TASCOSA ALLIANCE COMPANY

APPLICATION FOR
MINOR SOURCE CONSTRUCTION AIR PERMIT

PRETREATMENT UNIT

Submitted to:

New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

Prepared for:

HOLLYFRONTIER.

Artesia PTU LLC
501 East Main Street
Artesia, Eddy County, New Mexico
Agency Interest No. To be Assigned

Prepared by:

Tascosa Alliance Company
4915 Cross Creek Court
Arlington, Texas 76017
817.726.6949

Tascosa Project No: 108-15

October 2020

October 23, 2020

Mr. Ted Schooley
Permitting Section Chief, Air Quality Bureau
New Mexico Environment Department
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

Certified Mail/Return Receipt No.
7019 0700 0002 3127 4300

Re: Application for Minor Source Construction Air Permit
for Pretreatment Unit
Artesia PTU LLC
Artesia, Eddy County, New Mexico
New Source Review Permit and Agency Interest Numbers: To be Assigned

Dear Mr. Schooley,

Artesia PTU LLC ("APTU"), a wholly owned subsidiary of HollyFrontier Renewables Holding Company LLC, which itself is a subsidiary of the HollyFrontier Corporation ("HFC"), is submitting this application for a construction air permit for a new minor source to be constructed in Artesia, NM. We are submitting this application in accordance with 20.2.72.200 NMAC. APTU requests the New Mexico Environment Department ("NMED") issue an air permit to authorize emissions for the proposed Pretreatment Unit ("PTU") in Artesia, New Mexico as represented in this application.

As communicated to NMED via an October 5, 2020 email and per NMED's October 6, 2020 verbal reply to that email, this is a minor source air permit application for the PTU. A separate application will be submitted to the NMED for a minor source permit for the Renewable Diesel Unit ("RDU"). The RDU was added to the adjacent refinery air permit via NSR Permit No. PSD-NM-0195-M38 that was issued to the HollyFrontier Navajo Refining LLC's Artesia Refinery in Artesia, New Mexico ("Navajo Artesia Refinery") on September 20, 2019. After the NMED issues the minor source permit for the RDU, an administrative Revision will be requested to remove the RDU from the Navajo Artesia Refinery air permit.

Background

APTU plans to construct, own and operate a PTU to treat certain feedstocks for the RDU, which will separately be owned and operated by Artesia Renewable Diesel Company LLC ("ARDC"). The feedstocks for these operations will be derived from nonpetroleum renewable resources, specifically, plant- and animal-based oils and fats – principally, based on current plans, soybean oil and corn oil, and, to a lesser extent, tallow. The PTU will pre-treat primarily the soybean oil, corn oil and beef tallow feedstock to make the material amenable to production of renewable diesel in the RDU. The PTU may also pre-treat these materials for intra-company shipment to another renewable diesel unit under construction by HFC at the Cheyenne Renewable Diesel Company LLC facility in Cheyenne, Wyoming or, potentially, in the future, to third party renewable diesel facilities.

Although APTU and ARDC will be located within and adjacent to Navajo Artesia Refinery, and all three entities will be under common control of HFC, the RDU and PTU will carry a Standard Industrial Classification ("SIC") major group different from the SIC major group carried by Navajo Artesia

Refinery, and therefore the PTU and the RDU constitute a separate stationary source than the Navajo Artesia Refinery, as the term is defined in the Clean Air Act and its underlying Prevention of Significant Deterioration (PSD) and Title V operating permit regulations.

The Navajo Artesia Refinery falls within SIC Major Group 29 (Petroleum Refining and Related Industries), and specifically, SIC code 2911 (Petroleum Refining). Unlike the Navajo Artesia Refinery, the RDU and the PTU will not be engaged in in petroleum refining and will not produce refined petroleum products through fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other processes. As a result, the RDU and PTU will not fall within the petroleum refining SIC code of 2911.

Rather, because of the raw materials used and the resulting non-petroleum-based renewable diesel product, the RDU is properly classified in SIC Major Group 28 (Chemicals and Allied Products), with the specific SIC code of 2869 (Industrial Organic Chemicals, Not Elsewhere Classified).[1] This is also consistent with our understanding of the SIC code assigned to other renewable diesel facilities in the United States. Regarding the PTU, this unit will serve as an auxiliary establishment to the RDU (or other renewable diesel units within HFC), because, based on current plans, it will be primarily engaged in producing goods or providing services for other establishments of the same company, rather than for the general public or for other business units. The SIC Manual prescribes that auxiliary establishments are classified on the basis of the primary activity of the operating establishment(s) they serve. The PTU is therefore properly assigned a SIC code based on the primary economic activity of the establishment that it supports, namely, SIC Major Group 28 and SIC code 2869, corresponding to the production of renewable diesel.[2] Thus, the RDU and the PTU are treated as a single stationary source with respect to PSD, Title V operating permit applicability, and minor source air dispersion modeling/ambient air impacts analysis. Regarding the PTU, this unit will serve as an auxiliary establishment to the RDU (or other renewable diesel units within HFC), because, based on current plans, it will be primarily engaged in producing goods or providing services for other establishments of the same company, rather than for the general public or for other business units.[3]

The RDU and the PTU – while a single stationary source – will not constitute a major source under PSD and Title V operating permit regulations. As a result, a PSD review and an associated PSD air quality analysis are not required.

The PTU and RDU may be subject to a 40 CFR Part 63 Maximum Achievable Control Technology (MACT) standard if the affected source as defined under that standard includes the types of processes and units at the PTU/RDU and this equipment otherwise meets that standard's applicability criteria. This is because the PTU (and RDU) are part of a group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit (considering controls) above major source

[1] Per the SIC Manual published by the United States Office of Management and Budget (1972), SIC code 2869 encompasses establishments "primarily engaged in manufacturing industrial organic chemicals, not elsewhere classified." Products of this industry include diesel-range paraffinic or isoparaffinic hydrocarbons not resulting from petroleum refining, such as the aliphatic and other acyclic organic chemicals that are the primary constituents of renewable diesel.

[2] It is possible that in the future, APTU might enter into contracts to supply treated materials to renewable diesel units outside of the HollyFrontier organization, and should this economic activity become significant enough, the PTU's SIC code assignment may have to be revisited.

[3] The products manufactured in the PTU will fall within SIC industry group 207.

thresholds for hazardous air pollutants (HAPs). Specifically, the RDU/PTU are contiguous with the Navajo Artesia Refinery, which is by itself a major source of HAPs, and the Refinery, the RDU and the PTU will all be under common control. Specific 40 CFR Part 63 applicability is discussed in Section 13 of this application.

Initially, the RDU was added to the Navajo Artesia Refinery's air permit via a Significant Revision that resulted in NMED issuing NSR Permit No. PSD-NM-0195-M38 on September 20, 2019. Since permit issuance, the scope of project expanded to include the PTU, with ARDC being the owner and operator of the RDU, and APTU being the owner and operator of the PTU. As such, the RDU will be removed from the Navajo Artesia Refinery's air permit via an Administrative Revision upon NMED's issuance of the stand-alone RDU minor source permit. The parallel application for that stand-alone RDU minor source air permit will be submitted separately.

