloss meter)

VEHICLE TYPE SOLVENT TYPE

Alkyd Aliphatic Hydrocarbons

VISCOSITY AT 77° F. (25° C.)

82 ± 5 Krebs Units

FLASH POINT, MINIMUM

105° F. (41° C.)

SOLIDS

Volume: 52.8 ± 2%

RECOMMENDED FILM THICKNESS/COAT

Wet: 2.85 mils Dry: 1.50 mils

AVERAGE DRY TIME AT 77° F. (25° C.)

To Touch: 2 Hours Tack Free: 6 Hours

Recoat: 12-16 Hours Dry: Within 16 Hours

THINNING RECOMMENDATIONS CLEAN-UP

Up to 1 pint Paint Thinner per gallon. Paint Thinner

APPLICATION EQUIPMENT

Airless Spray: Use spray tips with .013 to .017 orifice

Electrostatic: up to 2 oz. MEK per gallon

Roller: 3/8" to 3/4" Synthetic or Lambswool cover

Brush: Natural or China Bristle

SHIPPING INFORMATION PACKAGING

Combustible Liquid Qt., 1 & 5 gal. Containers

COLORS

White, Custom Colors, 4 Standard Colors

PRACTICAL COVERAGE PER COAT @

RECOMMENDED DRY FILM THICKNESS

400-500 square feet per gallon. May be less depending on surface.

PERFORMANCE SIMILAR TO FEDERAL SPECIFICATIONS

TT-E-489G - TT-E-506K - TT-P-37D

SPECIFICATIONS & COMPOSITION:

Pigment - 31.32%	Percent by Weight
Titanium Dioxide	26.29
Calcium Carbonate	5.03
Vehicle - 68.68%	
Alkyd Resin Solids	36.14
Additives & Driers	1.95
Mineral Spirits	30.59
	100.0

Weight per Gallon -	10.07 lbs.
Non-volatile Solids by Weight -	68.82%
Non-volatile Solids by Volume -	52.78%
Titanium Dioxide (lbs./gal.) -	2.65
Resin Solids (lbs./gal.) -	3.64
PVC (Pigment Volume Concentrate) -	19.90
V.O.C. (Grams/liter) -	376

DIRECTIONS:

Be sure surface is clean, dry and free from grease, oil and wax. All loose powdering or scaling paint should be removed. Glossy surfaces must be dulled. Putty nail holes and caulk sash, doors, and joints. Do not paint when temperature of air or surface is below 40 degrees F. Do not paint in direct hot summer sunlight or on damp or rainy days. Apply finish in a full, even coat. ALL PURPOSE SYN-LUSTRO Alkyd Gloss Enamel can be brushed, rolled, or sprayed. We recommend two finish coats of ALL PURPOSE SYN-LUSTRO Alkyd Gloss Enamel. Generally a single coat will sufficiently cover a surface, however, the additional coat provides substantially more durability. Thin only when necessary. Stir well before using.

CAUTION!

COMBUSTIBLE. CONTAINS PETROLEUM DISTILLATE. Keep away from heat and open flame. To avoid breathing vapors or spray mist, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches or dizziness, increase fresh air or wear respiratory protection (NIOSH/MSHA TC23C or equivalent), or leave the area. Close container after each use. Avoid contact with skin.

FIRST AID: If swallowed, do not induce vomiting. Call physician immediately.

Use with adequate ventilation.

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

NOTE: Dispose of waste in accordance with all applicable regulations.

KEEP OUT OF REACH OF CHILDREN.

Material safety data sheets available upon request.

RECOMMENDED PRIMER SYSTEMS:

New Wood Surfaces: Interior - Use #66 Enamel Undercoater or SUDDEN SEAL Exterior - Use #85 Exterior Wood Primer or SUDDEN SEAL. New Plaster Walls: Use SUDDEN SEAL Drywall: #65 Primer-Sealer. Bare Metal: Remove any loose rust and prime with the material indicated: Steel - Use A-640 Rust Inhibitive Red Oxide Primer or GALV-ALUM. Galvanized - Use GALV-ALUM.

103.33

FORMERLY D66



ProMar[®] 400 **INTERIOR ALKYD SEMI-GLOSS ENAMEL** **B34W400 SERIES**

SURFACE PREPARATION	APPLICATION	CAUTIONS																		
WOOD Sand any exposed wood to a fresh surface. Patch all nail holes and imperfections with a wood filler or putty and sand smooth. MILDEW Mildew must be removed before painting by washing with a solution of 1 qt. household bleach and 3 qts. of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry 48 hours before painting. Wear protective glasses or goggles, waterproof gloves and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. DO NOT ADD DETERGENTS OR AMMONIA TO THE BLEACH/WATER SOLUTION.	BRUSH No reduction necessary. Use a natural bristle brush. ROLLER No reduction necessary. Use a 1/4" - 3/4" nap synthetic or lambswool roller cover. PAD No reduction necessary. SPRAY-AIRLESS Pressure 2000 psi Tip 015"-.017" Reduction none SPRAY-CONVENTIONAL Air Pressure 40-60 psi Fluid Pressure 20 psi Cap/Tip 704/FX Reduction up to 1 pint/gallon CLEANUP INFORMATION Clean spills and spatters immediately with mineral spirits. Clean tools immediately after use with mineral spirits. Follow manufacturer's safety recommendations when using mineral spirits. LABEL ANALYSIS B34W401 <table><tr><td>Pigment by Weight</td><td>31%</td></tr><tr><td>Titanium Dioxide</td><td>15%</td></tr><tr><td>Silicates</td><td>1%</td></tr><tr><td>Calcium Carbonate</td><td>15%</td></tr><tr><td>Vehicle by Weight</td><td>69%</td></tr><tr><td>Soya and Tall Alkyd Resin</td><td>27%</td></tr><tr><td>Aliphatic Solvent</td><td>39%</td></tr><tr><td>Additives</td><td>3%</td></tr><tr><td>Total</td><td>100%</td></tr></table>	Pigment by Weight	31%	Titanium Dioxide	15%	Silicates	1%	Calcium Carbonate	15%	Vehicle by Weight	69%	Soya and Tall Alkyd Resin	27%	Aliphatic Solvent	39%	Additives	3%	Total	100%	Do not apply at temperatures below 50° F. Non-photochemically reactive. For exterior use on doors, trim, and other small areas of wood or metal. Do not use on the main body of exterior structures. Do not use colorants formulated for interior use only. CAUTIONS Contents are COMBUSTIBLE. Keep away from heat and open flame. CONTAINS ALIPHATIC HYDROCARBONS VAPOR HARMFUL. Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (NIOSH/MSHA TC23C or equivalent) or leave the area. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage. FIRST AID: In case of eye contact, flush thoroughly with large amounts of water for 15 minutes and get medical attention. For skin contact, wash thoroughly with soap and water. In case of respiratory difficulty, provide fresh air and call a physician. If swallowed, get medical attention immediately. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE: Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN. A086 (2/94) The information, ratings, and opinions stated here pertain to the material offered at the time of publication and represent the results of tests believed to be reliable. Published technical data and instructions are subject to change
Pigment by Weight	31%																			
Titanium Dioxide	15%																			
Silicates	1%																			
Calcium Carbonate	15%																			
Vehicle by Weight	69%																			
Soya and Tall Alkyd Resin	27%																			
Aliphatic Solvent	39%																			
Additives	3%																			
Total	100%																			



102.03
FORMERLY C34

WEATHERPERFECT® EXTERIOR LATEX FLAT HOUSE & TRIM B36 SERIES

CHARACTERISTICS	SPECIFICATIONS	SURFACE PREPARATION															
WeatherPerfect Exterior Latex Flat House & Trim is recommended for use on aluminum and vinyl siding, wood siding, clapboard, shakes, shingles, plywood, masonry, and metal. COLORS: 2 Whites and 5 Tinting Bases COVERAGE: 400 sq. ft./gal. @4 mils wet 1.3 mils dry DRYING TIME Touch: 1 hr. @77°F, 50% RH: Recoat: 4 hrs. FLASH POINT: 201°F FINISH: 0-5 units @85° SOLVENT/REDUCER: Water TINTING WITH BLEND-A-COLOR: <table><thead><tr><th>BASE</th><th>OZ/GAL</th><th>STRENGTH</th></tr></thead><tbody><tr><td>Tinting White</td><td>0-4</td><td>100%</td></tr><tr><td>Base A, B, C</td><td>4-8</td><td>100%</td></tr><tr><td>Yellow Corn</td><td>4-8</td><td>100%</td></tr><tr><td>Package Colors</td><td>0-4</td><td>not controlled</td></tr></tbody></table> VEHICLE TYPE: Vinyl Acrylic VOC (MAXIMUM AS PACKAGED): 113 grams/liter VOLUME SOLIDS: 32 ± 2% WEIGHT SOLIDS: 49 ± 2% WEIGHT PER GAL: 11.07 lbs. Meets the performance requirements, not necessarily composition, of Federal Specification: TT-P-19D TT-P-96D TT-P-1510A	BASE	OZ/GAL	STRENGTH	Tinting White	0-4	100%	Base A, B, C	4-8	100%	Yellow Corn	4-8	100%	Package Colors	0-4	not controlled	ALUMINUM & ALUMINUM SIDING 2 cts. WeatherPerfect Exterior Latex Flat House & Trim BLOCK 1 ct. ProMar Int/Ext Block Filler 2 cts. WeatherPerfect Exterior Latex Flat House & Trim BRICK 1 ct. Masonry Conditioner 2 cts. WeatherPerfect Exterior Latex Flat House & Trim EXTERIOR DRYWALL 1 ct. WeatherPerfect Alkyd Exterior Undercoater 2 cts. WeatherPerfect Exterior Latex Flat House & Trim GALVANIZED STEEL 2 cts. WeatherPerfect Exterior Latex Flat House & Trim MASONRY/STUCCO 1 ct. Loxon Acrylic Masonry Primer 2 cts. WeatherPerfect Exterior Latex Flat House & Trim PLYWOOD 1 ct. A-100 Latex Exterior Wood Primer 2 cts. WeatherPerfect Exterior Latex Flat House & Trim STEEL, ALKYD PRIMER 1 ct. Kem Kromik Metal Primer or 1 ct. Kem Kromik Universal Metal Primer 2 cts. WeatherPerfect Exterior Latex Flat House & Trim VINYL SIDING 2 cts. WeatherPerfect Exterior Latex Flat House & Trim WOOD, COMPOSITION BOARD 1 ct. WeatherPerfect Alkyd Exterior Undercoater 2 cts. WeatherPerfect Exterior Latex Flat House & Trim	Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. ALUMINUM & GALVANIZED STEEL All corrosion must be removed with sandpaper, steel wool, or other abrading method. BRICK All brick must weather at least one year followed by wire brushing to remove all efflorescence. Prime the surface with one coat of Masonry Conditioner. DRYWALL Fill cracks and nail holes with an exterior grade patching paste/spackle and sand smooth. Remove all sanding dust. MASONRY, CONCRETE, CEMENT, BLOCK All surfaces must be cured according to the supplier's recommendations. Remove all form release and curing agents. Rough surfaces can be filled to provide a smooth surface (see Block Filler data page for details). STEEL Rust and mill scale must be removed using sandpaper, steel wool or other abrading method. Bare steel must be primed the same day as cleaned.
BASE	OZ/GAL	STRENGTH															
Tinting White	0-4	100%															
Base A, B, C	4-8	100%															
Yellow Corn	4-8	100%															
Package Colors	0-4	not controlled															

2000470 2/94

Continued on back

103.01
FORMERLY D71



ProMar[®] 200

INTERIOR ALKYD FLAT WALL PAINT

B32W201

SURFACE PREPARATION

WOOD

Sand any exposed wood to a fresh surface. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.

MILDEW

Mildew must be removed before painting by washing with a solution of 1 qt. household bleach and 3 qts. of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry 48 hours before painting. Wear protective glasses or goggles, waterproof gloves and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. **DO NOT ADD DETERGENTS OR AMMONIA TO THE BLEACH/WATER SOLUTION.**

APPLICATION

BRUSH

No reduction necessary. Use a natural bristle brush.

ROLLER

No reduction necessary. Use a 3/8" - 3/4" nap synthetic or lambswool roller cover.

PAD

No reduction necessary.

SPRAY - AIRLESS

Pressure 2000 psi

Tip 015"-.017"

Reduction none

SPRAY - CONVENTIONAL

Air Pressure 40-60 psi

Fluid Pressure 20 psi

Cap/Tip 704/FX

Reduction up to 1 pint/gallon

CLEANUP INFORMATION

Clean spills and spatters immediately with mineral spirits. Clean tools immediately after use with mineral spirits. Follow manufacturer's safety recommendations when using mineral spirits.

LABEL ANALYSIS

B32W201

Pigment by Weight 53%

Titanium Dioxide 18%

Silicates 9%

Calcium Carbonate 26%

Vehicle by Weight 47%

Tall Alkyd 14%

Aliphatic Solvent 30%

Additives 3%

Total 100%

CAUTIONS

Do not apply at temperatures below 50° F.

Non-photochemically reactive.

CAUTIONS

Contents are **COMBUSTIBLE**. Keep away from heat and open flame.

CONTAINS ALIPHATIC HYDROCARBONS VAPOR HARMFUL. Use only with adequate ventilation.

To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (NIOSH/MSHA TC23C or equivalent) or leave the area.

Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage.

FIRST AID: In case of eye contact, flush thoroughly with large amounts of water for 15 minutes and get medical attention. For skin contact, wash thoroughly with soap and water. In case of respiratory difficulty, provide fresh air and call a physician. If swallowed, get medical attention immediately.

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE: Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN.

A086 (2/94)

The information, ratings, and opinions stated here pertain to the material offered at the time of publication and represent the results of tests believed to be reliable. Published technical data and instructions are subject to change.



