LA-UR-19-23285
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Title:	IDEA ID No. 856 – Los Alamos National Laboratory, Permit # 2195, Exemption Notice for New Thermal Evaporator at TA-16 Wastewater Facility
Author(s):	Bruggeman, Ashley Marie
Intended for:	Environmental Regulatory Document
Issued:	2019-05-16 (rev.1)

Los Alamos
NATIONAL LABORATORY
EST. 1943

Environment, Safety, Health, Quality, Safeguards, and Security Directorate
Los Alamos National Laboratory
PO Box 1663, K490
Los Alamos, NM 87545
505-667-0666

Symbol: ESHQSS:19-024
LA-UR: 19-23285
Locates Action No: N/A
Date: APR 16 2019

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

Subject: IDEA ID No. 856 – Los Alamos National Laboratory, Permit # 2195, Exemption Notice for New Thermal Evaporator at TA-16 Wastewater Facility

Dear Mr. Schooley:

In accordance with the requirements of 20.2.72 NMAC Section 219 A.1.e for administrative permit revisions, Los Alamos National Laboratory (LANL) is providing notification to incorporate an exempt source as defined in Section 202.B. The applicable exemption is Section 202.B.5:

Any emissions unit, operation, or activity that has a potential emission rate of no more than one-half (1/2) ton per year of any pollutant for which a National or New Mexico Ambient Air Quality Standard has been set or one-half (1/2) ton per year of any VOC.

The exempt source is a:

ENCON Electric Powered Thermal Evaporator
Capacity 40 gallons/hour
Model # E33V4
Serial numbers: SN 37672

PER for Particulate Matter = 0.05 tons/yr
PER for Volatile Organic Compound = 0.001 tons/yr
(see Attached calculations and background documentation)

We request this exempt unit be placed under LANL's Air Quality Permit No. 2195 as an administrative revision (2195 R-78).

A similar unit was granted an exemption on Oct 31, 2002. A copy of that administrative permit revision is included as Attachment 3.

In accordance with Section 203.A.12, I hereby certify on behalf of LANL that the information submitted in this notification is as complete, true, and accurate as possible, to the best of my personal knowledge.

Thank you for your review of this application. Please contact Margie Stockton at (505) 665-3289 with any questions you may have.

Sincerely,

Taunia S. Van Valkenburg
Group Leader

TVV/MBS/AMB:jdm

Attachment(s): Attachment 1 Air Quality Administrative Revision for New ENCON Electric Powered Thermal Evaporator for the TA-16 Wastewater Facility
Attachment 2 Supporting Calculations and Background Documentation for New ENCON Electric Powered Thermal Evaporator for the TA-16 Wastewater Facility
Attachment 3 October 2002 Administrative Permit Revision for Similar Electric Powered Thermal Evaporator Unit

Copy: Adrienne L. Nash, LASO-MA-LS, Adrienne.nash@nnsa.doe.gov, (E-File)
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aldeshqsscorrespondence@lanl.gov, (E-File)
EPC-CP Permit Application File

ATTACHMENT 1

Administrative Permit Revision for New ENCON Electric Powered Thermal Evaporator for the TA-16 Wastewater Facility

ESHQSS: 19-024

LA-UR-19-23285

Date: APR 16 2019

Triad National Security, LLC – Los Alamos National Laboratory

Administrative Permit Revision Form (and TV Amendments Form)

For Department use only:			For Department use only: Received Date
Reviewed by:			
Permit revision number:			
☐ Approved ☐ Denied	Date:		

Section 1: General Information – Required for All Changes

1	AI #: 856	Permit #: 2195	4-digit SIC code: 9711	6-digit NAICS code: 928110
2	Permitted Facility Name: Los Alamos National Laboratory			
3	Preparer/Consultant Name: Ashley Bruggeman			Title: Post-Master Graduate Research Assistant – Air Quality
4	E-mail: abruggeman@lanl.gov			Phone: (505) 665-6466
5	Address: P.O. Box 1663, MS J978, Los Alamos, NM 87545			
6	Air Permit Contact: Marjorie Stockton			Title: Acting Team Leader Compliance Team – Air Quality
7	E-mail: mstockton@lanl.gov			Phone: (505) 665-3289
8	Address: P.O. Box 1663, MS J978, Los Alamos, NM 87545			
9	Revising or amending permit type:			
	☒ Construction Permit (20.2.72 NMAC) ☐ Operating (Title V) Permit (20.2.70 NMAC) ☐ Notice of Intent owner or operator change		☐ Prevention of Significant Deterioration Permit (PSD) (20.2.74 NMAC) ☐ Nonattainment Permit (20.2.79 NMAC)	

If approved, the Department will attach this administrative revision to the current permit and it will be enforceable. (See 20.2.72.219.A.4; 20.2.70.302.H(1)c; and 20.2.70.404.A(3) and (4) NMAC)

Section 2: Permit Revision and Amendment Details

Only submit the pages which are necessary for your action, and print double sided head-to-toe, flip on short end, or tablet. Instructions and mailing address are in Section 4. The Department will only email a response if the action is denied. Send with proof of delivery if you want confirmation the Department received the form.

