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, A316
3747 West Jemez Road
Los Alamos, New Mexico, 87544
(505) 665-7314

Date: AUG 1 1 2016
Symbol: EPC-DO-16-228
LA-UR: 16-25934
Locates Action No.: N/A

Ms. Michelle Hunter, Chief
Ground Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, Room N2261
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Dear Ms. Hunter:

Subject: Request to Operate Mechanical Evaporators, Sigma Mesa Evaporation Basins, DP-857

The U.S. Department of Energy and Los Alamos National Security, LLC (DOE/LANS) request approval from the New Mexico Environment Department (NMED) to operate five mechanical evaporators at the Sigma Mesa Evaporation Basins (SMEBs). The five SMEBs, regulated by the NMED under Discharge Permit DP-857, evaporate reverse osmosis wastewater from the Sanitary Effluent Reclamation Facility (SERF). Current evaporation rates at the five basins are marginally capable of maintaining the capacity needed for routine SERF operations. The five proposed mechanical evaporators will enhance evaporation and provide DOE/LANS with additional operational flexibility. This letter and enclosures provide technical information on the proposed mechanical evaporators and communications with the NMED Air Quality Group concerning permitting under Los Alamos National Laboratory's Title V Operating Permit.

SMI Model 120F Floating Mechanical Evaporator

DOE/LANS propose to install an SMI Model 120F floating mechanical evaporator in each of the five SMEBs. Enclosure 1 contains the SMI product sheet for the Model 120F evaporator. Each mechanical evaporator will be anchored and secured in position using diametrically placed nylon ropes anchored outside of the basin. No anchors or ties will penetrate the basin's synthetic liner system.

Spray drift will be mitigated by the programmable *SMARTH2O* system which continuously monitors wind speed and direction to control operation of the mechanical evaporator's pumps and fans at user-determined set-points. When set-point conditions are exceeded the equipment will automatically turn off; operations will resume when wind direction and speed return to allowable conditions. These set-points will be determined independently for each mechanical evaporator.

Additional project-specific specifications and operating criteria are listed below:

- ✓ **Maximum discharge per unit (gal. per minute):** 9 gpm
- ✓ **Hours of operation:** 24 hrs/day, 7 days/week
- ✓ **Months of operation:** 12
- ✓ **Ambient operating temperature:** >38°F
- ✓ **Frequency of inspections:** daily, when operating

NMED Air Quality Bureau Permitting:

On July 25, 2016, DOE/LANS submitted a permit application (Enclosure 2) to the NMED Air Quality Bureau to install five SMI Model 120F floating mechanical evaporators in the SMEBs at Los Alamos National Laboratory (LANL). The application requested a minor modification of LANL's Title V Operating Permit. Enclosure 3 contains a July 26, 2016, letter from the NMED Air Quality Bureau acknowledging receipt of the above-referenced application and a determination that the application is complete.

On August 1, 2016, Ms. Kirby Olson, NMED Air Quality Bureau, sent Mr. Bill Blankenship, Los Alamos National Security, LLC, an email (Enclosure 4) referencing Air Quality Regulation 20.2.70.404.B NMAC for Minor Permit Modifications and clarifying the regulatory requirements. In the above-referenced email Ms. Olson states the following:

> *20.2.70.404.B(6) NMAC states that changes proposed in a minor modification can be made after the application is ruled complete. The third paragraph of the completeness letter* **[Enclosure 2]** *states "Therefore, as allowed under 20.2.70.404.B(6) NMAC, the permittee shall comply with the proposed permit conditions in Enclosure 1 of the application until the Department issues the final permit modification P100R2M1." That language was intended as the authorization to operate under the proposed conditions.*

In accordance with 20.2.70.404.B(6) NMAC, once a minor modification application is ruled complete the applicant is authorized to operate under the conditions proposed in the application. The following operating conditions are listed on page 6 of the above-referenced permit application:

A. Emission Calculations

Requirement: The permittee shall comply with the facility-wide HAP emission limits at Table 106.8.
Monitoring: The permittee shall monitor hours of operation for each evaporative sprayer.
Recordkeeping: The permittee shall record hours of operation for each evaporative sprayer on a monthly basis.
Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section 8110.

Please contact Karen E. Armijo by telephone at (505) 665-7314 or by email at Karen.Armijo@nnsa.doe.gov, or Robert S. Beers by telephone at (505) 667-7969 or by email at bbeers@lanl.gov, if you have questions regarding this request for NMED approval to operate five SMI Model 120F floating mechanical evaporators at the Sigma Mesa Evaporation Basins.

Sincerely,

Anthony R. Grieggs
Group Leader
Environmental Compliance Programs
Los Alamos National Security, LLC

Sincerely,

Karen E. Armijo
Permitting and Compliance Manager
National Security Missions
NNSA/Los Alamos Field Office

ARG:KEA:MTS:RSB/lm

Enclosures:

(1) SMI product sheet for the Model 120F floating mechanical evaporator
(2) Title V Minor Modification Application - Evaporative Sprayers IDEA ID No. 856- Los Alamos National Laboratory (LANL), July 25, 2016
(3) NMED AQB letter to DOE/LANS RE: Air Quality Operating Permit Application Number P100R2M1, July 26, 2016
(4) August 1, 2016, email from Ms. Olson (NMED) to Mr. Blankenship (LANS) RE: LANL evaporators - Need approval to operate for Groundwater Bureau

Cy: James Hogan, NMED/SWQB, Santa Fe, NM, (E-File)
John E. Kieling, NMED/HWB, Santa Fe, NM, (E-File)
Stephen M. Yanicak, NMED/DOE/OB, (E-File)
Jody M. Pugh, NA-LA, (E-File)
Karen E. Armijo, NA-LA, (E-File)
Craig S. Leasure, PADOPS, (E-File)
William R. Mairson, PADOPS, (E-File)
Michael T. Brandt, ADESH, (E-File)
Raeanna Sharp-Geiger, ADESH, (E-File)
John P. McCann, EPC-DO, (E-File)
Andrew W. Erickson, UI-DO, (E-File)
Lawrence V. Chavez, UI-OPS, (E-File)
Pablo F. C De Vaca, UI-OPS, (E-File)
Randy E. Vigil, UI-OPS, (E-File)
Gabriel C. Herrera, ES-UI, (E-File)
Steven L. Story, EPC-CP, (E-File)
Michael T. Saladen, EPC-CP, (E-File)
Robert S. Beers, EPC-CP, (E-File)
Jacob W. Meadows, EPC-CP, (E-File)
Saundra Martinez, OIO-DO, (E-File)

Cy (continued):
lasomailbox@nnsa.doe.gov, (E-File)
locateteam@lanl.gov, (E-File)
epc-correspondence@lanl.gov, (E-File)

COPY

Environmental Protection & Compliance Division
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Los Alamos, New Mexico 87545
(505) 667-0666

National Nuclear Security Administration
Los Alamos Field Office, A316
3747 West Jemez Road
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(505) 665-7314

Date: AUG 11 2016
Symbol: EPC-DO-16-228
LA-UR: 16-25934
Locates Action No.: N/A

GROUND WATER
AUG 11 2016
BUR

Ms. Michelle Hunter, Chief
Ground Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, Room N2261
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Dear Ms. Hunter:

Subject: Request to Operate Mechanical Evaporators, Sigma Mesa Evaporation Basins, DP-857

The U.S. Department of Energy and Los Alamos National Security, LLC (DOE/LANS) request approval from the New Mexico Environment Department (NMED) to operate five mechanical evaporators at the Sigma Mesa Evaporation Basins (SMEBs). The five SMEBs, regulated by the NMED under Discharge Permit DP-857, evaporate reverse osmosis wastewater from the Sanitary Effluent Reclamation Facility (SERF). Current evaporation rates at the five basins are marginally capable of maintaining the capacity needed for routine SERF operations. The five proposed mechanical evaporators will enhance evaporation and provide DOE/LANS with additional operational flexibility. This letter and enclosures provide technical information on the proposed mechanical evaporators and communications with the NMED Air Quality Group concerning permitting under Los Alamos National Laboratory's Title V Operating Permit.

SMI Model 120F Floating Mechanical Evaporator

DOE/LANS propose to install an SMI Model 120F floating mechanical evaporator in each of the five SMEBs. Enclosure 1 contains the SMI product sheet for the Model 120F evaporator. Each mechanical evaporator will be anchored and secured in position using diametrically placed nylon ropes anchored outside of the basin. No anchors or ties will penetrate the basin's synthetic liner system.

ENCLOSURE 1

SMI product sheet for the Model 120F
floating mechanical evaporator

EPC-DO-16-228

LA-UR-16-25934

Date: AUG 1 1 2016

SMI 120F EVAPORATOR

ENCLOSURE 1
EPC-DO-16-228
LA-UR-16-25934

OVERVIEW

The SMI® 120F is a floating mechanical Evaporator, specifically designed for small ponds where the end user is concerned about controlling wet and dry particulate drift. The 120F Evaporator is simple to use, easy to maintain, and constructed from high grade materials for years of reliable operation.

BENEFITS

Low Buildup: Designed with a minimal amount of top surface area to control the build-up of residue and scale, helping to reduce clean up and maintenance!

High Performance: High-speed fan blade rotation creates an optimum water droplet distribution for evaporation. Annual evaporation rates up to 70% could be achieved and averages will typically be between 25% and 60%.*

Easy Maintenance: The machine is designed for easy cleaning and maintenance. It requires no weekly bearing lubrication, as it is lubricated for the life of the motor. Pump is fitted with a static inlet filter that can be removed for cleaning. Pump sleeve is designed with a viewing port to simplify inspecting for scale build-up and obstructions in the pump inlet.

Minimal Clogging: The SMI® 120F can pass particles up to 3/16 inch (4.7 mm) in diameter, which reduces the need for prefiltering, filter cleaning and the hassles of clogged nozzles.

Extreme Duty: This design has evolved from 20 years of experience in industrial and extreme outdoor applications. Polyethylene pontoons are filled with closed-cell polyurethane foam, ensuring buoyancy even after any accidental puncturing of the plastic outer shell. Critical components are manufactured from stainless steel for extended life in harsh environments. "Corrosion package" upgrade is available for all stainless steel construction for high and low pH applications.

FEATURES

Floating unit supported by plastic pontoons containing closed-cell PU foam.

Head adjusts at increments from 0 to 90 degrees to allow a lower plume height to reduce drift distance, and thus reduce shut-downs due to high winds.

Heavy industrial construction, including stainless steel motor enclosure, spray manifold and fan blade, increasing durability and equipment life span.

Optional vibration sensor available to shut down motor before catastrophic failure due to residue or ice build-up.

304 stainless steel submersible pump attached to floating frame with integrated static filter and viewing port for ease of maintenance and inspection.

*Evaporation rates depend on many factors including ambient temperature, relative humidity, water makeup and chemistry, wind conditions, solar radiation and site topography.

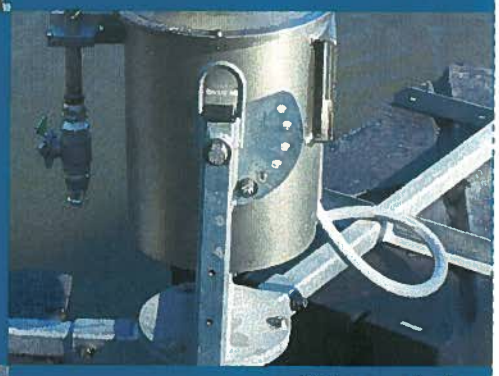
SMI 120F EVAPORATOR

ENCLOSURE 1
EPC-DO-16-228
LA-UR-16-25934

Close up of UV stabilized pontoon filled with closed cell PU Foam

Optional vibration switch to automatically shutdown the fan from scale build-up on the propeller and protect from premature motor failure from fan imbalance. Comes housed in a second enclosure to provide additional protection against water ingress.

Water shield covering junction box to provide dual protection for water ingress to electrical terminations



Indexable head for fan inclination of 0-90 degrees

Pump holder for ease of pump inspection and maintenance

SPECIFICATIONS

Fan and Head Assembly
- Stainless steel patented fan
- Stainless steel enclosure protects fan motor from water ingress and exposure to harsh waste water
- Optional vibration sensor to protect motor from propeller imbalance

Floats and Mount
- Galvanized steel frame structure assembled with stainless steel fasteners
- (3) UV stabilized pontoons filled closed cell PU foam

Water System
- 1/2 HP (0.37 kW) stainless steel submersible pump
- Pump options: 460V / 60HZ, 380-415V / 50HZ, or 575V /60HZ
- Stainless steel spray manifold with large holes to allow large particles to pass
- Ball valve to regulate flow to spray manifold for changing weather conditions on manual units; pump VFD to temperature/humidity algorithm for auto units

Electrical
- 5 HP (3.7 kW) Premium efficiency fan motor
- Fan motor rotates at 3600 RPM at 480 or 575 volts, 3 phase, 60 cycle power or 2900 RPM at 380-415 volts 50 cycle power
- Nema 4X control panel with manual, standalone or premium automated controls
- Submersible rated electrical power cord, length per customer requirements

Warranty
- 6 month warranty on any defective parts and workmanship

Options
- "Corrosion Package" for upgrading galvanized mount to all stainless steel construction for acidic or highly alkaline water applications
- Standalone Automation: local machine control and customer interface, pump VFD varies based upon temperature/humidity algorithm and wind speed / direction start-up and shutdown
- Premium Automation – local and remote machine control and customer interface, pump VFD varies based upon temperature/humidity algorithm, wind speed direction start-up and shutdown, camera to monitor equipment, SmartH2O software with Desktop PC that provides reporting, trending, alarms and remote control.
- Vibration sensor for motor shut down due to fan imbalance from deposits or scale buildup

SMI Evaporative Solutions
SMI Evaporative Solutions
1512 North Rockwell Dr.
Midland, MI 48642
+1.989.631.6091
+1-800-248-6600
evapor.com

ENCLOSURE 2

Title V Minor Modification Application - Evaporative Sprayers
IDEA ID No. 856-Los Alamos National Laboratory
(LANL), July 25, 2016

EPC-DO-16-228

LA-UR-16-25934

Date: AUG 1 1 2016

Los Alamos
NATIONAL LABORATORY
EST. 1943

Environment Safety & Health
PO Box 1663, MS K491
Los Alamos, New Mexico 87545
(505) 667-4218/Fax (505) 665-3811

Date: JUL 2 5 2016
Symbol: ADESH-16-103
LAUR: 16-25366
Locates Action No.: N/A

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

Dear Mr. Schooley:

Subject: Title V Minor Modification Application – Evaporative Sprayers IDEA ID No. 856-Los Alamos National Laboratory (LANL)

Los Alamos National Laboratory submits the enclosed Title V minor modification application for review and approval. The application is for five evaporative sprayers intended for use to enhance water evaporation at existing storage basins.