103.01
FORMERLY D71

ProMar[®] 200

INTERIOR ALKYD FLAT WALL PAINT

B32W201

CHARACTERISTICS	SPECIFICATIONS	SURFACE PREPARATION						
ProMar 200 Interior Alkyd Flat Wall Paint is a quality product designed for the professional. This product is recommended for interior application on primed plaster, wallboard, wood, masonry, and primed metal. COLORS: Pure White COVERAGE: 400 sq. ft./gal. @4 mils wet 1.8 mils dry DRYING TIME Touch: 2-4 hrs. @77° F, 50% RH: Recoat: 24 hrs. FLASH POINT: 104° F FINISH: 0-10 units @ 85° SOLVENT/REDUCER: Mineral Spirits TINTING WITH BLEND-A-COLOR: <table><tr><th>BASE</th><th>OZ/GAL</th><th>STRENGTH</th></tr><tr><td>Pure White</td><td>0-4</td><td>100%</td></tr></table> VEHICLE TYPE: Alkyd VOC (MAXIMUM AS PACKAGED): 3.4 lbs./gal. 425 grams/liter VOLUME SOLIDS: 46 ± 2% WEIGHT SOLIDS: 70 ± 2% WEIGHT PER GALLON: 11.63 lbs. Meets the performance requirements, not necessarily composition, of Federal Specification: TT-P-30E	BASE	OZ/GAL	STRENGTH	Pure White	0-4	100%	ALUMINUM 1 ct. Zinc Chromate Primer 2 cts. ProMar 200 Interior Alkyd Flat Wall Paint GALVANIZED STEEL 1 ct. Galvite Paint 2 cts. ProMar 200 Interior Alkyd Flat Wall Paint BLOCK 1 ct. ProMar Int/Ext Block Filler 2 cts. ProMar 200 Interior Alkyd Flat Wall Paint DRYWALL 1 ct. ProMar 200 Latex Wall Primer 2 cts. ProMar 200 Interior Alkyd Flat Wall Paint PLASTER 1 ct. Wall and Wood Primer 2 cts. ProMar 200 Interior Alkyd Flat Wall Paint MASONRY 1 ct. ProMar 200 Latex Wall Primer or 1 ct. ProMar Int/Ext Block Filler 2 cts. ProMar 200 Interior Alkyd Flat Wall Paint STEEL, ALKYD PRIMER 1 ct. Kern Kromik Metal Primer or 1 ct. Kern Kromik Universal Metal Primer 2 cts. ProMar 200 Interior Alkyd Flat Wall Paint STEEL, LATEX PRIMER 1 ct. DTM Primer/Finish 2 cts. ProMar 200 Interior Alkyd Flat Wall Paint WOOD, COMPOSITION BOARD 1 ct. ProMar 200 Enamel Undercoater 2 cts. ProMar 200 Interior Alkyd Flat Wall	Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with ProBlock Primer Sealer. ALUMINUM & GALVANIZED STEEL All corrosion must be removed with sandpaper, steel wool, or other abrading method. DRYWALL Fill cracks and nail holes with patching paste/spackle and sand smooth. Joint compounds must be cured and sanded smooth. Remove all sanding dust. MASONRY, CONCRETE, CEMENT, BRICK, BLOCK All surfaces must be cured according to the supplier's recommendations. Remove all form release and curing agents. Rough surfaces can be filled to provide a smooth surface (see Block Filler data page for details). PLASTER Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1 pint household vinegar to 1 gallon of water. Repeat until the surface is hard, rinse with clear water and allow to dry. STEEL Rust and mill scale must be removed using sandpaper, steel wool or other abrading method. Bare steel must be primed the same day as cleaned.
BASE	OZ/GAL	STRENGTH						
Pure White	0-4	100%						

4
102.03
FORMERLY C34



WEATHERPERFECT®

EXTERIOR LATEX FLAT HOUSE & TRIM

B36 SERIES

SURFACE PREPARATION

STUCCO

Remove any loose stucco, efflorescence, or laitance. Allow new stucco to cure at least 30 days before painting. If painting cannot wait 30 days, allow the surface to dry 5-7 days and prime with Loxon Exterior Masonry Acrylic Primer.

VINYL SIDING

Lightly scuff sand the surface using a 180-220 grit sandpaper. Remove all sanding dust.

WOOD, COMPOSITION BOARD

Sand any exposed wood to a fresh surface. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.

MILDEW

Mildew must be removed before painting by washing with a solution of 1 qt. household bleach and 3 qts. of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry 48 hours before painting. Wear protective glasses or goggles, waterproof gloves and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. **DO NOT ADD DETERGENTS OR AMMONIA TO THE BLEACH/WATER SOLUTION.**

APPLICATION

BRUSH

No reduction necessary. Use a nylon/polyester brush.

ROLLER

No reduction necessary. Use a 3/8" - 3/4" nap synthetic roller cover.

PAD

No reduction necessary.

SPRAY-AIRLESS

Pressure 2000 psi

Tip 015"-.019"

Reduction none

SPRAY-CONVENTIONAL

Air Pressure 40-60 psi

Fluid Pressure 20 psi

Cap/Tip 704/FX

Reduction up to 1 pint/gallon

CLEANUP INFORMATION

Clean spills and spatters immediately with soap and warm water. Clean hands and tools immediately after use with soap and warm water. Flush spray equipment after cleaning with mineral spirits to prevent rusting of the equipment. Follow manufacturers safety recommendations when using mineral spirits.

LABEL ANALYSIS

B36W306

Pigment by Weight 33%
Titanium Dioxide 19%
Zinc Oxide 1%
Silica/Silicates 13%

Vehicle by Weight 67%
Vinyl/Acrylic Polymer 12%
Water 48%
Mildewcide 0.1%
Glycol 2%
Additives 4.9%

Total 100%

CAUTIONS

Do not apply at temperatures below 50° F.

Protect from freezing.

Non-photochemically reactive.

Exterior use only.

CAUTIONS

CONTAINS CRYSTALLINE SILICA

Use only with adequate ventilation. To avoid over-exposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (NIOSH/MSHA TC23C or equivalent) or leave the area.

Adequate ventilation required when sanding or abrading the dried film. If adequate ventilation cannot be provided wear an approved particulate respirator (NIOSH/MSHA TC21C or equivalent). Follow respirator manufacturer's directions for respirator use.

Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage.

FIRST AID: In case of eye contact, flush thoroughly with large amounts of water. Get medical attention if irritation persists. If swallowed, get medical attention immediately.

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE: Abrading or sanding of the dry film may release crystalline silica which has been shown to cause lung damage and cancer under long term exposure.

DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN.

GB48 (11/93)

The information, ratings, and opinions stated here pertain to the material offered at the time of publication and represent the results of tests believed to be reliable. Published technical data and instructions are subject to change.



103.33
FORMERLY D66

ProMar® 400

INTERIOR ALKYD SEMI-GLOSS ENAMEL

B34W400 SERIES

CHARACTERISTICS	SPECIFICATIONS	SURFACE PREPARATION															
ProMar 400 Interior Alkyd Semi-Gloss Enamel is a quality product designed for the professional. This product is recommended for interior application on primed plaster, wallboard, wood, masonry, and primed metal. COLORS: Pure White, Midtone Base, Deeptone Base, Antique White, and Dover White COVERAGE: 400 sq. ft./gal. @4 mils wet 1.6 mils dry DRYING TIME Touch: 2-4 hrs. @77° F, 50% RH: Recoat: 24 hrs. FLASH POINT: 105° F FINISH: 40-50 units @60° SOLVENT/REDUCER: Mineral Spirits TINTING WITH BLEND-A-COLOR: <table><tr><th>BASE</th><th>OZ/GAL</th><th>STRENGTH</th></tr><tr><td>Pure White</td><td>0-4</td><td>75%</td></tr><tr><td>Midtone Base</td><td>4-8</td><td>100%</td></tr><tr><td>Deeptone Base</td><td>8-12</td><td>100%</td></tr><tr><td>Package Colors</td><td>0-4</td><td>not controlled</td></tr></table> VEHICLE TYPE: Alkyd VOC (MAXIMUM AS PACKAGED): 3.6 lbs./gal. 451 grams/liter VOLUME SOLIDS: 41 ± 2% WEIGHT SOLIDS: 60 ± 2% WEIGHT PER GALLON: 9.5 lbs. Meets the performance requirements, not necessarily composition, of Federal Specification: TT-E-508C TT-E-509C	BASE	OZ/GAL	STRENGTH	Pure White	0-4	75%	Midtone Base	4-8	100%	Deeptone Base	8-12	100%	Package Colors	0-4	not controlled	ALUMINUM 1 ct. Zinc Chromate Primer 2 cts. ProMar 400 Interior Alkyd Semi-Gloss Enamel GALVANIZED STEEL 1 ct. Galvite Paint 2 cts. ProMar 400 Interior Alkyd Semi-Gloss Enamel BLOCK 1 ct. ProMar Int/Ext Block Filler 2 cts. ProMar 400 Interior Alkyd Semi-Gloss Enamel DRYWALL 1 ct. ProMar 400 Latex Wall Primer 2 cts. ProMar 400 Interior Alkyd Semi-Gloss Enamel PLASTER 1 ct. Wall and Wood Primer 2 cts. ProMar 400 Interior Alkyd Semi-Gloss Enamel MASONRY 1 ct. ProMar 400 Latex Wall Primer or 1 ct. ProMar Int/Ext Block Filler 2 cts. ProMar 400 Interior Alkyd Semi-Gloss Enamel STEEL, ALKYD PRIMER 1 ct. Kem Kromik Metal Primer or 1 ct. Kem Kromik Universal Metal Primer 2 cts. ProMar 400 Interior Alkyd Semi-Gloss Enamel STEEL, LATEX PRIMER 1 ct. DTM Primer/Finish 2 cts. ProMar 400 Interior Alkyd Semi-Gloss Enamel WOOD, COMPOSITION BOARD 1 ct. Wall and Wood Primer 2 cts. ProMar 400 Interior Alkyd Semi-Gloss Enamel	Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with ProBlock Primer Sealer. ALUMINUM & GALVANIZED STEEL All corrosion must be removed with sandpaper, steel wool, or other abrading method. DRYWALL Fill cracks and nail holes with patching paste/spackle and sand smooth. Joint compounds must be cured and sanded smooth. Remove all sanding dust. MASONRY, CONCRETE, CEMENT, BRICK, BLOCK All surfaces must be cured according to the supplier's recommendations. Remove all form release and curing agents. Rough surfaces can be filled to provide a smooth surface (see Block Filler data page for details). PLASTER Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1 pint household vinegar to 1 gallon of water. Repeat until the surface is hard, rinse with clear water and allow to dry. STEEL Rust and mill scale must be removed using sandpaper, steel wool or other abrading method. Bare steel must be primed the same day as cleaned.
BASE	OZ/GAL	STRENGTH															
Pure White	0-4	75%															
Midtone Base	4-8	100%															
Deeptone Base	8-12	100%															
Package Colors	0-4	not controlled															

0001971 2/94

Continued on back



109.01
FORMERLY D56

ProMar[®] 200 **ALKYD ENAMEL UNDERCOATER** **B49W200**

CHARACTERISTICS

ProMar 200 Alkyd Enamel Undercoater is designed for use on interior wood doors, trim, molding, windows, and paneling. This product has excellent adhesion and holdout, resists staining, and is easy to sand.

COLORS: White
COVERAGE: 400 sq. ft./gal.
@4 mils wet
1.9 mils dry
DRYING TIME
@77° F, 50% RH: Touch: 2-4 hours
Recoat: 18 hours
FLASH POINT: 105° F
FINISH: 3-15 units @60°
SOLVENT/REDUCER: Mineral Spirits
TINTING WITH BLEND-A-COLOR:
BASE **OZ/GAL** **STRENGTH**
White 0-4 not controlled
VEHICLE TYPE: Alkyd
VOC (MAXIMUM AS
PACKAGED): 3.3 lbs./gal.
411 grams/liter
VOLUME SOLIDS: 47 ± 2%
WEIGHT SOLIDS: 71 ± 2%
WEIGHT PER GALLON: 11.8 lbs.

Meets the performance requirements, not necessarily composition, of Federal Specification:

TT-E-545B
TT-S-179B

SPECIFICATION

WOOD, HARDBOARD
1 ct. ProMar 200 Alkyd Enamel Undercoater
2 cts. Interior latex or alkyd topcoat

APPLICATION

BRUSH

No reduction necessary. Use a natural bristle brush.

ROLLER

No reduction necessary. Use a 3/8" - 3/4" nap synthetic or lambswool roller cover.

PAD

No reduction necessary.

SPRAY-AIRLESS

Pressure 2000 psi
Tip 015"-.021"
Reduction up to 1 pint/gallon

SPRAY-CONVENTIONAL

Air Pressure 40-60 psi
Fluid Pressure 10-20 psi
Cap/Tip 704/FX
Reduction up to 1 pint/gallon

CLEANUP INFORMATION

Clean spills and spatters immediately with mineral spirits. Clean tools immediately after use with mineral spirits. Follow manufacturer's safety recommendations when using mineral spirits.

LABEL ANALYSIS **B49W200**

Pigment by Weight 55%
Titanium Dioxide 13%
Calcium Carbonate 40%
Silica/Silicates 2%

Vehicle by Weight 45%
Soya and Tall Alkyd Resin 15%
Aromatic and Aliphatic Solvent .. 29%
Additives 1%

Total 100%

SURFACE PREPARATION

Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with ProBlock Primer Sealer.

WOOD, HARDBOARD

Sand any exposed wood to a fresh surface. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.

MILDEW

Mildew must be removed before painting by washing with a solution of 1 qt. household bleach and 3 qts. of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry 48 hours before painting. Wear protective glasses or goggles, waterproof gloves and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. **DO NOT ADD DETERGENTS OR AMMONIA TO THE BLEACH/WATER SOLUTION.**

109.01
FORMERLY D56



ProMar[®] 200

ALKYD ENAMEL UNDERCOATER

B49W200

CAUTIONS

Do not apply at temperatures below 50° F.

Non-photochemically reactive.

CAUTIONS

Contents are COMBUSTIBLE. Keep away from heat and open flame.

CONTAINS ALIPHATIC HYDROCARBONS VAPOR HARMFUL. Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, or wear respiratory protection (NIOSH/MSHA TC23C or equivalent) or leave the area.

Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage.

FIRST AID: In case of eye contact, flush thoroughly with large amounts of water for 15 minutes and get medical attention. For skin contact, wash thoroughly with soap and water. In case of respiratory difficulty, provide fresh air and call a physician. If swallowed, get medical attention immediately.

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE: Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN.

A086 (2/94)

The information, ratings, and opinions stated here pertain to the material offered at the time of publication and represent the results of tests believed to be reliable. Published technical data and instructions are subject to change.



501 EPOXY
Polyamide
Clear Coating
System # 290200

501 EPOXY Clear is a two-component polyamide epoxy designed to be self priming or used with the appropriate Wellborn Primer (depending upon the environment and the protection desired) to produce a highly corrosion, chemical, moisture and mar resistant coating. Use in chemical plants, sewage treatment plants and on machinery, equipment and as a floor sealer in high traffic areas. 501 EPOXY may chalk when exposed to direct sunlight.

