



RECEIVED

MAR 21 2019

Air Quality Bureau

Environmental Protection & Compliance Division
Environmental Compliance Programs (EPC-CP)
PO Box 1663, K490
Los Alamos, New Mexico 87545
(505) 667-0666

National Nuclear Security Administration
Los Alamos Field Office
3747 West Jemez Road, A316
Los Alamos, New Mexico, 87544
(505) 665-7314/Fax (505) 667-5948

Symbol: ESHQSS: 19-014
LA-UR: 19-21773
Locates Action No.: N/A
Date: MAR 21 2019

Mr. Ted Schooley
Manager, Permit Programs
New Mexico Environment Department, Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505-1816

Subject: Los Alamos National Laboratory Title V Minor Modification Application –
Evaporative Sprayer Model 420B

Dear Mr. Schooley:

Los Alamos National Laboratory (LANL) submits the enclosed Title V minor modification for review and approval. The application is for one evaporative sprayer intended to enhance passive water evaporation at existing treated water storage basins.

The spray evaporator is intended to reduce water volume in the existing Technical Area 60 Sigma Mesa evaporation basins. The basins are used to evaporate a specific treated waste water discharge from the LANL Sanitary Effluent Treatment Facility or SERF. The SERF facility further processes treated LANL sanitary wastewater effluent for beneficial reuse, is intended to conserve potable water, and reduce wastewater discharges to the environment. The stored treated waste water is a concentrated salt solution from reverse osmosis treatment at the SERF facility.

The spray evaporator in this application is a SMI Evaporative Solutions Model 420B. This model is intended to be sited on land adjacent to the evaporation ponds. There are currently five smaller spray evaporative sprayers in operation at the same location and providing the same function. These units float on the pond surface and are designated SMI Model 120. These sprayers were permitted in Title V minor modification P100-R2M1 issued on February 3, 2017. Note that the sprayer subject to this application, Model 420B, is an existing unit that was taken out of service in July 2016. As communicated to NMED at that time, the vendor provided new information that was used to re-estimate particulate emissions resulting in a determination that the unit could not operate without a minor NSR permit issued under 20.2.72 NMAC. In 2018 NMED proposed a regulatory change, which the New Mexico Environmental Improvement Board adopted, rescinding the state ambient air quality standard for total suspended

particulate matter or TSP. This ambient air standard had been in place since the 1970's and had been essentially replaced by the federal and state ambient standards for PM2.5 and PM10, the particulate size ranges of most concern for human health. A result of this regulatory change is minor source permits under 20.2.72 NMAC are no longer required solely due to emissions of TSP. The 420B sprayer emissions are predominately in this higher size range, and the unit no longer requires a minor NSR permit. However, it must be included in the LANL Title V operating permit.

All evaporators are electric driven and have no fuel burning equipment associated with them. Due to the pond water's high salt or TDS content potential emissions of particulate matter formed as water droplets evaporate is high regardless of the particle size distribution. In general, the size of particles formed through evaporation is increased as either the TDS concentration or the water droplet diameter increases. The high TDS content combined with the large water droplets formed mechanically by a fan results in only a small percentage of total particulate emitted being regulated as an air pollutant.

Estimated maximum emissions for sprayer Model 420B are shown in the attached calculations. Assuming the sprayer operated every hour of the year, there would be no emissions of PM2.5 and 1.9 pounds per hour and 8.4 tons per year of PM10. Emission estimates are also included for hazardous or toxic air pollutants detected in trace amounts in water sampling. No toxic air pollutant would be emitted in a quantity exceeding permit thresholds in 20.2.72 NMAC. Calculations shown in the February 2019 LANL Title V permit renewal application for the five existing Model 120 sprayers indicated no PM2.5 or PM10 would be emitted. The calculations in this application, as well as the 2019 Title V renewal application, use the most recent measured TDS concentration in pond water from July 2018. This concentration is nearly double the prior 2016 measured concentration used in estimating emissions from the sprayers. This higher TDS concentration results in less particulate matter being formed in the smaller size ranges of PM2.5 and PM10, and a higher quantity in PM30 and larger sizes.

Attachment 1 is the permit application using the appropriate NMED permit application forms. Attachment 2 contains the proposed draft permit for this minor modification. The proposed permit conditions are exactly the same as conditions currently applicable to the five existing sprayers in Permit P100-R2M3. 20.2.70 NMAC requires the permittee to include a draft permit within a minor modification application. As stipulated by the rule, once the application is ruled complete LANL will comply with the draft permit.

The complete application is being submitted on disc as well as hard copy. Once the application is ruled complete, a copy will be sent to EPA Region 6 as required. If you have any questions or comments regarding this submittal or would like to discuss the submittal in greater detail, please contact Marjorie Stockton at (505) 665-3289.

Very truly yours,



Enrique Torres  
EPC Division Leader

Very truly yours,



William S. Goodrum  
Manager, Los Alamos Field Office

MWH/WSG/CWB:jdm

Attachment(s): Attachment 1 Los Alamos National Laboratory Title V Minor Modification Application –  
Evaporative Sprayer Model 420B

Attachment 2 Proposed Draft Permit

Copy: Erica Le Doux, USEPA/Region 6, [LeDoux.Erica@Epa.gov](mailto:LeDoux.Erica@Epa.gov), Dallas, TX  
Adrienne L. Nash, LASO-MA-LS, [adrienne.nash@nnsa.doe.gov](mailto:adrienne.nash@nnsa.doe.gov), (E-File)  
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Christian Maupin, N3B, (E-File)  
Elizabeth Lowes, N3B, (E-File)  
Dana Lindsay, N3B, (E-File)  
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Very truly yours,

Michael W. Hazen  
Associate Lab Director

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William S. Goodrum  
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MWH/WSG/CWB:jdm

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# ATTACHMENT 1

Los Alamos National Laboratory  
Title V Minor Modification Application  
Evaporative Sprayer Model 420B

ESHQSS: 19-014

LA-UR-19-21773

MAR 21 2019

Date: \_\_\_\_\_



<p><b>Mail Application To:</b></p> <p>New Mexico Environment Department          Air Quality Bureau          Permits Section          525 Camino de los Marquez, Suite 1          Santa Fe, New Mexico, 87505</p> <p>Phone: (505) 476-4300          Fax: (505) 476-4375          www.env.nm.gov/aqb</p>		<p><b>For Department use only:</b></p>           <p>AIRS No.:</p>
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## Universal Air Quality Permit Application

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

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well. For NOI applications, submit the entire UA1, UA2, and UA3 applications on a single CD (no copies are needed). For NOIs, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required.

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

**Acknowledgements:**  
 I acknowledge that a pre-application meeting is available to me upon request.  Title V Operating, Title IV Acid Rain, and NPR applications have no fees.  
 \$500 NSR application Filing Fee enclosed **OR**  The full permit fee associated with 10 fee points (required w/ streamline applications).  
 Check No.: \_\_\_\_\_ in the amount of \$500  
 I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.  
 This facility qualifies to receive assistance from the Small Business Environmental Assistance program (SBEAP) and qualifies for 50% of the normal application and permit fees. Enclosed is a check for 50% of the normal application fee which will be verified with the Small Business Certification Form for your company.  
 This facility qualifies to receive assistance from the Small Business Environmental Assistance Program (SBEAP) but does not qualify for 50% of the normal application and permit fees. To see if you qualify for SBEAP assistance and for the small business certification form go to [https://www.env.nm.gov/aqb/sbap/small\\_business\\_criteria.html](https://www.env.nm.gov/aqb/sbap/small_business_criteria.html) ).

**Citation:** Please provide the **low level citation** under which this application is being submitted: **20.2.70.404.B 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 <sup>st</sup> 3 to 5 #s of permit IDEA ID No.): 856	Updating Permit/NOI #: P100-R2M3
1	Facility Name: <b>U.S. Department of Energy(DOE)/Los Alamos National Laboratory</b>	Plant primary SIC Code (4 digits): <b>9711</b>	
		Plant NAIC code (6 digits): <b>928110</b>	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): <b>Laboratory is bounded by towns of Los Alamos and White Rock, NM</b>		
2	Plant Operator Company Name: <b>Triad National Security, LLC/Newport News Nuclear BWXT – Los Alamos, LLC</b>	Phone: <b>505-667-4218 and 505-661-5918</b>	

a	Plant Operator Address: <b>P.O. Box 1663, MS K491, Los Alamos, NM 87545; 600 Sixth Street, Los Alamos, NM 87544</b>		
b	Plant Operator's New Mexico Corporate ID or Tax ID: <b>5684544/5595886</b>		
3	Plant Owner(s) name(s): <b>U.S. Department of Energy, National Nuclear Security Administration</b>	Phone/Fax: <b>(505) 667-6691</b>	
a	Plant Owner(s) Mailing Address(s): <b>3747 West Jemez Road, Los Alamos, NM 87544</b>		
4	Bill To (Company): <b>N/A</b>	Phone: <b>(505) 667-4218 and 505-661-5918</b>	
a	Mailing Address: <b>P.O. Box 1663, MS K491, Los Alamos, NM 87545</b>	E-mail: <b>mhazen@lanl.gov</b>	
5	<input checked="" type="checkbox"/> Preparer: <input type="checkbox"/> Consultant: <b>Bill Blankenship</b>	Phone/Fax: <b>(505) 667-8724</b>	
a	Mailing Address: <b>P.O. Box 1663, MS J978, Los Alamos, NM, 87545</b>	E-mail: <b>blankenship@lanl.gov</b>	
6	Plant Operator Contact: <b>Taunia Van Valkenburg</b>	Phone/Fax: <b>(505) 665-9827</b>	
a	Address: <b>P.O. Box 1663, MS K490, Los Alamos, NM, 87545</b>	E-mail: <b>tauniav@lanl.gov</b>	
7	Air Permit Contact: <b>Margie Stockton</b>	Title: <b>Acting AQC Team Leader, EPC-CP</b>	
a	E-mail: <b>mstockton@lanl.gov</b>	Phone: <b>(505) 665-3289</b>	
b	Mailing Address: <b>P.O. Box 1663, MS J978, Los Alamos, NM, 87545</b>		

### Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.b If yes to question 1.a, is it currently operating in New Mexico? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Is the facility currently shut down? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, give month and year of shut down (MM/YY): <b>N/A</b>
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: <b>P100-R2M3</b>
7	Has this facility been issued a No Permit Required (NPR)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the NPR No. is: <b>2195A, 2195Q, 2195S, 2195T, 2195U, 2195V, 2195L, 2195X, 2195R75, 2195R77</b>
8	Has this facility been issued a Notice of Intent (NOI)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the NOI No. is: <b>2597</b>
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: <b>632, 634-M2, 1081-M1-R6, 2195, 2195B-M3, 2195F-R4, 2195H, 2195N-R2, 2195P-R2</b>
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the register No. is: <b>GCP-3-2195G</b>