☐ 2-A(i) & 2-A(ii): Identical Engine or Turbine Replacements

☐ 2-B: Ownership or Operational Changes to Notice of Intent or Construction Permits

☐ 2-C: Ownership or Operational Control Changes for Title V Permits

☐ 2-D: Closing a Facility or Removing Units from a Permit

☐ 2-E: Correct Typographical Error

☒ 2-F: Report Exempt Equipment for Minor Construction Permits

☐ 2-G: Add Certain Minor Exempt Equipment to Construction Permits for PSD or Nonattainment Major Sources

Section 3: Certification – Required for All Changes

Section 4: Form Instructions

2-F: Report Exempt Equipment for Minor Construction Permits

Certain equipment can be added to minor (Part 72) construction permits as exempt equipment under 20.2.72.202.B NMAC as an administrative revision. If your facility is an existing Prevention of Significant Deterioration (PSD) Major Source subject to 20.2.74 NMAC, or an existing Nonattainment Major Source subject to 20.2.79 NMAC then use Section 2-G.

Check the box for the equipment being added, and complete the table, if applicable. Include attachments as required.

Construction permit Part 72 exemptions are not the same thing as operating permit Title V insignificant activities (20.2.70.7.Q NMAC). If you have a Title V permit and want to claim Title V insignificant activities, they may be required to have authorization through a construction permit. Only the insignificant activities that meet the requirements of 20.2.72.202.B NMAC may be added using this form for an administrative revision.

The Potential to Emit (PTE) of regulated air contaminants from minor permit exempt equipment count toward the facility's total emissions and the addition of equipment could result in the facility becoming PSD, Nonattainment, or Title V major.

Minor Construction Permit (Part 72) Exempt Equipment

The equipment checked in this section meets the requirements of the exemption in 20.2.72.202 NMAC, will comply with all applicable federal requirements in 40 CFR Part 60 or 40 CFR Part 63, and appropriate records will be created and retained for two (2) years (or five (5) years if a Title V source):

☐ Repositioning or relocating sources of air emissions or emissions points within the plant site, but only when such change in physical configuration does not increase air emissions or the ambient impacts. (20.2.72.B(4) NMAC). Permittees must ensure that relocation of any emissions source within the plant site does increase the ambient impact and will not result in an exceedance of any NAAQS, NMAAQS, or PSD Increment. If not sure, please contact the Modeling Section Manager (505-476-4300). Attach an updated plot plan.

☐ Fuel burning equipment used solely for heating buildings for personal comfort or producing hot water for personal use; if gaseous or liquid fuel and rated 5 MMBtu or less, or if distillate oil and 1 MMBtu or less. (20.2.72.202.B(1) NMAC).

☐ VOC emissions from handling or storing any VOC emission source; if vapor pressure is less than two tenths (0.2) PSI at the storage and handling temperatures. (20.2.72.202.B(2) NMAC).

☐ Surface coating of equipment, including spray painting, roll coating, and painting with aerosol spray cans and all coating and clean-up solvent; if VOCs from paints and solvents do not exceed ten (10) pounds per hour and two (2) tons per year. (20.2.72.202.B(6) NMAC). Potentially applicable federal regulations: 40 CFR 63 Subparts HHHHHH or XXXXXX. More information: https://www.env.nm.gov/air-quality/ind-sector-info/.

☐ Enclosed abrasive blasting operations; if no visible emissions from the building. (20.2.72.202.B(7) NMAC). Potentially applicable federal regulations: 40 CFR 63 Subpart XXXXXX.

2-F: Report Exempt Equipment for Minor Construction Permits, continued

☐ Standby generators which are operated only during the unavoidable loss of commercial utility power and less than 500 hours per year. (20.2.72.202.B(3) NMAC). Potentially applicable federal regulations: 40 CFR 63 Subpart ZZZZ and 40 CFR 60 Subparts JJJJ or IIII. Emission rates from emergency standby generators should be calculated assuming operation throughout the year (i.e., 8760 hours per year) to verify that it does not make your facility PSD, Nonattainment, or TV major.

Standby Generator Manufacturer	**Serial Number**	**Date of Manufacture**	**Date of Installation[1]**	**Capacity (hp)**
Name of commercial power provider[2]:				

[1] Date of installation is the date the engine is placed and secured at the location where it is intended to be operated.
[2] Commercial power is purchased from a utility company, which specifically does not include power generated on-site for the sole purse of the user.

☒ Any emissions unit, operation, or activity that has the potential to emit no more than one-half (1/2) ton per year of any regulated new source review pollutant. Units, operations, or activities of similar function shall be combined when calculating the emission rate. (20.2.72.202.B(5) NMAC).