The five spray evaporators are intended 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 intended for use 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, and 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. Operation of the SERF facility is crucial in reducing water usage at LANL, achieving compliance with discharges to an NPDES outfall, and providing clean water for cooling tower use at LANL.

The evaporator model chosen is the SMI Evaporative Solutions Model 120F. This model is a floating 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. The floating design allows the device to be used on the pond surface rather than adjacent to the pond which minimizes drift onto a land surface. 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. The evaporator is electric driven and has no fuel burning equipment associated with it. Due to the high salt or total dissolved solids (TDS) content of the pond water, potential emissions of particulate matter formed as water droplets evaporate is high without consideration of the particle size distribution which would be present. 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 present combined with large water droplets formed mechanically by a fan rather than a nozzle and atomizer results in only a small percentage of total particulate matter emitted being of concern and regulated as an air pollutant.

The enclosed emission calculations demonstrate maximum annual emissions from the combined five sprayers if operated every hour of the year would be 6.1 tons of PM30 (particulate matter less than 30 microns in diameter). Of that total, 0.3 tons would be PM10 and no emissions of PM2.5 are estimated to be present. Emission estimates are also included for all hazardous or toxic air pollutants detected in water sampling. No toxic air pollutant would be emitted in a quantity exceeding permit thresholds in 20.2.72 NMAC. Total hazardous air pollutant emissions are estimated to be 0.001 tons per year.

This project is necessary to reduce the amount of reverse osmosis concentrate that is being held in the evaporation basins on Sigma Mesa. Under current conditions, the volume of this concentrate is high enough to possibly limit the continued and sustainable operation of the SERF facility. Because of SERF's role in maintaining environmental compliance at an NPDES outfall, continued and uninterrupted operation of the facility is necessary. The use of mechanical evaporation to enhance natural evaporation rates in the ponds is a significant objective for ensuring adequate receiving capacity at the SERF ponds.

Enclosure 1 contains the proposed draft permit for this minor modification. 20.2.70 NMAC – Operating Permits 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. Enclosure 2 is the permit application using the appropriate NMED permit application forms.

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 Bill Blankenship at (505) 665-0823.

Sincerely,

Michael T. Brandt, DrPH, CIH
Associate Director
Environment, Safety & Health
Los Alamos National Security, LLC
Los Alamos National Laboratory

MTB:JPM:SLS:BB/ms

Enclosures: 1. Proposed Draft Permit
2. Minor Modification Permit Application for Evaporative Sprayers

Cy: Andrew Erickson, UI-DO, (E-File)
Grant Stewart, ES-UI, (E-File)
Lawrence V. Chavez, UI-OPS, (E-File)
Gabriel C. Herrera, ES-UI, (E-File)
Richard Kacich, DIR, (E-File)
Kirsten Laskey, EM-LA, (E-File)
Karen Armijo, NA-LA Field Office, (E-File)
Adrienne Nash, NA-LA Field Office, (E-File)
Cheryl D. Cabbil, ADNHHO, (E-File)
Steven L. Young, ADNHHO, (E-File)
Craig Leasure, PADOPS, (E-File)
William R. Mairson, PADOPS, (E-File)
Amy E. De Palma, PADOPS, (E-File)
Raeanna Sharp-Geiger, ADESH, (E-File)
Phil Romero, DESHS-CPCS, (E-File)
John P. McCann, EPC-DO, (E-File)
Anthony R. Grieggs, EPC-CP, (E-File)
Steven L. Story, EPC-CP, (E-File)
Bill Blankenship, EPC-CP, (E-File)
Timothy A. Dolan, LC-ESH, (E-File)
Saundra Martinez, OIO-DO, (E-File)
LASOmailbox@nnsa.doe.gov, (E-File)
emla.docs@em.doe.gov, (E-File)
locatesteam@lanl.gov, (E-File)
epc-correspondence@lanl.gov, (E-File)

Enclosure 1

Proposed Draft Permit

ADESH-DO-16-103

LA-UR 16-25366

Date: JUL 2 5 2016

Proposed Draft Permit

A1500 – Regulated Sources – Evaporative Sprayers

A. Table 1500.A lists all of the process equipment for this source category.

Table 1500.A: Regulated Sources List

Emission Unit	Location	Manufacturer/Model/Serial Number	Maximum Capacity
TA-60-EVAP-1	TA-60	SMI/Model 120/0053	9 gallons/minute
TA-60-EVAP-2	TA-60	SMI/Model 120/0054	9 gallons/minute
TA-60-EVAP-3	TA-60	SMI/Model 120/0055	9 gallons/minute
TA-60-EVAP-4	TA-60	SMI/Model 120/TBD	9 gallons/minute
TA-60-EVAP-5	TA-60	SMI/Model 120/TBD	9 gallons/minute

A1501 – Control Equipment-Evaporative Sprayers - Not Required

A1502- Emission Limits - Evaporative Sprayers

A. Table 1502.A lists the emission units and their allowable emission limits.

Table 1502.A: Allowable Emissions

Emission Unit	Total HAPs (tpy)
TA-60-EVAP-1	--[1]
TA-60-EVAP-2	--[1]
TA-60-EVAP-3	--[1]
TA-60-EVAP-4	--[1]
TA-60-EVAP-5	--[1]

[1]HAP emissions from this source category are included in the facility-wide allowable emissions limit established in Table 106.B: 8.0 tpy per individual HAP and 24.0 tpy combined total HAPs.

A1503 – Applicable Requirements – Evaporative Sprayers – No Source Specific Requirements

A1504 – Operational Limitations – Evaporative Sprayers

A. The Evaporative Sprayer source category is authorized for continuous operation.

A1505 – Fuel Sulfur Requirements – Evaporative Sprayers - Not Required

A1506 – 20.2.61 NMAC Opacity – Evaporative Sprayers – Not Required

A1507 Other – Evaporative Sprayers

A. Emission Calculations

Requirement: The permittee shall comply with the facility-wide HAP emission limits at Table 106.B[1].
Monitoring: The permittee shall monitor hours of operation for each evaporative sprayer.
Recordkeeping: The permittee shall record hours of operation for each evaporative sprayer on a monthly basis.
Reporting: The permittee shall submit reports described in Section A109 and in accordance with Section B110.

[1]Fugitive emissions of particulate matter and other criteria pollutants are not required to be reported as specified in Condition A109.B.

Enclosure 2

Minor Modification Permit Application for Evaporative Sprayers

ADESH-DO-16-103

LA-UR 16-25366

Date: JUL 2 5 2016

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

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
☐ 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).

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 1st 3 to 5 #s of permit IDEA ID No.):**35-028-0001**

Updating Permit/NOI #: **P100-R2**

1	Facility Name: **Los Alamos National Laboratory**	Plant primary SIC Code (4 digits): **8733**
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): **The Laboratory is bounded by the towns of Los Alamos and White Rock, and Bandelier National Monument**	
2	Plant Operator Company Name: **Los Alamos National Security**	Phone/Fax(505)665-8855/(505)665-8858
a	Plant Operator Address:**P.O. Box 1663, MSJ978, Los Alamos, NM 87545**	
b	Plant Operator's New Mexico Corporate ID or Tax ID: **03059304002**	

3	Plant Owner(s) name(s): **DOE, National Nuclear Security Admin.**	Phone/Fax: **(505)667-8858**
a	Plant Owner(s) Mailing Address(s): **3747 West Jemez Road, Los Alamos, NM 87544**	
4	Bill To (Company): **N/A**	Phone/Fax: **N/A**
a	Mailing Address: **N/A**	E-mail: **N/A**
5	√Preparer: **Bill Blankenship** □ Consultant:	Phone/Fax: **(505)665-0823/(505)665-8858**
a	Mailing Address: **P.O. Box 1663, MSJ978, Los Alamos, NM 87545**	E-mail: **bblankenship@lanl.gov**
6	Plant Operator Contact: **Tony Grieggs**	Phone/Fax **(505) 665-0451**
a	Address: **P.O. Box 1663, MSK490, Los Alamos, NM 87545**	E-mail:**grieggst@lanl.gov**
7	Air Permit Contact: **Tony Grieggs**	Title: **Group Leader, EPC-CP**
a	E-mail: **grieggst@lanl.gov**	Phone/Fax: **(505) 665-0451**
b	Mailing Address: **P.O. Box 1663, MSK490, Los Alamos, NM 87545**	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? √Yes □ No	1.b If yes to question 1.a, is it currently operating in New Mexico? √ Yes □ No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? □ Yes √ No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? √ Yes No
3	Is the facility currently shut down? □ Yes √ No	If yes, give month and year of shut down (MM/YY):
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? √ Yes □ No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? √Yes □No □N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? √Yes □ No	If yes, the permit No. is: **P-100-R2**
7	Has this facility been issued a No Permit Required (NPR)? √Yes □ No	If yes, the NPR No. is: **2195L,Q,S,T,U,V,X**
8	Has this facility been issued a Notice of Intent (NOI)? □ Yes √ No	If yes, the NOI No. is:
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? √ Yes □ No	If yes, the permit No. is: **632,634,1081,2195B,F,H,L,N,P**
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? √Yes □ No	If yes, the register No. is: **GCP-3-2195G**

Section 1-C: Facility Input Capacity & Production Rate – (5) Spray Evaporators

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:	Daily:	Annually:
b	Proposed	Hourly: **2,253 gallons water pumped**	Daily: **54,069 gallons water pumped**	Annually: **19,735, 229 gallons water pumped**
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:	Daily:	Annually:

b	Proposed	Hourly: **2,253 gallons water pumped**	Daily: **54,069 gallons water pumped**	Annually: **19,735, 229 gallons water pumped**

Section 1-D: Facility Location Information

1	Section: **22**	Range: **6E**	Township: **19N**	County: **Los Alamos**	Elevation (ft): **7275**
2	UTM Zone: ☐ 12 or √13			Datum: ☐ NAD 27 √NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): **382958**			UTM N (in meters, to nearest 10 meters): **3970164**	
b	**AND** Latitude (deg., min., sec.): **35.86872**			Longitude (deg., min., sec.): **106.29644**	
3	Name and zip code of nearest New Mexico town: **Los Alamos, NM**				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): **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.**				
5	The facility is **1.0** (distance) miles **south** (direction) of **Los Alamos, NM** (nearest town).				
6	Status of land at facility (check one): ☐ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service √ Other **Federal DOE**				
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: **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**				
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/aqb/modeling/classIareas.html)? Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: **N/A**				
9	Name nearest Class I area: **Bandelier Wilderness Area (the wilderness portion of Bandelier National Monument)**				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): **0.0**				
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: **N/A**				
12	Method(s) used to delineate the Restricted Area: **N/A** **"Restricted Area"** is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.				
13	Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? ☐ Yes √ No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.				
14	Will this facility operate in conjunction with other air regulated parties on the same property? √No ☐ Yes If yes, what is the name and permit number (if known) of the other facility?				

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

1	Facility **maximum** operating ($\frac{\text{hours}}{\text{day}}$): **24**	($\frac{\text{days}}{\text{week}}$): **7**	($\frac{\text{weeks}}{\text{year}}$): **52**	($\frac{\text{hours}}{\text{year}}$): **8760**		
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start:	☐AM ☐PM	End:	☐AM ☐PM		
3	Month and year of anticipated start of construction: **July 2016**					
4	Month and year of anticipated construction completion: **July 2016**					
5	Month and year of anticipated startup of new or modified facility: **August 2016**					

6	Will this facility operate at this site for more than one year? √Yes ☐ No

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes √ No If yes, specify:		
a	If yes, NOV date or description of issue: N/A		NOV Tracking No:
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes √ No If Yes, provide the 1c & 1d info below:		
c	Document Title:	Date:	Requirement # (or page # and paragraph #):
d	Provide the required text to be inserted in this permit:		
2	Is air quality dispersion modeling or modeling waiver being submitted with this application? ☐ Yes √ No		
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes √ No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? √ Yes ☐ No		
a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** √ **Minor** (☐ <10 tpy of any single HAP **AND** √ <25 tpy of any combination of HAPS)		
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? ☐ Yes √ No		
a	If yes, include the name of company providing commercial electric power to the facility: _____ Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.		