FINISH
Gloss (80% to 90% on a 60° gloss meter).

VEHICLE TYPE
Epoxy Polyamide

SOLVENT TYPE
Aromatic Hydrocarbons, Ketone

FLASH POINT **V.O.C.**
60°F. (16°C.) 512 Grams per liter.

SOLIDS
Volume: 39.3% ± 2% Wt./Gal.: 7.94

VISCOSITY AT 77°F. (25°C.)
54 ± 2 Krebs Units

Wet: 2.50 mils	Dry: 1.0 mils
AVERAGE DRY TIME AT 77 °F. (25 °C)	
To Touch:	1 Hour
Tack Free:	2 Hours
Recoat:	8 Hours
Traffic:	24 Hours

Be sure surface is clean and free of dust, grease, dirt, oil and wax. Surface should be properly primed or sealed with the recommended Wellborn primer. Mix equal parts of component A and B thoroughly and allow to set and age for at least 30 minutes before application. Mix only enough for one day's use. After A & B components have been mixed, it must be applied within 8 hours. 501 Epoxy can be applied with brush, spray or roller. Two coats should be applied. Apply in temperatures of 50 degrees F. or higher. DO NOT USE in temperature below 40 degrees F.

CONTAINS XYLOL Keep away from heat, sparks and open flame. If swallowed, do not induce vomiting. **CALL PHYSICIAN IMMEDIATELY.** Do not breath vapors or spray mist. Do not get in eyes, on skin or on clothing. Close container after each use. Use with adequate ventilation. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Wear appropriate, properly fitted respirator (NOISH/MESA approved) during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. This is an oil or "solvent" based product. Any rags used in conjunction with this product should be spread out and left to dry before disposal. Rags not yet dry should be disposed of only in metal fire proof containers. **KEEP OUT OF REACH OF CHILDREN.**

Steel: IP-714 Hi-Build Primer. Galvanized: VERSAPRIME. Aluminum: VERSAPRIME or Self Priming Wood: Self Priming. Concrete Block: HI-SOLIDS Block Filler. Masonry Surfaces: SUDDEN SEAL, CMS#2 or Self Prime. Drywall: #65 Primer-Sealer. Plaster: SUDDEN SEAL. Concrete: Self-Priming

Material safety data sheets available upon request.



TECH DATA

501 EPOXY Polyamide Gloss Enamel System # 290101

DESCRIPTION:

501 EPOXY Gloss Enamel is a two-component polyamide epoxy designed to be self priming or used with the appropriate Wellborn Primer (depending upon the environment and the protection desired) to produce a highly corrosion, chemical, moisture and mar resistant coating. Excellent for immersion service over steel and concrete. Use on machinery, equipment, walls and floors. For interior use only as 501 EPOXY will chalk when exposed to direct sunlight.

SPECIFICATIONS: (Mixed Material) 3/93

FINISH

Gloss (80% to 90% on a 60° gloss meter).

VEHICLE TYPE SOLVENT TYPE

Epoxy Polyamide Aromatic Hydrocarbons, Ketone

VISCOSITY AT 77° F. (25° C.) FLASH POINT

75 ± 2 Krb Units 60° F. (16° C.)

SOLIDS

Volume: 45.5%

RECOMMENDED FILM THICKNESS/COAT

Wet: 3.30 mils Dry: 1.5 mils

AVERAGE DRY TIME AT 77° F. (25° C)

To Touch: 2 Hours Tack Free: 3 Hours Recoat: 4 Hours

Traffic: 24 Hours Submersion: 7 Days

THINNING RECOMMENDATIONS CLEAN-UP

Up to 1/2 pint 501 Thinner per gal. Wellborn 501 Thinner

APPLICATION EQUIPMENT

Airless Spray: Use tips with .015 to .021 orifice

Roller: 3/8" to 3/4" Synthetic or Lambswool cover

Brush: Natural or China Bristle

SHIPPING INFORMATION

Flammable Liquid Qts. & 1 Gal. Containers

COLORS

White, 2 Factory Colors and Pastel Custom Colors

PRACTICAL COVERAGE PER COAT @

RECOMMENDED DRY FILM THICKNESS

325-400 sq. ft. per gal. May be less depending on surface.

PERFORMANCE SIMILAR TO FEDERAL SPECIFICATION

TT-C-535

SPECIFICATIONS & COMPOSITION:

Part A & Part B Combined

Pigment - 29.19%	Percent by Weight
Titanium Dioxide	29.19
Vehicle - 70.81%	
Reactive Epoxy Resin (100% Solids)	18.60
Polyamide Resin (100% Solids)	13.43
Additives for Stability	1.17
Solvents	37.61
	100.0

Weight per Gallon -	12.68 lbs.
Non-volatile Solids by Weight -	61.80%
Non-volatile Solids by Volume -	45.50%
Titanium Dioxide (lbs./gal.) -	3.00
Resin Solids (lbs./gal.) -	3.29
PVC (Pigment Volume Concentrate) -	19.70
V.O.C. (Grams/liter) -	468

DIRECTIONS:

Be sure surface is clean and free of dust, grease, dirt, oil and wax. Surface should be properly primed or sealed with the recommended Wellborn primer. Mix equal parts of component A and B thoroughly and allow to set and age for at least 30 minutes before application. Mix only enough for one day's use. After A & B components have been mixed, it must be applied within 8 hours. 501 Epoxy can be applied with brush, spray or roller. Two coats should be applied. Apply in temperatures of 50 degrees F. or higher. DO NOT USE in temperature below 40 degrees F.

CAUTION!

FLAMMABLE. CONTAINS GLYCOL ETHER, ALCOHOLS. Keep away from heat and open flame. To avoid breathing vapors or spray mist, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches or dizziness, increase fresh air or wear respiratory protection (NIOSH/MSHA TC23C or equivalent), or leave the area. Close container after each use. Avoid contact with skin.

FIRST AID: If swallowed, do not induce vomiting. Call physician immediately.

Use with adequate ventilation.

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

FIRE HAZARD: This is a solvent based product. Any rags used in conjunction with this product should be spread out and left to dry before disposal. Rags not yet dry should be disposed of in metal fireproof containers only.
KEEP OUT OF REACH OF CHILDREN.

RECOMMENDED PRIMER SYSTEMS

Steel: IP-714 Hi-Build Primer. Galvanized: VERSAPRIME. Aluminum: VERSAPRIME or Self Priming Wood: Self Priming. Concrete Block: HI-SOLIDS Block Filler. Masonry Surfaces: SUDDEN SEAL, CMS#2 or Self Prime. Drywall: #65 Primer-Sealer. Plaster: SUDDEN SEAL.
Material safety data sheets available upon request.



TECH DATA

DECOTHANE II

Clear, Polyurethane Gloss Finish IP 627 X

System # 231951

DESCRIPTION:

DUNN-EDWARDS DECOTHANE II is a single component, clear polyurethane finish. It is self-sealing and produces less yellowing when compared to other polyurethane finishes. DECOTHANE II dries to a hard film which offers excellent durability and abrasion resistance.

SPECIFICATIONS:

12/93

FINISH

Gloss (85% to 90% on a 60° gloss meter)

VEHICLE TYPE

Modified Urethane Resin

SOLVENT TYPE

Aliphatic Hydrocarbons

FLASH POINT

Minimum 105° F. (40.5° C.)

SOLIDS

Volume: 56.1%

RECOMMENDED FILM THICKNESS/COAT

Wet: 2.7 mils Dry: 1.5 mils

AVERAGE DRY TIME AT 77° F. (25° C)

To Touch: 4-6 Hours

Recoat: 24 Hours

THINNING RECOMMENDATIONS

Up to 1/2 pint Paint Thinner per gallon.

CLEAN-UP

Paint Thinner

APPLICATION EQUIPMENT

Spray: Use spray tip with .011 orifice.

Brush: Natural or China Bristle

SHIPPING INFORMATION

Combustible Liquid

PACKAGING

Quart & One gallon Containers

COLOR

Clear

PRACTICAL COVERAGE PER COAT @

RECOMMENDED DRY FILM THICKNESS

Approximately 600 sq. ft. per gal. Coverage may vary due to surface conditions, wood type and application techniques.

PERFORMANCE SIMILAR TO FEDERAL SPECIFICATIONS

TT-V-109C, TT-V-119D, TT-V-121H

COMPOSITION:

Vehicle - 100.0%

Percent by Weight

Modified Urethane Resin

61.2

Thinners

37.8

Driers & Additives

1.0

100.0

Non-volatile Solids by Weight -

61.6%

Non-volatile Solids by Volume -

56.1%

V.O.C. (Gross/Alter) -

350

WELLBORN-DE CORP. is a company of Dunn-Edwards Corporation. The product DECOTHANE II is manufactured by Dunn-Edwards.

WHERE TO USE:

Interior wood doors, railings, bannisters, furniture, cabinets, paneling, etc. Not recommended for floors or exterior use.

DIRECTIONS:

Material Preparation: Stir thoroughly prior to use. This product is to be used without thinning under normal environmental and application conditions.

New Work: All surfaces should be cured, clean, dry, free of dust, dirt, grade marks, stains, mildew or other contaminants. Nail holes and other surface imperfections should be filled with suitable patching compound, sanded smooth and dusted clean. Seal surface with DECOTHANE II and smooth with fine sandpaper or steelwool. Recoat in approximately 24 hours.

Old Work: All surfaces must be cleaned to remove dirt, grease, oil, wax residue or other contaminants. Previously varnished surfaces that are in good condition should be sanded with the grain, dusted clean and re-varnished. If old varnish is completely removed, follow directions for New Work. Do not use DECOTHANE II over shellac, lacquer systems or products containing silicones or stearates.

Application: With a quality China bristle varnish brush, apply material by initially brushing across the grain then finishing with the grain using long, even, light strokes. Smooth surfaces with fine sandpaper and clean with a tack rag before applying the next coat. **Note:** Applying material heavier than 1.5 mils dry may extend the dry time and affect the hardness of the film.

CAUTION!

COMBUSTIBLE. CONTAINS PETROLEUM DISTILLATE.

Keep away from heat and open flame. To avoid breathing vapors or spray mist, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches or dizziness, increase fresh air or wear respiratory protection (NIOSH/MSHA TC23C or equivalent), or leave the area. Close container after each use. Avoid contact with skin.

FIRST AID: If swallowed, do not induce vomiting. Call physician immediately.

Use with adequate ventilation.

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Dispose of waste in accordance with all applicable laws and regulations. KEEP OUT OF REACH OF CHILDREN.

Material safety data sheets available upon request.



TECH DATA

QWIK
Interior
Sealer-Finish
System # 259500

DESCRIPTION:

QWIK Sealer-Finish is a clear varnish sanding sealer and fast drying interior finish. QWIK Sealer-Finish exhibits excellent sanding and sealing properties and provides a tough durable finish coat for properly prepared wood surfaces. This material dries fast enough to permit more than one coat a day.

SPECIFICATIONS:

6/90

FINISH

Semi-Gloss (45%-55% on a 60° gloss meter)

VEHICLE TYPE

Vinyl Toluene

SOLVENT TYPE

Aliphatic Hydrocarbons

FLASH POINT

Minimum 55 °F. (13 °C.)

V.O.C.

543 Grams per liter

SOLIDS

Volume: 36.2% ± 2%

Wt./Gal.: 7.12

VISCOSITY AT 77 °F. (25 °C.)

55 ± 2 Krebs Units

AVERAGE DRY TIME AT 77 °F. (25 °C.)

To Touch:

40 Minutes

Sanding:

2 Hours

Recoat:

2 Hours

THINNING RECOMMENDATIONS

Up to 1 pint Paint Thinner per gallon.

APPLICATION EQUIPMENT

Airless Spray:

Use spray tips with

.011 to .015 orifice

Roller:

1/4" to 3/8" Synthetic

or Lambswool cover

Brush:

Natural or Nylon Bristle

CLEAN-UP

Paint Thinner

PACKAGING

Quarts, One and Five Gallon Containers

SHIPPING INFORMATION

Flammable Liquid

COLORS

Clear

PRACTICAL COVERAGE PER COAT @

RECOMMENDED DRY FILM THICKNESS

375-450 square feet per gallon.

May be less depending on surface.

PERFORMANCE SIMILAR TO

FEDERAL SPECIFICATION

TT-V-85

WHERE TO USE:

Interior wood such as doors, railings, furniture, cabinets, paneling, etc.

DIRECTIONS:

Material Preparation: QWIK is ready for use but **MUST BE THOROUGHLY MIXED BEFORE APPLICATION.** Do not place on shaker. Stir occasionally during application.

New Work: Sand wood smooth following the direction of the grain. Pick up all dust and foreign matter from surfaces with a tack cloth before coating. If stain is to be used, apply before coating with QWIK Sealer-Finish.

Old Work: Sand smooth and be sure to remove all grease, oil and wax before coating with QWIK. If necessary, remove all old finish and proceed using guidelines for new work.

Application: QWIK should be applied liberally with brush, roller or spray.

Important - Be sure to remove dust and other foreign matter before application.

CAUTION!

Combustible, contains petroleum distillate. Keep away from heat, sparks and open flame. Use only with adequate ventilation. Avoid breathing of vapor or spray mist. Avoid contact with eyes and skin. Do not take internally. May cause irritation. In case of spillage, absorb and dispose of in accordance with local applicable regulations. Keep container closed when not in use. **FIRST AID:** In case of skin contact, flush with plenty of water; for eyes, immediately flush with plenty of water for 15 minutes and get medical attention. If swallowed, do not induce vomiting. If inhaled, remove to fresh air. **CALL A PHYSICIAN IMMEDIATELY.** **USE WITH ADEQUATE VENTILATION.** **KEEP OUT OF THE REACH OF CHILDREN** Material safety data sheets available upon request.



TECH DATA

DECOLAC
High Solid
Lacquer Sanding Sealer (Z 5880/A-LQ-101)
System # 231263

DESCRIPTION:

DUNN-EDWARDS DECOLAC High Solid Lacquer Sanding Sealer is formulated to provide excellent sealing and sanding properties with good build, improved flowout and open time. It offers resistance to blushing. For interior woodwork only, this quality high-build product is designed to be topcoated with DUNN-EDWARDS DECOLAC High Solid Flat, Semi-Gloss and Gloss Lacquer finishes.