### 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: <b>N/A</b>	Daily: <b>N/A</b>	Annually: <b>N/A</b>
b	Proposed	Hourly: <b>1,440 gallons water pumped</b>	Daily: <b>34,560 gallons water pumped</b>	Annually: <b>12,614,400 gallons water pumped</b>
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: <b>22</b>	Range: <b>6E</b>	Township: <b>19N</b>	County: <b>Los Alamos</b>	Elevation (ft): <b>7275</b>
2	UTM Zone: <input type="checkbox"/> 12 or <input checked="" type="checkbox"/> 13			Datum: <input type="checkbox"/> NAD 27 <input checked="" type="checkbox"/> NAD 83 <input type="checkbox"/> WGS 84	
a	UTM E (in meters, to nearest 10 meters): <b>382958</b>			UTM N (in meters, to nearest 10 meters): <b>3970164</b>	
b	AND Latitude (deg., min., sec.): <b>35 52 7.4</b>			Longitude (deg., min., sec.): <b>106 17 47.2</b>	
3	Name and zip code of nearest New Mexico town: <b>Los Alamos 87545</b>				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): <b>Enter Los Alamos National Laboratory from East Jemez Road. Turn left on Diamond Drive. Turn left at Eniwetok Drive to access Sigma Mesa and TA-60.</b>				
5	The facility is <b>1</b> (distance) miles <b>south</b> (direction) of <b>Los Alamos</b> (nearest town).				
6	Status of land at facility (check one): <input type="checkbox"/> Private <input type="checkbox"/> Indian/Pueblo <input type="checkbox"/> Federal BLM <input type="checkbox"/> Federal Forest Service <input checked="" type="checkbox"/> Other (specify) <b>Federal Department of Energy</b>				
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: <b>Los Alamos County, Sandoval County, Santa Fe County, Rio Arriba County, City of Espanola, San Ildefonso Pueblo, Santa Clara Pueblo, Jemez Pueblo, Pojoaque Pueblo, Cochiti Pueblo</b>				
8	<b>20.2.72 NMAC applications only:</b> Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see <a href="http://www.env.nm.gov/aqb/modeling/class1areas.html">www.env.nm.gov/aqb/modeling/class1areas.html</a> )? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: <b>N/A</b>				
9	Name nearest Class I area: <b>Bandelier Wilderness Area (the wilderness portion of Bandelier National Monument)</b>				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): <b>5.6 km</b>				
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: <b>N/A</b>				
12	Method(s) used to delineate the Restricted Area: <b>N/A</b>  "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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input checked="" type="checkbox"/> No <input type="checkbox"/> 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 <b>maximum</b> operating ( $\frac{\text{hours}}{\text{day}}$ ): <b>24</b>	( $\frac{\text{days}}{\text{week}}$ ): <b>7</b>	( $\frac{\text{weeks}}{\text{year}}$ ): <b>52</b>	( $\frac{\text{hours}}{\text{year}}$ ): <b>8760</b>
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$ )? <b>Start: N/A</b>	<input type="checkbox"/> AM <input type="checkbox"/> PM	End: <b>N/A</b>	<input type="checkbox"/> AM <input type="checkbox"/> PM
3	Month and year of anticipated start of construction: <b>March 2019</b>			
4	Month and year of anticipated construction completion: <b>April 2019</b>			



a	Address of Parent Company: <b>N/A</b>
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.): <b>N/A</b>
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: <b>Triad National Security, LLC – Michael Hazen – (505) 667-4218; N3B – Thomas Lombardo – (505) 661-5918</b>
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: <b>Taos Pueblo (69), Picuris Pueblo (56), Jicarilla Apache (67), Ohkay Owingeh Pueblo (19), Santa Clara Pueblo (10), San Ildefonso Pueblo (5), Pojoaque Pueblo (13), Nambe Pueblo (24), Tesuque Pueblo (19), Cochiti Pueblo (13), Santa Domingo Pueblo (27), Zia Pueblo (30), San Felipe Pueblo (38), Santa Ana Pueblo (40), Jemez Pueblo (19), Sandia Pueblo (61), Laguna Pueblo (77), Bernalillo County (56).</b>

## 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** does not need to be 2-hole punched, but **must be double sided**. 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 on compact disk(s) (CD). For 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.
- 4) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver OR** one additional electronic copy of the air dispersion modeling including the input and output files. The dispersion modeling **summary report only** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau. The complete dispersion modeling study, including all input/output files, should be submitted electronically as part of the electronic submittal.
- 5) If 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.

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

- 1) All required electronic documents shall be submitted in duplicate (2 separate CDs). 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 with the number of additional hard copies corresponding to the number of CD copies required. 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 3 electronic files (**2 MSWord docs**: Universal Application section 1 and Universal Application section 3-19) and **1 Excel file** of the tables (Universal Application section 2) on the CD(s). 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 # (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. The footer information should not be modified by the applicant.

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<b>Section 2:</b>	<b>Tables</b>
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<b>Section 9:</b>	<b>Proof of Public Notice – N/A</b>
<b>Section 10:</b>	<b>Written Description of the Routine Operations of the Facility</b>
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<b>Section 14:</b>	<b>Operational Plan to Mitigate Emissions</b>
<b>Section 15:</b>	<b>Alternative Operating Scenarios</b>
<b>Section 16:</b>	<b>Air Dispersion Modeling</b>
<b>Section 17:</b>	<b>Compliance Test History</b>
<b>Section 18:</b>	<b>Addendum for Streamline Applications (streamline applications only) – N/A</b>
<b>Section 19:</b>	<b>Requirements for the Title V (20.2.70 NMAC) Program (Title V applications only)</b>
<b>Section 20:</b>	<b>Other Relevant Information</b>
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<b>Section 22:</b>	<b>Certification Page</b>

**Table 2-A: Regulated Emission Sources**

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number <sup>1</sup>	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity <sup>3</sup> (Specify Units)	Requested Permitted Capacity <sup>3</sup> (Specify Units)	Date of Manufacture <sup>2</sup>	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) <sup>4</sup>	Replacing Unit No.
							Date of Construction/Reconstruction <sup>2</sup>	Emissions vented to Stack #				
TA-60 EVAP-6	Water Spray Evaporator	SMI Evaporative Solutions	SMI 420B	9360	24 gal/min	24 gal/min	2014	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
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										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced		

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

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

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

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



**Table 2-B: Insignificant Activities<sup>1</sup> (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)**

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

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction <sup>2</sup>	For Each Piece of Equipment, Check One
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction <sup>2</sup>	
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
	<b>None in this permit modification.</b>						<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
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							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced

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





























### Table 2-P: Greenhouse Gas Emissions

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

		CO <sub>2</sub> ton/yr	N <sub>2</sub> O ton/yr	CH <sub>4</sub> ton/yr	SF <sub>6</sub> ton/yr	PFC/HFC ton/yr <sup>2</sup>										Total GHG Mass Basis ton/yr <sup>4</sup>	Total CO <sub>2</sub> e ton/yr <sup>5</sup>	
<b>Unit No.</b>	<b>GWPs<sup>1</sup></b>	1	298	25	22,800	footnote 3	<b>The evaporative sprayers do not burn fuel or otherwise emit greenhouse gases.</b>											
	mass GHG																	
	CO <sub>2</sub> e																	
	mass GHG																	
	CO <sub>2</sub> e																	
	mass GHG																	
	CO <sub>2</sub> e																	
	mass GHG																	
	CO <sub>2</sub> e																	
	mass GHG																	
	CO <sub>2</sub> e																	
	mass GHG																	
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	mass GHG																	
	CO <sub>2</sub> e																	
	mass GHG																	
	CO <sub>2</sub> e																	
	mass GHG																	
	CO <sub>2</sub> e																	
<b>Total</b>	mass GHG																	
	CO <sub>2</sub> e																	

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

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

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

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

**Emission Estimates SMI Model 420B Evaporative Sprayer**

**Basis**

Pond TDS	101920 ppm 0.10192 weight fraction
Water, density	8.34 lb/gallon
	1 g/cm <sup>3</sup> 0.000001 ug/um <sup>3</sup>
Salt, density (NaCl)	2.2 g/cm <sup>3</sup> 0.0000022 ug/um <sup>3</sup>
Pump rate	
Design	24 gallons/minute
Altitude Deration	16.56 %
Site Maximum	20.0 gallons/minute
Annual hours	8760 hours
Evaporation rate	42.5 %

**Notes**

- 1 Vendor states pump deration for altitude is 2.3% each 1000 feet, site at 7200 feet.
- 2 Evaporation rate assumed is mid-point of vendor range for this model of 25 to 60%.
- 3 TDS concentration from July 2018 pond sampling.

**Maximum Emissions (Potential to Emit), Particulate Matter**

	tons per year	pounds per hour
Total Particulate	1901.2	434.1
PM30	128.8	29.4
PM10	8.4	1.9
PM2.5	0.0	0.0

**Notes**

- 1 All emissions are fugitive and do not count towards major NSR determinations.
- 2 PM30 emissions do not count towards minor NSR determinations.
- 3 Updated TDS concentration is approximately double the prior 2016 value used to estimate emissions.
- 4 The larger TDS concentration within a water droplet results in formation of larger particles and influences PM2.5, PM10 and PM30 estimates.