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

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

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

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

1	Responsible Official (R.O.) (20.2.70.300.D.2 NMAC): **Michael T. Brandt**		Phone: **505-667-4218**
a	R.O. Title: **Associate Director, ADESH**	R.O. e-mail: **mtbrandt@lanl.gov**	
b	R. O. Address: **P.O. Box 1663, MS K491, Los Alamos, NM 87545**		
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC): **Raeanna Sharp-Geiger**		Phone: **505-665-0136**
a	A. R.O. Title: **Deputy Associate Director, ADESH**	A. R.O. e-mail: **raeanna@lanl.gov**	
b	A. R. O. Address: **P.O. Box 1663, MS K491, Los Alamos, NM 87545**		
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship): **N/A**		
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): **N/A**		
a	Address of Parent Company: **N/A**		
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): **N/A**		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: **N/A**		

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: **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).**

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. If 'head-to-toe printing' is not possible, print single sided. 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.

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. 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.

Table of Contents

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

EPC-DO-16- ENCLOSURE 2 LA-UR-16-25934

Company Name Facility Name Application Date: Revision #

Table 2-A: Regulated Emission Sources

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

Unit Number[1]	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture or ~~Reconstruction~~[2] Date of Installation /Construction[2]	Controlled by Unit # Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
TA-60-EVAP-1	Water Spray Evaporator	SMI Evaporative Solutions	SMI 120	0053	9 gal/min	9 gal/min	2016 Jul-16	N/A N/A		x New/Additional ☐ Existi ☐ Repl ☐ To Be	N/A	N/A
TA-60-EVAP-2	Water Spray Evaporator	SMI Evaporative Solutions	SMI 120	0054	9 gal/min	9 gal/min	2016 Jul-16	N/A N/A		x New/Additional ☐ Existi ☐ Repl ☐ To Be	N/A	N/A
TA-60-EVAP-3	Water Spray Evaporator	SMI Evaporative Solutions	SMI 120	0055	9 gal/min	9 gal/min	2016 Jul-16	N/A N/A		x New/Additional ☐ Existi ☐ Repl ☐ To Be	N/A	N/A
TA-60-EVAP-4	Water Spray Evaporator	SMI Evaporative Solutions	SMI 120	TBD	9 gal/min	9 gal/min	2016 Jul-16	N/A N/A		x New/Additional ☐ Existi ☐ Repl ☐ To Be	N/A	N/A
TA-60-EVAP-5	Water Spray Evaporator	SMI Evaporative Solutions	SMI 120	TBD	9 gal/min	9 gal/min	2016 Jul-16	N/A N/A		xNew/Additional ☐ Existi ☐ Replac ☐ To Be	N/A	N/A
										☐ Existi ☐ Nev ☐ To Be		
										☐ Existi ☐ Nev ☐ To Be		
										☐ Existi ☐ Nev ☐ To Be		
										☐ Existi ☐ Nev ☐ To Be		
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										☐ Existi ☐ Nev ☐ To Be		
										☐ Existi ☐ Nev ☐ To Be		
										☐ Existi ☐ Nev ☐ To Be		

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

[2] Specify dates required to determine regulatory applicability.

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

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

Company Name　　Facility Name　　Application Date:　　Revision #

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

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

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction[2]	For Each Piece of Equipment, Check Onc
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction[2]	
	None in this permit modification.						☐ Existing ☐ New/A ☐ To Be M
							☐ Existing ☐ New/A ☐ To Be M
							☐ Existing ☐ New/A ☐ To Be M
							☐ Existing ☐ New/A ☐ To Be M
							☐ Existing ☐ New/A ☐ To Be M
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[1] Insignificant activities exempted due to size or production rate are defined in 20.2.70.300.D.6, 20.2.70.7.Q NMAC, and the NMED/AQB List of Insignificant Activities, dated September 15, 2008. Emissions from these insignificant activities do not need to be reported, unless specifically requested.

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

Table 2-C: Emissions Control Equipment

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

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
	Evaporative sprayers by design have no control equipment.					

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

Company Name | Facility Name | Application Date: | Revision #

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

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

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

Unit No.	NOx		CO		VOC		SOx		TSP[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
TA-60-EVAP-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	1.22	0.013	0.057	0.0	0.0	0.0	0.0	0.0	0.0
TA-60-EVAP-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	1.22	0.013	0.057	0.0	0.0	0.0	0.0	0.0	0.0
TA-60-EVAP-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	1.22	0.013	0.057	0.0	0.0	0.0	0.0	0.0	0.0
TA-60-EVAP-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	1.22	0.013	0.057	0.0	0.0	0.0	0.0	0.0	0.0
TA-60-EVAP-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	1.22	0.013	0.057	0.0	0.0	0.0	0.0	0.0	0.0
Totals									1.40	6.12	0.07	0.29						

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

Table 2-E: Requested Allowable Emissions

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

Unit No.	NOx		CO		VOC		SOx		TSP[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
	ere are no applicable requirments, including emission standards, which apply to the spray																	
Totals																		

[1] Condensable Particulate Matter: Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

Company Name | Facility Name | Application Date: | Revision #

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

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

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

Unit No.	NOx		CO		VOC		SOx		TSP[1]		PM10[1]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals																		

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

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

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

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

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

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

Company Name | Facility Name | Application Date: | Revision #

Table 2-H: Stack Exit Conditions

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

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate (acfs)	Flow Rate (dscfs)	Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter or L x W (ft)
There are no stacks present. All emissions are fugitive.										

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

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

Stack No.	Unit No.(s)	Total HAPs		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here HAP or ☐T	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
HAP and TAP emissions are estimated and shown in the attached calcuations.																			
Totals:																			

Table 2-J: Fuel

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

Unit No.	Fuel Type (No. 2 Diesel, Natural Gas, Coal, ...)	Specify Units				
		Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
No fuel is used. Sprayers are electric powered.						

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

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

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
No tanks are present.									

Company Name Facility Name Application Date: Revision #

Table 2-L: Tank Data

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

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

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

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

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

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

Material Processed				Material Produced			
Description	Chemical Composition	Phase (Gas, Liquid, or Solid)	Quantity (specify units)	Description	Chemical Composition	Phase	Quantity (specify units)
There are no materials processed or produced. Treated water is evaporated.							

Table 2-N: CEM Equipment

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

Stack No.	Pollutant(s)	Manufacturer	Model No.	Serial No.	Sample Frequency	Averaging Time	Range	Sensitivity	Accuracy
There are no CEMs present.									

Table 2-O: Parametric Emissions Measurement Equipment

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

Unit No.	Parameter/Pollutant Measured	Location of Measurement	Unit of Measure	Acceptable Range	Frequency of Maintenance	Nature of Maintenance	Method of Recording	Averaging Time
There are no parametric emissions measurement equipment present.								

EPC-DO-16-

Company Name

ENCLOSURE 2

Facility Name

LA-UR-16-25934

Application Date:

Revision #

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 c

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	GWPs [1]	1	298	25	22,800	footnote 3	The evaporative sprayers do not burn fuel or otherwise emit greenhouse gases.									
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
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	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO2e															
Total	mass GHG															
	CO_2e															

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

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

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

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

Potential to Emit SMI Model 120F Evaporative Sprayer

Basis

Pond TDS		54600	ppm
		0.0546	weight fraction
Water, density		8.34	lb/gallon
		1	g/cm3
		0.000001	ug/um3
Salt, density		2.2	g/cm3
	(NaCl)	0.0000022	ug/um3
Pump rate			
	Design	9	gallons/minute
	Altitude Deration	16.56	%
	Site Maximum	7.51	gallons/minute
Annual hour restriction		8760	hours per year
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%.
LANL measured evaporation rate through June 2016 is 34%.

Maximum Emissions (Potential to Emit), Particulate Matter

	(1) Sprayer	(5) Sprayers	(1) Sprayer	(5) Sprayers
	tons per year		pounds per hour	
Total Particulate	381.9	1145.8		
PM30	1.2	6.1	0.3	1.4
PM10	0.06	0.3	0.01	0.07
PM2.5	0.0	0.0	0.0	0.0

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

Droplet Diameter um	Number of Droplets #	Particle Diameter um	Particle Volume um3	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	0.145845598	0.001624346	3.57356E-09	0		
1.5	0	0.437536793	0.043857347	9.64862E-08	0		
2.5	0	0.729227989	0.203043275	4.46695E-07	0		
3.5	0	1.020919185	0.557150747	1.22573E-06	0		
4.5	0	1.31261038	1.184148381	2.60513E-06	0		
5.5	0	1.604301576	2.162004794	4.75641E-06	0		

	6.5	0	1.895992772	3.568688605	7.85111E-06	0		
	7.5	0	2.187683967	5.48216843	1.20608E-05	0		
PM2.5%	8.5	0	2.479375163	7.980412888	1.75569E-05	0	0	0
	9.5	0	2.771066358	11.1413906	2.45111E-05	0		
	10.5	0	3.062757554	15.04307017	3.30948E-05	0		
	11.5	0	3.35444875	19.76342023	4.34795E-05	0		
	12.5	0	3.646139945	25.3804094	5.58369E-05	0		
	13.5	0	3.937831141	31.97200629	7.03384E-05	0		
	14.5	0	4.229522337	39.61617951	8.71556E-05	0		
	15.5	0	4.521213532	48.39089769	0.00010646	0		
	16.5	0	4.812904728	58.37412945	0.000128423	0		
	17.5	0	5.104595923	69.64384339	0.000153216	0		
	18.5	0	5.396287119	82.27800815	0.000181012	0		
	19.5	0	5.687978315	96.35459233	0.00021198	0		
	20.5	0	5.97966951	111.9515646	0.000246293	0		
	21.5	0	6.271360706	129.1468934	0.000284123	0		
	22.5	0	6.563051902	148.0185476	0.000325641	0		
	23.5	0	6.854743097	168.6444957	0.000371018	0		
	24.5	0	7.146434293	191.1027063	0.000420426	0		
	25.5	0	7.438125489	215.471148	0.000474037	0		
	26.5	0	7.729816684	241.8277895	0.000532021	0		
	27.5	0	8.02150788	270.2505993	0.000594551	0		
	28.5	109.1794177	8.313199075	300.8175461	0.000661799	0.072254786		
	29.5	118.6605111	8.604890271	333.6065985	0.000733935	0.087089045		
	30.5	120.4759474	8.896581467	368.6957252	0.000811131	0.097721727		
	31.5	128.4517404	9.188272662	406.1628947	0.000893558	0.114779128		
	32.5	103.2441454	9.479963858	446.0860756	0.000981389	0.101322706		
	33.5	118.9153073	9.771655054	488.5432366	0.001074795	0.127809592		
PM10%	34.5	113.0964072	10.06334625	533.6123463	0.001173947	0.132769206	0.132769206	0.01495469
	35.5	94.67801032	10.35503744	581.3713734	0.001279017	0.121094787		
	36.5	128.3388268	10.64672864	631.8982863	0.001390176	0.178413586		
	37.5	97.77986436	10.93841984	685.2710538	0.001507596	0.147412564		
	38.5	131.2649078	11.23011103	741.5676444	0.001631449	0.214151979		
	39.5	168.5385751	11.52180223	800.8660269	0.001761905	0.296949002		
	40.5	146.1706435	11.81349342	863.2441697	0.001899137	0.277598103		
	41.5	157.4018545	12.10518462	928.7800416	0.002043316	0.321621742		
	42.5	147.2496669	12.39687581	997.551611	0.002194614	0.323156113		
	43.5	224.9227652	12.68856701	1069.636847	0.002353201	0.52928849		
	44.5	195.0168835	12.98025821	1145.113717	0.00251925	0.491296319		
	45.5	192.7137927	13.2719494	1224.060191	0.002692932	0.51896522		
	46.5	151.6173428	13.5636406	1306.554238	0.002874419	0.43581182		
	47.5	171.2299546	13.85533179	1392.673825	0.003063882	0.524628447		
	48.5	194.3840729	14.14702299	1482.496921	0.003261493	0.633982337		
	49.5	190.7529238	14.43871418	1576.101495	0.003467423	0.66142113		
	50.5	198.0560733	14.73040538	1673.565516	0.003681844	0.729211592		
	51.5	175.9524432	15.02209657	1774.966952	0.003904927	0.687081498		
	52.5	193.6914167	15.31378777	1880.383772	0.004136844	0.801271232		
	53.5	164.4553749	15.60547897	1989.893944	0.004377767	0.71994726		
	54.5	162.2583092	15.89717016	2103.575437	0.004627866	0.750909706		
	55.5	199.4603101	16.18886136	2221.50622	0.004887314	0.974825103		
	56.5	163.7257877	16.48055255	2343.764261	0.005156281	0.84421623		