SPECIFICATIONS:

9/93

FINISH

Velvet (3% to 6% on a 60° gloss meter).

VEHICLE TYPE

Nitrocellulose Lacquer

SOLVENT TYPE

Aliphatic & Aromatic Hydrocarbons

FLASH POINT

V.O.C.

Minimum 24° F. (-4.44° C.)

676 Grams/liter

SOLIDS

Volume: 18.0%

Wt/Gal.: 7.55

Weight: 25.5%

VISCOSITY AT 77° F. (25° C.)

45-65 Seconds - #4 Ford

AVERAGE DRY TIME AT 77° F. (25° C.)

To Touch: 15-30 Minutes

Dry to Sand: 30 Minutes

THINNING RECOMMENDATIONS

Up to 1 Quart Lacquer Thinner per gallon

APPLICATION EQUIPMENT

Conventional Spray

Airless Spray: Use tips with .011 to .015 orifice

CLEAN-UP

Lacquer Thinner

PACKAGING

One and Five Gallon Containers

SHIPPING INFORMATION

Flammable Liquid

PERFORMANCE SIMILAR TO FEDERAL SPECIFICATION

TT-S-190F

COLORS

Slightly Cloudy

PRACTICAL COVERAGE PER COAT @

RECOMMENDED DRY FILM THICKNESS

250-400 sq. ft. per gal. May be less depending on surface.

NOTE: Lacquer products should not be applied over any previously painted, varnished or enameled surfaces without first testing for compatibility and adhesion. Failure to test can result in lifting or softening of the old finish. During periods of high humidity, extremes of cold or very hot weather, moisture may become entrapped in the lacquer film causing cloudy blushing. Correct this by adding 4 to 8 ounces of LT11 Lacquer Retarder per gallon.

DIRECTIONS:

New Work: DECOLAC High Solid Lacquer Sanding Sealer is designed to be used over new interior unfinished or stained wood surfaces. All surfaces should be cured, clean, dry and free of dust, dirt, grade marks, glue and other contaminants. Sand wood smooth with the appropriate sandpaper. Seal surface with one coat of DECOLAC Sanding Sealer. Repeat sanding technique. Nail holes and/or blemishes should be filled with appropriate patching compound. **Old Work:** Remove all old lacquer or finish and proceed using guidelines for new work. **Note:** If the seal coat is broken, reseal and sand.

CAUTION! Contains Petroleum Distillate, Toluene, Methyl Ethyl Ketone, Alcohols and Esters.

Vapors may ignite explosively. Prevent build-up of vapors, use only with cross-ventilation. Keep away from heat, sparks and flame. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Do not turn any lights on/off or operate other electrical equipment during application and until all vapors (odors) are gone.

Use with adequate ventilation.

To avoid breathing vapors or spray mist, ensure fresh air entry during application and drying. If you experience eye watering, headaches or dizziness, increase fresh air or wear respiratory protection (NIOSH/MSHA TC 23C or equivalent) or leave the area. Close container after each use. Avoid contact with skin and eyes.

FIRST AID: If swallowed, do not induce vomiting. Call physician immediately. In case of eye contact, immediately flush thoroughly with water and call a physician. For skin contact, wash thoroughly.

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

KEEP OUT OF REACH OF CHILDREN.

Material safety data sheets available upon request

WELLBORN-DE CORP. is a company of Dunn-Edwards Corporation. The product DECOLAC is manufactured by Dunn-Edwards.

This disclosure of the information contained herein does not constitute a representation by Wellborn that any product or process is free from patent infringement. Copies of the third party list shall be furnished upon request. The information is provided for informational purposes only and is not intended to be used for any other purpose. The information is provided for informational purposes only and is not intended to be used for any other purpose. The information is provided for informational purposes only and is not intended to be used for any other purpose.

DATE OF PREPARATION
3 - JAN - 95

EMERGENCY TELEPHONE NO.
(216) 566-2917
INFORMATION TELEPHONE NO.
(216) 566-2902

©1995, The Sherwin-Williams Co.

Wood Finishes

WOOD

SECTION II — No. HAZARDOUS INGREDIENT (percent by weight)		ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	Vapor Pressure (mm Hg)
101-21-1	Ethylene Glycol	C 50	C 50	PPM	0.1
101-9	V. M. & P. Naphtha	300	300	PPM	12.0
102-47-8	Mineral Spirits	100	100	PPM	2.0
102-98-7	Mineral Spirits, 150 flash	50	100	PPM (Skin)	22.0
103-98-3	Toluene	10	6	Mg/M3 as Dust	
103-95-9	Amorphous Silica				
Weight per Gallon (lbs.)					
Volatile Organic Compounds (VOC - lbs./gal.)					
Photochemically Reactive					
Flash Point (°F)					
Flammability Classification					
DOT Storage Category					
HMIS (NFFPA) Rating (health • flammability • reactivity)					

Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

→→→ MSDS Text Page Follows →→→

NMSU Las Cruces—Operating Permit Application
Campus-Wide Emissions from Chemical Inventory Supporting Data

VOC and HAP Chemical Purchases

PO	Date	Dept.	Chemical	Qty	Units	VOC lb/mo	HAP lb/mo
118468	9/12/96	3I	endothelial	1	L	2.205	
119671	9/18/96	3C	T4 DNA polymerase	20	ul	0.00004	
120246	9/20/96	3C	Enzymes	1000	ug	0.00000	
120246	9/20/96	3C	Enzymes	2000	ug	0.00000	
120464	9/23/96	3C	Pvu II (restriction enzyme)	1	kg	2.205	
121062	9/26/96	3C	hydroxylamine HCl	250	g	0.551	
121394	9/27/96	3AF	diethyl pyrocarbonate	5	ml	0.01102	
121463	9/27/96	3C	NHS-Bioti	100	mg	0.000	
121474	9/27/96	3C	daunomycin	5	mg	0.000	
121300	9/30/96	3I	trizma base	500	g	1.102	
121521	9/30/96	3BE	x-gral	500	mg	0.00110	
121576	9/30/96	3C	methylene blue	1	L	2.205	
121576	9/30/96	3C	calf thymus DNA	4	mg	0.000	
121623	9/30/96	3805	Tryptose broth	100	g	0.220	
121623	9/30/96	3805	Cobalt II chloride hexahydrate	25	g		0.055
121623	9/30/96	3805	Manganese sulfate	100	g		0.220
121649	9/30/96	3C	ninhydrin	25	g	0.055	
121683	9/30/96	3AF	ortho aminobenzaldehyde	1	g	0.002	
121837	10/2/96	3I	Cell culture media	16	L	35.273	
121930	10/2/96	3C	n-hexane	16	L	35.273	35.273
121952	10/2/96	3C	isopropyl-b-d-galactopyranoside	10	g	0.022	
121959	10/2/96	3C	dithiothreitol	5	g	0.011	
121959	10/2/96	3C	ethidium bromide	1	g	0.002	
121959	10/2/96	3C	tris (granular/powder) genar	500	g	1.102	
121959	10/2/96	3C	BCIP tiluidine salt	100	mg	0.000	
121968	10/2/96	3C	acetone*	16	L	35.273	
121968	10/2/96	3C	ethyl acetate	16	L	35.273	
122008	10/2/96	3Q	2-bromopropionic acid	2	L	4.409	
122008	10/2/96	3Q	endothall	4	L	8.818	
122008	10/2/96	3Q	1,2,3-trichloropropane	2	ml	0.00441	
122008	10/2/96	3Q	dalapon	10	ml	0.02205	
122045	10/2/96	3Q	restriction enzyme BGL II	1	kg	2.205	
122065	10/2/96	3BE	p-nitrophenyl-ad-mannopyranoside	2	g	0.004	
122065	10/2/96	3BE	A-mannosidase	2	mg	0.000	
122065	10/2/96	3BE	p-nitrophenyl(a-l-mannopyranoside	100	mg	0.000	
122066	10/2/96	3Q	gel loading soln	25	ml	0.05511	
122129	10/2/96	3C	propionaldehyde	100	ml	0.220	0.220
122129	10/2/96	3C	phenyl hydrazine	500	g	1.102	
122129	10/2/96	3C	paraformaldehyde	1	kg	2.205	
122129	10/2/96	3C	benzaldehyde	1	L	2.205	
122129	10/2/96	3C	unsym-dimethyl hydrazine	100	ml	0.22046	
122153	10/2/96	3AF	DL-malic acid	1	kg	2.205	
122153	10/2/96	3AF	MTT	250	mg	0.001	
122153	10/2/96	3AF	proteinase K	100	mg	0.00022	

NMSU is an Equal Opportunity Institution

VOC and HAP Chemical Purchases

PO	Date	Dept.	Chemical	Qty	Units	VOC lb/mo	HAP lb/mo
122153	10/2/96	3AF	glucose oxidase	10000	ml	22.04586	
122153	10/2/96	3AF	Glucose6-phosphate dehydrogenase	4000	ml	8.81834	
122153	10/2/96	3AF	hexokinase	2500	ml	5.51146	
122153	10/2/96	3AF	ox-glycerophosphate dehydrogenase	1000	ml	2.20459	
122153	10/2/96	3AF	phosphoglucose isomerase	5000	ml	11.02293	
122153	10/2/96	3AF	xanthine oxidase	120	g	0.26455	
122172	10/2/96	3C	dimethyl sulfoxide	50	ml	0.11023	
122179	10/2/96	3I	ATP-32	25	g	0.055	
122273	10/3/96	3C	ethylamine	5	ml	0.01102	
122307	10/3/96	3GL	Dowex MR-3	500	g	1.102	
122371	10/3/96	3I	UCI molecular biology chemical	250	ml	0.55115	
122464	10/3/96	3C	gamma 32P adenosine triphosphate	25	g	0.055	
122480	10/3/96	3C	hepes	1	L	2.205	
122483	10/3/96	3C	tris base	5	kg	11.023	
122508	10/4/96	3AF	phenol	500	g	1.102	1.102
122508	10/4/96	3AF	sucrose	1	kg	2.205	
122512	10/4/96	3C	35S-DATP for sequenase	1	gal	8.345	
122516	10/4/96	3C	sequenase v.2. DNA polymerase	1	ml	0.00220	
122548	10/4/96	3AQ	2-propanol	16	L	35.273	
122548	10/4/96	3AQ	acetone	32	L	70.547	
122548	10/4/96	3AQ	ethyl ether	16	L	35.273	
122611	10/4/96	3C	methanol	16	L	35.273	35.273
122611	10/4/96	3C	ethyl acetate	16	L	35.273	
122657	10/4/96	3C	alpha 32P UTP crude @ 800 ci/mm 250 µci	1	ml	0.00220	
121844	10/7/96	3I	phenylmethylsulfonyl fluoride	250	mg	0.00055	
121844	10/7/96	3I	Subtilisin	50	mg	0.00011	
121844	10/7/96	3I	benzylamine	50	ml	0.11023	
122270	10/7/96	3C	n,n-diethylmethylanine	25	g	0.055	
122270	10/7/96	3C	diethylamine	100	ml	0.22046	
122270	10/7/96	3C	methylamine	250	ml	0.55115	
122270	10/7/96	3C	propylamine	250	ml	0.55115	
122753	10/7/96	3Q	urea	1	kg	2.205	
122754	10/7/96	3805	D(-)fructose C6H12O6	500	g	1.102	
122771	10/7/96	3C	methanol	16	L	35.273	35.273
122916	10/7/96	3C	h-d-cha-oh cb-cyclohexyl dl alanine	1	L	2.205	
122754	10/8/96	3805	D(+)galactose	25	g	0.055	
123177	10/8/96	3C	hexane	48	L	105.820	105.820
123177	10/8/96	3C	methylene chloride*	25	L	55.115	55.115
123177	10/8/96	3C	potassium tert-butoxide	100	g	0.220	
122754	10/9/96	3805	D(+)mannose	25	g	0.055	
123400	10/9/96	3GL	Ficoll	25	g	0.055	
123400	10/9/96	3GL	RNA marker	50	mg	0.00011	
123438	10/9/96	3AF	isopropyl b-d-thiogalactopyranoside	1	g	0.002	
122754	10/10/96	3805	D(-)Arabinose	25	g	0.055	

MMS for Causes - - - - - Reporting Form Application

VOC and HAP Chemical Purchases

PO	Date	Dept.	Chemical	Qty	Units	VOC lb/mo	HAP lb/mo
122754	10/11/96	3805	D-Lyxose	25	g	0.055	
123727	10/11/96	3I	Hexadecyltrimethylammonium bromide	1	kg	2.205	
123733	10/11/96	3I	Iodinate protein	1	L	2.205	
123739	10/11/96	3C	glyoxal-trimer dehydrate	50	g	0.110	
123742	10/11/96	3C	phenol	500	g	1.102	1.102
123865	10/11/96	3Q	maleic acid	1	kg	2.205	
123865	10/11/96	3Q	tween	100	ml	0.22046	
123872	10/11/96	3I	Polyethylene glycol	500	g	1.102	
123903	10/11/96	3Q	Chloramben	5	ml	0.011	0.011
123903	10/11/96	3Q	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	5	ml	0.01102	
123903	10/11/96	3Q	2,4-DB (2,4-dichlorophenoxybutyric acid)	5	ml	0.01102	
123903	10/11/96	3Q	bentazon	1	ml	0.00220	
123903	10/11/96	3Q	Dacthal	5	ml	0.01102	
123903	10/11/96	3Q	Dichlorprop	5	ml	0.01102	
122754	10/12/96	3805	D-sorbitol	100	g	0.220	
122754	10/13/96	3805	Xylitol	25	g	0.055	
122754	10/14/96	3805	Cadmium sulfate	100	g		0.220
124109	10/14/96	3C	cytochrome c	1	g	0.002	
122754	10/15/96	3805	mercuric sulfate	100	g		0.220
124184	10/15/96	3C	acetone*	55	gal	458.975	
124184	10/15/96	3C	acetone*	56	gal	467.320	
124222	10/15/96	3AF	Alpha-naphthol	10	g	0.022	
124222	10/15/96	3AF	Potassium ferricyanide	100	g		0.220
124234	10/15/96	3GL	Phenol	1	L	2.205	2.205
124234	10/15/96	3GL	DNA ladder	1	kg	2.205	
124234	10/15/96	3GL	DNA polymerase I, large fragment	1	kg	2.205	
121835	10/16/96	3I	Swainsonine	600	mg	0.00132	
124368	10/16/96	3BE	16S Primer	1	L	2.205	
124455	10/16/96	3C	acetone*	16	L	35.273	
124455	10/16/96	3C	ethyl alcohol	16	L	35.273	
124455	10/16/96	3C	ethyl ether	32	L	70.547	
124487	10/16/96	3C	triethylamine	1	L	2.205	2.205
124553	10/16/96	3I	Guanidine thiocyanate	500	g	1.102	
124553	10/16/96	3I	Cell Culture media	20	L	44.092	
124595	10/16/96	3I	GBX Developer and Fixer	5	gal	41.725	41.725
124270	10/17/96	3C	suc-ala-ala-phe-pna	100	mg	0.00022	
124674	10/17/96	3Q	b-carotene	25	g	0.055	
124674	10/17/96	3Q	b-carotene	25	g	0.055	
124674	10/17/96	3Q	xanthophyll	1	kg	2.205	
124766	10/17/96	3C	4,5-imidazoledicarboxylic acid	5	g	0.011	
124766	10/17/96	3C	methylaminehydrochloride	500	g	1.102	
124766	10/17/96	3C	methylsulfoxide-d6-1% TMS	50	g	0.110	
124766	10/17/96	3C	tetramethylammoniumchloride	500	g	1.102	
124778	10/17/96	3C	alpha 32P UTP crude @ 800 ci/mm 250 µci	2	ml	0.0044	