By this Minor Source Construction Air Permit application, authorization for air emissions from the following emission units is requested (as repeated in Section 3 of the application form):

1. Y-0093 PTU Cooling Tower
2. 08B26 Filter Aid Tank Vent; and 26-1B25AP01, 26-2B25AP01, 26-1B25BP01, 26-2B25BP01, 26-1B26P01, and 26-2B26P01 Adsorption Vents - Vents for material (i.e., filter aid and bleaching earth) handling pneumatic conveyance systems
3. PTU SILOS Combined Silos 1-5 Vent - Vent for material (i.e., filter aid and bleaching earth) handling pneumatic filling into the silos
4. H-9301 Vapor Combustion Unit - Vapor combustion device for reduction of n-hexane emissions that evolve from residual n-hexane contained in soybean oil feedstock
5. PTU-WWTP PTU Wastewater Treatment Plant - Wastewater treatment plant that treats wastewater from the PTU prior to discharge to the City of Artesia Publicly Owned Treatment Works (POTW)
6. FUG-93-PTU PTU Fugitives - Piping components fugitive emissions for streams with VOC vapor pressure greater than the permitting exemption
7. T-0922 Bulk Caustic Tank; T-0923 and T-0924 Bulk Citric Acid Tanks

Per 20.2.702.202.B.(2), the following emission units are exempt from permitting due to the handling or storing of VOC having vapor pressure less than 0.2 psia at the handled or stored temperature:

8. FUG-93-PTU-LOVP - Piping components fugitive emissions for streams with VOC vapor pressure less than the permitting exemption
9. T-0915 through T-0917 PTU Product Tanks; T-0918 through T-0921 PTU Charge Tanks; and T-0925 through T-0927 Bulk Gums Tanks

Following this cover letter, a detailed Table of Contents for the application form is provided, in turn, followed by the application form with supplemental information inserted where applicable. The detailed Table of Contents expands the Table of Contents included in the NMED Universal Air Quality Permit Application form (end of Section 1). Supplemental information includes: a process flow diagram (Section 4); a plot plan (Section 5); project emission calculations (Section 6); emission calculation supporting information (Section 7); an area map and a unit location map (Section 8); and public notice documentation (Section 9).

In accordance with 20.2.72.203 NMAC, please find enclosed the following:

a. An original signed and notarized application printed double-sided (head-to-toe) except for the Section 2 tables that are printed head-to-head. The application is two-hole punched and includes numbered tab separators.

   The application includes the appropriate NMED application forms with supporting documentation, and a copy of the public notice provided via mailings, radio and newspaper notices per 20.2.72.203.B NMAC (if applicable).

b. A copy of the application printed double-sided in book form and 3-hole-punched.

c. The filing fee check ($500).

d. Rather than submitting two CD's with all the application electronic files, including a PDF file of the entire application, Artesia PTU has chosen to submit the electronic files via secure electronic transfer per Section 1-I of the application.

We would like to thank you in advance for your review and concurrence with this construction permit application.

If you have any questions regarding the information presented in this application, please do not hesitate to contact me at (575) 746-5487 or Scott.Denton@HollyFrontier.com, or Brian Gunzelman of Tascosa Alliance Company, our consultant on this project, at (817) 726-6949 or bgunzelman@tas-all.com.

Sincerely,

Scott M. Denton
Environmental Manager

cc: NMED: Melinda Owens, Title V Program Manager, Air Quality Bureau, New Mexico Environment Department, 525 Camino de los Marquez, Suite 1, Santa Fe, NM 87505, (505) 476-4346, via email to Melinda.Owens@state.nm.us
Joe Kimbrell, Advanced Air Permit Specialist, Major Source Permits Section, Air Quality Bureau, New Mexico Environment Department, 525 Camino de los Marquez, Suite 1, Santa Fe, NM 87505, (505) 476-4347, via email to Joseph.Kimbrell@state.nm.us
HollyFrontier: B. Arrington, P. Miller, T. Wheeler, S. Gokhale
Tascosa: Brian L. Gunzelman, P.E.

Application Form Table of Contents, Form, and Supplemental Information

Minor Source Construction Air Permit
Pretreatment Unit

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)~~ Not Applicable. This application is not a streamline application.
Section 19:	~~Requirements for the Title V (20.2.70 NMAC) Program (Title V applications only)~~ Not Applicable. This application is not a Title V application.
Section 20:	Other Relevant Information
Section 21:	~~Addendum for Landfill Applications~~ Not Applicable. This application is not a Landfill application.
Section 22:	Certification Page

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. See Section 1-I for submittal instructions for other permits.

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

Acknowledgements:

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

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

■ Check No.: in the amount of $500

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

☐ This facility qualifies to receive assistance from the Small Business Environmental Assistance program (SBEAP) and qualifies for 50% of the normal application and permit fees. Enclosed is a check for 50% of the normal application fee which will be verified with the Small Business Certification Form for your company.

☐ This facility qualifies to receive assistance from the Small Business Environmental Assistance Program (SBEAP) but does not qualify for 50% of the normal application and permit fees. To see if you qualify for SBEAP assistance and for the small business certification form go to https://www.env.nm.gov/aqb/sbap/small_business_criteria.html).

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.72.200.A 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: To be assigned	Updating Permit/NOI #: N/A
1	Facility Name: Pretreatment Unit	Plant primary SIC Code (4 digits): 2869	
		Plant NAIC code (6 digits): 325199	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): 501 E. Main St., Artesia, NM 88210		
2	Plant Operator Company Name: Artesia PTU LLC	Phone/Fax: (575) 748-3311	
a	Plant Operator Address: P.O. Box 159, Artesia, NM 88211-0159		
b	Plant Operator's New Mexico Corporate ID or Tax ID: Tax ID is CRS # 03-529569-00-4		

3	Plant Owner(s) name(s): Artesia PTU LLC	Phone/Fax: (575) 748-3311
a	Plant Owner(s) Mailing Address(s): P.O. Box 159, Artesia, NM 88211-0159	
4	Bill To (Company): Artesia PTU LLC	Phone/Fax: (575) 746-5487 / (575) 746-5451
a	Mailing Address: P.O. Box 159, Artesia, NM 88211-0159	E-mail: Scott.Denton@HollyFrontier.com
5	☐ Preparer: ■ Consultant: Brian L. Gunzelman, Tascosa Alliance Company	Phone/Fax: (817) 726-6949 / NA
a	Mailing Address: 4915 Cross Creek Court, Arlington, TX 76017	E-mail: bgunzelman@tas-all.com
6	Plant Operator Contact: Scott M. Denton	Phone/Fax: (575) 746-5487 / (575) 746-5451
a	Address: P.O. Box 159, Artesia, NM 88211-0159	E-mail: Scott.Denton@HollyFrontier.com
7	Air Permit Contact: Scott M. Denton	Title: Environmental Manager
a	E-mail: Scott.Denton@HollyFrontier.com	Phone/Fax: (575) 746-5487 / (575) 746-5451
b	Mailing Address: P.O. Box 159, Artesia, NM 88211-0159	
c	The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau.	

Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? ☐ Yes ■ No	1.b If yes to question 1.a, is it currently operating in New Mexico? ☐ Yes ☐ No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? ☐ Yes ☐ No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? ☐ Yes ☐ No
3	Is the facility currently shut down? ☐ Yes ■ No	If yes, give month and year of shut down (MM/YY):
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: -
7	Has this facility been issued a No Permit Required (NPR)? ☐ Yes ■ No	If yes, the NPR No. is:
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:
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes ■ No	If yes, the register No. is:

Section 1-C: Facility Input Capacity & Production Rate

1	What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: N/A	Daily: N/A	Annually: N/A
b	Proposed	Hourly: N/A	Daily: N/A	Annually: N/A
2	What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: N/A	Daily: N/A	Annually: N/A
b	Proposed	Hourly: N/A	Daily: N/A	Annually: N/A

Section 1-D: Facility Location Information

1	Section: 9	Range: 26E	Township: 17S	County: Eddy	Elevation (ft): 3,365
2	UTM Zone: ☐ 12 or ■ 13			Datum: ☐ NAD 27 ■ NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): 557,000			UTM N (in meters, to nearest 10 meters): 3,633,900	
b	**AND** Latitude (deg., min., sec.): 32° 50' 30.0"			Longitude (deg., min., sec.): -104° 23' 27.3"	
3	Name and zip code of nearest New Mexico town: Artesia 88210				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): PTU is southeast and adjacent to Artesia city limits.				
5	The facility is 0 (distance) miles southeast (direction) of Artesia (nearest town).				
6	Status of land at facility (check one): ■ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☐ Other (specify)				
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: Eddy County, Chaves County, Artesia				
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/aqb/modeling/class1areas.html)? ☐ Yes ■ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers:				
9	Name nearest Class I area: Carlsbad Caverns National Park				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 71 km				
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: 5 m				
12	Method(s) used to delineate the Restricted Area: Fencing, walls, and gates. "**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? Artesia Refinery Renewable Diesel Unit, PSD-NM-0195-M39R1				

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: January 2021					
4	Month and year of anticipated construction completion: October 2021					
5	Month and year of anticipated startup of new or modified facility: October 2021					
6	Will this facility operate at this site for more than one year? ■ Yes ☐ No					

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ■ No If yes, specify:

a	If yes, NOV date or description of issue:		NOV Tracking No:
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes ■ No If Yes, provide the 1c & 1d info below:		
c	Document Title:	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 May be subject to 40 CFR Part 63 standards because contiguous and under common control with adjacent Navajo Artesia Refinery which is a major HAP source.		
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: __Xcel Energy_____ 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 Not Applicable

(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):		Phone:
a	R.O. Title:	R.O. e-mail:	
b	R. O. Address:		
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC):		Phone:
a	A. R.O. Title:	A. R.O. e-mail:	
b	A. R. O. Address:		
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):		
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.):		
a	Address of Parent Company:		
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.):		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations:		
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:		

Section 1-I – Submittal Requirements

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

Hard Copy Submittal Requirements:

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

2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This copy should be printed in book form, 3-hole punched, and **must be double sided**. Note that this is in addition to the head-to-to 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.

3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two** CD copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a single CD submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB's secure file transfer service.

Electronic files sent by (check one):

☐ CD/DVD attached to paper application

■ secure electronic transfer. Air Permit Contact Name Brian L. Gunzelman

Email bgunzelman@tas-all.com

Phone number (817) 726-6949

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

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

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

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

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

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

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

2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible

format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format. We must be able to review the formulas and inputs that calculated the emissions.

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

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

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Table 2-A: Regulated Emission Sources

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

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufact-urer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classi-fication Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
Y-0093	PTU Cooling Tower	To Be Determined	TBD	TBD	2,500 gpm	2,500 gpm	NA / 2021	NA / Y-0093	38500101	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
08B26	Filter Aid Tank Vent	NA	NA	NA	375 acfm	375 acfm	NA / 2021	08B26 COLLECT / 08B26	30206012	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
26-1B25AP01	Adsorption Train 1 Vent A	NA	NA	NA	375 acfm	375 acfm	NA / 2021	1B25A COLLECT / 26-1B25AP01	30206012	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
26-2B25AP01	Adsorption Train 1 Vent B	NA	NA	NA	375 acfm	375 acfm	NA / 2021	2B25A COLLECT / 26-2B25AP01	30206012	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
26-1B25BP01	Adsorption Train 2 Vent A	NA	NA	NA	375 acfm	375 acfm	NA / 2021	1B25B COLLECT / 26-1B25BP01	30206012	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
26-2B25BP01	Adsorption Train 2 Vent B	NA	NA	NA	375 acfm	375 acfm	NA / 2021	2B25B COLLECT / 26-2B25BP01	30206012	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
26-1B26P01	Adsorption Train 1 Vent C	NA	NA	NA	375 acfm	375 acfm	NA / 2021	1B26 COLLECT / 26-1B26P01	30206012	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
26-2B26P01	Adsorption Train 2 Vent C	NA	NA	NA	375 acfm	375 acfm	NA / 2021	2B26 COLLECT / 26-2B26P01	30206012	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
PTU SILOS	Combined Silos 1-5 Vent	NA	NA	NA	3,375 acfm	3,375 acfm	NA / 2021	SILOS COLLECT / PTU SILOS	30206012	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
PTU VOC VENTS	Pretreatment VOC Vents	NA	NA	NA	NA	NA	NA / 2021	H-9301 / H-9301	30206012	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
H-9301	Vapor Combustion Unit	To Be Determined	TBD	TBD	1.4 MMBtu/hr HHV	1.4 MMBtu/hr HHV	NA / 2021	NA / H-9301	39990014	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
PTU-WWTP	PTU Wastewater Treatment Plant	NA	NA	NA	NA	NA	NA / 2021	NA / PTU-WWTP	30282002	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
FUG-93-PTU	PTU Fugitives	NA	NA	NA	NA	NA	NA / 2021	NA / FUG-93-PTU	30201919	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
T-0922	Caustic Tank	NA	NA	NA	7,000 gal	7,000 gal	NA / 2021	NA / T-0922	2520000000	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
T-0923	Citric Acid Tank	NA	NA	NA	14,000 gal	14,000 gal	NA / 2021	NA / T-0923	40729697	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
T-0924	Citric Acid Tank	NA	NA	NA	14,000 gal	14,000 gal	NA / 2021	NA / T-0924	40729697	□ Existing (unchanged) □ To be Removed ■ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		
										□ Existing (unchanged) □ To be Removed □ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced		

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

[2] Specify dates required to determine regulatory applicability.