	57.5	173.338753	16.77224375	2470.427529	0.005434941	0.94208582		
	58.5	171.1809413	17.06393494	2601.573993	0.005723463	0.979747747		
	59.5	189.9307486	17.35562614	2737.281621	0.00602202	1.143766684		
	60.5	193.4670717	17.64731734	2877.628381	0.006330782	1.22479794		
	61.5	200.6937496	17.93900853	3022.692243	0.006649923	1.334597968		
	62.5	185.7906251	18.23069973	3172.551175	0.006979613	1.296746585		
	63.5	182.1997629	18.52239092	3327.283145	0.007320023	1.33370644		
	64.5	178.7384013	18.81408212	3486.966123	0.007671325	1.371160451		
	65.5	198.2744857	19.10577331	3651.678077	0.008033692	1.592876103		
	66.5	189.5836713	19.39746451	3821.496975	0.008407293	1.593885538		
	67.5	208.7185249	19.6891557	3996.500786	0.008792302	1.835116248		
	68.5	163.9736602	19.9808469	4176.767478	0.009188888	1.506735673		
	69.5	186.4986743	20.2725381	4362.375022	0.009597225	1.789869749		
	70.5	151.1057542	20.56422929	4553.401384	0.010017483	1.51369933		
	71.5	182.0554786	20.85592049	4749.924533	0.010449834	1.902449525		
	72.5	163.890391	21.14761168	4952.022439	0.010894449	1.785495567		
	73.5	152.8144433	21.43930288	5159.773069	0.011351501	1.734673268		
	74.5	151.7626409	21.73099407	5373.254393	0.01182116	1.79401041		
	75.5	145.7720963	22.02268527	5592.544379	0.012303598	1.793521219		
	76.5	170.8773125	22.31437647	5817.720996	0.012798986	2.187056363		
	77.5	140.6270245	22.60606766	6048.862211	0.013307497	1.871393687		
	78.5	163.8772217	22.89775886	6286.045995	0.013829301	2.266307457		
	79.5	126.1567757	23.18945005	6529.350315	0.014364571	1.812187924		
	80.5	111.0837033	23.48114125	6778.85314	0.014913477	1.656644244		
	81.5	123.074143	23.77283244	7034.632439	0.015476191	1.90471899		
	82.5	111.4336569	24.06452364	7296.766181	0.016052886	1.788831745		
	83.5	132.5986945	24.35621483	7565.332333	0.016643731	2.20693702		
	84.5	116.3868863	24.64790603	7840.408865	0.0172489	2.007545706		
	85.5	121.9704053	24.93959723	8122.073745	0.017868562	2.179435778		
	86.5	133.5633762	25.23128842	8410.404942	0.018502891	2.471308575		
	87.5	113.002819	25.52297962	8705.480424	0.019152057	2.164236424		
	88.5	123.1418242	25.81467081	9007.37816	0.019816232	2.440206952		
	89.5	124.0534081	26.10636201	9316.176119	0.020495587	2.542547475		
	90.5	123.4628177	26.3980532	9631.95227	0.021190295	2.616213527		
	91.5	112.3314805	26.6897444	9954.78458	0.021900526	2.460118518		
	92.5	111.9025436	26.9814356	10284.75102	0.022626452	2.531957559		
	93.5	96.52882248	27.27312679	10621.92955	0.023368245	2.255709175		
	94.5	116.793794	27.56481799	10966.39816	0.024126076	2.817775943		
	95.5	101.553035	27.85650918	11318.23479	0.024900117	2.528682407		
	96.5	115.8045951	28.14820038	11677.51743	0.025690538	2.975082391		
	97.5	102.1762484	28.43989157	12044.32404	0.026497513	2.707416459		
	98.5	93.02442703	28.73158277	12418.73259	0.027321212	2.541540064		
	99.5	102.7729242	29.02327397	12800.82105	0.028161806	2.894271185		
	100.5	98.06708488	29.31496516	13190.66739	0.029019468	2.845854657		
	101.5	83.31036069	29.60665636	13588.34957	0.029894369	2.490510669		
	102.5	90.15607443	29.89834755	13993.94557	0.03078668	2.775606236		
PM30%	103.5	89.81786776	30.19003875	14407.53335	0.031696573	2.846918636	2.846918636	0.320667613
	104.5	95.18946585	30.48172994	14829.19088	0.03262422	3.10548207		
	105.5	86.36293797	30.77342114	15258.99614	0.033569792	2.899185821		
	106.5	90.25992114	31.06511233	15697.02708	0.03453346	3.116987338		
	107.5	102.5968203	31.35680353	16143.36168	0.035515396	3.64376867		

108.5	81.2269221	31.64849473	16598.07791	0.036515771	2.966063719
109.5	79.56157227	31.94018592	17061.25373	0.037534758	2.986324378
110.5	87.66997472	32.23187712	17532.96712	0.038572528	3.381652524
111.5	70.71534626	32.52356831	18013.29603	0.039629251	2.802396226
112.5	88.46296766	32.81525951	18502.31845	0.040705101	3.600893998
113.5	86.81468329	33.1069507	19000.11234	0.041800247	3.628875218
114.5	71.43005403	33.3986419	19506.75567	0.042914862	3.065410945
115.5	76.68217346	33.6903331	20022.3264	0.044049118	3.377782114
116.5	72.37137816	33.98202429	20546.90251	0.045203186	3.271416833
117.5	76.23253009	34.27371549	21080.56196	0.046377236	3.535454063
118.5	71.92415621	34.56540668	21623.38273	0.047571442	3.421535825
119.5	69.01181638	34.85709788	22175.44277	0.048785974	3.366808687
120.5	70.16504503	35.14878907	22736.82007	0.050021004	3.509726008
121.5	61.90093125	35.44048027	23307.59258	0.051276704	3.17407571
122.5	65.73896935	35.73217146	23887.83828	0.052553244	3.454796111
123.5	65.56125233	36.02386266	24477.63514	0.053850797	3.53052571
124.5	56.0495973	36.31555386	25077.06112	0.055169534	3.09223019
125.5	69.20764721	36.60724505	25686.1942	0.056509627	3.910898345
126.5	66.37631617	36.89893625	26305.11233	0.057871247	3.841280197
127.5	45.01648693	37.19062744	26933.8935	0.059254566	2.667432382
128.5	42.26108367	37.48231864	27572.61566	0.060659754	2.563546971
129.5	48.73204006	37.77400983	28221.35679	0.062086985	3.025625438
130.5	48.60500122	38.06570103	28880.19486	0.063536429	3.088188194
131.5	55.04174786	38.35739223	29549.20784	0.065008257	3.578168104
132.5	67.98359282	38.64908342	30228.47368	0.066502642	4.521088542
133.5	28.69324355	38.94077462	30918.07037	0.068019755	1.951707391
134.5	68.96604088	39.23246581	31618.07587	0.069559767	4.797261728
135.5	37.84101759	39.52415701	32328.56814	0.07112285	2.677136445
136.5	46.62184214	39.8158482	33049.62517	0.072709175	3.389835696
137.5	51.68168085	40.1075394	33781.32491	0.074318915	3.840926436
138.5	39.96369139	40.39923059	34523.74534	0.07595224	3.035331869
139.5	55.29665041	40.69092179	35276.96442	0.077609322	4.291535532
140.5	51.33552106	40.98261299	36041.06012	0.079290332	4.070410522
141.5	42.26736206	41.27430418	36816.11041	0.080995443	3.42346371
142.5	53.6618089	41.56599538	37602.19326	0.082724825	4.43916376
143.5	42.07476264	41.85768657	38399.38664	0.084478651	3.554419172
144.5	49.62493905	42.14937777	39207.76852	0.086257091	4.280502871
145.5	39.35862401	42.44106896	40027.41686	0.088060317	3.465932911
146.5	38.01352412	42.73276016	40858.40964	0.089888501	3.416978708
147.5	34.14546209	43.02445136	41700.82482	0.091741815	3.132566653
148.5	36.59521687	43.31614255	42554.74037	0.093620429	3.426059896
149.5	39.03411581	43.60783375	43420.23426	0.095524515	3.728714995
150.5	47.7566443	43.89952494	44297.38445	0.097454246	4.654087752
151.5	47.66555605	44.19121614	45186.26893	0.099409792	4.738422995
152.5	32.55519759	44.48290733	46086.96565	0.101391324	3.3008146
153.5	48.7323785	44.77459853	46999.55258	0.103399016	5.038879968
154.5	29.92639029	45.06628972	47924.1077	0.105433037	3.155230213
155.5	41.07575788	45.35798092	48860.70897	0.10749356	4.415379433
156.5	31.06346569	45.64967212	49809.43436	0.109580756	3.403958042
157.5	37.20732474	45.94136331	50770.36183	0.111694796	4.155864548
158.5	32.18212192	46.23305451	51743.56937	0.113835853	3.663479287

159.5	30.89408999	46.5247457	52729.13493	0.116004097	3.583841007
160.5	40.71012956	46.8164369	53727.13648	0.1181997	4.811925112
161.5	38.17169366	47.10812809	54737.652	0.120422834	4.596743544
162.5	28.26635281	47.39981929	55760.75945	0.122673671	3.467537259
163.5	29.45027459	47.69151049	56796.5368	0.124952381	3.67988193
164.5	30.61945515	47.98320168	57845.06202	0.127259136	3.896805421
165.5	31.79080327	48.27489288	58906.41308	0.129594109	4.119900816
166.5	34.17733549	48.56658407	59980.66794	0.131957469	4.509954704
167.5	26.80853584	48.85827527	61067.90458	0.13434939	3.601710438
168.5	31.62942876	49.14996646	62168.20096	0.136770042	4.325958304
169.5	25.50956512	49.44165766	63281.63505	0.139219597	3.551431379
170.5	24.25285113	49.73334885	64408.28483	0.141698227	3.436585995
171.5	30.26552858	50.02504005	65548.22825	0.144206102	4.364473906
172.5	27.7990385	50.31673125	66701.54329	0.146743395	4.079325294
173.5	32.58774438	50.60842244	67868.30792	0.149310277	4.865685155
174.5	27.71940395	50.90011364	69048.6001	0.15190692	4.210769284
175.5	22.85950739	51.19180483	70242.49781	0.154533495	3.532559575
176.5	22.81980481	51.48349603	71450.07901	0.157190174	3.587049085
177.5	23.98743334	51.77518722	72671.42167	0.159877128	3.835041942
178.5	26.35008283	52.06687842	73906.60376	0.162594528	4.284379288
179.5	19.13198106	52.35856962	75155.70325	0.165342547	3.16333048
180.5	23.87738106	52.65026081	76418.7981	0.168121356	4.014297677
181.5	21.46037124	52.94195201	77695.96629	0.170931126	3.668245416
182.5	17.85677572	53.2336432	78987.28579	0.173772029	3.103008143
183.5	21.39568095	53.5253344	80292.83455	0.176644236	3.779423716
184.5	22.5532498	53.81702559	81612.69056	0.179547919	4.049389073
185.5	16.59332041	54.10871679	82946.93178	0.18248325	3.028003036
186.5	27.22483619	54.40040798	84295.63618	0.1854504	5.048856751
187.5	30.7289916	54.69209918	85658.88172	0.18844954	5.790864325
188.5	18.88720931	54.98379038	87036.74638	0.191480842	3.616538742
189.5	16.50286949	55.27548157	88429.30813	0.194544478	3.210542128
190.5	20.00875495	55.56717277	89836.64493	0.197640619	3.95454271
191.5	10.57909373	55.85886396	91258.83475	0.200769436	2.123958686
192.5	16.4347515	56.15055516	92695.95556	0.203931102	3.351556987
193.5	15.23908603	56.44224635	94148.08532	0.207125788	3.156407698
194.5	15.21927362	56.73393755	95615.30202	0.210353664	3.201429977
195.5	21.04715675	57.02562875	97097.68361	0.213614904	4.495986367
196.5	17.51703467	57.31731994	98595.30807	0.216909678	3.799614345
197.5	26.82028766	57.60901114	100108.2534	0.220238157	5.906850735
198.5	15.14210177	57.90070233	101636.5975	0.223600514	3.385781744
199.5	8.142484282	58.19239353	103180.4183	0.22699692	1.848318856
200.5	22.07118219	58.48408472	104739.7939	0.230427547	5.085808362
201.5	15.08371963	58.77577592	106314.8022	0.233892565	3.527969872
202.5	13.90293802	59.06746711	107905.5212	0.237392147	3.300448301
203.5	15.04773316	59.35915831	109512.0288	0.240926463	3.625397133
204.5	12.71346413	59.65084951	111134.4031	0.244495687	3.108387145
205.5	15.00832267	59.9425407	112772.7219	0.248099988	3.723564677
206.5	11.5284056	60.2342319	114427.0633	0.251739539	2.902155515
207.5	13.82089156	60.52592309	116097.5052	0.255414511	3.530056265
208.5	13.80348592	60.81761429	117784.1256	0.259125076	3.576829342
209.5	19.5336152	61.10930548	119487.0024	0.262871405	5.134828878