**Percent PM2.5, PM10, and PM30 in total particulate**

Droplet Diameter um	Number of Droplets #	Particle Diameter um	Particle Volume um <sup>3</sup>	Particle Mass ug	Total Particle Mass in Droplets ug	Total Particle Mass in PM2.5, PM10, PM30 ug	Percent Particle Mass PM2.5, PM10, PM30 %
0.5	0	0.2	3.0E-03	6.67E-09	0.00E+00		
1.5	0	0.5	8.2E-02	1.80E-07	0.00E+00		
2.5	0	0.9	3.8E-01	8.34E-07	0.00E+00		
3.5	0	1.3	1.0E+00	2.29E-06	0.00E+00		
4.5	0	1.6	2.2E+00	4.86E-06	0.00E+00		
5.5	0	2.0	4.0E+00	8.88E-06	0.00E+00		
<b>6.5</b>	<b>0</b>	<b>2.3</b>	<b>6.7E+00</b>	<b>1.47E-05</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>0.00E+00 PM2.5</b>
7.5	109.6	2.7	1.0E+01	2.25E-05	2.47E-03		
8.5	207.6	3.1	1.5E+01	3.28E-05	6.80E-03		
9.5	469.1	3.4	2.1E+01	4.58E-05	2.15E-02		
10.5	712.2	3.8	2.8E+01	6.18E-05	4.40E-02		
11.5	925.3	4.1	3.7E+01	8.12E-05	7.51E-02		
12.5	806.7	4.5	4.7E+01	1.04E-04	8.41E-02		
13.5	826.9	4.8	6.0E+01	1.31E-04	1.09E-01		
14.5	878.9	5.2	7.4E+01	1.63E-04	1.43E-01		
15.5	689.7	5.6	9.0E+01	1.99E-04	1.37E-01		
16.5	613.9	5.9	1.1E+02	2.40E-04	1.47E-01		
17.5	576.2	6.3	1.3E+02	2.86E-04	1.65E-01		
18.5	465.4	6.6	1.5E+02	3.38E-04	1.57E-01		
19.5	458.7	7.0	1.8E+02	3.96E-04	1.82E-01		
20.5	406.2	7.4	2.1E+02	4.60E-04	1.87E-01		
21.5	319.5	7.7	2.4E+02	5.30E-04	1.69E-01		
22.5	270.1	8.1	2.8E+02	6.08E-04	1.64E-01		
23.5	270.6	8.4	3.1E+02	6.93E-04	1.87E-01		
24.5	235.4	8.8	3.6E+02	7.85E-04	1.85E-01		
25.5	220.9	9.2	4.0E+02	8.85E-04	1.95E-01		
26.5	240.2	9.5	4.5E+02	9.93E-04	2.39E-01		
<b>27.5</b>	<b>207.7</b>	<b>9.9</b>	<b>5.0E+02</b>	<b>1.11E-03</b>	<b>2.31E-01</b>	<b>2.83E+00</b>	<b>4.40E-01 PM10</b>
28.5	215.3	10.2	5.6E+02	1.24E-03	2.66E-01		
29.5	212.6	10.6	6.2E+02	1.37E-03	2.91E-01		
30.5	195.2	11.0	6.9E+02	1.51E-03	2.96E-01		
31.5	173.3	11.3	7.6E+02	1.67E-03	2.89E-01		
32.5	140.8	11.7	8.3E+02	1.83E-03	2.58E-01		
33.5	181.1	12.0	9.1E+02	2.01E-03	3.63E-01		
34.5	150.9	12.4	1.0E+03	2.19E-03	3.31E-01		
35.5	122.7	12.7	1.1E+03	2.39E-03	2.93E-01		
36.5	151.2	13.1	1.2E+03	2.59E-03	3.92E-01		
37.5	103.7	13.5	1.3E+03	2.81E-03	2.92E-01		
38.5	110.5	13.8	1.4E+03	3.05E-03	3.37E-01		
39.5	112.7	14.2	1.5E+03	3.29E-03	3.71E-01		
40.5	102.8	14.5	1.6E+03	3.55E-03	3.64E-01		
41.5	118.7	14.9	1.7E+03	3.81E-03	4.53E-01		
42.5	108.9	15.3	1.9E+03	4.10E-03	4.46E-01		
43.5	103.8	15.6	2.0E+03	4.39E-03	4.56E-01		
44.5	135.5	16.0	2.1E+03	4.70E-03	6.37E-01		

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45.5	101.0	16.3	2.3E+03	5.03E-03	5.08E-01		
46.5	88.8	16.7	2.4E+03	5.37E-03	4.77E-01		
47.5	95.5	17.1	2.6E+03	5.72E-03	5.46E-01		
48.5	89.2	17.4	2.8E+03	6.09E-03	5.43E-01		
49.5	98.8	17.8	2.9E+03	6.47E-03	6.39E-01		
50.5	114.0	18.1	3.1E+03	6.87E-03	7.84E-01		
51.5	99.2	18.5	3.3E+03	7.29E-03	7.23E-01		
52.5	98.7	18.9	3.5E+03	7.72E-03	7.62E-01		
53.5	71.6	19.2	3.7E+03	8.17E-03	5.85E-01		
54.5	81.1	19.6	3.9E+03	8.64E-03	7.00E-01		
55.5	90.5	19.9	4.1E+03	9.12E-03	8.25E-01		
56.5	81.7	20.3	4.4E+03	9.63E-03	7.87E-01		
57.5	89.7	20.7	4.6E+03	1.01E-02	9.10E-01		
58.5	76.9	21.0	4.9E+03	1.07E-02	8.22E-01		
59.5	62.9	21.4	5.1E+03	1.12E-02	7.08E-01		
60.5	60.0	21.7	5.4E+03	1.18E-02	7.09E-01		
61.5	76.0	22.1	5.6E+03	1.24E-02	9.44E-01		
62.5	54.1	22.4	5.9E+03	1.30E-02	7.05E-01		
63.5	55.3	22.8	6.2E+03	1.37E-02	7.55E-01		
64.5	56.4	23.2	6.5E+03	1.43E-02	8.08E-01		
65.5	66.9	23.5	6.8E+03	1.50E-02	1.00E+00		
66.5	61.4	23.9	7.1E+03	1.57E-02	9.63E-01		
67.5	69.2	24.2	7.5E+03	1.64E-02	1.13E+00		
68.5	59.6	24.6	7.8E+03	1.72E-02	1.02E+00		
69.5	43.6	25.0	8.1E+03	1.79E-02	7.81E-01		
70.5	51.4	25.3	8.5E+03	1.87E-02	9.61E-01		
71.5	40.7	25.7	8.9E+03	1.95E-02	7.94E-01		
72.5	55.0	26.0	9.2E+03	2.03E-02	1.12E+00		
73.5	50.9	26.4	9.6E+03	2.12E-02	1.08E+00		
74.5	56.0	26.8	1.0E+04	2.21E-02	1.24E+00		
75.5	38.9	27.1	1.0E+04	2.30E-02	8.94E-01		
76.5	47.9	27.5	1.1E+04	2.39E-02	1.14E+00		
77.5	45.2	27.8	1.1E+04	2.48E-02	1.12E+00		
78.5	29.6	28.2	1.2E+04	2.58E-02	7.64E-01		
79.5	46.2	28.6	1.2E+04	2.68E-02	1.24E+00		
80.5	52.5	28.9	1.3E+04	2.78E-02	1.46E+00		
81.5	49.8	29.3	1.3E+04	2.89E-02	1.44E+00		
82.5	37.0	29.6	1.4E+04	3.00E-02	1.11E+00		
83.5	34.3	30.0	1.4E+04	3.11E-02	1.07E+00	4.35E+01	6.77E+00 PM30
84.5	53.3	30.3	1.5E+04	3.22E-02	1.71E+00		
85.5	49.3	30.7	1.5E+04	3.34E-02	1.65E+00		
86.5	40.4	31.1	1.6E+04	3.45E-02	1.39E+00		
87.5	35.3	31.4	1.6E+04	3.58E-02	1.26E+00		
88.5	31.4	31.8	1.7E+04	3.70E-02	1.16E+00		
89.5	32.6	32.1	1.7E+04	3.83E-02	1.25E+00		
90.5	37.5	32.5	1.8E+04	3.96E-02	1.48E+00		
91.5	38.7	32.9	1.9E+04	4.09E-02	1.58E+00		
92.5	29.9	33.2	1.9E+04	4.22E-02	1.26E+00		
93.5	31.1	33.6	2.0E+04	4.36E-02	1.36E+00		
94.5	36.0	33.9	2.0E+04	4.50E-02	1.62E+00		
95.5	42.1	34.3	2.1E+04	4.65E-02	1.96E+00		

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96.5	32.1	34.7	2.2E+04	4.80E-02	1.54E+00
97.5	25.9	35.0	2.2E+04	4.95E-02	1.28E+00
98.5	29.5	35.4	2.3E+04	5.10E-02	1.51E+00
99.5	30.7	35.7	2.4E+04	5.26E-02	1.61E+00
100.5	28.2	36.1	2.5E+04	5.42E-02	1.53E+00
101.5	31.8	36.5	2.5E+04	5.58E-02	1.77E+00
102.5	25.6	36.8	2.6E+04	5.75E-02	1.47E+00
103.5	24.4	37.2	2.7E+04	5.92E-02	1.44E+00
104.5	28.0	37.5	2.8E+04	6.09E-02	1.70E+00
105.5	36.4	37.9	2.8E+04	6.27E-02	2.28E+00
106.5	43.7	38.2	2.9E+04	6.45E-02	2.81E+00
107.5	37.5	38.6	3.0E+04	6.63E-02	2.49E+00
108.5	24.2	39.0	3.1E+04	6.82E-02	1.65E+00
109.5	31.4	39.3	3.2E+04	7.01E-02	2.20E+00
110.5	32.5	39.7	3.3E+04	7.20E-02	2.34E+00
111.5	24.1	40.0	3.4E+04	7.40E-02	1.78E+00
112.5	32.4	40.4	3.5E+04	7.60E-02	2.46E+00
113.5	31.2	40.8	3.5E+04	7.80E-02	2.43E+00
114.5	27.5	41.1	3.6E+04	8.01E-02	2.21E+00
115.5	32.3	41.5	3.7E+04	8.22E-02	2.65E+00
116.5	35.8	41.8	3.8E+04	8.44E-02	3.02E+00
117.5	31.0	42.2	3.9E+04	8.66E-02	2.68E+00
118.5	21.4	42.6	4.0E+04	8.88E-02	1.90E+00
119.5	22.6	42.9	4.1E+04	9.11E-02	2.06E+00
120.5	14.2	43.3	4.2E+04	9.34E-02	1.33E+00
121.5	17.8	43.6	4.4E+04	9.57E-02	1.70E+00
122.5	20.1	44.0	4.5E+04	9.81E-02	1.97E+00
123.5	16.5	44.4	4.6E+04	1.01E-01	1.66E+00
124.5	17.7	44.7	4.7E+04	1.03E-01	1.82E+00
125.5	31.8	45.1	4.8E+04	1.05E-01	3.35E+00
126.5	18.8	45.4	4.9E+04	1.08E-01	2.03E+00
127.5	20.0	45.8	5.0E+04	1.11E-01	2.21E+00
128.5	17.6	46.2	5.1E+04	1.13E-01	1.99E+00
129.5	22.3	46.5	5.3E+04	1.16E-01	2.58E+00
130.5	26.9	46.9	5.4E+04	1.19E-01	3.19E+00
131.5	26.9	47.2	5.5E+04	1.21E-01	3.26E+00
132.5	19.8	47.6	5.6E+04	1.24E-01	2.46E+00
133.5	21.0	47.9	5.8E+04	1.27E-01	2.66E+00
134.5	18.6	48.3	5.9E+04	1.30E-01	2.42E+00
135.5	17.4	48.7	6.0E+04	1.33E-01	2.31E+00
136.5	22.1	49.0	6.2E+04	1.36E-01	2.99E+00
137.5	22.0	49.4	6.3E+04	1.39E-01	3.06E+00
138.5	19.7	49.7	6.4E+04	1.42E-01	2.79E+00
139.5	24.3	50.1	6.6E+04	1.45E-01	3.52E+00
140.5	15.0	50.5	6.7E+04	1.48E-01	2.22E+00
141.5	10.4	50.8	6.9E+04	1.51E-01	1.57E+00
142.5	18.4	51.2	7.0E+04	1.54E-01	2.85E+00
143.5	23.0	51.5	7.2E+04	1.58E-01	3.63E+00
144.5	31.1	51.9	7.3E+04	1.61E-01	5.00E+00
145.5	27.6	52.3	7.5E+04	1.64E-01	4.53E+00
146.5	17.2	52.6	7.6E+04	1.68E-01	2.89E+00