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

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

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

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at https://www.env.nm.gov/wp-content/uploads/sites/2/2017/10/InsignificantListTitleV.pdf. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check One
T-0915	PTU Tank	NA	NA NA	29,000 bbl	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T-0916	PTU Tank	NA	NA NA	29,000 bbl	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T-0917	PTU Tank	NA	NA NA	29,000 bbl	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T-0918	PTU Tank	NA	NA NA	17,000 bbl	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T-0919	PTU Tank	NA	NA NA	17,000 bbl	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T-0920	PTU Tank	NA	NA NA	17,000 bbl	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T-0921	PTU Tank	NA	NA NA	17,000 bbl	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T-0925	PTU Tank	NA	NA NA	88,000 gal	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T-0926	PTU Tank	NA	NA NA	88,000 gal	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
T-0927	PTU Tank	NA	NA NA	88,000 gal	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
FUG-93-PTU-LOVP	PTU Fugitives - Low Vapor Pressure	NA	NA NA	NA NA	20.2.72.202.B.2 NA	NA 2021	☐ Existing (unchanged) ☐ To be Removed ■ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

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

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

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
08B26 COLLECT	Filter Aid Tank Vent Dust Collector	2021	PM	08B26	99.9%	
1B25A COLLECT	Adsorption Train 1 Vent A Dust Collector	2021	PM	26-1B25AP01	99.9%	
2B25A COLLECT	Adsorption Train 1 Vent B Dust Collector	2021	PM	26-2B25AP01	99.9%	
1B25B COLLECT	Adsorption Train 2 Vent A Dust Collector	2021	PM	26-1B25BP01	99.9%	
2B25B COLLECT	Adsorption Train 2 Vent B Dust Collector	2021	PM	26-2B25BP01	99.9%	
1B26 COLLECT	Adsorption Train 1 Vent C Dust Collector	2021	PM	26-1B26P01	99.9%	
2B26 COLLECT	Adsorption Train 2 Vent C Dust Collector	2021	PM	26-2B26P01	99.9%	
SILOS COLLECT	Combined Silos 1-5 Vent Dust Collector	2021	PM	PTU SILOS	99.9%	
H-9301	Vapor Combustion Unit	2021	VOC	PTU VOC VENTS	95%	

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

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

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

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

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
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 PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but PM is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-E: Requested Allowable Emissions

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

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Y-0093	--	--	--	--	--	--	--	--	0.044	0.192	0.026	0.115	0.00010	0.00043	--	--	--	--
08B26	--	--	--	--	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--
26-1B25AP01	--	--	--	--	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--
26-2B25AP01	--	--	--	--	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--
26-1B25BP01	--	--	--	--	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--
26-2B25BP01	--	--	--	--	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--
26-1B26P01	--	--	--	--	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--
26-2B26P01	--	--	--	--	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--
PTU SILOS	--	--	--	--	--	--	--	--	0.0579	0.2534	0.0579	0.2534	0.0579	0.2534	--	--	--	--
PTU VOC VENTS	--	--	--	--	2.045	8.957	--	--	--	--	--	--	--	--	--	--	--	--
H-9301	0.241	1.055	0.112	0.489	--	--	0.003	0.012	0.010	0.044	0.010	0.044	0.010	0.044	--	--	--	--
PTU-WWTP	--	--	--	--	0.520	2.277	--	--	--	--	--	--	--	--	--	--	--	--
FUG-93-PTU	--	--	--	--	0.169	0.739	--	--	--	--	--	--	--	--	--	--	--	--
Totals	0.241	1.055	0.112	0.489	2.734	11.974	0.003	0.012	0.1567	0.6866	0.1393	0.6102	0.1131	0.4952				

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

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

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

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

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

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

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

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

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

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

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

Table 2-H: Stack Exit Conditions

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

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
Y-0093	Y-0093	V (2 fans/stacks)	No	22	90	3,002.5	N/A	N/A	23.5	12.75
08B26	08B26	V	No	80	100	6.25	N/A	N/A	127.3	0.25
26-1B25AP01	26-1B25AP01	V	No	80	100	6.25	N/A	N/A	127.3	0.25
26-2B25AP01	26-2B25AP01	V	No	80	100	6.25	N/A	N/A	127.3	0.25
26-1B25BP01	26-1B25BP01	V	No	80	100	6.25	N/A	N/A	127.3	0.25
26-2B25BP01	26-2B25BP01	V	No	80	100	6.25	N/A	N/A	127.3	0.25
26-1B26P01	26-1B26P01	V	No	80	100	6.25	N/A	N/A	127.3	0.25
26-2B26P01	26-2B26P01	V	No	80	100	6.25	N/A	N/A	127.3	0.25
PTU SILOS	PTU SILOS	V	No	80	100	56.25	N/A	N/A	161.1	0.67
H-9301	H-9301	V	No	50	1400	15.7	N/A	N/A	20.0	1.00

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

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

Stack No.	Unit No.(s)	Total HAPs		Hexane ■ 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 □ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
H-9301	PTU VOC VENTS	2.045	8.957																
FUG-93-PTU	FUG-93-PTU	0.014	0.060																
Totals:		2.1	9.0																

Table 2-J: Fuel

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

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, …)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
H-9301	Natural Gas	Purchased Natural Gas	1,020 Btu/scf, HHV	490.2 scf/hr	4.29 MMscf/hr	2 gr/100 scf	NA

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)
T-0922	2.52E+09	Aqueous Caustic	Water, NaOH, NaCl	12.76	18.5	660	0.105	660	0.105
T-0923	40729697	Aqueous Citric Acid	Water, Citric Acid	10.34	18.9	590	1.8	590	1.8
T-0924	40729697	Aqueous Citric Acid	Water, Citric Acid	10.34	18.9	590	1.8	590	1.8

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			
T-0922	2021	Aqueous Caustic	NA	FX	167	26	3.81	4.13	WH	WH	Good	84,000	12
T-0923	2021	Aqueous Citric Acid	NA	FX	333	53	3.81	8.13	WH	WH	Good	546,000	39
T-0924	2021	Aqueous Citric Acid	NA	FX	333	53	3.81	8.13	WH	WH	Good	546,000	39

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)**
Crude Oils	Varies (Vegetable Oils, Animal Fats, Etc)	Liquid	Varies	Pretreated Oils	Varies (Vegetable Oils, Animal Fats, Etc)	Liquid	Varies

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
None. Not Applicable.									

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
None. Not Applicable.								

Table 2-P: Greenhouse Gas Emissions

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

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									**Total GHG** Mass Basis ton/yr[4]	**Total CO_2e** ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**										
PTU VCU	**mass GHG**	805	0.005	0.030											805.495	
	CO_2e	805	1.62	0.74												807.82
WWTP	**mass GHG**	11,112													11,112.000	
	CO_2e	11,112														11,112.00
	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**	11,917	0.005	0.030											11,917	
	CO_2e	11,917	1.62	0.74												11,920

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

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

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

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

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

Section 3

Application Summary

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

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

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

Artesia PTU LLC ("APTU"), a wholly owned subsidiary of HollyFrontier Renewables Holding Company LLC, which itself is a subsidiary of the HollyFrontier Corporation ("HFC"), is submitting this application for a construction air permit for a new minor source to be constructed in Artesia, NM. We are submitting this application in accordance with 20.2.72.200 NMAC. APTU requests the New Mexico Environment Department ("NMED") issue an air permit to authorize emissions for the proposed Pretreatment Unit ("PTU") in Artesia, New Mexico as represented in this application.