210.5	12.62141421	61.40099668	121206.2137	0.26665367	3.365546421
211.5	16.04594398	61.69268788	122941.8374	0.270472042	4.339979236
212.5	16.02822533	61.98437907	124693.9514	0.274326693	4.39697005
213.5	10.29288236	62.27607027	126462.6337	0.278217794	2.863663025
214.5	20.56111498	62.56776146	128247.9824	0.282145517	5.801226421
215.5	18.25529402	62.85945266	130050.0153	0.286110034	5.223022786
216.5	14.81668965	63.15114385	131868.8705	0.290111515	4.298492282
217.5	9.105263151	63.44283505	133704.6058	0.294150133	2.678314366
218.5	10.23368169	63.73452624	135557.2994	0.298226059	3.051950557
219.5	18.1741077	64.02621744	137427.0291	0.302339464	5.49474998
220.5	12.47949396	64.31790864	139313.8729	0.30649052	3.824846598
221.5	17.00032176	64.60959983	141217.9087	0.310679399	5.281649751
222.5	11.32048561	64.90129103	143139.2147	0.314906272	3.564891925
223.5	10.1772613	65.19298222	145077.8686	0.319171311	3.248289831
224.5	12.42777463	65.48467342	147033.9485	0.323474687	4.020070505
225.5	12.41298642	65.77636461	149007.5324	0.327816571	4.06918265
226.5	9.018638711	66.06805581	150998.6982	0.332197136	2.995965952
227.5	11.26066302	66.35974701	153007.5239	0.336616553	3.790525567
228.5	12.37238557	66.6514382	155034.0875	0.341074992	4.219911315
229.5	7.865627027	66.9431294	157078.4669	0.345572627	2.718145396
230.5	17.96193474	67.23482059	159140.7401	0.350109628	6.288646293
231.5	15.69962322	67.52651179	161220.985	0.354686167	5.568439184
232.5	10.08377135	67.81820298	163319.2797	0.359302415	3.623123402
233.5	14.54891621	68.10989418	165435.7021	0.363958545	5.295202371
234.5	15.65288627	68.40158537	167570.3302	0.368654726	5.77050313
235.5	8.935865461	68.69327657	169723.2419	0.373391132	3.336569187
236.5	5.579714886	68.98496777	171894.5152	0.378167933	2.110069248
237.5	14.49169897	69.27665896	174084.2281	0.382985302	5.550107702
238.5	5.568104326	69.56835016	176292.4585	0.387843409	2.159552562
239.5	5.561863598	69.86004135	178519.2845	0.392742426	2.184379802
240.5	6.668625422	70.15173255	180764.7839	0.397682525	2.651995793
241.5	9.992741012	70.44342374	183029.0348	0.402663877	4.023715833
242.5	13.3115644	70.73511494	185312.1151	0.407686653	5.42694714
243.5	5.540529556	71.02680614	187614.1028	0.412751026	2.28685926
244.5	9.964579445	71.31849733	189935.0759	0.417857167	4.163770936
245.5	5.530134982	71.61018853	192275.1123	0.423005247	2.339276114
246.5	3.314383643	71.90187972	194634.2899	0.428195438	1.419203955
247.5	9.938231324	72.19357092	197012.6869	0.433427911	4.307506843
248.5	5.515599979	72.48526211	199410.3811	0.438702838	2.419709366
249.5	8.817075399	72.77695331	201827.4504	0.444020391	3.914961266
250.5	14.31456248	73.0686445	204263.973	0.449380741	6.432688689
251.5	12.09947838	73.3603357	206720.0267	0.454784059	5.502649884
252.5	6.595452945	73.6520269	209195.6895	0.460230517	3.035428718
253.5	9.883475596	73.94371809	211691.0394	0.465720287	4.602935087
254.5	6.583040186	74.23540929	214206.1543	0.471253539	3.102280988
255.5	3.288596779	74.52710048	216741.1122	0.476830447	1.566103072
256.5	4.38039862	74.81879168	219295.9911	0.48245118	2.113326485
257.5	6.565492892	75.11048287	221870.869	0.488115912	3.204721549
258.5	6.559277286	75.40217407	224465.8238	0.493824812	3.239133874
259.5	9.831900837	75.69386527	227080.9334	0.499578054	4.911801783
260.5	8.730916354	75.98555646	229716.276	0.505375807	4.412393899

261.5	9.814445404	76.27724766	232371.9293	0.511218244	5.01732355
262.5	5.44765288	76.56893885	235047.9714	0.517105537	2.817011469
263.5	6.532136751	76.86063005	237744.4804	0.523037857	3.416554806
264.5	7.613530144	77.15232124	240461.534	0.529015375	4.027674503
265.5	5.433538674	77.44401244	243199.2103	0.535038263	2.907151093
266.5	6.514951933	77.73570363	245957.5873	0.541106692	3.52528409
267.5	2.169398714	78.02739483	248736.743	0.547220835	1.187140175
268.5	6.503186215	78.31908603	251536.7552	0.553380861	3.59873879
269.5	2.166344022	78.61077722	254357.702	0.559586944	1.212257832
270.5	5.411473506	78.90246842	257199.6614	0.565839255	3.062024137
271.5	2.163188528	79.19415961	260062.7113	0.572137965	1.237642282
272.5	2.160710862	79.48585081	262946.9296	0.578483245	1.249935031
273.5	4.31895749	79.777542	265852.3944	0.584875268	2.526051419
274.5	8.630187979	80.0692332	268779.1637	0.591314204	5.103152736
275.5	4.311162083	80.3609244	271727.3753	0.597800226	2.577213666
276.5	5.384664155	80.65261559	274697.0472	0.604333504	3.254132956
277.5	2.152732362	80.94430679	277688.2775	0.610914211	1.315134791
278.5	5.376968606	81.23599798	280701.1441	0.617542517	3.320506727
279.5	0	81.52768918	283735.7249	0.624218595	0
280.5	2.147636911	81.81938037	286792.098	0.630942616	1.35503565
281.5	2.146182472	82.11107157	289870.3412	0.637714751	1.36865222
282.5	6.432738324	82.40276276	292970.5327	0.644535172	4.146126101
283.5	1.070964543	82.69445396	296092.7502	0.65140405	0.697630641
284.5	3.210725439	82.98614516	299237.0719	0.658321558	2.113689774
285.5	2.139357122	83.27783635	302403.5756	0.665287866	1.423288335
286.5	1.068944047	83.56952755	305592.3394	0.672303147	0.718654446
287.5	4.271567656	83.86121874	308803.4412	0.679367571	2.901964541
288.5	4.270073483	84.15290994	312036.9589	0.68648131	2.931325637
289.5	1.066284094	84.44460113	315292.9706	0.693644535	0.739622135
290.5	5.32760555	84.73629233	318571.5543	0.700857419	3.733891877
291.5	3.194130143	85.02798353	321872.7878	0.708120133	2.261827862
292.5	2.128004907	85.31967472	325196.7491	0.715432848	1.522444611
293.5	1.063253806	85.61136592	328543.5163	0.722795736	0.768515317
294.5	4.251211175	85.90305711	331913.1673	0.730208968	3.104272525
295.5	2.123609311	86.19474831	335305.78	0.737672716	1.566528648
296.5	2.122275648	86.4864395	338721.4324	0.745187151	1.581492545
297.5	5.301124704	86.7781307	342160.2026	0.752752446	3.990434586
298.5	3.178612255	87.0698219	345622.1684	0.76036877	2.416917492
299.5	2.117486969	87.36151309	349107.4078	0.768036297	1.626306851
300.5	4.232433821	87.65320429	352615.9989	0.775755198	3.283332535
301.5	1.056986384	87.94489548	356148.0195	0.783525643	0.828175936
302.5	5.281903126	88.23658668	359703.5477	0.791347805	4.179822444
303.5	4.224024078	88.52827787	363282.6613	0.799221855	3.375932359
304.5	6.331367212	88.81996907	366885.4384	0.807147965	5.110350158
305.5	6.326002886	89.11166026	370511.957	0.815126305	5.156491361
306.5	0	89.40335146	374162.295	0.823157049	0
307.5	2.105952835	89.69504266	377836.5304	0.831240367	1.750553007
308.5	1.05199944	89.98673385	381534.7411	0.83937643	0.883023534
309.5	1.051675522	90.27842505	385257.0051	0.847565411	0.891363796
310.5	0	90.57011624	389003.4005	0.855807481	0
311.5	3.151080175	90.86180744	392774.0051	0.864102811	2.722857237

312.5	3.147606461	91.15349863	396568.8969	0.872451573	2.746134208
313.5	1.04851303	91.44518983	400388.1539	0.880853939	0.923586832
314.5	0	91.73688103	404231.854	0.889310079	0
315.5	4.189376538	92.02857222	408100.0753	0.897820166	3.761306738
316.5	1.046645932	92.32026342	411992.8957	0.906384371	0.948663515
317.5	2.092036965	92.61195461	415910.3932	0.915002865	1.914219817
318.5	1.045034155	92.90364581	419852.6457	0.92367582	0.96527278
319.5	1.044535094	93.195337	423819.7312	0.932403409	0.973928082
320.5	0	93.4870282	427811.7276	0.941185801	0
321.5	4.174244532	93.77871939	431828.7131	0.950023169	3.965629018
322.5	0	94.07041059	435870.7654	0.958915684	0
323.5	2.084108458	94.36210179	439937.9626	0.967863518	2.017132543
324.5	3.12441036	94.65379298	444030.3826	0.976866842	3.052132881
325.5	1.040911697	94.94548418	448148.1035	0.985925828	1.026261727
326.5	2.079579424	95.23717537	452291.2032	0.995040647	2.069266055
327.5	4.157111305	95.52886657	456459.7596	1.004211471	4.174618859
328.5	1.038909886	95.82055776	460653.8507	1.013438472	1.052871247
329.5	2.075855396	96.11224896	464873.5545	1.02272182	2.123022609
330.5	2.074830497	96.40394016	469118.949	1.032061688	2.141353064
331.5	1.036932154	96.69563135	473390.1121	1.041458247	1.079921543
332.5	0	96.98732255	477687.1218	1.050911668	0
333.5	2.071042474	97.27901374	482010.0561	1.060422123	2.196179258
334.5	3.104990043	97.57070494	486358.9929	1.069989784	3.322307627
335.5	1.034105868	97.86239613	490734.0102	1.079614822	1.116436023
336.5	0	98.15408733	495135.186	1.089297409	0
337.5	0	98.44577852	499562.5982	1.099037716	0
338.5	2.064938792	98.73746972	504016.3248	1.108835915	2.289678294
339.5	0	99.02916092	508496.4438	1.118692176	0
340.5	1.031052317	99.32085211	513003.0332	1.128606673	1.163652525
341.5	0	99.61254331	517536.1709	1.138579576	0
342.5	1.030081506	99.9042345	522095.9348	1.148611057	1.183163007
343.5	0	100.1959257	526682.403	1.158701287	0
344.5	0	100.4876169	531295.6534	1.168850438	0
345.5	1.028464029	100.7793081	535935.764	1.179058681	1.212619441
346.5	0	101.0709993	540602.8128	1.189326188	0
347.5	0	101.3626905	545296.8777	1.199653131	0
348.5	3.079331064	101.6543817	550018.0367	1.210039681	3.726112778
349.5	0	101.9460729	554766.3677	1.220486009	0
350.5	1.025566134	102.2377641	559541.9488	1.230992287	1.262464001
351.5	0	102.5294553	564344.8579	1.241558687	0
352.5	0	102.8211465	569175.1729	1.25218538	0
353.5	0	103.1128377	574032.9719	1.262872538	0
354.5	1.022811151	103.4045289	578918.3328	1.273620332	1.302673078
355.5	0	103.69622	583831.3336	1.284428934	0
356.5	0	103.9879112	588772.0522	1.295298515	0
357.5	0	104.2796024	593740.5666	1.306229247	0
358.5	0	104.5712936	598736.9548	1.317221301	0
359.5	0	104.8629848	603761.2948	1.328274849	0
360.5	0	105.154676	608813.6645	1.339390062	0
361.5	1.019416051	105.4463672	613894.1418	1.350567112	1.376789792
362.5	2.037088107	105.7380584	619002.8048	1.361806171	2.774119154

363.5	0	106.0297496	624139.7315	1.373107409	0
364.5	0	106.3214408	629304.9997	1.384470999	0
365.5	0	106.613132	634498.6875	1.395897113	0
366.5	1.016402921	106.9048232	639720.8728	1.40738592	1.430471161
367.5	1.015805656	107.1965144	644971.6337	1.418937594	1.441364834
368.5	0	107.4882056	650251.0479	1.430552305	0
369.5	1.014895245	107.7798968	655559.1937	1.442230226	1.463712599
370.5	1.014195903	108.071588	660896.1488	1.453971527	1.474611965
371.5	1.013599263	108.3632792	666261.9913	1.465776381	1.48570986
372.5	0	108.6549704	671656.7991	1.477644958	0
373.5	2.025427948	108.9466616	677080.6503	1.489577431	3.017031759
374.5	0	109.2383528	682533.6227	1.50157397	0
375.5	0	109.530044	688015.7944	1.513634748	0
376.5	0	109.8217352	693527.2433	1.525759935	0
377.5	0	110.1134263	699068.0474	1.537949704	0
378.5	0	110.4051175	704638.2846	1.550204226	0
379.5	0	110.6968087	710238.033	1.562523673	0
380.5	2.018184057	110.9884999	715867.3704	1.574908215	3.17845465
381.5	0	111.2801911	721526.3749	1.587358025	0
382.5	1.008149247	111.5718823	727215.1244	1.599873274	1.612911037
383.5	0	111.8635735	732933.697	1.612454133	0
384.5	0	112.1552647	738682.1705	1.625100775	0
385.5	0	112.4469559	744460.6229	1.63781337	0
386.5	0	112.7386471	750269.1322	1.650592091	0
387.5	0	113.0303383	756107.7764	1.663437108	0
388.5	0	113.3220295	761976.6335	1.676348594	0
389.5	0	113.6137207	767875.7813	1.689326719	0
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392.5	0	114.4887943	785755.7494	1.728662649	0
393.5	0	114.7804855	791776.8401	1.741909048	0
394.5	0	115.0721767	797828.6116	1.755222945	0
395.5	0	115.3638679	803911.1416	1.768604512	0
396.5	0	115.6555591	810024.5082	1.782053918	0
397.5	0	115.9472503	816168.7894	1.795571337	0
398.5	0	116.2389415	822344.0631	1.809156939	0
399.5	1	116.5306327	828550.4073	1.822810896	1.822810896
400.5	0	116.8223238	834787.9	1.83653338	0
				Total	887.809844

Notes

1 Raw droplet data from laboratory test report, Spray Analysis and Research Services, March 28, 2016.

2 Particle diameter calcuated from equation in NMED Technical Memorandum: Calculating TSP, PM10, and PM2.5 from Cooling Towers , September 9, 2013.
Equation is $d_p = d_d$ / (density salt/density water x concentration TDS)1/3

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

Basis

Water, density	8.34	lb/gallon
Pump rate	7.51	gallons/minute
Evaporation rate	42.5	%

TAP Potential to Emit, lb/hr

TAP	PPM	Weight Fraction	(1) Sprayer lb/hr	(5) Sprayers lb/hr	Permit Threshold lb/hr
Dalapon (2,2-dichlo	0.0061	6.10E-09	9.74E-06	0.000049	0.4
Barium	0.0339	3.39E-08	5.41E-05	0.00027	0.0333
Copper	0.0181	1.81E-08	2.89E-05	0.00014	0.0667
Fluoride	2.75	2.75E-06	4.39E-03	0.022	0.167
Iron	0.287	2.87E-07	4.58E-04	0.0023	0.0667
Manganese	0.0133	1.33E-08	2.12E-05	0.00011	0.333
Molybdenum	0.346	3.46E-07	5.53E-04	0.0028	0.333
Ammonia	1.59	1.59E-06	2.54E-03	0.013	1.2
Tin	0.0238	2.38E-08	3.80E-05	0.00019	0.133
Vanadium	0.00915	9.15E-09	1.46E-05	0.000073	0.00333

HAP Potential to Emit, ton per year

HAP	PPM	Weight Fraction	(1) Sprayer ton/year	(5) Sprayers ton/year
Total PCB	0.000000394	3.94E-13	2.76E-09	1.38E-08
Chloroform	0.00181	1.81E-09	1.27E-05	6.33E-05
Chloromethane	0.00124	1.24E-09	8.67E-06	4.34E-05
Bromoform	0.0016	1.6E-09	1.12E-05	5.60E-05
Cyanide (Total)	0.00368	3.68E-09	2.57E-05	1.29E-04
Manganese	0.0133	1.33E-08	9.30E-05	4.65E-04
Antimony	0.00629	6.29E-09	4.40E-05	2.20E-04
		Totals		0.001

Notes

1 Values from pond sampling laboratory results for GC Semivolatile Herbicide, GC Semivolatile Pesticide, GC/MS Semivolatile, GC/MS Volatile, General Chemistry, Metals and Radiochemistry, GEL Laboratories, GEL Laboratories, December 9, 2015.