MMSU (at) csl.com - Chemical Usage Application

Page

VOC and HAP Chemical Purchases

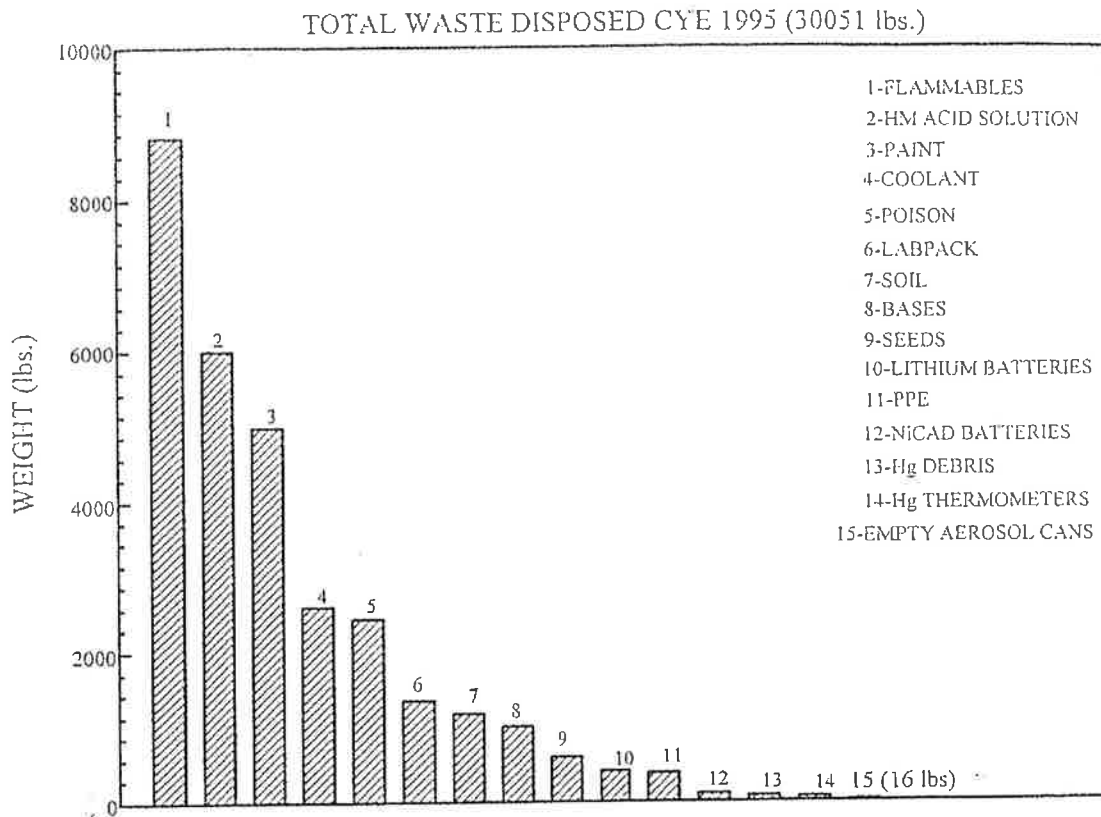
PO	Date	Dept.	Chemical	Qty	Units	VOC lb/mo	HAP lb/mo
9586	10/18/96	3C	Terminal deoxynucleotide transferase	1	ml	0.00220	
124892	10/18/96	3C	Ribonuclease T1	200	µg	0.00000	
124926	10/18/96	3C	citric acid	1	kg	2.205	
124930	10/18/96	3C	adenosine's-triphosphate (ATP)	25	g	0.055	
124932	10/18/96	3Q	acrylamide	1000	g	2.205	2.205
124932	10/18/96	3Q	chloroform	10	L	22.046	22.046
124932	10/18/96	3Q	methanol	16	L	35.273	35.273
124932	10/18/96	3Q	nitrocellulose	200	lb	200.000	
124937	10/18/96	3Q	methanol	2	L	4.409	4.409
124937	10/18/96	3Q	chloroform- isoamyl alcohol	24	qt	50.070	50.070
124937	10/18/96	3Q	tribase	1	kg	2.205	
124937	10/18/96	3Q	urea	1	kg	2.205	
124937	10/18/96	3Q	gel loading soln	5	ml	0.01102	
125008	10/21/96	3AF	DNA T4Q Polymerase	2500	g	5.51146	
125062	10/21/96	3C	dichloromethane	16	L	35.273	35.273
125087	10/21/96	3C	developer	5	gal	41.725	41.725
125087	10/21/96	3C	fixer	5	gal	41.725	41.725
125175	10/21/96	3AQ	quinoline	1	kg	2.205	2.205
125175	10/21/96	3AQ	ammonium citrate, dibasic	200	g	0.441	
125175	10/21/96	3AQ	citric acid monohydrate	4	kg	8.818	
125187	10/21/96	3Q	chloroform- isoamylalcohol	24	qt	50.070	50.070
125209	10/21/96	3C	T4 DNA Ligase	10	µl	0.00002	
125319	10/22/96	3AF	gibberellic acid	500	mg	0.001	
125345	10/22/96	3545	glycol ether	5	gal	41.725	41.725
125416	10/22/96	3AF	Tryptone	500	g	1.102	
125416	10/22/96	3AF	Urea	2.5	kg	5.511	
125578	10/23/96	3GL	methacryl-oxypropyltri-methoxysilane	50	g	0.110	
125713	10/24/96	3C	n-methylhydroxylamine HCl	60	g	0.132	
125815	10/24/96	3I	Blu-513H	1	kg	2.205	
125816	10/24/96	3I	ATP-γ32P	25	g	0.055	
125821	10/24/96	3AF	2-propanol	4	L	8.818	
125821	10/24/96	3AF	n-amylalcohol (1-pentanol)	7.5	L	16.534	
125832	10/24/96	3C	5,5 dimethyl-1,3-cyclohexadione	25	g	0.055	
125864	10/24/96	3BE	Trizma Hydrochloride	1	kg	2.205	
125864	10/24/96	3BE	EDS-EDTA	1	L	2.205	
125935	10/24/96	3C	methylene chloride*	4	L	8.818	8.818
125968	10/25/96	3Q	chloroform	2	L	4.409	4.409
125968	10/25/96	3Q	ferrous sulfate	1	kg	2.205	
126004	10/25/96	3C	27-Mer DNA (P-seq)	1	kg	2.205	
126004	10/25/96	3C	27-Mer DNA (T-seq)	1	kg	2.205	
126008	10/25/96	3C	polycytidylic acid	1	kg	2.205	
126008	10/25/96	3C	polyguanylic acid	1	kg	2.205	
126014	10/25/96	3C	formaldehyde 37%	4	L	8.818	8.818
126015	10/25/96	3C	chloroform	450	ml	0.992	0.992
126020	10/25/96	3C	RNA Ladder	75	µg	0.00000	

NMSE, Inc. - Oregon Permit #0000000000

VOC and HAP Chemical Purchases

PO	Date	Dept.	Chemical	Qty	Units	VOC lb/mo	HAP lb/mo
126129	10/25/96	3C	9-fluorenylmethyl chloroformate	5	g	0.011	
126129	10/25/96	3C	l(+)-leucinol	5	g	0.011	
126223	10/28/96	3C	tyrosinase	50000	ml	110.22928	
126226	10/28/96	3C	acetonitrile	5	L	11.023	11.023
126302	10/28/96	3C	benzyl chloroformate	100	g	0.220	
126302	10/28/96	3C	dl-2-amino-1-propanol	5	g	0.011	
125942	10/29/96	3I	Dulbecco's modified eagle's medium	1	L	2.205	
125942	10/29/96	3I	Cell dissociation soln	600	ml	1.32275	
125942	10/29/96	3I	Trypsin EDTA	600	ml	1.32275	
125942	10/29/96	3I	Platelet derived endothelial cell growth factor	10	µg	0.00000	
125942	10/29/96	3I	Vascular endothelial growth factor	5	µg	0.00000	
126446	10/29/96	3C	3-butyn-1-ol	25	g	0.055	
126446	10/29/96	3C	2-(3-butynyloxy) tetrahydro-2h-pyran	1	L	2.205	
126490	10/29/96	3C	17 Ethylestradiol	10	g	0.022	
126536	10/29/96	3C	methylamine HCl	5	g	0.011	
126536	10/29/96	3C	n-methylhydroxylamine HCl	5	g	0.011	
126615	10/29/96	3AF	Tryptic soy agar	500	g	1.102	
126625	10/29/96	3AQ	Antibiotic antimicrobial lyophilized	40	ml	0.08818	
126625	10/29/96	3AQ	Dimethyl sulfoxide	5	ml	0.01102	
126625	10/29/96	3AQ	Fetal Calf serum	1000	ml	2.20459	
126625	10/29/96	3AQ	Trypsin EDTA soln	500	ml	1.10229	
126686	10/30/96	3Q	8270 mix #17	1	ml	0.00220	
126686	10/30/96	3Q	8270 mix #2	2	ml	0.00441	
126686	10/30/96	3Q	8270 mix #4	3	ml	0.00661	
126686	10/30/96	3Q	butachlor	5	ml	0.01102	
126863	10/30/96	3Q	acetone	16	L	35.273	
126864	10/30/96	3Q	dichloromethane	16	L	35.273	35.273
126864	10/30/96	3Q	methanol	16	L	35.273	35.273
11449	10/31/96	3C	anhydrous ether	16	L	35.273	
126983	10/31/96	3C	anhydrous ether	16	L	35.273	
127194	11/4/96	3C	2-chlorophenol	1	L	2.205	
127344	11/4/96	3GL	zeatin (mixed isomers)	3	kg	6.614	
127371	11/4/96	3C	n-hexane 85%	16	L	35.273	35.273
127371	11/4/96	3C	ethyl acetate	16	L	35.273	
127392	11/4/96	3C	oligo (DT) cellulose	1	g	0.002	
127395	11/4/96	3AF	Glycerol	3	L	6.614	
127395	11/4/96	3AF	Lactic acid	2	L	4.409	
127437	11/4/96	3BE	glycerol	1	L	2.205	
127123	11/5/96	3I	Aprotinin	10	mg	0.000	
127123	11/5/96	3I	Pepstatin	5	mg	0.000	
124866	11/7/96	3I	HCl	25	L		5.511
Totals, lb/mo						2869	783

* acetone and methylene chloride are not VOC's but have been included as a conservative measure.



The waste streams contain the following EPA wastes codes:

1. Flammables	D001, F003, F005, D018
2. HM (Heavy Metals) in Acid Solutions	D002, D004, D006, D007, D008, D009, D011
3. Old Paint	D007, D008
4. Coolant (with oil and metal chips)	N/R
5. Poisons	F002, F005, U044, U188, U122
6. Labpacks	
7. Soil	D007, D008
8. Bases	D002, D007
9. Seeds with fungicides	N/R
10. Lithium Batteries	D003
11. PPE: Personal Protective Equipment	F002, F003, F005, U188, U122
12. NiCAD Batteries	D006
13. Hg Debris	D009
14. Hg Thermometers	D009
15. Empty Aerosol Cans	F002, F003, F005

NMSU Las Cruces—Operating Permit Application
Agricultural Activities Supporting Data

7.0 AGRICULTURE

Fugitive dust from agricultural operations is suspected of contributing significantly to the ambient particulate levels of many agricultural counties. Such agricultural operations include (a) plowing, (b) disking, (c) fertilizing, (d) applying herbicides and insecticides, (e) bedding, (f) flattening and firming beds, (g) planting, (h) cultivating, and (i) harvesting. These operations can be generically classified as soil preparation, soil maintenance, and crop harvesting operations. As discussed in Section 6, dust emissions are also generated by wind erosion of bare or partially vegetated soil. This section will focus on emissions from both wind erosion and agricultural tilling operations that are designed to (a) create the desired soil structure for the crop seed bed and (b) to eradicate weeds.

7.1 ESTIMATION OF EMISSIONS

7.1.1 Tilling

The mechanical tilling of agricultural land injects dust particles into the atmosphere as the soil is loosened or turned under by plowing, disking, harrowing, one-waying, etc. AP-42 presents a predictive emission factor equation for the estimation of dust emissions from agricultural tilling:

$$E = k(5.38)(s)^{0.6} \text{ kg/ha}$$

$$E = k(4.80)(s)^{0.6} \text{ lb/acre}$$

where: s = silt content (percent) of surface soil (default value of 18 percent)

k = particle size multiplier (dimensionless)

The particle size multiplier, k is given as 0.21 for PM_{10} . The above equations are based solely on field testing information cited in AP-42. Silt content of tested soils ranged from 1.7 to 88 percent.

Table 11.9-4 (cont.).