Unit Description	**Serial Number**	**Capacity (size)**	**Regulated Pollutants Emitted[3]**	**PER[4] tpy**
ENCON Electric Powered E33V4 Thermal Evaporator	SN 37672	40 gal/hour	PM	0.05 TPY
	SN 37672	40 gal/hour	VOC	0.0010 TPY

[3] Particulate Matter (PM_{10}, $PM_{2.5}$, TSP); Sulfur Dioxide (SO_2); Carbon Monoxide (CO); Nitrogen Dioxide (NO_2); Hydrogen Sulfide (H_2S); Lead (Pb); Total Reduced Sulfur; and Volatile Organic Compounds (VOC).
[4] Potential emission rate, as defined in 20.2.72 NMAC. The PER is the worst-case emission rate of the facility without controls or other limitations (unless the controls or limitations are federally enforceable) and as if the facility were operating continuously 8760 hours per year (24 hour/day, 365 days/year).

Section 3: Certification – Required for All Changes

Company Name: Triad National Security, LLC

I, Taunia S. Van Valkenburg, 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 15 day of April, 2019, upon my oath or affirmation, before a notary of the State of New Mexico.

Signature[1] 4/15/2019 Date

Taunia S. Van Valkenburg — Printed Name

EPC-CP Group Leader — Title

Scribed and sworn before me on this 15th day of April, 2019.

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

By Bushong April 15, 2019
Notary's Signature Date

Barbara J. Bushong
Notary's Printed Name

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

ATTACHMENT 2

Supporting Calculations and Background Documentation for New ENCON Electric Powered Thermal Evaporator for the TA-16 Wastewater Facility

ESHQSS: 19-024

LA-UR-19-23285

Date: APR 16 2019

Supporting Calculations of Particulate Matter and Volatile Organic Compound Emissions from New Thermal Evaporator

From chemical and emission analysis of the treated wastewater at the TA-16 Wastewater Facility, VOC emission calculations for each chemical are as follows:

New ENCON Thermal Evaporator capacity size and flow rate = 40 gal/hr
(1 g/1,000,000 ug) = 0.000001 g/ug
(1 lb/453.6 g) = .0022 lb/g
(1 L/3.785 gal) = 3.785 L/gal
(8760 hr/1 yr) = 8760 hr/yr
(1 T/2000 lb) = 0.0005 T/lb

Assuming 100% of the reported chemical result is emitted to the air we can calculate the individual VOC emission using:

(Report Result ug/L)(0.000001 g/ug)(.0022 lb/g)(3.785 L/gal)(40 gal/hr)(8760 hr/yr)(0.0005 T/lb) = Total emissions in tons/year (see table below)

Location ID	Date Sampled	Parameter Name	Report Result	Report Units	VOC emissions (tons/yr)
WST-RCRA	07/22/2015	Methylphenol[4-]	34.8	ug/L	0.00005
WST-RCRA	07/22/2015	Bis(2-ethylhexyl)phthalate	5.16	ug/L	0.00001
WST-RCRA	07/22/2015	Amino-2,6-dinitrotoluene[4-]	0.237	ug/L	0.00000
WST-RCRA	07/22/2015	Diethyl Ether	95.5	ug/L	0.00014
WST-RCRA	07/22/2015	Benzoic Acid	10.4	ug/L	0.00002
WST-RCRA	07/22/2015	Chloroform	18.5	ug/L	0.00003
WST-RCRA	07/22/2015	Acetonitrile	880	ug/L	0.00128
WST-RCRA	07/22/2015	Butanone[2-]	125	ug/L	0.00018

After calculating VOC emissions for each reported result, the total VOC emissions were calculated by summing together the individual results, giving a total of:

Total VOC emissions = 0.0010 tons/year

Similarly, Particulate Matter was calculated using identical calculations (except for unit change in reported results):

New ENCON Thermal Evaporator capacity size and flow rate = 40 gal/hr
(1 g/1,000 mg) = 0.000001 g/mg
(1 lb/453.6 g) = .0022 lb/g
(1 L/3.785 gal) = 3.785 L/gal

(8760 hr/1 yr) = 8760 hr/yr
(1 T/2000 lb) = 0.0005 T/lb

Assuming 100% of the reported chemical result is emitted to the air we can calculate the PM emission using:

(Report Result ug/L)(0.000001 g/ug)(.0022 lb/g)(3.785 L/gal)(40 gal/hr)(8760 hr/yr)(0.0005 T/lb) = Total emissions in tons/year (see table below)

Location ID	Date Sampled	Parameter Name	Report Result	Report Units	PM emissions (tons/yr)
WST-RCRA	07/22/2015	Total Suspended Solids - Particulate Matter	34.0	mg/L	0.04960

Total PM emissions = 0.05 tons/year

THERMAL EVAPORATOR

Cost Effective Wastewater Minimization

- ✓ Handles Different Wastewater Streams...Simultaneously!
- ✓ Dramatically Reduces Disposal Volume and Cost
- ✓ Eliminates Need to Discharge Wastewater
- ✓ Easy to Install and Operate
- ✓ Helps Reduce the Costs and Liabilities of Waste Disposal
- ✓ A Wide Variety of Heat Sources Including:
  - Natural Gas
  - Propane
  - Steam
  - #2 Fuel Oil
  - Diesel
  - Kerosene
  - Electricity
  - Waste Oil
  - Off-Spec Landfill Gas

Evaporation System
Exhausts Clean Water Vapor

Distillation System
Converts Wastewater to Clean Water

www.evaporator.com

ENCON

ENERGY CONSCIOUS INNOVATION

ENCON Evaporation and Distillation Systems are engineered to provide you with the most effective and economical method of wastewater minimization possible.