As communicated to NMED via an October 5, 2020 email and per NMED's October 6, 2020 verbal reply to that email, this is a minor source air permit application for the PTU. A separate application will be submitted to the NMED for a minor source permit for the Renewable Diesel Unit ("RDU"). The RDU is currently included in NSR Permit No. PSD-NM-0195-M38, that was issued to the HollyFrontier Navajo Refining LLC's Artesia Refinery in Artesia, New Mexico ("Navajo Artesia Refinery") on September 20, 2019. After the NMED issues the minor source permit for the RDU, an administrative Revision will be requested to remove the RDU from the Navajo Artesia Refinery air permit.

Background

APTU plans to construct, own and operate a PTU to treat certain feedstocks for the RDU, which will separately be owned and operated by Artesia Renewable Diesel Company LLC ("ARDC"). The feedstocks for these operations will be derived from nonpetroleum renewable resources, specifically, plant- and animal-based oils and fats – principally, based on current plans, soybean oil and corn oil, and, to a lesser extent, tallow. The PTU will pre-treat primarily the soybean oil, corn oil and beef tallow feedstock to make the material amenable to production of renewable diesel in the RDU. The PTU may also pre-treat these materials for intra-company shipment to another renewable diesel unit under construction by HFC at the Cheyenne Renewable Diesel Company LLC facility in Cheyenne, Wyoming or, potentially, in the future, to third party renewable diesel facilities.

Although APTU and ARDC will be located within and adjacent to Navajo Artesia Refinery, and all three entities will be under common control of HFC, the RDU and PTU will carry a Standard Industrial Classification ("SIC") major group different from the SIC major group carried by Navajo Artesia Refinery, and therefore the PTU and the RDU constitute a separate stationary source than the Navajo Artesia Refinery, as the term is defined in the Clean Air Act and its underlying Prevention of Significant Deterioration (PSD) and Title V operating permit regulations.

The Navajo Artesia Refinery falls within SIC Major Group 29 (Petroleum Refining and Related Industries), and specifically, SIC code 2911 (Petroleum Refining). Unlike the Navajo Artesia Refinery, the RDU and the PTU will not be engaged in in petroleum refining and will not produce refined petroleum products through fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other processes. As a result, the RDU and PTU will not fall within the petroleum refining SIC code of 2911.

Rather, because of the raw materials used and the resulting non-petroleum-based renewable diesel product, the RDU is properly classified in SIC Major Group 28 (Chemicals and Allied Products), with the specific SIC code of 2869 (Industrial Organic Chemicals, Not Elsewhere Classified).[1] This is also consistent with our understanding of the SIC code assigned to other renewable diesel facilities in the United States. Regarding the PTU, this unit will serve as an auxiliary establishment to the RDU (or other renewable diesel units within HFC), because, based on current plans, it will be primarily engaged in producing goods or providing services for other establishments of the same company, rather than for the general public or for other business units. The SIC Manual prescribes that auxiliary establishments are classified on the basis of the primary activity of the operating establishment(s) they serve. The PTU is therefore properly assigned a SIC code based on the primary economic activity of the establishment that it supports, namely, SIC Major Group 28 and SIC code 2869, corresponding to the production of renewable diesel.[2] Thus, the RDU and the PTU are treated as a single stationary source with respect to PSD, Title V operating permit applicability, and minor source air dispersion modeling/ambient air impacts analysis. Regarding the PTU, this unit will serve as an auxiliary establishment to the RDU (or other renewable diesel units within HFC), because, based on current plans, it will be primarily engaged in producing goods or providing services for other establishments of the same company, rather than for the general public or for other business units.[3]

The RDU and the PTU – while a single stationary source – will not constitute a major source under PSD and Title V operating permit regulations. As a result, a PSD review and an associated PSD air quality analysis are not required.

The PTU and RDU may be subject to a 40 CFR Part 63 Maximum Achievable Control Technology (MACT) standard if the affected source as defined under that standard includes the types of processes and units at the PTU/RDU and this equipment otherwise meets that standard's applicability criteria. This is because the PTU (and RDU) are part of a group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit (considering controls) above major source thresholds for hazardous air pollutants (HAPs). Specifically, the RDU/PTU are contiguous with the Navajo Artesia Refinery, which is by itself a major source of HAPs, and the Refinery, the RDU and the PTU will all be under common control. Specific 40 CFR Part 63 applicability is discussed in Section 13 of this application.

Initially, the RDU was added to the Navajo Artesia Refinery's air permit via a Significant Revision that resulted in NMED issuing NSR Permit No. PSD-NM-0195-M38 on September 20, 2019. Since permit issuance, the scope of project expanded to include the PTU, with ARDC being the owner and operator of the RDU, and APTU being the owner and operator of the PTU. As such, the RDU will be removed from the Navajo Artesia Refinery's air permit via an Administrative Revision upon NMED's issuance of the stand-alone RDU minor source permit. The parallel application for that stand-alone RDU minor source air permit will be submitted separately.

By this Minor Source Construction Air Permit application, authorization for air emissions from the following emission units is requested (as repeated in Section 3 of the application form):

1. Y-0093 PTU Cooling Tower
2. 08B26 Filter Aid Tank Vent; and 26-1B25AP01, 26-2B25AP01, 26-1B25BP01, 26-2B25BP01, 26-1B26P01, and 26-2B26P01 Adsorption Vents - Vents for material (i.e., filter aid and bleaching earth) handling pneumatic conveyance systems
3. PTU SILOS Combined Silos 1-5 Vent - Vent for material (i.e., filter aid and bleaching earth) handling pneumatic filling into the silos
4. H-9301 Vapor Combustion Unit - Vapor combustion device for reduction of n-hexane emissions that evolve from residual n-hexane contained in soybean oil feedstock
5. PTU-WWTP PTU Wastewater Treatment Plant - Wastewater treatment plant that treats wastewater from the PTU prior to discharge to the City of Artesia Publicly Owned Treatment Works (POTW)

[1] Per the SIC Manual published by the United States Office of Management and Budget (1972), SIC code 2869 encompasses establishments "primarily engaged in manufacturing industrial organic chemicals, not elsewhere classified." Products of this industry include diesel-range paraffinic or isoparaffinic hydrocarbons not resulting from petroleum refining, such as the aliphatic and other acyclic organic chemicals that are the primary constituents of renewable diesel.

[2] It is possible that in the future, APTU might enter into contracts to supply treated materials to renewable diesel units outside of the HollyFrontier organization, and should this economic activity become significant enough, the PTU's SIC code assignment may have to be revisited.

[3] The products manufactured in the PTU will fall within SIC industry group 207.