Source	Material	Mine Location ^a	TSP Emission Factor ^b	Units	EMISSION FACTOR RATING
End dump truck unloading (batch drop) ^c	Coal	I	0.014	lb/T	D
			0.0070	kg/Mg	D
Scraper unloading (batch drop) ^c	Topsoil	Any	0.066	lb/T	D
			0.033	kg/Mg	D
Wind erosion of exposed areas	Seeded land, stripped overburden, graded overburden	V	0.007	lb/T	E
			0.004	kg/Mg	E
		IV	0.04	lb/T	C
			0.02	kg/Mg	C
		Any	0.38	$\frac{\text{T}}{(\text{acre})(\text{yr})}$	C
			0.85	$\frac{\text{Mg}}{(\text{hectare})(\text{yr})}$	C

^a Roman numerals I through V refer to specific mine locations for which the corresponding emission factors were developed.

Tables 11.9-4 and 11.9-5 present characteristics of each of these mines. See text for correct use of these "mine-specific" emission factors. The other factors (from Reference 5 except for overburden drilling from Reference 1) can be applied to any western surface coal mine.

^b Total suspended particulate (TSP) denotes what is measured by a standard high volume sampler (see Section 13.2).

^c Predictive emission factor equations, which generally provide more accurate estimates of emissions, are presented in Chapter 13.

Table 9.2.2-3 (cont.).

Formulation Type	Average VOC Content Of Inert Position (wt. %)
Pellet/tablet/cake/briquette	27
Wettable powder	25
Dust/powder	21
Dry flowable	28
Granule/flake	25
Suspension	15
Paint/coatings	64

^a Reference 21.Table 9.2.2-4 (Metric And English Units).
UNCONTROLLED EMISSION FACTORS FOR PESTICIDE ACTIVE INGREDIENTS^a

EMISSION FACTOR RATING: E

Vapor Pressure Range (mm Hg at 20 to 25°C) ^b	Emission Factor ^c	
	kg/Mg	lb/ton
Surface application (SCC 24-61-800-001)		
1 x 10 ⁻⁴ to 1 x 10 ⁻⁶	350	700
> 1 x 10 ⁻⁴	580	1,160
Soil incorporation (SCC 24-61-800-002)		
< 1 x 10 ⁻⁶	2.7	5.4
1 x 10 ⁻⁴ to 1 x 10 ⁻⁶	21	42
> 1 x 10 ⁻⁴	52	104

^a Factors are functions of application method and vapor pressure. SCC = Source Classification Code.^b See Reference 20 for vapor pressures of specific active ingredients.^c References 1,15-18. Expressed as equivalent weight of active ingredients volatilized/unit weight of active ingredients applied.

References For Section 9.2.2

1. *Emission Factor Documentation For AP-42 Section 9.2.2, Pesticide Application*, EPA Contract No. 68-D2-0159, Midwest Research Institute, Kansas City, MO, September 1994.
2. *Farm Chemicals Handbook - 1992*, Meister Publishing Company, Willoughby, OH, 1992.

Table 9.3.2 (Metric And English Units). EMISSION RATES/FACTORS FROM GRAIN HARVESTING^a

EMISSION FACTOR RATING: D

Operation	Emission Rate ^b				Emission Factor ^c			
	Wheat		Sorghum		Wheat		Sorghum	
	mg/s	lb/hr	mg/s	lb/hr	g/km ²	lb/mi ²	g/km ²	lb/mi ²
Harvest machine	3.4	0.027	23.0	0.18	170.0	0.96	1110.0	6.5
Truck loading	1.8	0.014	1.8	0.014	12.0	0.07	22.0	0.13
Field transport	47.0	0.37	47.0	0.37	110.0	0.65	200.0	1.2

^a Reference 1.

^b Assumptions from References 1 are an average combine speed of 3.36 meters per second, combine swath width of 6.07 meters, and a field transport speed of 4.48 meters per second.

^c In addition to footnote b, assumptions are a truck loading time of 6 minutes, a truck capacity of 0.052 km² for wheat and 0.029 km² for sorghum, and a filled truck travel time of 125 seconds per load.

Emission rates are expressed in units of milligrams per second (mg/s) and pounds per hour (lb/hr); factors are expressed in units of grams per square kilometer (g/km²) and pounds per square mile (lb/mi²).

There are no control techniques specifically implemented for the reduction of air pollution emissions from grain harvesting. However, several practices and occurrences do affect emission rates and concentration. The use of terraces, contouring, and stripcropping to inhibit soil erosion will suppress the entrainment of harvested crop fragments in the wind. Shelterbelts, positioned perpendicular to the prevailing wind, will lower emissions by reducing the wind velocity across the field. By minimizing tillage and avoiding residue burning, the soil will remain consolidated and less prone to disturbance from transport activities.

Reference For Section 9.3.2

1. R. A. Wachten and T. R. Blackwood, *Source Assessment: Harvesting Of Grain--State Of The Art*, EPA-600/2-79-107f, U. S. Environmental Protection Agency, Cincinnati, OH, July 1977.

9.3.2 Grain Harvesting

9.3.2.1 General¹

Harvesting of grain refers to the activities performed to obtain the cereal kernels of the plant for grain, or the entire plant for forage and/or silage uses. These activities are accomplished by machines that cut, thresh, screen, clean, bind, pick, and shell the crops in the field. Harvesting also includes loading harvested crops into trucks and transporting crops in the grain field.

Crops harvested for their cereal kernels are cut as close as possible to the inflorescence (the flowering portion containing the kernels). This portion is threshed, screened, and cleaned to separate the kernels. The grain is stored in the harvest machine while the remainder of the plant is discharged back onto the field.

Combines perform all of the above activities in 1 operation. Binder machines only cut the grain plants and tie them into bundles, or leave them in a row in the field (called a windrow). The bundles are allowed to dry for threshing later by a combine with a pickup attachment.

Corn harvesting requires the only exception to the above procedures. Corn is harvested by mechanical pickers, picker/shellers, and combines with corn head attachments. These machines cut and husk the ears from the standing stalk. The sheller unit also removes the kernels from the ear. After husking, a binder is sometimes used to bundle entire plants into piles (called shocks) to dry.

For forage and/or silage, mowers, crushers, windrowers, field choppers, binders, and similar cutting machines are used to harvest grasses, stalks, and cereal kernels. These machines cut the plants as close to the ground as possible and leave them in a windrow. The plants are later picked up and tied by a baler.

Harvested crops are loaded onto trucks in the field. Grain kernels are loaded through a spout from the combine, and forage and silage bales are manually or mechanically placed in the trucks. The harvested crop is then transported from the field to a storage facility.

9.3.2.2 Emissions And Controls¹

Emissions are generated by 3 grain harvesting operations: (1) crop handling by the harvest machine, (2) loading of the harvested crop into trucks, and (3) transport by trucks in the field. Particulate matter, composed of soil dust and plant tissue fragments (chaff), may be entrained by wind. Particulate emissions from these operations (<7 micrometers [μm] mean aerodynamic diameter) were developed in Reference 1. For this study, collection stations with air samplers were located downwind (leeward) from the harvesting operations, and dust concentrations were measured at the visible plume centerline and at a constant distance behind the combines. For product loading, since the trailer is stationary while being loaded, it was necessary only to take measurements a fixed distance downwind from the trailer while the plume or puff passed over. The concentration measured for harvesting and loading was applied to a point source atmospheric diffusion model to calculate the source emission rate. For field transport, the air samplers were again placed a fixed distance downwind from the path of the truck, but this time the concentration measured was applied to a line source diffusion model. Readings taken upwind of all field activity gave background concentrations. Particulate emission factors for wheat and sorghum harvesting operations are shown in Table 9.3.2-1.

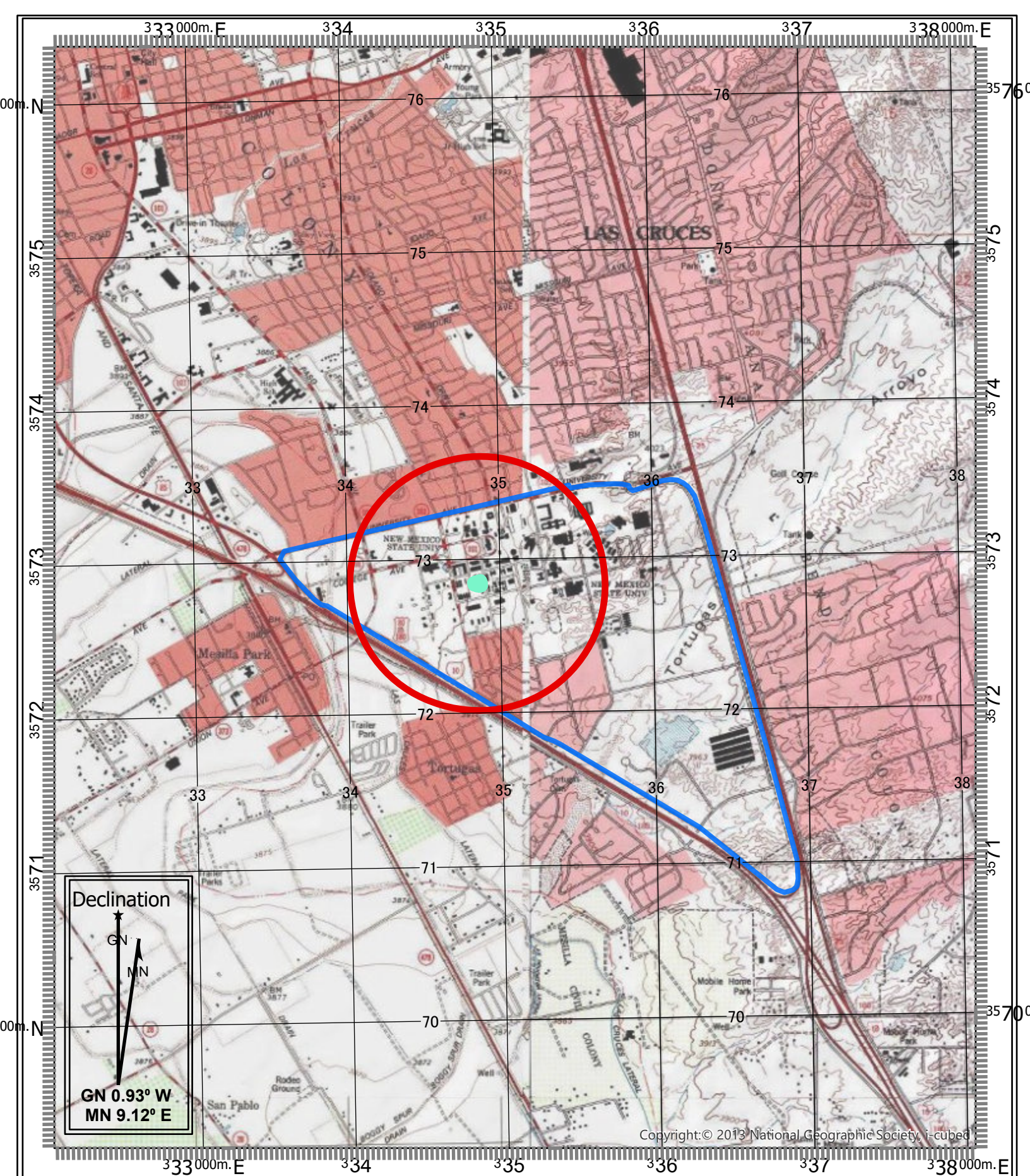
Section 8

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 map of the facility is attached on the following page.



Map Name: Las Cruces, NM (USGS 7.5" Quadrangle)
Print Date: 2/11/2020
Map Center: 13 00334982 E352784 N

Horizontal Datum: WGS84

0 SCALE: 1:48000 10000

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.
-

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

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.

New Mexico State University (NMSU) – Las Cruces is an educational institution owned and operated by the State of New Mexico through the NMSU Board of Regents. It is located in Las Cruces, NM, and has an estimated student population of 22,000. Its primary purpose is to serve the citizens of New Mexico by providing education for students and supporting programs of research, extension education, and public service.

NMSU Las Cruces includes research facilities not contiguous to the main campus that have other SIC codes (e.g., Leyendecker Research Farm). These facilities have not been included in this application, as they are considered outside the scope of this Title V.

The facility includes three boilers and one combustion turbine. These sources are used for producing electric power and steam for heating. Other sources at the facility include fugitives from chemical usage in the chemistry lab, agricultural research activities, and the facilities and services paint booth. Other air emissions at the campus result from support activities (such as emissions from incidental maintenance painting) that are secondary to the main purpose of this facility. Consequently, emissions from other activities are small and the processes are simple.

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 see Table 2-A.

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

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

☒ Yes

☒ No (See discussion below)

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):

NMSU Las Cruces Campus includes research facilities that are not contiguous to the main campus and operate under different SIC codes, (e.g., Leyendecker Research Farms). These facilities have not been included in this application.

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 **[is required, and analysis is attached to this document.] OR [is not required (project is not significant)] OR [Applicant is submitting a PSD Major Modification and chooses not to net.]**
- D. BACT is **[not required for this modification, as this application is a minor modification.] OR [required, as this application is a major modification. List pollutants subject to BACT review and provide a full top down BACT determination.]**
- E. If this is an existing PSD major source, or any facility with emissions greater than 250 TPY (or 100 TPY for 20.2.74.501 Table I – PSD Source Categories), determine whether any permit modifications are related, or could be considered a single project with this action, and provide an explanation for your determination whether a PSD modification is triggered.