All ENCON systems are assembled with the highest quality components, ensuring years of trouble free operation.

Our unique heat exchanger design on our thermal units provides extremely efficient heat transfer, resulting in reduced fuel costs.

Key to the effectiveness of out ENCON Thermal Evaporators is the Mist Eliminator. This feature captures unwanted contaminants before exhausting, thus enabling you to comply with today's stringent emissions regulations (evaporation) or to return high quality water to your process (distillation).

Put Our Engineering and Regulatory Expertise to Work for You

ENCON Evaporators provides the following services relative to evaporation/distillation projects:

- Free wastewater qualification analysis to ensure application feasibility
- Regulatory compliance and paperwork
- System design and compliance for hazardous waste applications
- PLC programming to optimize system automation
- Closed loop recycling evaluation and analysis

High Quality Components and Superior Design

PLC Control Panel

NEMA 4 PLC control panel with touch screen OIT provides readout of wastewater and heated air temperatures, mist pad pressure, plus alarm and operating conditions for maximum operator feedback. The OIT also includes a built-in cycle timer.

Built-in Ethernet Port

Every control panel has a built-in ethernet connection, which allows for easy remote program modifications and/or troubleshooting of the system by ENCON personnel.

Redundant Burner Contactors

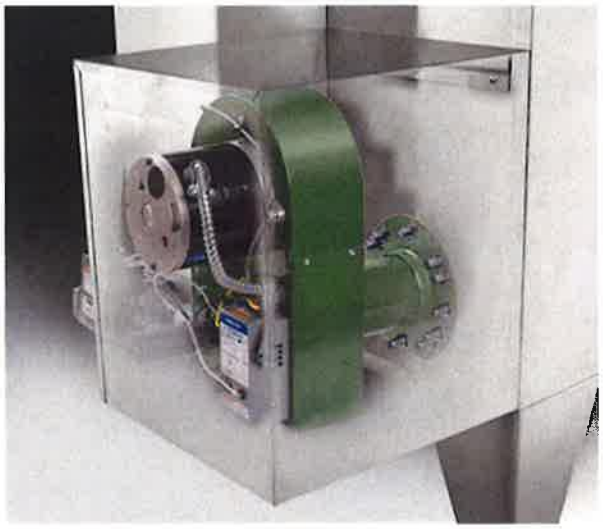
Each burner has a duty contactor and a redundant contactor. This design ensures maximum safety by opening the redundant contactor in the event the duty contactor should fail electrically or mechanically.

Level Sensing

Tuning fork level probes provide reliable auto-filling and shutdown operations even in conditions of severe foam. The durable level probes are made of stainless steel for excellent corrosion resistance. Hastelloy level probes are available for highly corrosive applications.

Result in Excellent Long Term Performance!!!

Mist Eliminator System
The stainless mesh filter is designed for easy removal from its compression fit housing. The system is monitored for contaminant loading and airflow, which is interlaced to the control panel for maximum operator feedback.



Forced Draft Burner
Each fuel heated system consists of a burner with: Honeywell controls; pressure gauge and gas volume meter for monitoring gas inlet conditions; airflow detection and lockout; spark ignition; redundant main valve and burner contactors for maximum safety. FM gas trains and gas flow transmitters are standard on larger systems. The stainless steel burner protection shroud is mounted on a track hanger for ease of removal and reattachment. Natural gas, Propane, Dual Fuel, Oil, Diesel, Waste Oil and Low NO_x burners are available.

Blower System
1725 RPM, TEFC Motor with Class B Insulation rated for high temperatures. Extremely quiet operation and as much as three times the longevity of 3450 RPM motors. Heavy gauge aluminum blower provides durability and longevity.

Cleanout Flange
Large six inch cleanout with flange cover and a 1 ½" NPT fitting for pump connection and ease of residue removal.

Before purchasing an evaporation or distillation system, challenge the vendor to explain their mist eliminator design.