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147.5	18.3	53.0	7.8E+04	1.71E-01	3.14E+00
148.5	16.0	53.3	7.9E+04	1.75E-01	2.80E+00
149.5	12.6	53.7	8.1E+04	1.78E-01	2.24E+00
150.5	11.4	54.1	8.3E+04	1.82E-01	2.08E+00
151.5	16.0	54.4	8.4E+04	1.86E-01	2.96E+00
152.5	9.1	54.8	8.6E+04	1.89E-01	1.73E+00
153.5	14.8	55.1	8.8E+04	1.93E-01	2.86E+00
154.5	11.4	55.5	8.9E+04	1.97E-01	2.24E+00
155.5	21.6	55.8	9.1E+04	2.01E-01	4.33E+00
156.5	17.0	56.2	9.3E+04	2.05E-01	3.48E+00
157.5	19.3	56.6	9.5E+04	2.08E-01	4.02E+00
158.5	15.9	56.9	9.7E+04	2.12E-01	3.37E+00
159.5	21.5	57.3	9.8E+04	2.17E-01	4.66E+00
160.5	12.4	57.6	1.0E+05	2.21E-01	2.74E+00
161.5	9.0	58.0	1.0E+05	2.25E-01	2.03E+00
162.5	18.1	58.4	1.0E+05	2.29E-01	4.13E+00
163.5	12.4	58.7	1.1E+05	2.33E-01	2.89E+00
164.5	18.0	59.1	1.1E+05	2.38E-01	4.28E+00
165.5	20.2	59.4	1.1E+05	2.42E-01	4.90E+00
166.5	11.2	59.8	1.1E+05	2.46E-01	2.77E+00
167.5	14.6	60.2	1.1E+05	2.51E-01	3.66E+00
168.5	15.7	60.5	1.2E+05	2.55E-01	4.01E+00
169.5	13.4	60.9	1.2E+05	2.60E-01	3.50E+00
170.5	15.7	61.2	1.2E+05	2.65E-01	4.15E+00
171.5	13.4	61.6	1.2E+05	2.69E-01	3.61E+00
172.5	11.2	62.0	1.2E+05	2.74E-01	3.06E+00
173.5	4.5	62.3	1.3E+05	2.79E-01	1.25E+00
174.5	12.3	62.7	1.3E+05	2.84E-01	3.48E+00
175.5	15.6	63.0	1.3E+05	2.88E-01	4.50E+00
176.5	12.3	63.4	1.3E+05	2.93E-01	3.59E+00
177.5	13.4	63.7	1.4E+05	2.98E-01	3.98E+00
178.5	7.8	64.1	1.4E+05	3.04E-01	2.36E+00
179.5	14.4	64.5	1.4E+05	3.09E-01	4.46E+00
180.5	6.7	64.8	1.4E+05	3.14E-01	2.09E+00
181.5	10.0	65.2	1.5E+05	3.19E-01	3.18E+00
182.5	10.0	65.5	1.5E+05	3.24E-01	3.23E+00
183.5	16.6	65.9	1.5E+05	3.30E-01	5.48E+00
184.5	5.5	66.3	1.5E+05	3.35E-01	1.85E+00
185.5	4.4	66.6	1.5E+05	3.41E-01	1.51E+00
186.5	3.3	67.0	1.6E+05	3.46E-01	1.15E+00
187.5	8.8	67.3	1.6E+05	3.52E-01	3.11E+00
188.5	13.2	67.7	1.6E+05	3.57E-01	4.73E+00
189.5	8.8	68.1	1.7E+05	3.63E-01	3.20E+00
190.5	12.1	68.4	1.7E+05	3.69E-01	4.47E+00
191.5	6.6	68.8	1.7E+05	3.75E-01	2.47E+00
192.5	8.8	69.1	1.7E+05	3.81E-01	3.35E+00
193.5	7.7	69.5	1.8E+05	3.87E-01	2.97E+00
194.5	13.2	69.9	1.8E+05	3.93E-01	5.17E+00
195.5	7.7	70.2	1.8E+05	3.99E-01	3.06E+00
196.5	6.6	70.6	1.8E+05	4.05E-01	2.66E+00
197.5	10.9	70.9	1.9E+05	4.11E-01	4.50E+00

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198.5	2.2	71.3	1.9E+05	4.17E-01	9.13E-01
199.5	4.4	71.7	1.9E+05	4.24E-01	1.85E+00
200.5	4.4	72.0	2.0E+05	4.30E-01	1.88E+00
201.5	7.6	72.4	2.0E+05	4.37E-01	3.34E+00
202.5	7.6	72.7	2.0E+05	4.43E-01	3.38E+00
203.5	6.5	73.1	2.0E+05	4.50E-01	2.94E+00
204.5	5.4	73.4	2.1E+05	4.56E-01	2.49E+00
205.5	12.0	73.8	2.1E+05	4.63E-01	5.54E+00
206.5	3.3	74.2	2.1E+05	4.70E-01	1.53E+00
207.5	4.3	74.5	2.2E+05	4.77E-01	2.07E+00
208.5	6.5	74.9	2.2E+05	4.84E-01	3.15E+00
209.5	6.5	75.2	2.2E+05	4.91E-01	3.20E+00
210.5	7.6	75.6	2.3E+05	4.98E-01	3.78E+00
211.5	4.3	76.0	2.3E+05	5.05E-01	2.19E+00
212.5	3.2	76.3	2.3E+05	5.12E-01	1.66E+00
213.5	8.7	76.7	2.4E+05	5.19E-01	4.50E+00
214.5	5.4	77.0	2.4E+05	5.27E-01	2.85E+00
215.5	4.3	77.4	2.4E+05	5.34E-01	2.31E+00
216.5	5.4	77.8	2.5E+05	5.42E-01	2.92E+00
217.5	2.2	78.1	2.5E+05	5.49E-01	1.19E+00
218.5	3.2	78.5	2.5E+05	5.57E-01	1.80E+00
219.5	2.2	78.8	2.6E+05	5.64E-01	1.22E+00
220.5	4.3	79.2	2.6E+05	5.72E-01	2.47E+00
221.5	8.6	79.6	2.6E+05	5.80E-01	4.99E+00
222.5	6.5	79.9	2.7E+05	5.88E-01	3.79E+00
223.5	3.2	80.3	2.7E+05	5.96E-01	1.92E+00
224.5	7.5	80.6	2.7E+05	6.04E-01	4.54E+00
225.5	6.4	81.0	2.8E+05	6.12E-01	3.94E+00
226.5	8.6	81.3	2.8E+05	6.20E-01	5.32E+00
227.5	5.4	81.7	2.9E+05	6.28E-01	3.37E+00
228.5	2.1	82.1	2.9E+05	6.37E-01	1.37E+00
229.5	1.1	82.4	2.9E+05	6.45E-01	6.91E-01
230.5	5.4	82.8	3.0E+05	6.54E-01	3.50E+00
231.5	13.9	83.1	3.0E+05	6.62E-01	9.21E+00
232.5	6.4	83.5	3.0E+05	6.71E-01	4.30E+00
233.5	0.0	83.9	3.1E+05	6.79E-01	0.00E+00
234.5	4.3	84.2	3.1E+05	6.88E-01	2.94E+00
235.5	2.1	84.6	3.2E+05	6.97E-01	1.49E+00
236.5	5.3	84.9	3.2E+05	7.06E-01	3.76E+00
237.5	2.1	85.3	3.2E+05	7.15E-01	1.52E+00
238.5	2.1	85.7	3.3E+05	7.24E-01	1.54E+00
239.5	5.3	86.0	3.3E+05	7.33E-01	3.90E+00
240.5	6.4	86.4	3.4E+05	7.42E-01	4.74E+00
241.5	8.5	86.7	3.4E+05	7.52E-01	6.39E+00
242.5	2.1	87.1	3.5E+05	7.61E-01	1.62E+00
243.5	1.1	87.5	3.5E+05	7.70E-01	8.18E-01
244.5	3.2	87.8	3.5E+05	7.80E-01	2.48E+00
245.5	3.2	88.2	3.6E+05	7.90E-01	2.51E+00
246.5	1.1	88.5	3.6E+05	7.99E-01	8.48E-01
247.5	2.1	88.9	3.7E+05	8.09E-01	1.71E+00
248.5	2.1	89.2	3.7E+05	8.19E-01	1.73E+00

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249.5	4.2	89.6	3.8E+05	8.29E-01	3.51E+00
250.5	5.3	90.0	3.8E+05	8.39E-01	4.44E+00
251.5	0.0	90.3	3.9E+05	8.49E-01	0.00E+00
252.5	1.1	90.7	3.9E+05	8.59E-01	9.08E-01
253.5	2.1	91.0	4.0E+05	8.69E-01	1.84E+00
254.5	1.1	91.4	4.0E+05	8.80E-01	9.29E-01
255.5	3.2	91.8	4.0E+05	8.90E-01	2.82E+00
256.5	1.1	92.1	4.1E+05	9.01E-01	9.49E-01
257.5	2.1	92.5	4.1E+05	9.11E-01	1.92E+00
258.5	2.1	92.8	4.2E+05	9.22E-01	1.94E+00
259.5	2.1	93.2	4.2E+05	9.33E-01	1.96E+00
260.5	3.2	93.6	4.3E+05	9.43E-01	2.98E+00
261.5	2.1	93.9	4.3E+05	9.54E-01	2.01E+00
262.5	0.0	94.3	4.4E+05	9.65E-01	0.00E+00
263.5	3.2	94.6	4.4E+05	9.76E-01	3.08E+00
264.5	4.2	95.0	4.5E+05	9.87E-01	4.15E+00
265.5	0.0	95.4	4.5E+05	9.99E-01	0.00E+00
266.5	1.0	95.7	4.6E+05	1.01E+00	1.06E+00
267.5	2.1	96.1	4.6E+05	1.02E+00	2.14E+00
268.5	2.1	96.4	4.7E+05	1.03E+00	2.16E+00
269.5	1.0	96.8	4.7E+05	1.04E+00	1.09E+00
270.5	1.0	97.2	4.8E+05	1.06E+00	1.11E+00
271.5	0.0	97.5	4.9E+05	1.07E+00	0.00E+00
272.5	3.1	97.9	4.9E+05	1.08E+00	3.39E+00
273.5	4.2	98.2	5.0E+05	1.09E+00	4.56E+00
274.5	2.1	98.6	5.0E+05	1.10E+00	2.31E+00
275.5	1.0	98.9	5.1E+05	1.12E+00	1.17E+00
276.5	1.0	99.3	5.1E+05	1.13E+00	1.18E+00
277.5	2.1	99.7	5.2E+05	1.14E+00	2.38E+00
278.5	0.0	100.0	5.2E+05	1.15E+00	0.00E+00
279.5	1.0	100.4	5.3E+05	1.17E+00	1.21E+00
280.5	0.0	100.7	5.4E+05	1.18E+00	0.00E+00
281.5	0.0	101.1	5.4E+05	1.19E+00	0.00E+00
282.5	4.2	101.5	5.5E+05	1.20E+00	5.01E+00
283.5	0.0	101.8	5.5E+05	1.22E+00	0.00E+00
284.5	2.1	102.2	5.6E+05	1.23E+00	2.56E+00
285.5	0.0	102.5	5.6E+05	1.24E+00	0.00E+00
286.5	1.0	102.9	5.7E+05	1.25E+00	1.30E+00
287.5	3.1	103.3	5.8E+05	1.27E+00	3.95E+00
288.5	3.1	103.6	5.8E+05	1.28E+00	3.99E+00
289.5	3.1	104.0	5.9E+05	1.29E+00	4.03E+00
290.5	0.0	104.3	5.9E+05	1.31E+00	0.00E+00
291.5	1.0	104.7	6.0E+05	1.32E+00	1.37E+00
292.5	3.1	105.1	6.1E+05	1.34E+00	4.15E+00
293.5	2.1	105.4	6.1E+05	1.35E+00	2.79E+00
294.5	2.1	105.8	6.2E+05	1.36E+00	2.82E+00
295.5	1.0	106.1	6.3E+05	1.38E+00	1.42E+00
296.5	0.0	106.5	6.3E+05	1.39E+00	0.00E+00
297.5	1.0	106.8	6.4E+05	1.41E+00	1.45E+00
298.5	0.0	107.2	6.5E+05	1.42E+00	0.00E+00
299.5	0.0	107.6	6.5E+05	1.43E+00	0.00E+00