6. FUG-93-PTU PTU Fugitives - Piping components fugitive emissions for streams with VOC vapor pressure greater than the permitting exemption
7. T-0922 Bulk Caustic Tank; T-0923 and T-0924 Bulk Citric Acid Tanks

Per 20.2.702.202.B.(2), the following emission units are exempt from permitting due to the handling or storing of VOC having vapor pressure less than 0.2 psia at the handled or stored temperature:

8. FUG-93-PTU-LOVP - Piping components fugitive emissions for streams with VOC vapor pressure less than the permitting exemption
9. T-0915 through T-0917 PTU Product Tanks; T-0918 through T-0921 PTU Charge Tanks; and T-0925 through T-0927 Bulk Gums Tanks

Section 4

Process Flow Sheet

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

A process flow diagram for the Pretreatment Unit is included in this section.

From Railcars
T-0928
From Railcars
T-0929
From Railcars
T-0930
From Railcars
T-0931
T-0932 Rail Containment Feed
T-0933 Rail Containment RD
T-0934 Rail Containment Recovered Oil
PTU Product Rail Loading
Renewable Diesel Rail Loading
T-0901 Renewable Diesel
T-0902 Renewable Diesel
T-0903 Renewable Diesel
T-0906 RDU Feed Tank
T-0907 RDU Feed Tank
T-0908 RDU Feed Tank
T-0909 RDU Feed Tank
T-0910 RDU Feed Tank
T-0911 RDU Feed Tank
T-0912 RDU Feed Tank
T-0913 RDU Feed Tank
T-0918 PTU Charge Tank
T-0919 PTU Charge Tank
T-0920 PTU Charge Tank
T-0921 PTU Charge Tank
PTU Degumming Section
PTU Adsorption Section
PTU PE Filtration Section
T-0915 PTU Product
T-0916 PTU Product
T-0917 PTU Product
T-0904 RDU Charge
T-0905 RDU Charge
RDU
T-0914 Slop Tank
T-0922 Caustic Soda
T-0923 Citric Acid
T-0924 Citric Acid
T-0925 Bulk Gums Tank
T-0926 Bulk Gums Tank
T-0927 Bulk Gums Tank
Sludge Tanks
Centrifuge
Rolloff Containers
Equalization Tanks
Primary DAF
BioReactors
Secondary DAF
Treated Water Tank
POTW Outfall

Section 5

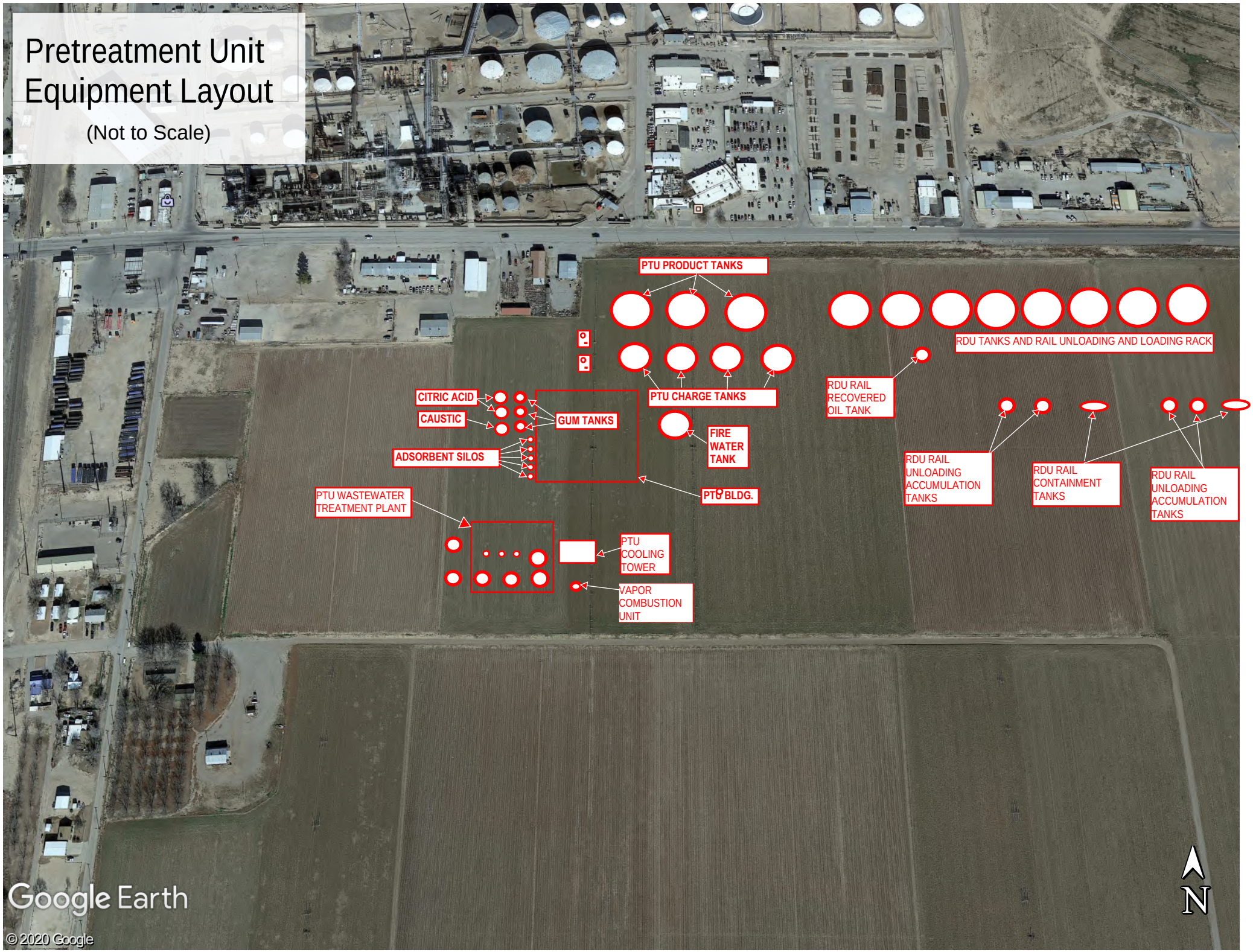
Plot Plan Drawn To Scale

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

A not-to-scale layout of the Pretreatment Unit equipment is included in this section. It shows the general layout of equipment.

Pretreatment Unit Equipment Layout

(Not to Scale)



Section 6

All Calculations

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

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

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

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

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

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

Significant Figures:

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

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

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

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

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

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

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

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

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

Emission calculations for all sources are included in this section. Files containing emission calculations for all sources are included with the submitted electronic files.

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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

Calculating GHG Emissions:

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

Sources for Calculating GHG Emissions:

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

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

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

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

Greenhouse gas potential to emits are included in the calculations in Section 6.