Section 3

Application Summary

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

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) for more detailed instructions on SSM emissions.

This Title V operating permit minor modification application is for the use of five spray evaporators 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 intended for use to evaporate a specific treated waste water discharge from the LANL Sanitary Effluent Treatment Facility or SERF.

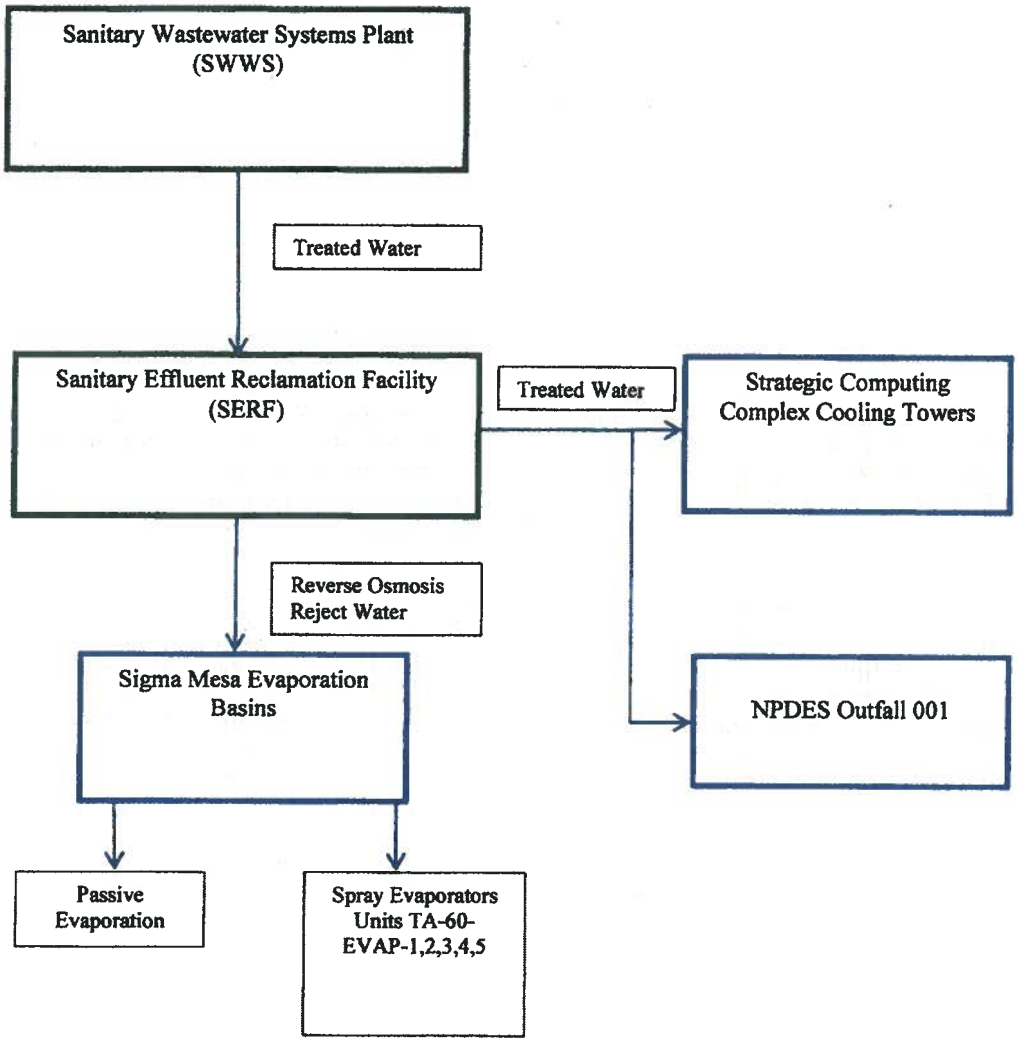
The SERF facility processes further treated LANL sanitary wastewater effluent for beneficial reuse, and is intended to conserve potable water, reduce wastewater discharges to the environment, and achieve compliance with National Pollutant Discharge Elimination System (NPDES) permit limitations. Treatment is performed using a combination of chemical precipitation, microfiltration, and reverse osmosis to remove silica and trace quantities of PCBs from the wastewater effluent. The primary chemicals used in the precipitation process (magnesium chloride/ferric chloride/sodium hydroxide), when dissociated in water, become dissolved solids which elevate the conductivity of the water considerably. These dissolved constituents have to be removed through the reverse osmosis process, which rejects the dissolved solids (primarily NaCl, or common salt). This stream of concentrated dissolved solids is then discharged to the Sigma Mesa evaporation basins. The reason for the high concentration of dissolved solids in the reject water is that high levels of silica in the effluent require substantial chemical dosing for effective removal, and then this stream is further concentrated in the treatment process as clean water which is separated from the resulting reverse osmosis reject stream. As the purpose of the SERF facility is to recover high percentages of reusable water, the relatively small percentage of reject water contains the original amount of dissolved solids in a much smaller volume, and thus is more highly concentrated.

In addition to trace quantities of hazardous or toxic air pollutants in the treated water, the only other potential air pollutant emitted from this process is particulate matter from evaporated water droplets in the evaporator's plume. Due to the high total dissolved content (TDS) of the water, potential particulate matter emissions of all size diameters is high assuming all TDS present evaporates into the air. However, only a small portion of total potential particulate matter emitted is regulated and of environmental concern. The calculations included with this application demonstrate emissions of regulated particulate matter are primarily less than 30 microns in diameter (PM30), considered by NMED to represent total suspended particulate (TSP). Annual emissions of PM10 are estimated to be less than one ton per year. No emissions of PM2.5 are projected to be present.

Section 4

Process Flow Sheet

A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.



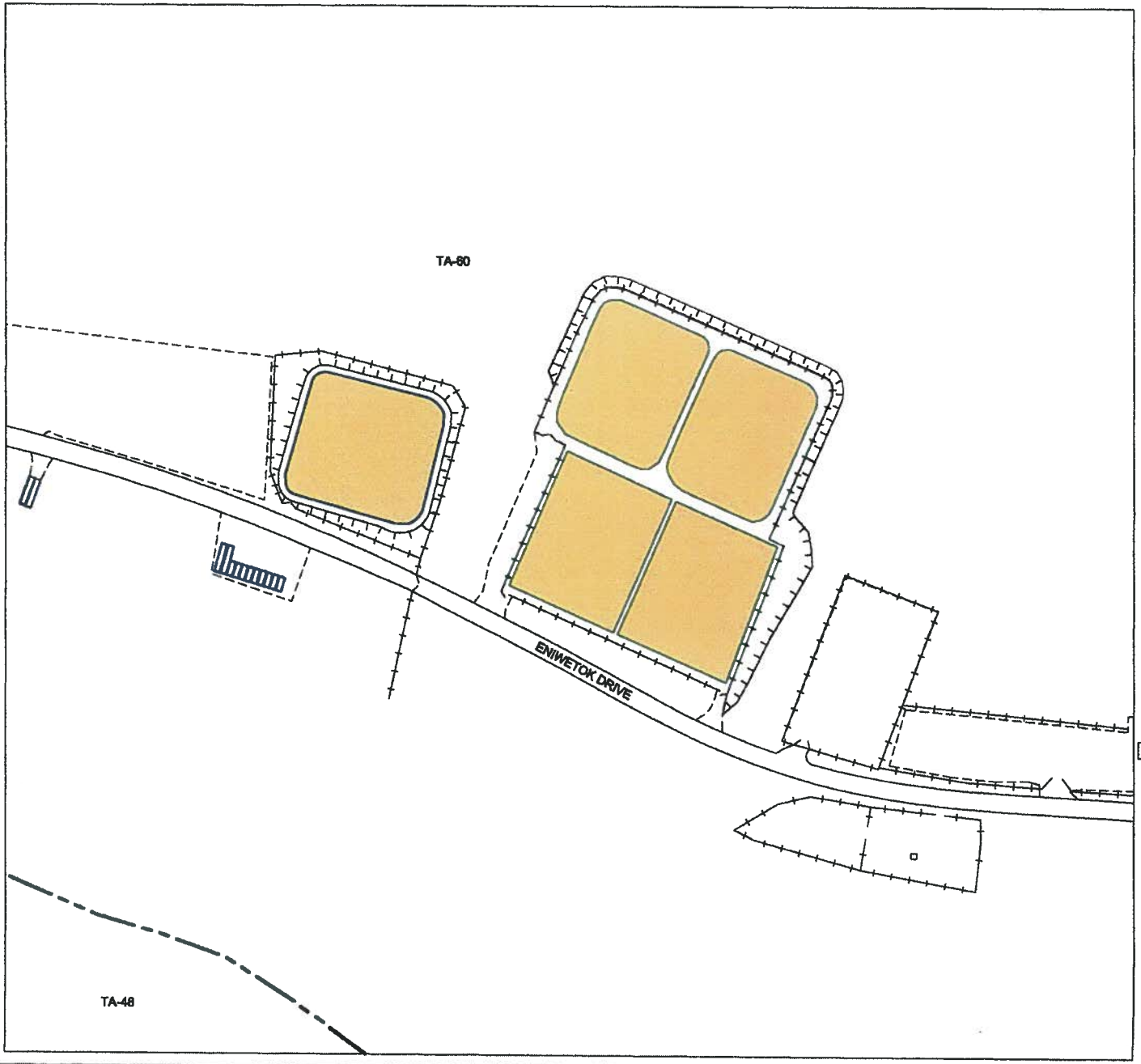
Section 5

Plot Plan Drawn To Scale

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

See next page. Note sprayers are portable and float within basins. Specific locations within evaporation basins are not identified.

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:

N
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Scale 1"= 200'

100 0 100 200

UTILITIES AND INSTITUTIONAL FACILITIES
P. O. Box 00, MS A100
Los Alamos, NM 87544
Telephone: (505) 665-1051

Drawing Number: U16-0826
Dated: July 21, 2016
Produced by: A. ARCHULETA

Section 6

All Calculations

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

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

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

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

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

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

Significant Figures:

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

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

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

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

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

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

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

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

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

The attached calculations included on the UA2 form are primarily for particulate matter but also include any measured trace quantities of any detected hazardous or toxic air pollutant. Total dissolved solids (TDS) and trace compound concentrations present in the treated waste water evaporative basins were obtained by water sample analysis by an independent laboratory and reported to LANL in a December 9, 2015 report. The highest value reported for any compound was used in the calculations. Potential to emit emission estimates assume all (5) evaporative sprayers operate 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 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 120F evaporator was obtained from the vendor. The vendor contracted with a test organization to conduct testing and an analysis to provide this information. 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 were obtained and applied to the total potential to emit value for particulate matter. Less than 1% of total particulate matter constitutes PM30. Potential emissions of PM10 are below Title V insignificant activity criteria of 1 ton per year for all five sprayers. No emissions of PM2.5 are estimated to occur.

In general, for particulate matter formed by the evaporation of water droplets, high TDS values as well as larger water droplets are conducive to formation of 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.

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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

Calculating GHG Emissions:

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

Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at http://www.epa.gov/ttn/chief/ap42/index.html
- EPA's Internet emission factor database WebFIRE at http://cfpub.epa.gov/webfire/
- 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD applicability.

- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at http://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases:

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

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

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

The evaporative sprayers do not produce greenhouse gas emissions.