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

Section 13

Determination of State & Federal Air Quality Regulations

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

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

Required Information for Specific Equipment:

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

Required Information for Regulations that Apply to the Entire Facility:

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

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

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

Regulatory Citations for Emission Standards:

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

Federally Enforceable Conditions:

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

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

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

Example of a Table for State Regulations:

<u>State Regulation Citation</u>	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	No	N/A	20.2.3 NMAC is a State Implementation Plan (SIP) approved regulation that limits the maximum allowable concentration of, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC
20.2.7 NMAC	Excess Emissions	Yes	Facility	All Title V major sources are subject to Air Quality Control Regulations, as defined in 20.2.7 NMAC, and are thus subject to this requirements of this regulation. Also listed as applicable in NSR Permit 1640-M1R2.
20.2.23 NMAC	Fugitive Dust Control	No for permitted facilities, possible for NOIs	Facility	Although located within Doña Ana county, this facility is not a fugitive dust source as described in this regulation; therefore, it is not applicable to this facility.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No	N/A	The gas burning equipment at the facility does not have a heat input of greater than 1,000,000 million BTU per year per unit; therefore, this regulation does not apply.
20.2.34 NMAC	Oil Burning Equipment: NO ₂	No	N/A	This facility does not have any oil burning equipment; therefore, this regulation does not apply.
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	No	N/A	This facility is not subject to the requirements of 20.2.35 NMAC for “New Natural Gas Processing Plants” for which a modification commenced on or after July 1, 1974 because it is not a gas processing plant.
20.2.37 and 20.2.36 NMAC	Petroleum Processing Facilities and Petroleum Refineries	N/A	N/A	These regulations were repealed by the Environmental Improvement Board. If you had equipment subject to 20.2.37 NMAC before the repeal, your combustion emission sources are now subject to 20.2.61 NMAC.
20.2.38 NMAC	Hydrocarbon Storage Facility	No	N/A	Not applicable as the site does not have hydrocarbon storage units as defined in 20.2.38 NMAC.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No	N/A	Not applicable as the facility is not a sulfur recovery plant.
20.2.50 NMAC	Oil and Gas Sector – Ozone Precursor Pollutants	No	N/A	This regulation establish emission standards for VOCs and NO _x for oil and gas production, processing, compression, and transmission sources in applicable counties such as Dona Ana. This facility is not an oil and gas production, processing, compression, or transmission facility. Therefore, this regulation does not apply.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	Units 269-1 through 269-4 and emergency generators	This regulation limits opacity to 20% and applies to Stationary Combustion Equipment, such as engines, boilers, and turbines. Therefore, units 269-1, 269-2, 269-3, 269-4, and all emergency generators are subject to this regulation.
20.2.70 NMAC	Operating Permits	Yes	Facility	Source is major for NO _x as defined by 20.2.70 NMAC. The facility currently operates under operating permit P172-R4.
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	The facility is subject to 20.2.70 NMAC and the permit includes numerical ton per year emission limits; therefore, the facility is subject to 20.2.71 NMAC.
20.2.72 NMAC	Construction Permits	Yes	Facility	This facility is subject to 20.2.72 NMAC and permitted under NSR Permit 1640-M1R2.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	NOI: 20.2.73.200 NMAC applies (requiring an NOI application) Emission Inventory Reporting: 20.2.73.300 NMAC applies. All Title V major sources meet the applicability requirements of 20.2.73.300 NMAC.

State Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	N/A	This facility is only a major source for NO _x and the emissions are less than 250 tpy for regulated pollutants. Therefore, this facility is not subject to 20.2.74 NMAC.
20.2.75 NMAC	Construction Permit Fees	No	N/A	This facility is subject to 20.2.71 NMAC; therefore this regulation does not apply.
20.2.77 NMAC	New Source Performance	Yes	269-3 269-4 EG-AC, EG-EH, EG-MT, EG-NC, EG-FE, EG-CO EG-PS, EG-BI, EG-PD, EG-DA	This regulation applies all stationary sources which were constructed or modified and which is subject to the requirements of 40 CFR Part 60, as amended through June 28, 2023. Unit 269-3 is subject to 40 CFR 60 Subpart Dc, unit 296-4 is subject to Subpart GG, units EG-AC, EG-EH, EG-MT, EG-NC, EG-FE, EG-CO, EG-PS, and EG-BI are subject to Subpart IIII, and units EG-PD and EG-DA are subject to Subpart JJJJ and are therefore subject to the requirements of this regulation.
20.2.78 NMAC	Emission Standards for HAPS	No	N/A	The facility is minor for HAPs subject to the requirements of 40 CFR Part 61, as amended through January 15, 2017. Therefore, this regulation does not apply.
20.2.79 NMAC	Permits – Nonattainment Areas	No	N/A	The facility is not located in a nonattainment area.
20.2.80 NMAC	Stack Heights	No	N/A	Facility is a Title V source; therefore, this regulation does not apply.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	EG-AS, EG-AC, EG-BA, EG-CPO1, EG-CPO2, EG-CPI, EG-CD, EG-EH, EG-FH, EG-MT, ET-NC, EG-FE, EG-CO, EG-PS, EG-PD, EG-PA, EG-SH, EG-WH, EG-DA, EG-BI	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63, as amended through January 15, 2017. All emergency generators at this facility are subject to 40 CFR 63 MACT ZZZZ and are therefore subject to the requirements of this regulation.

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

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 50	NAAQS	Yes	Facility	The facility is subject to this regulation under 20.2.70.7.E.11 NMAC.
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	Units subject to 40 CFR 60	Facility is subject to Subpart Dc, Subpart GG, Subpart IIII, and Subpart JJJJ; therefore, this regulation applies.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for Electric Utility Steam Generating Units	No	N/A	Not applicable as the facility does not contain electric utility steam generating units.
NSPS 40 CFR60.40b Subpart Db	Electric Utility Steam Generating Units	No	N/A	Not applicable as the facility does not contain electric utility steam generating units.
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Yes	269-3	This regulation establishes standards of performance for steam generating units which were constructed, modified, or reconstructed after June 9, 1989 and that have a maximum design heat input capacity between 10 and 100 MMBtu/hr. Unit 269-3 has a heat input of 25.1 MMBtu/hr and was constructed on December 6, 2001 and is therefore subject to the requirements of this regulation. Unit 269-3 combusts natural gas only and is therefore not subject to the SO ₂ and PM emission standards of this regulation.
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	Not applicable as the facility does not contain storage vessels for petroleum liquids.
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	Not applicable as the facility does not contain volatile organic liquid storage vessels.

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
NSPS 40 CFR 60.330 Subpart GG	Standards of Performance for Stationary Gas Turbines	Yes	269-4	This regulation establishes standards of performance for stationary gas turbines with a heat input at peak load ≥ 10 MMBtu/hr that commenced construction, modification, or reconstruction after October 3, 1977. Unit 269-4 has an estimated heat input of 53 MMBtu/hr and was installed in 1996 and is therefore subject to the requirements of this regulation as well as the emission standards for NO _x outlined in §60.332 and the emission standards for SO ₂ outlined in §60.333 of this subpart.
NSPS 40 CFR 60, Subpart KKK	Leaks of VOC from Onshore Gas Plants	No	N/A	Not applicable as the facility is not an onshore gas plant.
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO₂ Emissions	No	N/A	Not applicable as the facility is not an onshore natural gas processing facility.
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	Not applicable as the facility does not produce, transmit, or distribute crude oil and/or natural gas.
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	Not applicable as the facility does not produce, transmit, or distribute crude oil and/or natural gas.
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	Yes	EG-AC, EG-EH, EG-MT, EG-NC, EG-FE, EG-CO, EG-PS, EG-BI	This regulation establishes standards of performance for stationary compression ignition (CI) internal combustion engines (ICE) that commenced construction after July 11, 2005 and were manufactured after April 1, 2006. Units EG-AC, EG-EH, EG-MT, EG-NC, EG-FE, EG-CO, EG-PS, and EG-BI are emergency CI ICE generators that were constructed after July 11, 2005 and were manufactured after April 1, 2006 are therefore subject to the requirements of this regulation. These units are for emergency generation only and are insignificant for Title V purposes. Please see the modified Attachment A from TV Permit P172-R4 in Section 20 of this application which incorporates updates from the NSR administrative revisions 1640-M1-R3 through 1640-M1-R8.

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
				Units EG-AS, EG-BA, EG-EG-CPO1, EG-CPO2, EG-CP1, EG-CD, EG-FH, EG-PA, EG-PD, EG-SH, and EG-WH were constructed before July 11, 2005 and are therefore not subject to the requirements of this regulation.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	Yes	EG-PD, EG-DA	This regulation establishes standards of performance for stationary spark ignition (SI) internal combustion engines (ICE) that commenced construction after June 12, 2006 and were manufactured after January 1, 2009, for emergency engines with a maximum engine power >25 hp. Units EG-PD and EG-DA are emergency SI ICE generators that were constructed after June 12, 2006, were manufactured after January 1, 2009, and have a maximum engine power > 25 hp and are therefore subject to the requirements of this regulation. These units are for emergency generation only and are insignificant for Title V purposes. Please see the modified Attachment A from TV Permit P172-R4 in Section 20 of this application which incorporates updates from the NSR administrative revisions 1640-M1-R3 through 1640-M1-R8.
NSPS 40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units	No	N/A	This regulation establishes standards of performance for electric generating units that commenced construction after January 8, 2014 and on or before May 23, 2023. Unit 269-4 is an electric generating unit that was constructed in 1996 and is therefore not subject to the requirements of this regulation.
NSPS 40 CFR 60 Subpart UUUU	Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	No	N/A	This facility possesses no equipment as defined in this regulation; therefore, it does not apply.
NSPS 40 CFR 60, Subparts WWW, XXX, Cc, and Cf	Standards of performance for Municipal Solid Waste (MSW) Landfills	No	N/A	This facility is not a municipal solid waste landfill as defined in this regulation; therefore, it does not apply.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	N/A	This facility is not subject to other Subparts in 40 CFR 61; therefore, this regulation does not apply.
NESHAP 40 CFR 61 Subpart E	National Emission Standards for Mercury	No	N/A	Not applicable as the provisions of this subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge.
NESHAP 40 CFR 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources)	No	N/A	Not applicable as facility regulated sources do not meet the definition of this subpart for VHAP service, which means a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent by weight of VHAP.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	EG-AS, EG-AC, EG-BA, EG-CPO1, EG-CPO2, EG-CPI, EG-CD, EG-EH, EG-FH, EG-MT,	All emergency generators at this facility are subject to 40 CFR 63, Subpart ZZZZ (see the modified Attachment A from TV Permit P172-R4 in Section 20 of this application which incorporates updates from the NSR administrative revisions 1640-M1-R3 through 1640-M1-R8); therefore, this regulation applies.

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
			ET-NC, EG-FE, EG-CO, EG-PA, EG-PS, EG-PD, EG-SH, EG-WH, EG-DA, EG-BI	
MACT 40 CFR 63.760 Subpart HH	Oil and Natural Gas Production Facilities	No	N/A	Not applicable as the facility is not an oil and natural gas production facility.
MACT 40 CFR 63 Subpart HHH	National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities	No	N/A	This facility is not a natural gas transmission and storage facility; therefore, this regulation does not apply.
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	No equipment at this facility is a major source of HAPs as defined in this regulation; therefore, it does not apply.
MACT 40 CFR 63 Subpart UUUUU	National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit	No	N/A	This facility possesses no applicable equipment as defined in this regulation; therefore, it does not apply.
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	Yes	EG-AS, EG-AC, EG-BA, EG-CPO1, EG-CPO2, EG-CPI, EG-CD, EG-EH, EG-FH, EG-MT, ET-NC, EG-FE, EG-CO, EG-PA, EG-PS, EG-PD, EG-SH, EG-WH,	This regulation establishes national emission limitations for HAPs emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAPs. All the emergency generators at this facility are RICE located at an area source of HAPs and are therefore subject to the requirements of this subpart. These units are for emergency generation only and are insignificant for Title V purposes. Please see the modified Attachment A from TV Permit P172-R4 in Section 20 of this application which incorporates updates from the NSR administrative revisions 1640-M1-R3 through 1640-M1-R8.

<u>Federal Regulation Citation</u>	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
			EG-DA, EG-BI	
40 CFR 64	Compliance Assurance Monitoring	No	N/A	There are no CAM affected units at the facility.
40 CFR 68	Chemical Accident Prevention	No	N/A	The facility does not contain more than a threshold quantity of a regulated substance in a process, as determined under §68.115.
Title IV – Acid Rain 40 CFR 72	Acid Rain	No	N/A	Not applicable as the facility does not generate commercial electric power or electric power for sale.
Title IV – Acid Rain 40 CFR 73	Sulfur Dioxide Allowance Emissions	No	N/A	Not applicable as the facility does not generate commercial electric power or electric power for sale.
Title IV-Acid Rain 40 CFR 75	Continuous Emissions Monitoring	No	N/A	Not applicable as the facility does not generate commercial electric power or electric power for sale.
Title IV – Acid Rain 40 CFR 76	Acid Rain Nitrogen Oxides Emission Reduction Program	No	N/A	Not applicable as the facility does not generate commercial electric power or electric power for sale.
Title VI – 40 CFR 82	Protection of Stratospheric Ozone	Yes	Facility	This subpart is applicable for the following reasons: • The facility may service, maintain and/or repair motor vehicle air conditioners. • The facility may train and certify automotive technicians • The facility services, maintains, and repairs equipment containing refrigerant as described by this regulation.

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.
-

Emissions during startup, shutdown, and maintenance and emergencies (ESDs) are generally minimized through application of industry standards and/or manufacturer recommended operating practices. Furthermore, the startup and shutdown conditions do not persist for more than a few minutes. Operating conditions during startup and shutdown do not depart greatly from normal operating conditions; that is, no special fuel or operating parameters are used during startup or shutdown.

In the event of an emergency during which emission rates from the facility would exceed permitted allowables, NMSU will notify the AQB in accordance with 20.2.70 NMAC.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

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

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

The term “alternative operating scenario” is not defined by regulation. NMSU understands this term to apply to a source which may routinely operate with alternative fuels or processes in such a manner as to potentially affect emissions. Based on this understanding, this facility does not have alternative operating scenarios.

Section 16

Air Dispersion Modeling

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

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

Check each box that applies:

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

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
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	4/6/05
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	3/21/06
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	3/21/07
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	4/22/08
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	3/25/09
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	4/22/10
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	4/6/11
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	4/4/12
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	4/2/13
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	3/11/14
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	3/10/15
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	3/8/16
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	3/7/17
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	3/6/18
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	3/6/19
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R2.	3/3/20
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R3.	3/2/21
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R3.	3/1/22
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R3.	3/8/23
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R4.	3/5/24
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R5.	3/4/25
269-4	Tested in accordance with EPA test methods for NOx and CO as required by NSR Permit 1640-M1R8.	11/12/25

Section 19

Requirements for Title V Program

Who Must Use this Attachment:

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

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

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

Based on information and belief formed after reasonable inquiry, NMSU states that the facility does not meet the applicability requirements of 40 CFR 64.2 a.1, and 2. Specifically, no sources at the facility are controlled major sources. Enhanced monitoring requirements are not applicable to this facility at this time. NMSU will submit the necessary statement should the facility or requirements change such that this requirement becomes applicable.

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

Describe the facility's compliance status with each applicable requirement at the time this permit application is submitted. This statement should include descriptions of or references to all methods used for determining compliance. This statement should include descriptions of monitoring, recordkeeping and reporting requirements and test methods used to determine compliance with all applicable requirements. Refer to Section 2, Tables 2-N and 2-O of the Application Form as necessary. (20.2.70.300.D.11 NMAC) For facilities with existing Title V permits, refer to most recent Compliance Certification for existing requirements. Address new requirements such as CAM, here, including steps being taken to achieve compliance.