Over the years, evaporators have been notorious for exhausting contaminants, which can be detrimental to the environment. Effective mist capturing systems must have the following features in order to pass the ever tightening federal and state environmental regulations:

- Compression fit mist pad to capture entrained contaminants
- Mist pad rated to 10 microns or less to capture even the smallest droplets
- Stainless steel mist pad and housing to ensure long term integrity and aesthetics
- Adequate buffer zone between the water level and mist pad, to allow fallback of the contaminants
- Monitoring of mist pad loading to ensure consistent airflow and evaporation rates
- Easy removal of the mist pad to minimize manpower requirements

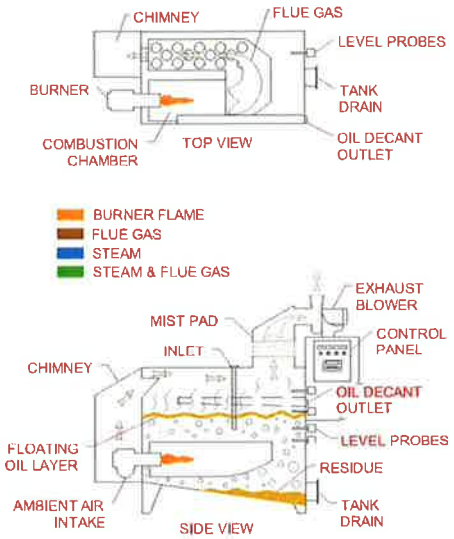
Typical Operation

1. Wastewater is either pumped or gravity fed into the system through a 1" NPT fitting on lid.
2. When the wastewater being fed into the evaporator has covered the low level probe for thirty seconds, the heat source will be enabled. Wastewater will continue to feed until it reaches the auto level probe.
3. The burner(s) fire into the combustion chamber and the hot gases travel past the vertical tubes inside the heat exchanger until they reach the insulated chimney outside the evaporator tank (see Exhaust Scenarios).
4. The wastewater is heated to boiling and is driven off as clean water vapor.
5. As the water vapor is driven off, the liquid level will gradually fall below the auto level probe. After a set time period, the system will refill itself up to the auto level probe.
6. This process will continue until either the water reaches the high temperature set point or the cycle timer counts down to zero.

We Encourage You to Speak to Our Valued Clients about the ENCON Systems and Our Superior Customer Service

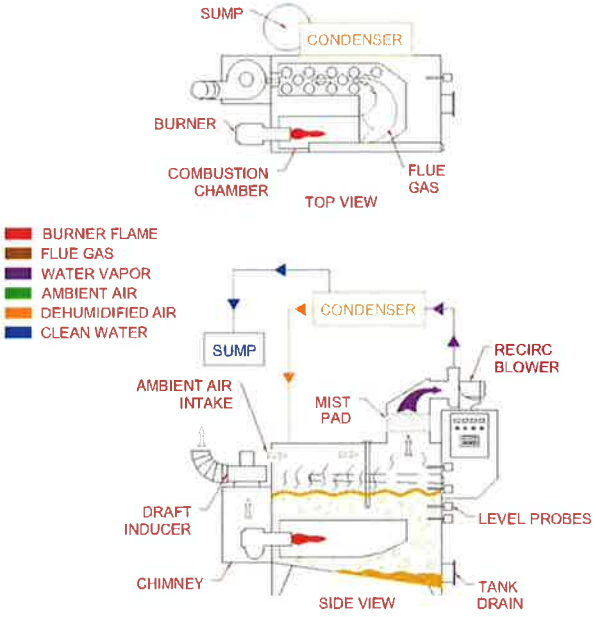
Exhaust Scenarios

Evaporation System



The flue gases are pulled back into the evaporator, mixed with the ambient air and drawn across the surface of the boiling water. The exhaust blower pulls the combined steam and gases through the mist eliminator and pushes them up through the stack and outside the building.

Distillation System



The flue gases are not pulled back into the evaporator. Instead, they are vented separately up their own stack. The recirculation blower pulled the steam through the mist eliminator and pushed it through the condenser. The clean water is directed to a sump and the dehumidified air is returned to the system.

ENCON Evaporators
1368 Hooksett Rd, Unit 9 • Hooksett, NH 03106 USA
T 603-624-5110 • F 603-627-9520
www.evaporator.com • sales@evaporator.com

ENCON
ENERGY CONSCIOUS INNOVATION

ENCON ExxVx-40 SPECIFICATIONS

PHYSICAL	EVAPORATION UNIT	DISTILLATION UNIT
Dimensions :	98" x 52" x 84" (L x W x H)	98" x 64" x 84" (L x W x H)
Weight (Empty):	1400 lbs (empty) / 1800 lbs (crated)	1800 lbs (empty) / 2300 lbs (crated)
Condenser Size:	N/A	6"Ø x 30"L (2" FNPT chill water fittings)
Vent Stack Diameter:	6" OD	N/A
Blower Volume:	780 CFM, 3/4 HP, 1725 RPM	
Inlet Pipe Diameter:	Fluid - 1" FNPT	
Cleanout Diameter:	6" Flanged Cap with 1.5" FNPT fitting	
Heating Elements:	Three 40 kW low watt density immersion heaters	
Tank Capacity:	255 gallons @ Low level, 316 gallons @ Auto-run level, 353 gallons at High level	
Tank Bottom:	8° downward slope to a 6" cleanout flange	

UTILITIES	EVAPORATION UNIT	DISTILLATION UNIT
Electric Requirements:	480 VAC, 3 Phase, 150 Amp Draw (not available in 240 VAC) – requires larger circuit size	
Cooling Water:	N/A	60 gallons per minute @ 90°F (42 tons)