Section 7

Information Used To Determine Emissions

Information Used to Determine Emissions shall include the following:

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

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

Section 8

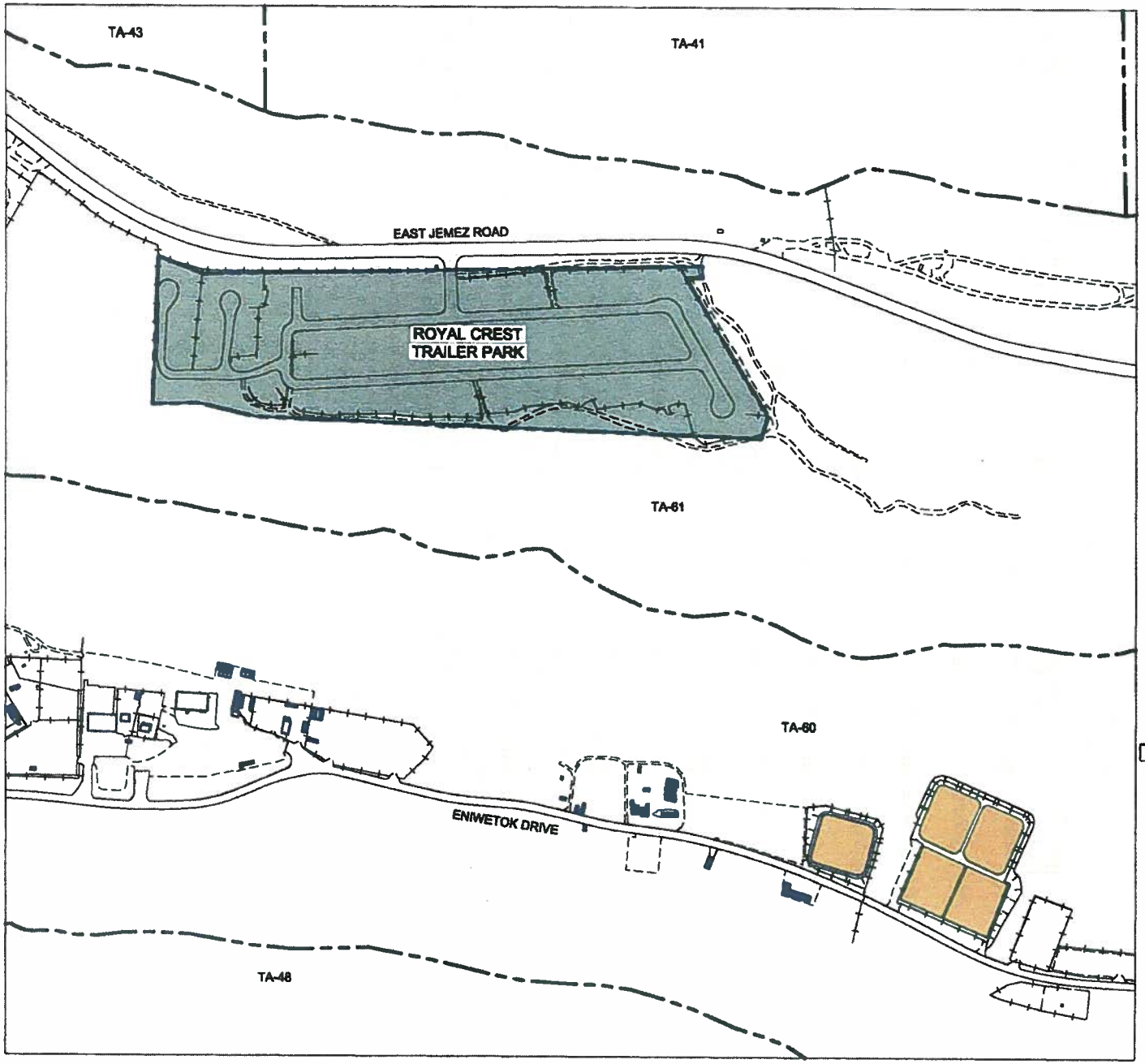
Map(s)

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

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

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:

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Scale 1"= 500'

250 0 250 500

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P. O. Box 60, MS A189
Los Alamos, NM 87544
Drawing Number: U16-002A
Dated: July 21, 2016
Produced by: A. ARCHULETA
Telephone: (505) 665-1651

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")

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

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

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

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

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

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

Section 10

Written Description of the Routine Operations of the Facility

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

The evaporator model chosen is the SMI 120F. This model is a floating 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. The floating design allows the device to be used on the pond surface rather than adjacent to the pond which minimizes drift onto a land surface. 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 sprayers will be dependent on atmospheric conditions (wind speed and temperature) to achieve acceptable evaporation rates. According to specific needs, more than one sprayer may be used in a given pond to enhance evaporation at a particular basin.

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):
Five (5) SMI Model 120 evaporative sprayers.

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): **This is a minor permit modification to existing Title V Permit P100-R2. The entire source consists of all sources in Permit P100-R2 plus the new evaporative sprayers subject to this minor modification. Existing equipment and sources within Permit P100-R2 are not subject to this minor modification.**

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

Section 13

Discussion Demonstrating Compliance with Each Applicable State & Federal Regulation

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Provide a discussion demonstrating compliance with applicable state & federal regulation. If there is a state or federal regulation (other than those listed here) for your facility's source category that does not apply to your facility, but seems on the surface that it should apply, add the regulation to the appropriate table below and provide the analysis. Examples of regulatory requirements that may or may not apply to your facility include 40 CFR 60 Subpart OOO (crushers), 40 CFR 63 Subpart HHH (HAPs), or 20.2.74 NMAC (PSD major sources). We don't want a discussion of every non-applicable regulation, but if there is questionable applicability, explain why it does not apply. All input cells should be filled in, even if the response is 'No' or 'N/A'.

In the "Justification" column, identify the criteria that are critical to the applicability determination, numbering each. For each unit listed in the "Applies to Unit No(s)" column, after each listed unit, include the number(s) of the criteria that made the regulation applicable. For example, TK-1 & TK-2 would be listed as: TK-1 (1, 3, 4), TK-2 (1, 2, 4). Doing so will provide the applicability criteria for each unit, while also minimizing the length of these tables.

As this table will become part of the SOB, please do not change the any formatting in the table, especially the width of the table.

If this application includes any proposed exemptions from otherwise applicable requirements, provide a narrative explanation of these proposed exemptions. These exemptions are from specific applicable requirements, which are spelled out in the requirements themselves, not exemptions from 20.2.70 NMAC or 20.2.72 NMAC.

There is no applicable state or federal regulation which applies to the proposed evaporative sprayers' operation.

Section 14

Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

√ **Title V Sources** (20.2.70 NMAC): By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Emissions During Startups, Shutdowns, and Emergencies** defining the measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies as required by 20.2.70.300.D.5(f) and (g) NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☐ **NSR** (20.2.72 NMAC), **PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Source Emissions During Malfunction, Startup, or Shutdown** defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown as required by 20.2.72.203.A.5 NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☐ **Title V** (20.2.70 NMAC), **NSR** (20.2.72 NMAC), **PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has established and implemented a Plan to Minimize Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance through work practice standards and good air pollution control practices as required by 20.2.7.14.A and B NMAC. This plan shall be kept on site or at the nearest field office to be made available to the Department upon request. This plan should not be submitted with this application.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

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) for more detailed instructions on SSM emissions modeling requirements.
3) Title V (20.2.70 NMAC) ambient impact analysis: Title V applications must specify the construction permit and/or Title V Permit number(s) for which air quality dispersion modeling was last approved. Facilities that have only a Title V permit, such as landfills and air curtain incinerators, are subject to the same modeling required for preconstruction permits required by 20.2.72 and 20.2.74 NMAC.

What is the purpose of this application?	Enter an X for each purpose that applies
New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.	
New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. **Note:** Neither modeling nor a modeling waiver is required for VOC emissions.	
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above.	**X NSR-2195B-M2**
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.	**X**

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. The New Mexico TSP ambient standard is not a Title V applicable requirement. The PM10 potential emission rate is 0.01 lbs/hr per sprayer. There are no emissions of PM2.5 estimated to occur.

Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

The evaporative sprayers are not operational and have no compliance test history.

Section 19

Requirements for Title V Program

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

Who Must Use this Attachment:

* Any major source as defined in 20.2.70 NMAC.
* Any source, including an area source, subject to a standard or other requirement promulgated under Section 111 - Standards of Performance for New Stationary Sources, or Section 112 Hazardous Air Pollutants, of the 1990 federal Clean Air Act ("federal Act"). Non-major sources subject to Sections 111 or 112 of the federal Act are exempt from the obligation to obtain an 20.2.70 NMAC operating permit until such time that the EPA Administrator completes rulemakings that require such sources to obtain operating permits. In addition, sources that would be required to obtain an operating permit solely because they are subject to regulations or requirements under Section 112(r) of the federal Act are exempt from the requirement to obtain an Operating Permit.
* Any Acid Rain source as defined under title IV of the federal Act. The Acid Rain program has additional forms. See 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 sprayers.

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 2016 and indicates compliance with all applicable requirements. One permit deviation without any excess emission was noted and corrective action was taken to resolve.

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-R2. The schedule requires submittal of the report within 30 days of the end of the 12-month reporting period which starts on January 1st each year.

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).

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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.)

   There are 262 refrigeration units in active inventory at this facility containing a charge of 50 pounds or more of refrigerant. There are various duty types of units such as chillers and heating and air conditioning units. Nearly 85% of the units are used for comfort cooling purposes. The remaining percentage consists of units that are tied to different processes. An example would be chillers that cool computer rooms.

3. Do your facility personnel maintain, service, repair, or dispose of any motor vehicle air conditioners (MVACs) or appliances ("appliance" and "MVAC" as defined at 82. 152)? √ Yes ☐ No

4. Cite and describe which Title VI requirements are applicable to your facility (i.e. 40 CFR Part 82, Subpart A through G.) 40 CFR Part 82, Subparts B, F, H and I.

This facility is in compliance with all Title VI, Section 608 and Section 609 requirements.

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.

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.

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

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

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

(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).

Section 20

Other Relevant Information

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

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

Enclosed:

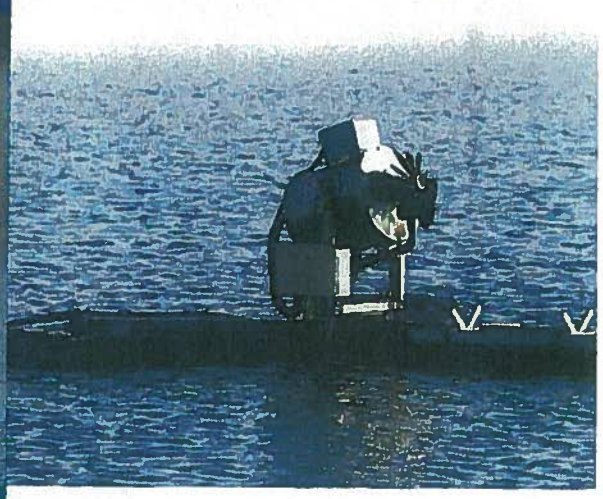
1. Vendor specification sheet for Model 120 Evaporative Sprayer.

EPC DO-16

ENCLOSURE 2

LA-UR-16-25934

SMI 120F EVAPORATOR



OVERVIEW

The SMI® 120F is a floating mechanical Evaporator, specifically designed for small ponds where the end user is concerned about controlling wet and dry particulate drift. The 120F Evaporator is simple to use, easy to maintain, and constructed from high grade materials for years of reliable operation.

BENEFITS

Low Buildup: Designed with a minimal amount of top surface area to control the build-up of residue and scale, helping to reduce clean up and maintenance.

High Performance: High-speed fan blade rotation creates an optimum water droplet distribution for evaporation. Annual evaporation rates up to 70% could be achieved and averages will typically be between 25% and 60%.*

Easy Maintenance: The machine is designed for easy cleaning and maintenance. It requires no weekly bearing lubrication, as it is lubricated for the life of the motor. Pump is fitted with a static inlet filter that can be removed for cleaning. Pump sleeve is designed with a viewing port to simplify inspecting for scale build-up and obstructions in the pump inlet.

Minimal Clogging: The SMI® 120F can pass particles up to 3/16 inch (4.7 mm) in diameter, which reduces the need for prefiltering, filter cleaning and the hassles of clogged nozzles.

Extreme Duty: This design has evolved from 20 years of experience in industrial and extreme outdoor applications. Polyethylene pontoons are filled with closed-cell polyurethane foam, ensuring buoyancy even after any accidental puncturing of the plastic outer shell. Critical components are manufactured from stainless steel for extended life in harsh environments. "Corrosion package" upgrade is available for all stainless steel construction for high and low pH applications.

FEATURES

Floating unit supported by plastic pontoons containing closed-cell PU foam.

Head adjusts at increments from 0 to 90 degrees to allow a lower plume height to reduce drift distance, and thus reduce shut-downs due to high winds.

Heavy industrial construction, including stainless steel motor enclosure, spray manifold and fan blade, increasing durability and equipment life span.

Optional vibration sensor available to shut down motor before catastrophic failure due to residue or ice build-up.

304 stainless steel submersible pump attached to floating frame with integrated static filter and viewing port for ease of maintenance and inspection.

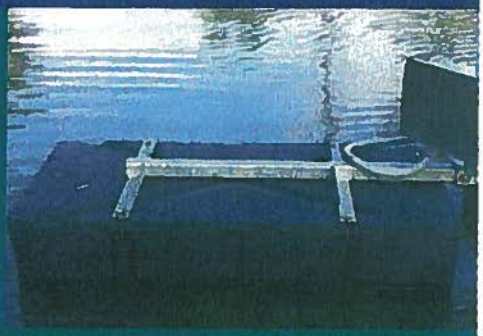
*Evaporation rates depend on many factors including ambient temperature, relative humidity, water makeup and chemistry, wind conditions, solar radiation and site topography.