Company Name

Facility Name

Application Date:

Revision #

300.5	1.0	107.9	6.6E+05	1.45E+00	1.49E+00
301.5	0.0	108.3	6.6E+05	1.46E+00	0.00E+00
302.5	0.0	108.6	6.7E+05	1.48E+00	0.00E+00
303.5	3.1	109.0	6.8E+05	1.49E+00	4.61E+00
304.5	0.0	109.4	6.8E+05	1.51E+00	0.00E+00
305.5	0.0	109.7	6.9E+05	1.52E+00	0.00E+00
306.5	0.0	110.1	7.0E+05	1.54E+00	0.00E+00
307.5	1.0	110.4	7.1E+05	1.55E+00	1.60E+00
308.5	0.0	110.8	7.1E+05	1.57E+00	0.00E+00
309.5	0.0	111.2	7.2E+05	1.58E+00	0.00E+00
310.5	1.0	111.5	7.3E+05	1.60E+00	1.64E+00
311.5	0.0	111.9	7.3E+05	1.61E+00	0.00E+00
312.5	0.0	112.2	7.4E+05	1.63E+00	0.00E+00
313.5	0.0	112.6	7.5E+05	1.64E+00	0.00E+00
314.5	0.0	113.0	7.5E+05	1.66E+00	0.00E+00
315.5	0.0	113.3	7.6E+05	1.68E+00	0.00E+00
316.5	0.0	113.7	7.7E+05	1.69E+00	0.00E+00
317.5	2.0	114.0	7.8E+05	1.71E+00	3.50E+00
318.5	0.0	114.4	7.8E+05	1.72E+00	0.00E+00
319.5	3.1	114.7	7.9E+05	1.74E+00	5.34E+00
320.5	0.0	115.1	8.0E+05	1.76E+00	0.00E+00
321.5	0.0	115.5	8.1E+05	1.77E+00	0.00E+00
322.5	0.0	115.8	8.1E+05	1.79E+00	0.00E+00
323.5	1.0	116.2	8.2E+05	1.81E+00	1.85E+00
324.5	0.0	116.5	8.3E+05	1.82E+00	0.00E+00
325.5	2.0	116.9	8.4E+05	1.84E+00	3.76E+00
326.5	0.0	117.3	8.4E+05	1.86E+00	0.00E+00
327.5	0.0	117.6	8.5E+05	1.87E+00	0.00E+00
328.5	1.0	118.0	8.6E+05	1.89E+00	1.93E+00
329.5	0.0	118.3	8.7E+05	1.91E+00	0.00E+00
330.5	0.0	118.7	8.8E+05	1.93E+00	0.00E+00
331.5	0.0	119.1	8.8E+05	1.94E+00	0.00E+00
332.5	0.0	119.4	8.9E+05	1.96E+00	0.00E+00
333.5	0.0	119.8	9.0E+05	1.98E+00	0.00E+00
334.5	0.0	120.1	9.1E+05	2.00E+00	0.00E+00
335.5	0.0	120.5	9.2E+05	2.02E+00	0.00E+00
336.5	0.0	120.9	9.2E+05	2.03E+00	0.00E+00
337.5	0.0	121.2	9.3E+05	2.05E+00	0.00E+00
338.5	1.0	121.6	9.4E+05	2.07E+00	2.10E+00
339.5	0.0	121.9	9.5E+05	2.09E+00	0.00E+00
340.5	0.0	122.3	9.6E+05	2.11E+00	0.00E+00
341.5	0.0	122.7	9.7E+05	2.13E+00	0.00E+00
342.5	0.0	123.0	9.7E+05	2.14E+00	0.00E+00
343.5	0.0	123.4	9.8E+05	2.16E+00	0.00E+00
344.5	1.0	123.7	9.9E+05	2.18E+00	2.21E+00
345.5	0.0	124.1	1.0E+06	2.20E+00	0.00E+00
346.5	0.0	124.4	1.0E+06	2.22E+00	0.00E+00
347.5	0.0	124.8	1.0E+06	2.24E+00	0.00E+00
348.5	0.0	125.2	1.0E+06	2.26E+00	0.00E+00
349.5	0.0	125.5	1.0E+06	2.28E+00	0.00E+00
350.5	0.0	125.9	1.0E+06	2.30E+00	0.00E+00

351.5	0.0	126.2	1.1E+06	2.32E+00	0.00E+00
352.5	0.0	126.6	1.1E+06	2.34E+00	0.00E+00
353.5	0.0	127.0	1.1E+06	2.36E+00	0.00E+00
354.5	0.0	127.3	1.1E+06	2.38E+00	0.00E+00
355.5	0.0	127.7	1.1E+06	2.40E+00	0.00E+00
356.5	0.0	128.0	1.1E+06	2.42E+00	0.00E+00
357.5	1.0	128.4	1.1E+06	2.44E+00	2.46E+00
358.5	0.0	128.8	1.1E+06	2.46E+00	0.00E+00
359.5	1.0	129.1	1.1E+06	2.48E+00	2.50E+00
360.5	1.0	129.5	1.1E+06	2.50E+00	2.52E+00
361.5	1.0	129.8	1.1E+06	2.52E+00	2.54E+00
362.5	0.0	130.2	1.2E+06	2.54E+00	0.00E+00
363.5	0.0	130.6	1.2E+06	2.56E+00	0.00E+00
364.5	0.0	130.9	1.2E+06	2.58E+00	0.00E+00
365.5	1.0	131.3	1.2E+06	2.61E+00	2.62E+00
366.5	0.0	131.6	1.2E+06	2.63E+00	0.00E+00
367.5	0.0	132.0	1.2E+06	2.65E+00	0.00E+00
368.5	0.0	132.3	1.2E+06	2.67E+00	0.00E+00
369.5	1.0	132.7	1.2E+06	2.69E+00	2.71E+00
370.5	0.0	133.1	1.2E+06	2.71E+00	0.00E+00
371.5	0.0	133.4	1.2E+06	2.74E+00	0.00E+00
372.5	0.0	133.8	1.3E+06	2.76E+00	0.00E+00
373.5	0.0	134.1	1.3E+06	2.78E+00	0.00E+00
374.5	0.0	134.5	1.3E+06	2.80E+00	0.00E+00
375.5	1.0	134.9	1.3E+06	2.83E+00	2.83E+00
376.5	0.0	135.2	1.3E+06	2.85E+00	0.00E+00
377.5	0.0	135.6	1.3E+06	2.87E+00	0.00E+00
378.5	0.0	135.9	1.3E+06	2.89E+00	0.00E+00
379.5	0.0	136.3	1.3E+06	2.92E+00	0.00E+00
380.5	0.0	136.7	1.3E+06	2.94E+00	0.00E+00
381.5	2.0	137.0	1.3E+06	2.96E+00	5.93E+00
382.5	0.0	137.4	1.4E+06	2.99E+00	0.00E+00
383.5	1.0	137.7	1.4E+06	3.01E+00	3.01E+00
384.5	0.0	138.1	1.4E+06	3.03E+00	0.00E+00
385.5	0.0	138.5	1.4E+06	3.06E+00	0.00E+00

Total                    6.43E+02

## Notes

- 1 Raw droplet data from laboratory test report, Spray Analysis and Research Services, March 28, 2016. Highest pump rate analyzed at 18 gpm used.
- 2 Particle diameter calculated from equation in NMED Technical Memorandum: Calculating TSP, PM10, and PM2.5 from Cooling Towers , September 9, 2013.  
Equation is  $d_p = d_a / (\text{density salt} / \text{density water} \times \text{concentration TDS})^{1/3}$



**Maximum Emissions (Potential to Emit), Hazardous and Toxic Air Pollutants****Basis**

Water, density	8.34 lb/gallon
Pump rate	20 gallons/minute
Evaporation rate	42.5 %

**TAP Potential to Emit, lb/hr**

TAP	PPM	Weight Fraction	lb/hr	Permit Threshold,lb/hr
Barium	0.025	2.49E-08	0.00011	0.0333
Cobalt	0.002	1.66E-09	0.000007	0.00667
Copper	0.004	4.25E-09	0.00002	0.0667
Manganese	0.009	9.39E-09	0.00004	0.333
Molybdenum	0.647	6.47E-07	0.003	0.333
Nickel	0.016	1.57E-08	0.00007	0.0667
Selenium	0.027	2.70E-08	0.00011	0.0133
Uranium	0.001	6.25E-10	0.000003	0.0133

## Notes

1 Values from July 2018 pond water sampling.

**HAP Potential to Emit, lb/hr and ton per year**

HAP	PPM	Weight Fraction	lb/hr	tpy
Arsenic	0.026	2.58E-08	1.10E-04	4.81E-04
Bromoform	0.001	5.10E-10	2.17E-06	9.50E-06
Chloroform	0.002	2.39E-09	1.01E-05	4.44E-05
Chloromethane	0.004	4.43E-09	1.88E-05	8.25E-05
Cobalt	0.002	1.66E-09	7.06E-06	3.09E-05
Cyanide	0.022	2.16E-08	9.20E-05	4.03E-04
Manganese	0.009	9.39E-09	3.99E-05	1.75E-04
Nickel	0.016	1.57E-08	6.67E-05	2.92E-04
Selenium	0.027	2.70E-08	1.15E-04	5.02E-04

## Notes

1 Values from July 2018 pond water sampling.

# Section 3

## Application Summary

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

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

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This Title V operating permit minor modification application is for the use of one spray evaporator to reduce water volume in the existing Sigma Mesa evaporation basins. These synthetically lined evaporation basins are located within Technical Area 60. The basins are used to evaporate a specific treated wastewater discharge from the LANL Sanitary Effluent Treatment Facility or SERF. The SERF facility further processes treated LANL sanitary wastewater effluent for beneficial reuse, and is intended to conserve potable water, reduce wastewater discharges to the environment, and achieve compliance with National Pollutant Discharge Elimination (NPDES) permit limitations. The treatment process at SERF results in a reverse osmosis reject stream that has a concentration of dissolved solids or salt. The spray evaporator is intended to enhance the passive evaporation from the basins, which has proven to be inadequate.