FABRICATION	316SS VERSION	6% MOLY VERSION	HASTELLOY VERSION
Tank:	316L Stainless, 14 ga	6% Molybdenum, 14 ga	Hastelloy, 14 ga
Heating Elements:	316L Stainless Sheath	Titanium Sheath	Titanium Sheath
Mist Eliminator Pad:	316L Stainless		
Skins and Lids:	Polished 304 Stainless Steel, 18 ga		
Insulation:	All 6 sides, rated to 450F, R = 4.3		

CONTROLS	ALL UNITS
Temperature Controls:	Four (4) channel analog card with 2 Type J Thermocouples: Fluid Concentration Monitoring & Element Intake/Redundant Low Level Shut-off
Control Inputs:	3 Frequency Shift Level Probes and Mist Pad Differential Pressure Transducer
Remote Connection:	Ethernet port for direct connection by ENCON Engineers
Control Panel:	UL Listed, NEMA 4, PLC Control Panel
	Touch screen Operator Interface Display with messages for normal & alarm conditions.
	Main power selector switch
	Indicators (2) – Main Power, Heater(s)

QUALITY	ALL UNITS
Leak Test:	Dye penetrant test performed on tank welds
I/O Simulation:	All I/O and controls are fully tested to insure accuracy/functionality
Warranty:	One Year for Parts and Workmanship Issues

Specifications subject to change without notice.

ATTACHMENT 3

October 2002 Administrative Permit Revision for Similar Electric Powered Thermal Evaporator Unit

ESHQSS: 19-024

LA-UR-19-23285

Date: APR 16 2019

40

Los Alamos
NATIONAL LABORATORY

Risk Reduction & Environmental Stewardship Division
Meteorology & Air Quality Group
PO Box 1663, MS J978
Los Alamos, New Mexico 87545
(505) 665-8855/Fax: (505) 665-8858

Date: October 7, 2002
Refer to: RRES-MAQ:02-375

Mr. Ted Schooley
New Mexico Environment Department
2048 Galisteo
Santa Fe, NM 87505

Dear Mr. Schooley:

In accordance with the requirements of 20 NMAC 2.72 Section 219 A.1.e for administrative permit revisions, Los Alamos National Laboratory (LANL) is providing notification to incorporate an exempt source or activity as defined in Section 202.B. The applicable exemption is Section 202.B.5:

> *Any emissions unit, operation, or activity that has a potential emission rate of no more than one-half (1/2) ton per year of any pollutant for which a National or New Mexico Ambient Air Quality Standard has been set or one-half (1/2) ton per year of any VOC. Multiple emissions units, operations, and activities that perform identical or similar functions shall be combined in determining the applicability of this exemption.*

The exempted sources are:

Two Electric Powered 600 Series SAMSCO Water Evaporators.

The units will be used to reduce a water waste stream through evaporation.

In accordance with Section 203.A.12, I hereby certify on behalf of LANL that the information submitted in this notification are as complete, true, and accurate as possible, to the best of my personal knowledge.

We request that this exempt unit be placed on the Air Quality Permit for the Rock Crusher (#2195) as a revision. Therefore, LANL has provided the Rock Crusher permit information under the *Current Air Quality Permit Status of the Facility* section of the Air Quality Notice of Exemption form.

If you have any questions, please feel free to contact me at 665-8862 or Jackie Hurtle at 665-4380. Thank you.

Sincerely,

Scott Miller
Deputy Group Leader

SM:db

Cy:
Jim Stine, DX-2, C920
Gordon Jio, DX-2, C920
Doug Stavert, RRES-EP, J591
Susan J. Voss, RRES-AT, E517
Jean Dewart, RRES-MAQ, J978
Jessica Trujillo, RRES-MAQ, J978
Jackie Hurtle, RRES-MAQ, J978
RRES-MAQ New Source Review File Air Quality ID 02-9956
RRES-MAQ New Source Review Exemption File
RRES-MAQ File

VOC Emissions Estimates for the two 600 Series SAMSCO Evaporators at TA-9

From chemical analysis of wastewater analytical data, VOCs and associated maximum concentrations are as follows:

1,2 Dichloroethane (BP = 183F (84C), VP = 87 mmHg @ 25C)
Maximum Concentration in waste water = 81 microg/liter

Methyl t-butyl ether (BP = 131F (55C), VP = 87 mmHg @ 25C)
Maximum Concentration in waste water = 1.8 microg/liter

2-Butanone (MEK) CAS # 78-93-3
Maximum Concentration in waste water = 39 microg/liter

Total Maximum Concentration = 81 microg/liter + 1.8 microg/liter + 39 microg/liter = **121.8 microg/liter**. (Assuming 100% emitted to air - worst case.)