PTU AND RDU SOURCE - PROPOSED EMISSION LIMITS AND PERMITTING APPLICABILITY EVALUATION
ARTESIA PTU LLC and ARTESIA RENEWABLE DIESEL COMPANY LLC

Sources		Proposed Allowable Emissions (represented maximum emissions for GHG)																
		CO		NO_x		PM		PM_{10}		$PM_{2.5}$		SO_2		VOC		n-Hexane		GHG
Unit	Description	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	CO2e ton/yr
Pretreatment Unit (PTU) Emission Units																		
Y-0093	PTU Cooling Tower	--	--	--	--	0.044	0.192	0.026	0.115	0.00010	0.00043	--	--	--	--	--	--	--
08B26	Filter Aid Tank Vent	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--	--	--	--
26-1B25AP01	Adsorption Train 1 Vent A	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--	--	--	--
26-2B25AP01	Adsorption Train 1 Vent B	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--	--	--	--
26-1B25BP01	Adsorption Train 2 Vent A	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--	--	--	--
26-2B25BP01	Adsorption Train 2 Vent B	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--	--	--	--
26-1B26P01	Adsorption Train 1 Vent C	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--	--	--	--
26-2B26P01	Adsorption Train 2 Vent C	--	--	--	--	0.0064	0.0282	0.0064	0.0282	0.0064	0.0282	--	--	--	--	--	--	--
PTU SILOS	Combined Silos 1-5 Vent	--	--	--	--	0.0579	0.2534	0.0579	0.2534	0.0579	0.2534	--	--	--	--	--	--	--
PTU VOC VENTS	Pretreatment VOC Vents	--	--	--	--	--	--	--	--	--	--	--	--	2.045	8.957	2.045	8.957	--
H-9301	Vapor Combustion Unit	0.112	0.489	0.241	1.055	0.010	0.044	0.010	0.044	0.010	0.044	0.003	0.012	--	--	--	--	808
PTU-WWTP	PTU Wastewater Treatment Plant	--	--	--	--	--	--	--	--	--	--	--	--	0.520	2.277	--	--	11,112
FUG-93-PTU	PTU Fugitives	--	--	--	--	--	--	--	--	--	--	--	--	0.169	0.739	0.014	0.060	--
Permit-Exempt PTU Emissions [a]																		
FUG-93-PTU-LOVP	PTU Fugitives - Low Vapor Pressure	--	--	--	--	--	--	--	--	--	--	--	--	0.486	2.127	--	--	--
Subtotal PTU (excluding Exempt Emissions) =			**0.49**		**1.06**		**0.69**		**0.61**		**0.50**		**0.01**		**11.97**		**9.02**	**11,920**
Subtotal PTU (including Exempt Emissions) =		**0.11**	**0.49**	**0.24**	**1.06**	**0.16**	**0.69**	**0.14**	**0.61**	**0.11**	**0.50**	**0.003**	**0.01**	**3.22**	**14.10**	**2.06**	**9.02**	**11,920**
Renewable Diesel Unit (RDU) Emission Units																		
H-2601	RDU Reactor Heater	2.620	11.473	1.330	5.825	0.370	1.622	0.370	1.622	0.370	1.622	1.310	2.126	0.268	1.174	--	--	23,058
Y-0026	RDU Cooling Tower	--	--	--	--	0.044	0.192	0.026	0.115	0.00010	0.00043	--	--	--	--	--	--	--
FUG-26-RDU	RDU Fugitives	--	--	--	--	--	--	--	--	--	--	--	--	0.478	2.092	--	--	--
T-0914	Slop Tank	--	--	--	--	--	--	--	--	--	--	--	--	29.600	8.661	--	--	--
Permit-Exempt RDU Emissions [a]																		
T-0901, T-0902, T-0903	Product Tanks	--	--	--	--	--	--	--	--	--	--	--	--	100.620	6.497	--	--	--
FUG-26-RDU-LOVP	RDU Fugitives - Low Vapor Pressure	--	--	--	--	--	--	--	--	--	--	--	--	0.486	2.127	--	--	--
RLO-26	Railcar Unloading and Loading Rack	--	--	--	--	--	--	--	--	--	--	--	--	9.840	2.040	--	--	--
Subtotal RDU (excluding Exempt Emissions) =			**11.47**		**5.82**		**1.81**		**1.74**		**1.62**		**2.13**		**11.93**		**0.00**	**23,058**
Subtotal RDU (including Exempt Emissions) =		**2.62**	**11.47**	**1.33**	**5.82**	**0.41**	**1.81**	**0.40**	**1.74**	**0.37**	**1.62**	**1.31**	**2.13**	**141.29**	**22.59**	**0.00**	**0.00**	**23,058**
Total Proposed PTU and RDU Source Potential to Emit =			**11.96**		**6.88**		**2.50**		**2.35**		**2.12**		**2.14**		**36.69**		**9.02**	**34,978**
PSD or Title V Major Source Thresholds [b, c, d] =			**100**		**100**		**100**		**100**		**100**		**100**		**100**		**10**	**75,000**
Total source allowable emissions > major threshold? [e]			**No**		**No**		**No**		**No**		**No**		**No**		**No**		**No**	**No**

[a] "Permit-Exempt" indicates these emissions are exempt from air permitting per 20.2.72.202 NMAC. They are calculated conservatively and included in this table for the purpose of the PSD and Title V minor source determination.

[b] Per 40 CFR §52.21(b)(1)(i)(a), the Prevention of Significant Deterioration (PSD) major source threshold for "chemical process plants" is 100 ton/yr of any regulated New Source Review (NSR) pollutant. Chemical process plants are those identified under Major Group 28 of the SIC code.

[c] Per 40 CFR §52.21(b)(49)(iv), GHG is subject to PSD review only if a source is a major source of another regulated NSR pollutant and the source will have potential to emit ≥ 75,000 ton/yr CO_2e.

[d] Per 40 CFR §70.2, with respect to Title V permitting the major source thresholds include 10 ton/yr of any hazardous air pollutant (HAP, such as n-hexane) or 100 ton/yr of any pollutant subject to regulation.

[e] "No" indicates that for each pollutant, the proposed emissions do not trigger PSD Review or Title V permitting.

PTU AND RDU SOURCE - PROPOSED EMISSION LIMITS AND PERMITTING APPLICABILITY EVALUATION
ARTESIA PTU LLC and ARTESIA RENEWABLE DIESEL COMPANY LLC

Ancillary Pretreatment Unit (PTU) Emission Units

Sources		Proposed Allowable Emissions					
		Citric Acid		NaCl		NaOH	
Unit	Description	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
T-0922	Caustic Tank	--	--	0.0010	0.00001	0.0097	0.00015
T-0923	Citric Acid Tank	0.102	0.012	--	--	--	--
T-0924	Citric Acid Tank	0.102	0.012	--	--	--	--
Total Proposed Allowable Emissions =		**0.2036**	**0.0244**	**0.0010**	**0.00001**	**0.0097**	**0.0001**

[f] Caustic (NaOH), sodium chloride (NaCl), and Citric Acid are not HAP. Only NaOH is a NMAC 20.2.72.502 Toxic Air Pollutant (TAP).