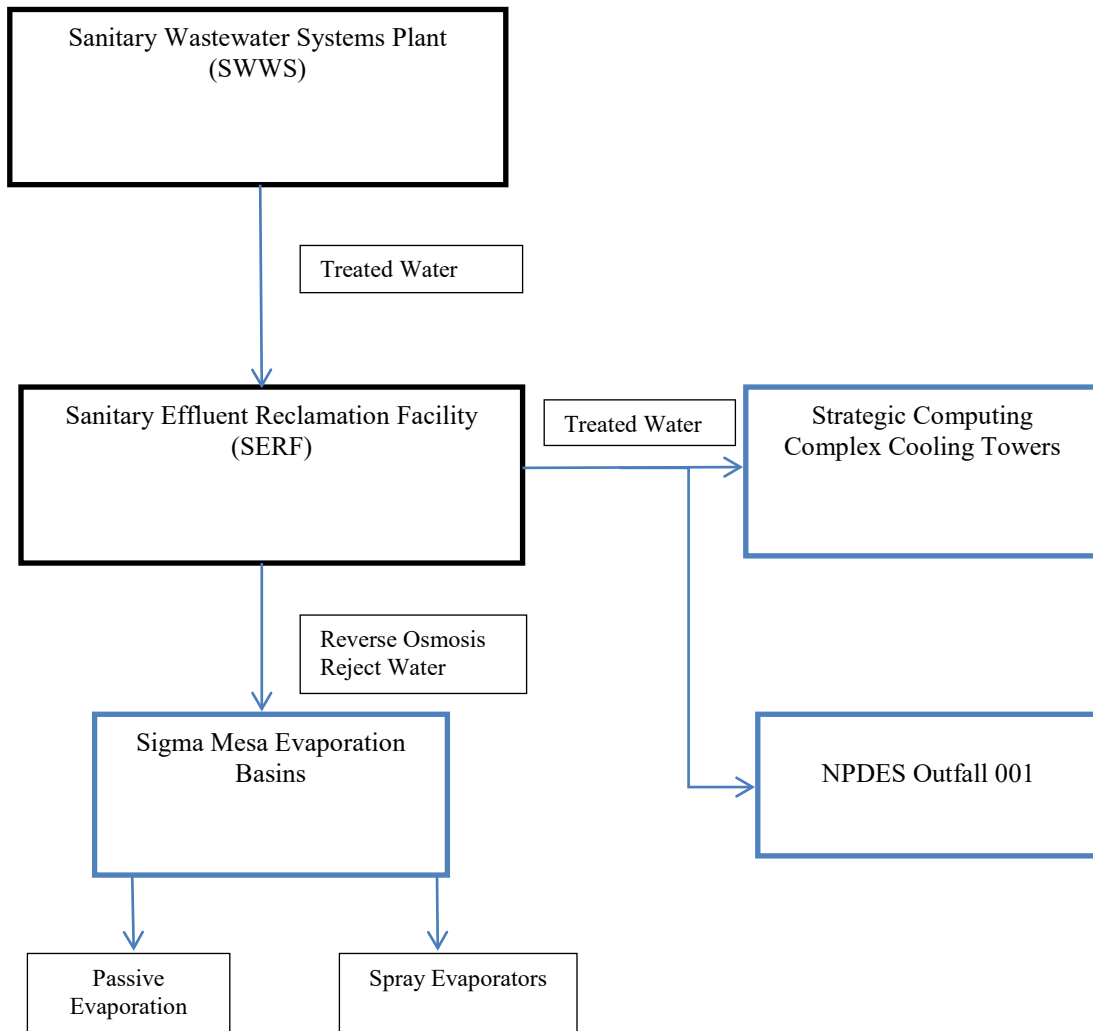
In addition to trace quantities of hazardous or toxic pollutants in the treated water, the only other potential air pollutant emitted is particulate matter from evaporated water droplets in the evaporator's plume. As shown in the included emission calculations, regulated particulate matter emissions are too low to require a minor NSR permit under 20.2.72 NMAC for this unit. However, the unit is not a Title V insignificant activity and must be included in LANL's Operating Permit P100-R2M3.

There are currently five smaller evaporators, all SMI Model 120, operating at the same location and for the same purpose. These units were placed in Permit P100 under minor modification P100-R2M1 issued on February 3, 2017. The evaporator in this application, SMI Model 420B, was previously issued a No Permit Required (NPR) determination No. 2195X on June 20, 2014. Subsequently, the vendor provided revised water droplet distribution data for the Model 420B unit with new droplet information for the Model 120 units. Using the revised droplet data to re-estimate emissions for the Model 420B unit, it was determined the unit did not qualify for an NPR. LANL formally notified NMED on July 18, 2016 with a voluntary disclosure of permit required. This evaporator has been disconnected and not operated since that time. This application for this unit is now possible because NMED no longer requires minor NSR permits for units requiring a permit solely due to emitting the large particle size range termed total suspended particulate or, as regulated by NMED, the PM30 size range.

# 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

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A **plot plan drawn to scale** showing emissions points, roads, structures, tanks, and fences of property owned, leased, or under direct control of the applicant. This plot plan must clearly designate the restricted area as defined in UA1, Section 1-D.12. The unit numbering system should be consistent throughout this application.







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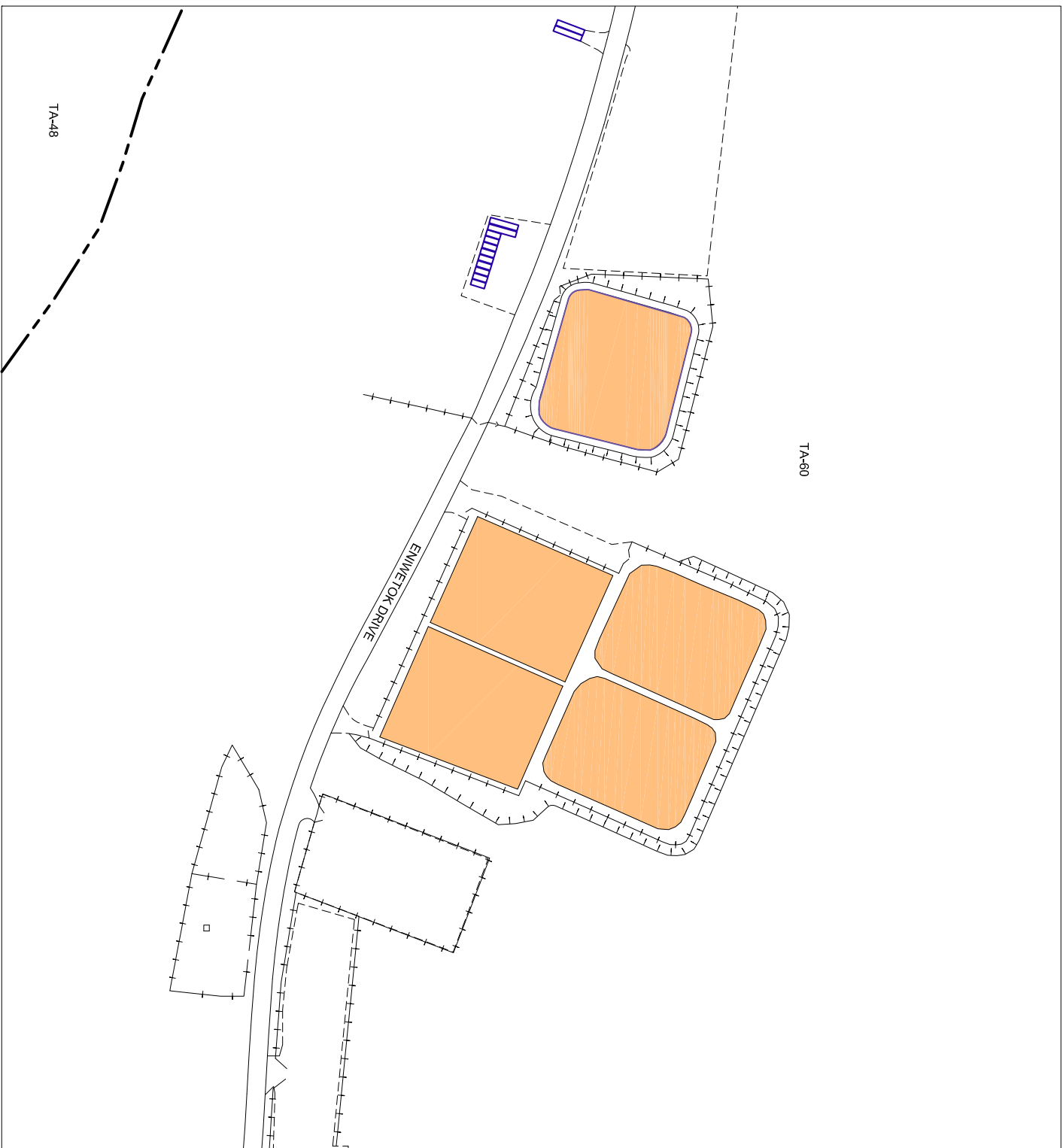
See next page.

# TA-60-EVAPORATION BASINS SITE PLAN

Prepared For:  
Los Alamos National Lab

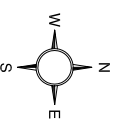
Prepared by:  
ES-UI Infrastructure  
Information Team

- LEGEND**
-  Evaporation Pond
  -  Paved Road
  -  Dirt/Gravel Road
  -  Security Fence
  -  Industrial Fence
  -  TA Boundary Line



Data obtained from U & I Utility Mapping and Location Section.  
Data was collected using GPS units and located using conventional  
locating equipment. Data should be field verified prior to using the  
Information for any design, planning, construction or otherwise.

Classification: Reviewer: H. Salazar Date:



Scale 1" = 200'



P. O. Box 60, MS A199  
Los Alamos, NM 87544  
Drawing Number: UIF-0628B  
Date: July 21, 2016  
Produced by: A. ROJAS/LETA  
Telephone: (505) 666-1051

# Section 6

## All Calculations

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

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

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

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

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

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

**Significant Figures:**

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

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

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

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

**Control Devices:** In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device

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

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The attached calculations included on the UA2 form are primarily for particulate matter, but also include any detected hazardous or toxic air pollutant. Total dissolved solids (TDS) and trace compound concentrations present in the treated wastewater in the basins were obtained by water sample analysis in July 2018 and analyzed by an independent laboratory. Potential to emit emission estimates assume the evaporator operates 8,760 hours per year at the maximum design water pump rate derated for altitude per the vendor's recommendation of 2.3% per 1000 feet of elevation. In reality, the unit will only operate during daylight hours and above a minimum air temperature.