Specs on 600 Series Evaporator Tank:

Capacity = 333 gallons = 1260.56 liters (assume 333 gallons of waste water)
Evaporation rate = 33-39 gallons/hour

Potential to Emit (PTE) and Assuming Total Evaporation

(39 gal/hour)(1 liter/0.264 gallons) = 147.73 liters/hour
(147.73 liters/hour)(121.8 x 10-6 gallons/liter)(1 pound/453.593) = 3.97 x 10-5 pound/hr
3.97 x 10-5 pound/hour (8760 hours/year) = 0.35 pounds/year.

Estimated VOC Emissions = 0.35 pounds/year per each unit

Total (combined) Estimated VOC Emissions = 0.7 pounds/year

Mail Application To:		Application No. _____
New Mexico Environment Department Air Quality Bureau New Source Review Unit 2048 Galisteo Santa Fe, NM 87505 Phone (505) 827-1494 http://www.nmenv.state.nm.us		AIRS No. 35 - - _____ ***For NMED use only***

Air Quality Notice of Exemption
Under 20.2.72.202.B NMAC

Under Section 202.B of Part 2.72 – [Air Quality] Construction Permits, the presence of new or modified sources and activities exempted at a facility must be reported in the permit application forms supplied by the Department. Emissions from sources and activities exempted under Section 202.B are not included in the calculation of the facility-wide potential emission rate under Paragraphs 1 or 2 of Subsection A of 20.2.72.200 NMAC.

This Notification Form provides a means to notify the Department of such exempted sources and activities. New or modified sources submitting a Part 2.72 application must provide notification of exempted sources and activities in the Part 2.72 application form. For construction of exempted sources or commencement of exempted activities after issuance of a Part 2.72 permit, this form may be submitted as an administrative permit revision application under 20.2.72.219.A NMAC. For facilities that consist only of exempted activities and sources, this form may serve as notification of such exemption under Part 2.72. *No fee is required for submittal of this form.*

Company and Facility Location Information

1	Company name: University of California, Los Alamos National Laboratory			Date application notarized:
2	Facility name: Los Alamos National Laboratory			SIC code (4 digits): 9711
3	Company mailing address: PO Box 1663, MS J978, Los Alamos, NM, 87545			
4	Contact person: Scott Miller			Title: Meteorology and Air Quality Deputy Group Leader
5	Phone No: 505-665-8862	Fax No: 505-665-8858		e-mail: s_miller@lanl.gov
6	County in which facility is/will be located: Los Alamos			
7	Nearest New Mexico town or tribal community…	Name: Los Alamos	Zip code: 87544	Distance and direction from source: TA-9, Building 21
8	Status of land at facility (check one): ☐Private ☐Tribal XGovernment ☐Bernalillo County			

Current Air Quality Permit Status of the Facility

1	Has this facility been issued an Air Quality Construction Permit (20 NMAC 2.72, Section 200.A or 200.B)? [X] yes [ ] no	If yes, the Permit No. is: 2195
3	Has this facility been issued a No Permit Required letter? ☐Yes XNo	If yes, the date of the letter is:
4	Has this facility been issued a Notice of Intent to Construct? ☐Yes XNo	If yes, the NOI Number is:
5	Has this facility been issued a General Permit (GCP-1, GCP-2)? ☐Yes XNo	If yes, the Registration No. is:

2.72.202.B.1: Exempted Fuel Burning Equipment

[ ] The applicant notifies the Department of the presence of exempted fuel burning equipment at the facility.
Identification of exempted equipment (number, type):

The applicant certifies that:
[ ] The fuel burning equipment is used solely for heating buildings for personal comfort or for producing hot water for personal use, and
[ ] The exempted fuel burning equipment either (check one):
- [ ] Uses gaseous fuel and has a design rate less than or equal to five (5) million BTU per hour; *or*
- [ ] Uses distillate oil (not including waste oil) and has a design rate less than or equal to one (1) million BTU per hour.

2.72.202.B.2: VOC Handling and/or Storage

[ ] The applicant notifies the Department of the presence of VOC emissions resulting from the handling or storing of one or more Volatile Organic Compounds at the facility.
Identification of VOC(s) stored or handled:

Capacity of Tank(s):

The applicant certifies that:
[ ] Each such VOC has a vapor pressure of less than two tenths (0.2) PSI at temperatures at which the compound is stored and handled; and
[ ] The owner or operator shall maintain sufficient record keeping to verify that the vapor pressure requirements above are and continue to be met.

2.72.202.B.3: Standby Generator

[ ] The applicant notifies the Department of the presence of a standby generator at the facility.
Identification of generator (generation capacity, fuel type):

The applicant certifies that:
[ ] The standby generator shall be operated *ONLY* during the unavoidable loss of commercial utility power.
[ ] The standby generator shall be operated *LESS THAN* 500 hours per year.
[ ] The standby generator shall be either (check one):
- [ ] the only source of air pollutant emissions at the site, *or*
- [ ] accompanied by sufficient record keeping to verify that the generator is operated less than 500 hours per year.