Based on information and belief formed after reasonable inquiry, NMSU believes that the Las Cruces Campus is currently in compliance with all applicable requirements described in Section 2. In the event that NMSU should discover new information affecting the compliance status of the facility, NMSU will make appropriate notifications and/or take corrective actions.

Pursuant to Condition B112(D) of Permit P172-R4, NMSU has certified to compliance with the terms and conditions of that permit. The most recent such certification was submitted by the annual deadline. Since that time, NMSU has continued to be in compliance with all applicable requirements as described in Section 13 of this application.

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

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

As described in Sections 13 and 16.2 and based on information and belief formed after reasonable inquiry, NMSU states that the Las Cruces Campus will continue to be operated in compliance with applicable requirements for which it is in compliance as of the date of submittal of this application.

In addition, NMSU will meet additional applicable requirements that become effective during the permit term in a timely manner or on such a time schedule as expressly required by the applicable requirement. In the event that NMSU should discover new information affecting the compliance status of the facility, NMSU will make appropriate notifications and/or take corrective actions.

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

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

NMSU wishes to maintain the following reporting and testing schedule for the next Title V permit period, consistent with their current reporting and testing schedule:

- The facility currently submits their annual compliance certification on July 31st of each year.
- Semi-annual reports are submitted each August 14th and February 14th
- Emissions tests for the turbine will be completed annually and a minimum of 90 days (25% of the monitoring period) apart from the previous annual test.

NMSU will continue to submit test reports and certifications on the existing schedule from the date of submittal of this application, without any change in submittal dates.

19.5 - Stratospheric Ozone and Climate Protection

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

1. Does your facility have any air conditioners or refrigeration equipment that uses CFCs, HCFCs or other ozone-depleting substances? ☒ Yes ☐ No
2. Does any air conditioner(s) or any piece(s) of refrigeration equipment contain a refrigeration charge greater than 50 lbs? ☒ Yes ☐ No

(If the answer is yes, describe the type of equipment and how many units are at the facility.)

- Central Utility Plant
 - QTY. (3) Carrier: Model #19XR-8787503EMH688 (Rated at 1500 Tons) 2800 Pounds of R-134 Refrigerant (each machine).
 - QTY. (1) York: Model #YSTMQMQK1-K267000090-11-1389-29168A-GS (Rated at 1125 Tons) 3230 Pounds of R-134A Refrigerant.
- Satellite Plant
 - QTY. (1) Trane: Model #CDHF2550 (Rated at 2500 Tons) 3700 Pounds of R-123 Refrigerant.
 - QTY. (1) Trane: Model #CVMF770 (Rated at 800 Tons) 1700 Pounds of R-123 Refrigerant.

- Dona Ana Community College (DACC)
 - QTY. (1) Trane Chiller #2 Model # RTHDUC2FXM0UAD3W3RALE3D2RALAVXQXEXABDCV271F5UT7XXXXX, 490 pounds of R-134A Refrigerant.
 - QTY. (1) Trane Chiller #1 Model # RTHDUD2FXZ8UAF2W3LALF302LALAVX0AF2CBXXV23705UTBZXXX00X310, 625 Lbs. of R513A
 - Bookstore
 - QTY. (1) York: Model #YCIV0177VA46VABB (Rated at 150 Tons) 355 Pounds of R-134A Refrigerant.
 - Fulton Center
 - QTY. (1) York Chiller Model #YCAL0080EC46XCASXTXLTXLX, 160 pounds of R-22 Refrigerant.
 - Computer Center
 - AC1: Existing (Coils replaced)
 - AC1CU1: Daikin Model #RCS035D, 63.47 lbs. of R410A Refrigerant
 - AC2: Existing (Coils replaced)
 - AC2CU2: Daikin Model #RCS035D, 63.11 lbs. of R410A Refrigerant
 - AHU1: Daikin CAH016GDGM, 57.25 lbs. of R410A Refrigerant
 - AHUCU1: Daikin RXYQ240AAYDA, R410A Refrigerant (Amount included in AHU1)
 - AHU2: Daikin CAH016GDGM, 58.66 lbs. of R410A Refrigerant
 - AHUCU2: Daikin RXYQ240AAYDA, R410A Refrigerant (Amount included in AHU2)
 - Food Science, Security, and, Safety Center
 - QTY: (1) Daikin: Model # AGZ170ETSEMNNOA- Serial # STNU211200006 - 160 Pounds of 410A Refrigerant
3. Do your facility personnel maintain, service, repair, or dispose of any motor vehicle air conditioners (MVACs) or appliances ("appliance" and "MVAC" as defined at 82. 152)? ☒ **Yes** ☐ **No**
4. Cite and describe which Title VI requirements are applicable to your facility (i.e. 40 CFR Part 82, Subpart A through G.)

NMSU owns, services, maintains, repairs, and disposes of appliances that use Class I or Class II chemicals (chlorofluorocarbons, halon, carbon tetrachloride, methyl chloroform or hydrochlorofluorocarbons) and services motor vehicle air conditioners in accordance with the applicable requirements of Title VI, Section 608 (National Recycling and Emissions Reduction Program) and Section 609 (Servicing of Motor Vehicle Air Conditioners). The following requirements apply:

- Repair of automotive air conditioning systems (Subpart B, 40 CFR 82.30 through 82.42)
- Air conditioning and refrigeration operation and maintenance (Subpart F, 40 CFR 82.150 through 82.166)
- Automotive Technician Training and Certification (Subpart B, 40 CFR 82.40)
- Non-Automotive Technician Training and Certification (Subpart F, 40 CFR 82.166(f) and 82.161)

NMSU states that each entity that services automotive air-conditioning systems for motor pool operations associated with the university is in compliance with 40 CFR 82.30 through 82.42.

NMSU states that each entity that services air-conditioning and refrigeration systems for facilities located on the main campus of the university is in compliance with 40 CFR 82.150 through 82.166.

NMSU states that it has previously, and may continue to train Automotive Type II Technicians in accordance with 40 CFR 82.40 and may continue to train and certify Non-Automotive Technicians in accordance with 40 CFR 82.166(f) and 82.161 through the Doña Ana Branch Community College.

19.6 - Compliance Plan and Schedule

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

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

A narrative description of your facility's compliance status with respect to all applicable requirements (as defined in 20.2.70 NMAC) at the time this permit application is submitted to the department.

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

A narrative description of the means by which your facility will achieve compliance with applicable requirements with which it is not in compliance at the time you submit your permit application package.

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

A schedule of remedial measures that you plan to take, including an enforceable sequence of actions with milestones, which will lead to compliance with all applicable requirements for your source. This schedule of compliance must be at least as stringent as that contained in any consent decree or administrative order to which your source is subject. The obligations of any consent decree or administrative order are not in any way diminished by the schedule of compliance.

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

A proposed schedule for submission to the department of certified progress reports must also be included in the compliance schedule. The proposed schedule must call for these reports to be submitted at least every six (6) months.

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

If your source is an acid rain source as defined by EPA, the following applies to you. For the portion of your acid rain source subject to the acid rain provisions of title IV of the federal Act, the compliance plan must also include any additional requirements under the acid rain provisions of title IV of the federal Act. Some requirements of title IV regarding the schedule and methods the source will use to achieve compliance with the acid rain emissions limitations may supersede the requirements of title V and 20.2.70 NMAC. You will need to consult with the Air Quality Bureau permitting staff concerning how to properly meet this requirement.

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

Based on information and belief formed after reasonable inquiry, NMSU states that it is operated in compliance with all applicable requirements. No compliance plan, compliance schedule, or compliance reports are required.

Based on information and belief formed after reasonable inquiry, NMSU states that the Las Cruces Campus is not an acid rain source as defined at 40 CFR 72.6. This element does not apply.

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

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

The facility is not subject to CAA 112(r).

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

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

(If the answer is yes, state which apply and provide the distances.)

NMSU – Las Cruces Campus is located 32 km from the state of Texas.

19.9 - Responsible Official

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

Patrick Chavez
Executive Director of Energy Services
(575) 646-5956

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.

Attachment A to Permit P172-R4 is included in this section for reference

ATTACHMENT A – Permit P172-R4
New Mexico Environment Department
Emergency Generator Units Subject to Federal Rules (40 CFR 63 and/or 40 CFR 60)

Table 104.B: Regulated Emergency Generator Sources List (units are listed in alphabetical order by Source Description)

Unit No.¹	Source Description	Make Model	Serial No.	RICE (SI or CI) Capacity and Fuel	Manu- facturer Date	Applicable Rules²
EG-AS	Aggie Stadium Inside West Concourse	Onan, 80DGDA	I970649864	CI 108 hp (80 kW) diesel	Sept 1997	ZZZZ 63.6585(f)(3)-15 hr limitation
EG-AC	Arts Center	Cummins, DQHAB-10259827	A120298763	CI 470 hp (300 kW) diesel	Jan 2012, install Dec 2012	ZZZZ 63.6590(c)(1) and NSPS IIII at 40 CFR 60.4200(a)(2)
EG-BA	Biology Annex Roof	Generac, 2728210100	2070157	SI 28 hp (20 kW) natural gas	Nov 2002	ZZZZ 63.6585(f)(3)-15 hr limitation
EG-CPO1	Central Plant #1 Outside Northwest	Caterpillar, 3406	4RG00165	CI 402 hp (300 kW) diesel	May 1988	ZZZZ 63.6585(f)(3)-15 hr limitation
EG-CPO2	Central Plant #2 Outside Southwest	Caterpillar, 3406	4RG00188	CI 402 hp (300 kW) diesel	June 1988	ZZZZ 63.6585(f)(3)-15 hr limitation
EG-CPI	Central Plant Inside North	Allis-Chalmers, 4445931	ALT: 7-5344-03110-1-2 EXC: 7-5344-03110-1	CI 268 hp (200 kW) diesel	1966	ZZZZ 63.6585(f)(3)-15 hr limitation
EG-CD	Chemistry Department Outside West	Cummins, GGFD-5713023	E050782997	SI 47 hp (35 kW) natural gas	May 2005, install 2005	ZZZZ 63.6590(c)(1)*
EG-EH	EH&S EMF Building	Caterpillar, C4.4	E5A00596	CI 130 hp (80 kW) diesel	2012, install July 2013	ZZZZ 63.6590(c)(1) and NSPS IIII at 40 CFR 60.4200(a)(2)
EG-FH	Foster Hall Outside East	Caterpillar, 3306	8DR01535	CI 335 hp (250 kW) diesel	Install Jan 2006	ZZZZ 63.6590(c)(1)*
EG-MT	A-Mountain Top	Caterpillar, LC5	G5A00645	CI 402 hp (300 kW) diesel	June 2006, Install June 2007	ZZZZ 63.6590(c)(1) and NSPS IIII at 40 CFR 60.4200(a)(2)
EG-NC	New Chiller Plant	Caterpillar, C9	G5A05438	CI 480 hp (358 kW) diesel	Jan 2012, install Aug 2012	ZZZZ 63.6590(c)(1) and NSPS IIII at 40 CFR 60.4200(a)(2)
EG-FE	NMSU Fire & Emergency Services - South Lot	Cummins, DSGAC-1402617	D140661733	CI 324 hp (150 kW) diesel	Feb 2014, install June 2014	ZZZZ 63.6590(c)(1) and NSPS IIII at 40 CFR 60.4200(a)(2)
EG-CO**	Computer Center	Caterpillar, D800GC	CAT0D800EGNF00219	CI 1214 hp (800 kW) diesel	Sept 2024	ZZZZ 63.6590(c)(1)* and NSPS IIII 40 CFR 60.4200(a)(2)
EG-PA	Pan American Center Outside Southwest	Cummins, DFHA-5747403	B060887393	CI 940-1135 hp (701-847 kW) diesel	Feb 2006, install 2007	ZZZZ 63.6590(c)(1)*
EG-PS	Physical Science Lab (PSL)	Cummins, DSGAB-1201044	C120313991	CI 324 hp (125 kW) diesel	Feb 2012, install July 2012	ZZZZ 63.6590(c)(1) and NSPS IIII at 40 CFR 60.4200(a)(2)
EG-PD**	Police Department Outside West	Blue Star Power Systems, PS25-01	123216-1-1	SI 46.5 hp (20 kW) natural gas	Jan 2023	ZZZZ 63.6590(c)(1) and NSPS JJJJ at 40. CFR 60.4230(a)(4).
EG-SH	Skeen Hall West Parking Lot	Generac, 99A01533-S	2046911	CI 335 hp (250 kW) diesel	Mar 1999	ZZZZ 63.6585(f)(3)-15 hr limitation
EG-WH	Wooton Hall North Parking Lot	Olympian, D150P1	F7327A/001	CI 201 hp (150 kW) diesel	NA, installed 2002	ZZZZ 63.6590(c)(1)*
EG-DA**	DACC Main Server Building	Cummins, C60N6	C240319057	SI 235 hp (60kW) natural gas	Feb 2024	ZZZZ 63.6590(c)(1) and NSPS JJJJ at 40. CFR 60.4230(a)(4).

ED-BI**	Biomedical Building	Cummins, 500DFEK	D240333104	CI 475 hp (60kW) diesel	April 2024	ZZZZ 63.6590(c)(1) and NSPS IIII at 40 CFR 60.4200(a)(2).
---------	---------------------	------------------	------------	-------------------------	------------	---

1 – The equipment and information in this list was provided by the applicant, but Unit Numbers were assigned by the Department, using EG (for emergency generator) and using first letters of key words in the source description.

2 – Applicability information as presented and certified by permittee's responsible official (RO).

* ZZZZ compliance through NSPS IIII or JJJJ, but IIII and JJJJ do not apply.

** Indicates generators that have been newly installed or replaced since the previous Title V renewal.

Section 22: Certification

Company Name: New Mexico State University

I, Patrick Chavez, 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 2 day of December 2025 upon my oath or affirmation, before a notary of the State of

NEW MEXICO

Patrick Chavez

*Signature

12/2/2025

Date

Patrick Chavez

Printed Name

Exec. Director Energy Services

Title

Scribed and sworn before me on this 2nd day of DECEMBER, 2025.

My authorization as a notary of the State of NEW MEXICO expires on the

31st day of OCTOBER, 2026



Donna Kay Johnson

Notary's Signature

12-2-25

Date

DONNA KAY JOHNSON

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.