In order to determine what percentage of total particulate matter is of a size of environmental concern and regulated (less than 30 microns in diameter referenced as PM30), the water droplet size distribution created by the Model 420B evaporator was obtained from the vendor. The vendor contracted with a test organization to conduct testing and prepared an analysis of the test data. LANL obtained from the vendor the actual measured test data (water droplet size and numbers present) from the laboratory test in order to calculate regulated particulate matter percentages. Using the water droplet test data, together with equations from NMED's technical memorandum regarding estimating particulate matter emissions from evaporation of water droplets from cooling towers, the percent values of PM30, PM10, and PM2.5 mass were obtained and applied to the total potential to emit value for particulate matter. The predicted emissions of PM2.5 are zero. Predicted maximum emissions of PM10 are 1.9 pounds per hour and 8.4 tons per year. Projected maximum emissions of PM30 are 29.4 pounds per hour and 128.8 tons per year. Emissions of PM2.5 and PM10 are below the threshold for permitting as a minor NSR source. 20.2.72 NMAC does not require a permit for emissions of PM30. Note that all emissions are fugitive and thus do not count towards major source NSR for this source type.

In general, for particulate matter formed by the evaporation of water droplets, high TDS values as well as larger water droplets are conducive to forming large diameter particles. The TDS in the evaporated water is high due to the salt content. Water droplets formed by the evaporator's mechanical fan shearing are also large when compared to droplets formed by an evaporator using a nozzle and atomizer. Note that the TDS concentration from recent sampling used in calculations is nearly double the concentration used previously in 2016 by LANL in estimating emissions from spray evaporators. This much higher concentration in general favors the creation of larger particles and a corresponding higher particle mass in larger size ranges.

# Section 6.a

## Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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**Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC)** applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>).

### Calculating GHG Emissions:

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

### Sources for Calculating GHG Emissions:

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

### Global Warming Potentials (GWP):

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

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

### Metric to Short Ton Conversion:

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

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

**The evaporative sprayer does not produce greenhouse gas emissions.**



# Section 7

## Information Used To Determine Emissions

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

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

Information used to determine emissions is noted on the UA2 calculations sheet.

# Section 8

## Map(s)

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

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

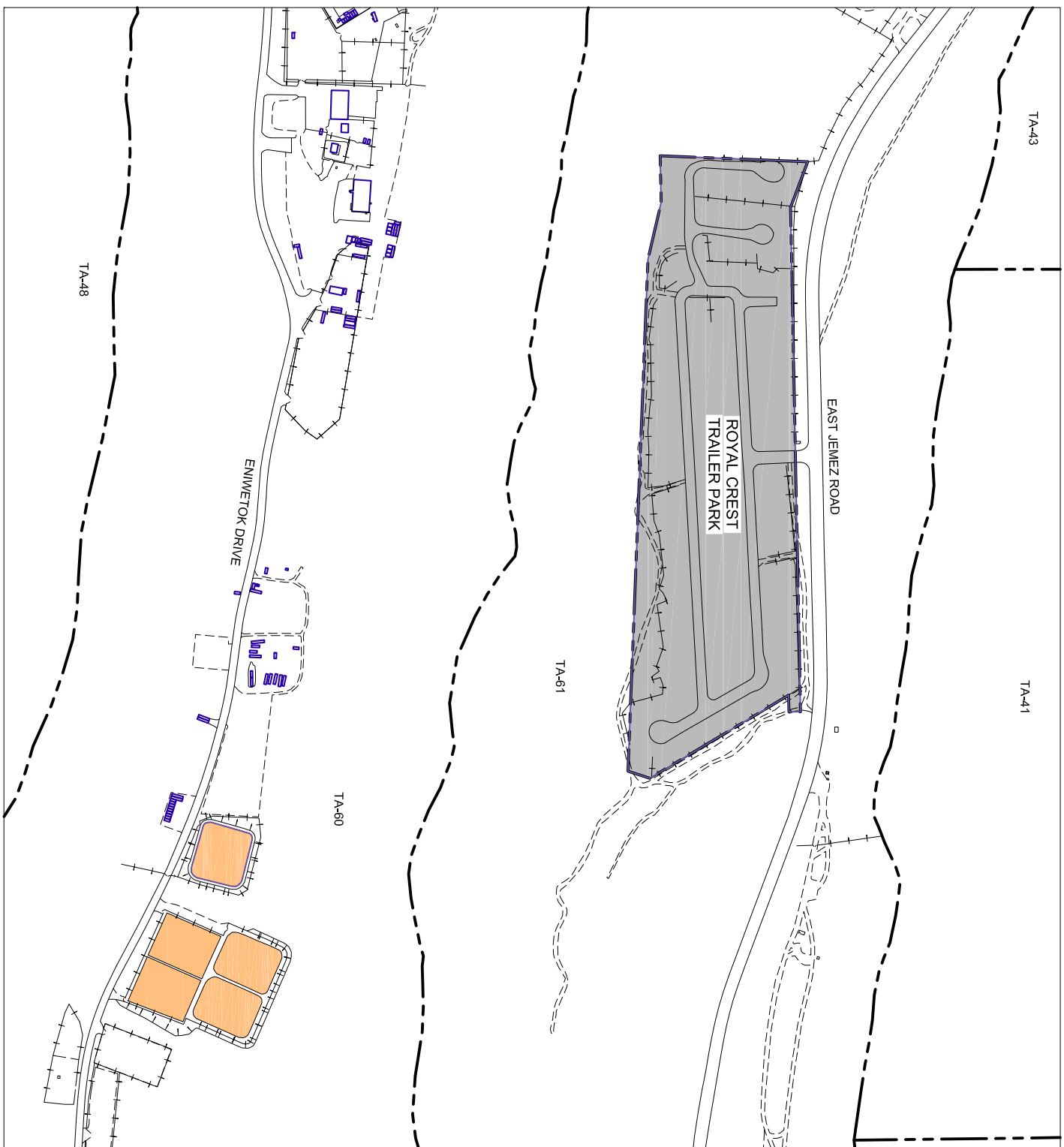
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



See next page.

# TA-60-EVAPORATION BASINS SITE PLAN

Prepared For:  
Los Alamos National Lab

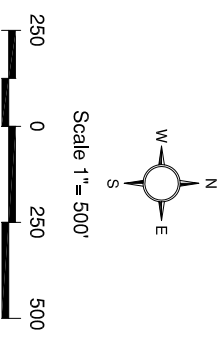
Prepared by:  
ES-UI Infrastructure  
Information Team



- LEGEND**
-  Evaporation Pond
  -  Paved Road
  -  Dirt/Gravel Road
  -  Security Fence
  -  Industrial Fence
  -  TA Boundary Line

Data obtained from U & I Utility Mapping and Location Section.  
Data was collected using GPS units and located using conventional locating equipment. Data should be field verified prior to using the information for any design, planning, construction or otherwise.

Classification: Reviewer: H. Salazar Date:



Telephone: (505) 666-1051

P. O. Box 60, MS A199  
Los Alamos, NM 87544  
Drawing Number: UIF-062A  
Date: July 21, 2016  
Produced by: A. SROHULETA

# Section 9 – Not Applicable for Title V

## Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)

(This proof is required by: 20.2.72.203.A.14 NMAC “Documentary Proof of applicant’s public notice”)

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**I have read the AQB “Guidelines for Public Notification for Air Quality Permit Applications”**

This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

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

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

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

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

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

# Section 10

## Written Description of the Routine Operations of the Facility

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**A written description of the routine operations of the facility.** Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

---

The evaporator model in this application is the SMI 420B. This model is a stationary mechanical evaporator designed for use in small ponds where control of wet or dry particulate drift can be optimized. The plume height and direction can be varied in order to adjust water droplet drift and create maximum evaporation rates. This evaporator type utilizes a high-speed fan to mechanically shear the injected water into droplets which are then projected into the plume for evaporation. Operation of the sprayer will be dependent on atmospheric conditions (wind speed and temperature) to achieve acceptable evaporation rates. The unit is sited on a concrete pad and anchored down. The pump is a floating unit that can be pulled and moved from pond to pond as needed or necessary. Flow from the pump unit is sent to the spray head/fan via hose.

# 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): This evaluation is for the existing (5) sprayers and the proposed additional sprayer in this application.**

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

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

**Yes**       **No**

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

**Yes**       **No**

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

**Yes**       **No**

**C. Make a determination:**

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

The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe): **The existing sprayers plus the proposed sprayer are located together and provide the same purpose and are considered the entire source for 20.2.72. With respect to 20.2.70, these sprayers together with all other emission units at LANL are considered the entire source.**

# Section 12-Not Applicable for Title V

## Section 12.A

### PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

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

A. This facility is:

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

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

- a. NO<sub>x</sub>: **XX.X** TPY
- b. CO: **XX.X** TPY
- c. VOC: **XX.X** TPY
- d. SO<sub>x</sub>: **XX.X** TPY
- e. TSP (PM): **XX.X** TPY
- f. PM<sub>10</sub>: **XX.X** TPY
- g. PM<sub>2.5</sub>: **XX.X** TPY
- h. Fluorides: **XX.X** TPY
- i. Lead: **XX.X** TPY
- j. Sulfur compounds (listed in Table 2): **XX.X** TPY
- k. GHG: **XX.X** TPY

C. Netting **[is required, and analysis is attached to this document.] OR [is not required (project is not significant)] OR [Applicant is submitting a PSD Major Modification and chooses not to net.]**

D. BACT is **[not required for this modification, as this application is a minor modification.] OR [required, as this application is a major modification. List pollutants subject to BACT review and provide a full top down BACT determination.]**

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

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If this is **NOT** a PSD application, delete this sentence and the entire Section 12.B below.

**Section 12.B**  
**Special Requirements for a PSD Application**  
(Submitting under 20.2.74 NMAC)

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**Prior to Submitting a PSD application, the permittee shall:**

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

**For PSD applications, the permittee shall also include the following:**

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

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



# Section 13

## Determination of State & Federal Air Quality Regulations

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**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.

**This information is relevant to the emission unit subject to this application only, and not LANL as a whole. The only state regulation applicable to the evaporator is 20.2.70 – Operating Permits. There is no federal regulation which is applicable.**

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# Section 14

## Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

# Section 15

## Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

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

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

---

There are no alternative operating scenarios proposed.

# Section 16

## Air Dispersion Modeling

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

What is the purpose of this application?	Enter an X for each purpose that applies
New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.	
New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. <b>Note:</b> Neither modeling nor a modeling waiver is required for VOC emissions.	
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above.	<b>X</b> <b>NSR-2195B-M3</b>
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)

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

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The evaporative sprayer is not currently in operation. Due to the inherent design of this unit without a stack, and particulate only forming once water droplets in a plume evaporate, an emissions compliance test cannot be conducted or required. As explained in Section 3, this unit ceased operation when new information indicated a permit would be required to operate.

# Section 19

## Requirements for Title V Program

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

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### Who Must Use this Attachment:

- \* Any major source as defined in 20.2.70 NMAC.
  - \* Any source, including an area source, subject to a standard or other requirement promulgated under Section 111 - Standards of Performance for New Stationary Sources, or Section 112 Hazardous Air Pollutants, of the 1990 federal Clean Air Act ("federal Act"). Non-major sources subject to Sections 111 or 112 of the federal Act are exempt from the obligation to obtain a 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 <http://www.env.nm.gov/aqb/index.html>. 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.

Part 64 does not apply to the evaporative sprayer.

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

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

The most recent Title V Compliance Certification Report was submitted in January 2019 and indicates compliance with all applicable requirements. One permit deviation without any excess emission was noted and corrective action was taken to resolve.