2.72.202.B.4: Repositioning or Relocating Permitted Equipment and/or Emissions Points

[ ] The applicant notifies the Department that the following equipment (sources of air emissions) at the permitted facility are being repositioned or relocated within the plant site:

[ ] The applicant notifies the Department that the following emissions points will be repositioned or relocated within the plant site:

The applicant certifies that such change in physical configuration:
[ ] does not increase air emissions from the facility.
[ ] does not increase the ambient impacts of such emissions.

2.72.202.B.5: Emissions Exempted Based on Quantity

[X] The applicant notifies the Department of the presence of a new or modified emissions unit, operation, or activity that has a potential emission rate that meets the criteria below.
NOTE: *Multiple emissions units, operations, and activities that perform identical or similar functions shall be combined in determining the applicability of this exemption.*
Identification of and potential emissions from each emissions unit, operation and activity exempted (note that additional information may be required as needed to document the applicability of an exemption):

2- Electric Powered 600 Series SAMSCO Water Evaporators producing no more than 0.7 pounds VOCs per year combined. See Attached Calculations.

The applicant certifies that the emissions unit, operation, or activity has a potential emission rate of no more than one-half (1/2) ton per year of:

[ ] Particulate Matter (PM10, PM2.5, TSP)	[ ] Carbon Monoxide
[ ] Sulfur Dioxide	[ ] Nitrogen Dioxide
[ ] Hydrogen Sulfide	[ ] Lead
[ ] Total Reduced Sulfur	[X] Volatile Organic Compounds

2.72.202.B.6: Surface Coating

[ ] The applicant notifies the Department of the presence of surface coating activities, including spray painting, roll coating, and/or painting with aerosol spray cans at the facility.
Identification of surface coating activities:

The applicant certifies that:
[ ] The potential emission rate of Volatile Organic Compounds (VOC) will not exceed ten (10) lbs/hour.
[ ] The facility-wide total VOC content of all coating and clean-up solvent use is less than two (2) tons/year.
[ ] The owner or operator shall maintain sufficient records to verify that the above requirements are met.

2.72.202.B.7: Abrasive Blasting

[ ] The applicant notifies the Department of the presence of particulate emissions resulting from abrasive blasting operations at the facility.
Description of abrasive blasting operations:

The applicant certifies that:
[ ] Abrasive blasting operations are entirely enclosed in a building.
[ ] No visible particulate emissions are released from the building.

Certification of Information

I, Scott Miller, hereby certify that the information and data submitted in this notification are true and accurate.

Signed this 9 day of October, 2002, upon my oath or affirmation, before a notary of the State of New Mexico.

Signature — 10/9/02 Date

Scott Miller — Printed Name

Deputy Group Leader, Meteorology and Air Quality Group — Title

Scribed and sworn before me on this 9th day of October, 2002.

My authorization as a notary of the State of New Mexico expires on the 24th day of June, 2006.

Notary's Signature — 10/9/02 Date

Delilah Baldonado
Notary's Printed Name

GARY E. JOHNSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
AIR QUALITY BUREAU
2048 Galisteo
Santa Fe, New Mexico 87505
Telephone (505) 827-1494
Fax (505) 827-1523

JOHN R. D'ANTONIO, JR.
SECRETARY

October 31, 2002

CERTIFIED MAIL NO. 7001 2510 0000 8012 8384
RETURN RECEIPT REQUESTED

Scott Miller
Deputy Group Leader
Meteorology and Air Quality Group
University of California
Los Alamos National Laboratory
P.O. Box 1663, MS J978
Los Alamos, NM 87545

Administrative Permit Revision
With Exemption
20 NMAC 2.72.202.B
Air Quality Permit 2195-Rev-10
Rock Crushing Facility
AIRS No. 35-028-0001

Dear Mr. Miller:

This letter is to acknowledge your letter of October 9, 2002 to revise Los Alamos National Laboratory's (Air Quality Permit Number 2195) per Title 20 of the New Mexico Administrative Code Chapter 2 Part 72 (20 NMAC 2.72), Construction Permits, Section 202.B. The facility is located near Los Alamos, New Mexico in Los Alamos County. This revision consists of adding two electric powered 600 series SAMSCO water evaporators. The request was received by the New Mexico Environment Department's Air Quality Bureau (Department) on October 11, 2002.

A review of the information you submitted confirms that the requirements specified in 20 NMAC 2.72, Construction Permits, Subpart II Permit Processing and Requirements, Section 202.B are met. The exemption is authorized under paragraph 5. Section 219.A.3 specifies that administrative permit revisions under 202.B become effective upon receipt of the notification by the Department.

This letter shall be attached to Air Quality Permit No. 2195-R9 issued by the Department on August 22, 2002 to serve as acknowledgment by the Department that this qualifies as an exemption.

If you have any questions, please do not hesitate to contact me in Santa Fe at (505) 827-1494 extension 8099.

Sincerely,

Walt Whetham

Walt Whetham
Permit Engineer
New Source Review Unit
Permitting Section

cc: Section Chief, Compliance and Enforcement Section, AQB, Santa Fe

Enclosure: Industry/Consultant Feedback Questionnaire with envelope