EPC-DO-16

ENCLOSURE 2

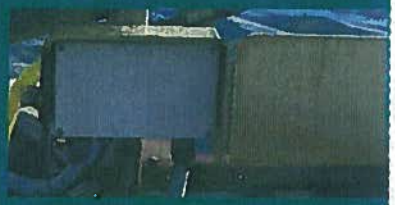
LA-UR-16-25934

SMI 120F EVAPORATOR

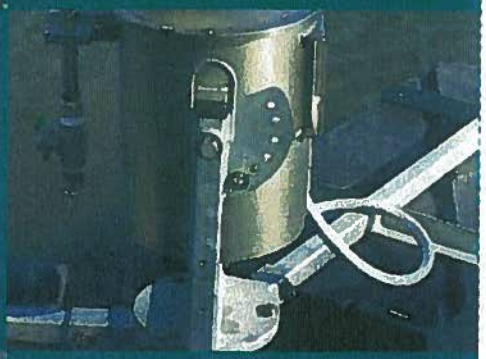


Close up of UV stabilized pontoon filled with closed cell PU Foam

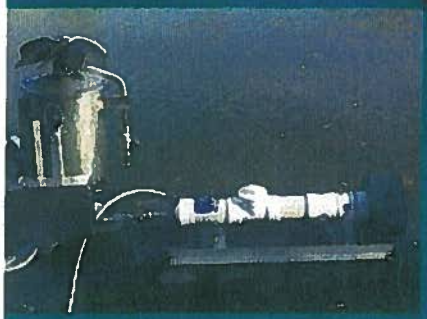
Optional vibration switch to automatically shutdown the fan from scale build up on the propeller and protect from premature motor failure from fan imbalance. Comes housed in a second enclosure to provide additional protection against water ingress



Water shield covering junction box to provide dual protection for water ingress to electrical terminations



Indexible head for fan inclination of 0-90 degrees



Pump holder for ease of pump inspection and maintenance

SMI Evaporative Solutions
1512 North Rockwell Dr.
Midland, MI 48642
Tel: +1 989 631 6091
Toll Free: +1 800 248 6600
evapor.com

SPECIFICATIONS

Fan and Head Assembly

- Stainless steel patented fan
- Stainless steel enclosure protects fan motor from water ingress and exposure to harsh waste water
- Optional vibration sensor to protect motor from propeller imbalance

Floats and Mount

- Galvanized steel frame structure assembled with stainless steel fasteners
- (3) UV stabilized pontoons filled closed cell PU foam

Water System

- 1/2 HP (0.37 kW) stainless steel submersible pump
- Pump options: 460V / 60HZ, 380-415V / 50HZ, or 575V /60HZ
- Stainless steel spray manifold with large holes to allow large particles to pass
- Ball valve to regulate flow to spray manifold for changing weather conditions on manual units; pump VFD to temperature/humidity algorithm for auto units

Electrical

- 5 HP (3.7 kW) Premium efficiency fan motor
- Fan motor rotates at 3600 RPM at 480 or 575 volts, 3 phase, 60 cycle power or 2900 RPM at 380-415 volts 50 cycle power
- Nema 4X control panel with manual, standalone or premium automated controls
- Submersible rated electrical power cord, length per customer requirements

Warranty

- 6 month warranty on any defective parts and workmanship

Options

- "Corrosion Package" for upgrading galvanized mount to all stainless steel construction for acidic or highly alkaline water applications
- Standalone Automation: local machine control and customer interface, pump VFD varies based upon temperature/humidity algorithm and wind speed / direction start-up and shutdown
- Premium Automation – local and remote machine control and customer interface, pump VFD varies based upon temperature/humidity algorithm, wind speed direction start-up and shutdown, camera to monitor equipment, SmartH2O software with Desktop PC that provides reporting, trending, alarms and remote control.
- Vibration sensor for motor shut down due to fan imbalance from deposits or scale buildup

Section 22: Certification

Company Name: Los Alamos National Security, LLC

I, Michael T. Brandt , 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 25 day of July, 2016, upon my oath or affirmation, before a notary of the State of New Mexico.

*Signature

7/25/16
Date

Michael T. Brandt
Printed Name

Associate Director, ADESH-ES&H
Title

Scribed and sworn before me on this 25 day of July, 2016.

My authorization as a notary of the State of New Mexico expires on the 14th day of May, 2019.

Notary's Signature

July 25, 2016
Date

Barbara J. Bushong
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.

ENCLOSURE 3

NMED AQB letter to DOE/LANS RE:
Air Quality Operating Permit Application Number P100R2M1, July 26, 2016

EPC-DO-16-228

LA-UR-16-25934

Date: AUG 1 1 2016

EPC-DO-16-228

ENCLOSURE 3

LA-UR-16-25934

New Mexico
ENVIRONMENT DEPARTMENT

525 Camino de los Marquez Suite 1
Santa Fe, NM 87505-1816
Phone (505) 476-4300
Fax (505) 476-4375
www.env.nm.gov

SUSANA MARTINEZ
GOVERNOR

JOHN A. SANCHEZ
LIEUTENANT GOVERNOR

RYAN FLYNN
CABINET SECRETARY

BUTCH TONGATE
DEPUTY SECRETARY

July 26, 2016

CERTIFIED MAIL NO. 7014 3490 0001 8189 0065

Tony Grieggs
Group Leader, EPC-CP
U.S. Department of Energy National Nuclear Security Administration
Los Alamos Site Office
Po Box 1663 Mail Stop K490
Los Alamos, NM 87545

Re: Air Quality Operating Permit Application Number P100R2M1
TEMPO/Idea ID Number 856 - PRT20160001
Los Alamos National Laboratory

Dear Mr. Grieggs:

This letter acknowledges the receipt of your operating permit application for the Los Alamos National Laboratory located in the town of Los Alamos in Los Alamos County, New Mexico. The Department received this application on July 25, 2016 and assigned it number P100R2M1.

The Department has determined that the information submitted in the application is sufficient to process the requested operating permit. Therefore, this application is ruled complete on July 26, 2016.

The application requests a Title V Minor Modification to install five SMI Evaporative Solutions Model 120F spray evaporators in the evaporation basins at the LANL Sanitary Effluent Treatment Facility (SERF). The emissions from these units were calculated based on continuous operation (8760 hours/year) at the maximum (altitude-derated) capacity of the units, so no emission limits are required in the permit at this time. Reporting of fugitive emissions of particulate matter for these units is not required under the Title V permit P100R2. Therefore, as allowed under 20.2.70.404.B(6) NMAC, the permittee shall comply with the proposed permit conditions in Enclosure 1 of the application until the Department issues the final permit modification P100R2M1.

Regardless of whether or not an application has been deemed to be complete, if the Department determines that additional information is necessary to evaluate the application or to take final

action, it may request such information in writing and set a reasonable deadline for a response.

In accordance with 20.2.70 NMAC, Section 402.A.1, within five (5) days from the date of receipt of this letter, the applicant shall provide a copy of the complete permit application (including the compliance plan and all additional materials submitted to the Department) directly to EPA. EPA Region 6 requests you not send a paper copy, but a Compact Disk (CD) containing a searchable PDF of the word/excel application and scanned PDF maps, etc. Please verify accuracy and completeness of the enclosed 'Permit Transmittal Form' and attach two copies of the form to the application package and send to EPA Region-6 address given below:

Chief, Air Permits
US EPA Region-6, 6PD-R
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Please note that we will not issue your operating permit until you inform the Department that you have sent the application package to EPA.

20.2.70 NMAC Section 401 requires the Department to provide thirty (30) days for public and affected programs comment. When the draft permit becomes available, the Department will publish a legal notice in a regional daily newspaper and mail letters to concerned citizens and affected programs to accomplish this purpose. The Department may hold a public hearing. The Department will determine the time, date, and place of any hearing and will give notice of the hearing to the applicant and the public.

If you have any questions, please call me in Santa Fe at 505-476-4322.

Sincerely,

Kirby Olson

Kirby Olson
Air Permitting Specialist
Major Source Unit
Air Quality Bureau

Enclosure: 'Application Transmittal Form'

cc: US EPA Region-6, 6PD-R via email

APPLICATION TRANSMITTAL FORM
New Mexico Environment Department

~ Air Quality Bureau ~

(Two copies of this form must accompany operating permit application transmittal to US EPA)

PART A - Administrative Information

General Information:

Transmittal Date: July 26, 2016
Air Quality Bureau Permit Specialist: Kirby Olson
Facility Name: Los Alamos National Laboratory
Facility Location - City: This facility is located in the town of Los Alamos in Los Alamos County, New Mexico.
Facility Location - County: Los Alamos
Facility Location - State: New Mexico, 87545
State Operating Permit Number: P100R2M1
Facility Primary SIC Code: 9711: National security, FED-Dept of Energy
Air Permit Contact Person: Tony Grieggs
Air Permit Contact - Telephone: (505) 665-0451
Air Permit Contact E-mail address: grieggst@lanl.gov
Company Name: U.S. Department of Energy National Nuclear Security Administration
Company Address: Los Alamos Site Office
Po Box 1663 Mail Stop K490
Los Alamos, NM 87545
Distance from Facility to Nearest Class I Area: 0 km (adjacent to Bandelier Wilderness Area)
Is the Facility Within 50 Miles (80.467 km) of a Class I Area?: **Yes**
Is the Facility Within 50 Miles of Indian Land?: **Yes**: Taos Pueblo (69 km), Picuris Pueblo (56 km), Jicarilla Apache (67 km), Ohkay Owingeh Pueblo (19 km), Santa Clara Pueblo (10 km), San Ildefonso Pueblo (5 km), Pojoaque Pueblo (13 km), Nambe Pueblo (24 km), Tesuque Pueblo (19 km), Cochiti Pueblo (13 km), Santa Domingo Pueblo (27 km), Zia Pueblo (30 km), San Felipe Pueblo (38 km), Santa Ana Pueblo (40 km), Jemez Pueblo (19 km), Sandia Pueblo (61 km), and Laguna Pueblo (77 km)

Transmittal Description

	New Permit
	Renewal
X	Modification
	Acid Rain Source (TIV)

PART B - Technical Information

TV Regulated Pollutants

X	CO Source (COS)
X	TSP/PM-10 Source (PM_{10})
X	VOC Source (VOC)
	112(b) Pollutants (112B)
X	NO_X Source (NO_X)
X	SO_2 Source (SO_2)
	Lead Source (Lead)
	Green House Gases (GHG)

Source Description

	PSD (PSD)
	Nonattainment Area (NNSR)
	Acid Rain Source (TIV)
	Chlorofluorocarbons (CFC)
	Compliance Schedule (CSS)
X	Federal Facility (FED)
X	Combustion Source (CMBS)

Regulatory Specifications

Units Subject to Enhanced Monitoring (40 CFR 64) (Number): none
Applicable NSPS (60): Dc, I, GG, and IIII
Applicable NESHAP (61): C, H, M, and Q
Applicable MACT (63): T

Version: 10/02/2012

ENCLOSURE 4

August 1, 2016, email from Ms. Olson (NMED) to Mr. Blankenship (LANS) RE: LANL evaporators - Need approval to operate for Groundwater Bureau

EPC-DO-16-228

LA-UR-16-25934

Date: AUG 1 1 2016

From: Olson, Kirby, NMENV
To: Blankenship, Bill
Cc: Hardison, Cember, NMENV
Subject: RE: LANL evaporators - Need approval to operate for Groundwater Bureau
Date: Monday, August 01, 2016 4:13:19 PM

Hi Bill,

Please let the groundwater contact know that in the Title V Operating Permits regulation section 20.2.70.404.B(6) NMAC (which I've reproduced below), it states that changes proposed in a minor modification can be made after the application is ruled complete. The third paragraph of the completeness letter states "Therefore, as allowed under 20.2.70.404.B(6) NMAC, the permittee shall comply with the proposed permit conditions in Enclosure 1 of the application until the Department issues the final permit modification P100R2M1." That language was intended as the authorization to operate under the proposed conditions.

If the Groundwater Bureau person would like to discuss the situation further directly with AQB, we'd be happy to talk with them. Please have them contact my manager Cember Hardison at (505) 476-4346

Air Quality regulation: 20.2.70.404 PERMIT MODIFICATIONS:

B. Minor Permit Modifications:

(6) The permittee may make the change proposed in its minor permit modification application immediately after such application is deemed complete. After the permittee makes the change allowed by the preceding sentence, and until the Department takes any of the actions specified in paragraph (7) of subsection B of 20.2.70.404 NMAC below, the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time period, the permittee need not comply with the existing permit terms and conditions it seeks to modify. If the permittee fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it.
Regards,

Kirby

From: Blankenship, Bill [mailto:bblankenship@lanl.gov]
Sent: Monday, August 01, 2016 3:36 PM
To: Olson, Kirby, NMENV <Kirby.Olson@state.nm.us>
Subject: LANL evaporators - Need approval to operate for Groundwater Bureau

Kirby –

Our groundwater expert spoke with the NMED Groundwater Bureau contact regarding the SMI Model 120 evaporators and the Title V minor modification process. He also sent to NMED the application completeness determination dated July 26, 2016 and discussed it with him. Although it

is abundantly clear to all of us working on the air quality issues these many weeks that 2.70 NMAC – Operating Permits allows the commencement of operation once the application is ruled complete, the completeness letter does not state this. Thus, the NMED groundwater contact has requested in writing from NMED- Air Quality that the (5) evaporators in the application are now allowed to operate. An e-mail is sufficient if you could please respond, and I will sent it along.

Thanks.

Bill

Bill Blankenship
LANL Air Quality Team
(505) 665-0823