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

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

This facility will continue to be in compliance with requirements for which it is in compliance at the time of this permit application, and will in a timely manner, meet additional requirements that become effective during the permit term.

**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.

The proposed schedule for submission of the Annual Compliance Certification Report is the schedule currently in Section A109 of Permit P100-R2M3. The schedule requires submittal of the report within 30 days of the end of the 12-month reporting period which starts on January 1<sup>st</sup> each year.

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**19.5 - Stratospheric Ozone and Climate Protection**

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

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

40 CFR Part 82, Subparts B, F, H and I are applicable. This facility is in compliance with all Title VI, Section 608 and 609 requirements.

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**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 <http://www.env.nm.gov/aqb/index.html>. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

A compliance plan and schedule is not required for this facility.

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

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

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This facility is not subject to the Section 112r requirements.

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

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

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

This facility is within 80 km of the following Indian tribes and pueblos and a local pollution control program as follows with distances indicated in km:

Taos Pueblo (69), Picuris Pueblo (56), Jicarilla Apache (67), Ohkay Owingeh Pueblo (19), Santa Clara Pueblo (10), San Ildefonso Pueblo (5), Pojoaque Pueblo (13), Nambe Pueblo (24), Tesuque Pueblo (19), Cochiti Pueblo (13), Santa Domingo Pueblo (27), Zia Pueblo (30), San Felipe Pueblo (38), Santa Ana Pueblo (40), Jemez Pueblo (19), Sandia Pueblo (61), Laguna Pueblo (77), Bernalillo County - Albuquerque Air Quality Division (56).



**19.9 - Responsible Official**

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

William S. Goodrum, Manager, Los Alamos Field Office, DOE

# Section 20

## Other Relevant Information

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**Other relevant information.** Use this attachment to clarify any part in the application that you think needs explaining. Reference the section, table, column, and/or field. Include any additional text, tables, calculations or clarifying information.

Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility or language for a new unit, submit the proposed operating condition(s), along with the associated monitoring, recordkeeping, and reporting conditions. In either case, please limit the proposed language to the affected portion of the permit.

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Enclosed:

- Vendor specification sheet for SMI Model 420B evaporator

# SMI 420B

## EVAPORATOR



### OVERVIEW

The SMI® 420B Evaporator is a land-based unit, designed to simply and reliably evaporate excess water in a variety of pond sizes, especially sites containing large particles or highly corrosive water. The 420B Evaporator is durable, simple to use and easy to maintain – a reliable way to manage your excess water.

### BENEFITS

**Flexible Operation:** The SMI 420B Evaporator can be operated vertically upright or angled over the pond by manually lowering or raising the boom. The machine can function in virtually any wind conditions, as it is not sensitive to blow back.

**High Performance:** High-speed fan blade rotation creates an optimum water droplet distribution for evaporation. Annual evaporation rates up to 70% have been achieved, with average rates typically between 25 and 60%. Evaporation rates depend upon many factors, including ambient temperature, relative humidity, water make-up and wind.

**Easy Maintenance:** Designed for easy cleaning and maintenance, this unit requires no weekly bearing lubrication, as it is lubricated for the life of the motor.

**Minimal Clogging:** The SMI® 420F Evaporator can pass particles up to 3/16 inch (4.7 mm) in diameter, which reduces the need for pre-filtering, filter cleaning and the hassles of clogged nozzles.

**Extreme Duty:** This design has evolved from 10 years of experience in industrial and extreme outdoor applications. Critical components are manufactured from stainless steel for extended life in harsh environments.

### FEATURES

**Flexible plume height** to adjust droplet drift for greater efficiency in swirling or constantly changing winds and higher evaporation rates due to longer hang time

**Heavy industrial** construction, including stainless control panel, motor enclosure, manifold and fan blade for increased durability and service life

**Vibration sensor** included to shut down motor before catastrophic failure due to residue or ice build-up

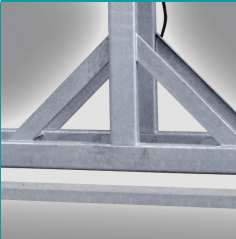


# SMI 420B

## EVAPORATOR



Jack



Frame



Head Assembly

### SPECIFICATIONS

#### Fan and Head Assembly

- Stainless steel 20 inch diameter 12 blade patented fan
- Stainless steel enclosure protects fan motor and enhances cooling
- Vibration sensor for motor shut down due to fan imbalance

#### Boom, Platform and Base

- Fan stands 20 feet in air in full upright position
- Galvanized steel frame work with stainless steel fasteners
- Base has a 8' X 8' footprint
- One ton free standing concrete counterweight system
- Easy to use jack to raise and lower boom

#### Water System

- Stainless steel spray manifold, designed to provide 66 GPM (250 LPM) at 100 PSI (7 Bar) water pressure
- Ball valve to control flow to spray manifold due to changing weather conditions

#### Electrical

- 25 HP Premium efficiency fan motor
- Fan motor rotates at 3600 RPM at 480 volt, 3 phase, 60 cycle power or 2900 RPM at 400 volt, 50 cycle power
- Stainless steel control panel with start and stop buttons
- 150 feet (45 M) electrical power cord

#### Warranty

- 6 month warranty on all parts and workmanship

#### Options

- For acidic or high-alkaline water applications, stainless steel construction and acid resistant coating
- 180 degree option available for boom
- Y-line manual flush filter for dirtier water
- Automation, shut down and startup of evaporator due to wind speed and direction, temperature and humidity



**Evaporative  
Solutions**

**SMI Evaporative Solutions**  
1512 North Rockwell Dr.  
Midland, MI 48642  
Tel: +1.989.631.6091  
Toll Free: +1-800-248-6600  
[evapor.com](http://evapor.com)

# Section 22: Certification

Company Name: U.S. Department of Energy, National Nuclear Security Administration

I, William S. Goodrum, 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 \_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, upon my oath or affirmation, before a notary of the State of

New Mexico.

\_\_\_\_\_  
\*Signature

\_\_\_\_\_  
Date

William S. Goodrum  
Printed Name

Manager, Los Alamos Field Office, DOE  
Title

Scribed and sworn before me on this \_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

My authorization as a notary of the State of \_\_\_\_\_ expires on the

\_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Notary's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
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.

# **ATTACHMENT 2**

Proposed Draft Permit

ESHQSS: 19-014

LA-UR-19-21773

Date:           **MAR 21 2019**

## Proposed Draft Permit

### EVAPORATIVE SPRAYERS

#### A1500 Regulated Sources – Evaporative Sprayers

A. Table A1500.A lists all of the process equipment for this source category

**Table A1500.A: Regulated Sources List**

Unit No.	Source Description	Make Model	Serial No.	Maximum Capacity/ Permitted Capacity	Manufacture Date	Construction Date
TA-60-EVAP-1	Water spray evaporator	SMI Evaporative Solutions SMI 120	0053	9 gal per min/ 7.51 gal per min	2016	July 2016
TA-60-EVAP-2	Water spray evaporator	SMI Evaporative Solutions SMI 120	0054	9 gal per min/ 7.51 gal per min	2016	July 2016
TA-60-EVAP-3	Water spray evaporator	SMI Evaporative Solutions SMI 120	0055	9 gal per min/ 7.51 gal per min	2016	July 2016
TA-60-EVAP-4	Water spray evaporator	SMI Evaporative Solutions SMI 120	0056	9 gal per min/ 7.51 gal per min	2016	July 2018
TA-60-EVAP-5	Water spray evaporator	SMI Evaporative Solutions SMI 120	0057	9 gal per min/ 7.51 gal per min	2016	July 2018
TA-60-EVAP-6	Water spray evaporator	SMI Evaporative Solutions SMI 420B	9360	24 gal per min/ 20 gal per min	2014	2014

#### A1501 Control Equipment – Evaporative Sprayers – Not Required

#### A1502 Emission Limits – Evaporative Sprayers

A. The federally enforceable work practice standards in Conditions A1507.A and B establish the emissions allowable under the permit (20.2.70.7.H and I NMAC) since separate numerical pph and tpy emission limits for TSP, PM10, VOCs, and HAPs from the evaporators are not appropriate for this operating scenario. Hazardous air pollutants (HAPs) from the evaporative coolers are included in and subject to the individual and total HAP facility-wide emission limits in Table 106.B.

**A1503 Applicable Requirements – Evaporative Sprayers**

- A. There are no additional applicable requirements other than those listed for the entire facility in Table 103.A.

**A1504 Operational Limitations– Evaporative Sprayers**

- A. This equipment is authorized for continuous operation.

**A1505 Fuel Sulfur Requirements –Evaporative Sprayers– Not Required**

**A1506 20.2.61 NMAC Opacity –Evaporative Sprayers – Not Required**

**A1507 Evaporative Sprayers–Work Practice Standards**

- A. Operational Requirements (Evaporative Sprayers)

**Requirement:** Compliance with the allowable emission limits in Table 106.B shall be demonstrated by calculating the annual total HAPs emissions in tons per year. The emissions shall be calculated based on the most recent water analysis and hours of operation for the evaporative sprayers.

**Monitoring:** The permittee shall conduct an analysis of the basin water, including analytical results (water concentrations) for all HAPs and TAPs, at the Sanitary Effluent Reclamation Facility (SERF) every two years beginning no later than calendar year 2018. The permittee shall monitor the hours of operation for each sprayer.

**Recordkeeping:** The permittee shall record a monthly rolling, 12-month total of HAPs emissions based on the sum of emissions from all the evaporative sprayers. The emission factors for the HAPs shall be based on the values from the most recent water analysis.

**Reporting:** The permittee shall submit reports described in Section A109 and in accordance with Section B111. An electronic copy of the required water analysis including analytical results (water concentrations) for all HAPs, TAPs, and the total dissolved solids (TDS) shall be sent to AQB with the Semi-annual Monitoring Report specified in A109.A for any year in which the water sampling is conducted.

- B. Maintenance and Repair Requirements

**Requirement:** Compliance with the allowable emission limits in Table 106.A shall be demonstrated by properly maintaining and repairing the units.

**Monitoring:** Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur.



**Recordkeeping:** The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.

**Reporting:** The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.

# Section 22: Certification

Company Name: U.S. Department of Energy, National Nuclear Security Administration

I, Mark Miera, 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 20<sup>th</sup> day of March, 2019, upon my oath or affirmation, before a notary of the State of

New Mexico.

*Mark K Miera*  
\*Signature

20 Mar 19  
Date

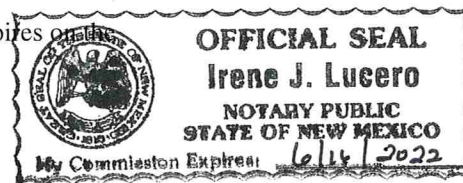
Mark Miera  
Printed Name

Los Alamos Field Office, DOE  
Title

Scribed and sworn before me on this 20<sup>th</sup> day of March, 2019.

My authorization as a notary of the State of New Mexico expires on

16<sup>th</sup> day of June, 2022.



*Irene J. Lucero*  
Notary's Signature

3/20/19  
Date

Irene J. Lucero  
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.