POTENTIAL TO EMIT - COOLING TOWER
ARTESIA PTU LLC

Input Data:

Cooling Tower	Water Circulation Rate (gal/min)	Drift Eliminator Efficiency (% drift)	Annual Hours of Operation (hr/yr)
Y-0093	2,500	0.001	8760

TDS (ppmw) [1] 3,500

Emissions:

Cooling Tower	Emissions [2, 3]					
	PM		PM-10		PM2.5	
	(lb/hr)	(tons/yr)	(lb/hr)	(tons/yr)	(lb/hr)	(tons/yr)
Y-0093	0.044	0.192	0.026	0.115	0.00010	0.00043

Sample Calculations:
0.044 PM (lb/hr) = (2500 gal/min) * (60 min/hr) * (8.34 lb/gal) * (3500 lb TDS/MMlb H20) * (MMlb/10^6 lb)* (0.001 % drift)
0.026 PM-10 (lb/hr) = (0.044 lb/hr PM) * (60.161 % PM-10)

Notes:

1 Maxium total dissolved solids (TDS) in recirculating water is rolling 12-month average limit stipulated in air permit for adjacent Artesia Refinery because same source of water will be used.

2 Total Particulate Matter (PM) emissions are calculated per AP-42 Section 13.4, dated January 1995.

3 $PM_{2.5}$ and PM_{10} emissions are calculated in accordance with NMED's Technical Memorandum "Calculating TSP, PM-10 and PM-2.5 from Cooling Towers" dated 9/9/2013. For a TDS of 3,500 ppmw and per the size distribution table in the memorandum (average between 3,000 ppmw and 4,000 ppmw), the percents mass of total particulate emissions represented by $PM_{2.5}$ and PM_{10} are as follows:

% Mass PM_{10} = 60.161 % Mass $PM_{2.5}$ = 0.226

POTENTIAL TO EMIT - MATERIAL HANDLING VENTS
ARTESIA PTU LLC

Description: Calculations are provided below for particulate matter (PM/PM10/PM2.5) emissions generated due to infrequent pnuematic loading of bleaching earth and filter aid into silos, and due to pneumatic conveyance of these materials for the Polyethylene Filtration and Bleaching steps of the Pretreatment process. The emissions are controlled by fabric or cartridge filters prior to discharge to the atmosphere.

Assumptions:

1) Conservatively assume emissions generation occurs 8,760 hr/yr although the activities occur sporadically.
2) Conservatively assume flowrate in terms of dry standard cubic feet is equal to flowrate at actual conditions.
3) Conservatively assume flowrate is equal to design capacity of filter although actual flowrate is less.
4) Conservatively assume discharge grain loading is that provided by filter manufacturer.
5) Conservatively assume PM = PM_{10} = $PM_{2.5}$.

Calculations:

PM emissions for the filter disharge points are calculated based on the flow rates and discharge dust/grain loadings for the associated filter control devices.

Hourly Emission Rate (example):

$E_{(PM,HR)}$ = QS (scfm) * D (gr/scf) * lb/7000 grains

$E_{(PM,HR)}$ = 375 scfm * 0.002 gr PM / scf discharge air * lb/7000 gr * 60 min/hr

$E_{(PM,HR)}$ = **0.0064 lb/hr**

Annual Emission Rate (example):

$E_{(PM,YR)}$ = $ER_{(PM,HR)}$ (lb/hr) * AOH (hr/yr) * ton/2000 lb

$E_{(PM,YR)}$ = 0.0064 lb/hr * 8,760 hr/yr * ton/2000 lb

$E_{(PM,YR)}$ = **0.0282 ton/yr**

PM Emissions		**Q_S**	**D**	**AOH**	**$E_{(PM)}$**	
Unit	**Description**	**Design Discharge Air Flow Rate (dscfm)**	**Design Discharge Air Dust Load (gr/dscf)**	**Annual Operating Hours (hr/yr)**	**PM Emissions Hourly (lb/hr)**	**PM Emissions Annual (ton/yr)**
08B26	Filter Aid Tank Vent	375	0.002	8,760	0.0064	0.0282
26-1B25AP01	Adsorption Train 1 Vent A	375	0.002	8,760	0.0064	0.0282
26-2B25AP01	Adsorption Train 1 Vent B	375	0.002	8,760	0.0064	0.0282
26-1B25BP01	Adsorption Train 2 Vent A	375	0.002	8,760	0.0064	0.0282
26-2B25BP01	Adsorption Train 2 Vent B	375	0.002	8,760	0.0064	0.0282
26-1B26P01	Adsorption Train 1 Vent C	375	0.002	8,760	0.0064	0.0282
26-2B26P01	Adsorption Train 2 Vent C	375	0.002	8,760	0.0064	0.0282
PTU SILOS	Combined Silos 1-5 Vent	3,375	0.002	8,760	0.0579	0.2534
				Bleaching Earth Subtotal =	**0.0836**	
				Filter Aid Subtotal =	**0.0193**	
				Total =	**0.1029**	**0.4505**

NMED Toxic Air Pollutant (TAP) Emissions and Evaluation					
	TAP Component	**TAP Component Weight Percent (%)**	**Hourly Emissions (lb/hr)**	**NMAC 20.23.72.500 TAP Screening Level (lb/hr)**	**Emissions < TAP Screening Level?**
Bleaching Earth	Aluminum Oxide	14.2%	0.012	0.667	Yes
	Calcium Oxide	1.1%	0.001	0.133	Yes
Filter Aid	No TAP components				

POTENTIAL TO EMIT - VAPOR COMBUSTION UNIT
ARTESIA PTU LLC

DESCRIPTION

VOC emissions composed of, n-hexane, are generated in the pretreatment process due to the evolution of residual VOC/n-hexane in soybean-derived oil feedstock obtained from suppliers. The VOC/n-hexane content in the soybean oil is due to solvent (n-hexane) extraction used to process soybeans into soybean oil. The VOC/n-hexane stream to the vapor combustion device was conservatively estimated based on the capacity of the Pretreatment Unit (PTU), soybean oil being the only feedstock, and the maximum (with margin applied) VOC/n-hexane concentration in the soybean oil feedstock.

INPUTS AND ASSUMPTIONS

Supplemental Gas Burner Capacity =	0.5 MMBtu/hr
Waste Gas to PTU VCU =	500 lb/hr
N-Hexane Weight Percent in Waste Gas =	8.18%
N-Hexane Heat Content =	20,940 Btu/lb HHV
VOC Control Efficiency for the PTU VCU =	95%
PTU VCU Annual Operating Hours =	8,760 hr/yr

VOC (N-HEXANE) EMISSIONS

2.045 lb/hr VOC/N-Hexane = 500 lb/hr Waste Gas * 0.0818 lb N-Hexane/lb Waste Gas * (1 - 0.95)

8.957 ton/yr VOC/N-Hexane = 2.045 lb/hr N-Hexane * 8,760 hr/yr / 2,000 lb/ton

PRODUCTS OF COMBUSTION EMISSIONS

Streams to VCU [a]	Heat Content-HHV)	Flow to VCU		Heat Input to VCU		CO Emissions		NOx Emissions		$PM/PM_{10}/PM_{2.5}$ Emissions		SO_2 Emissions		HCHO Emissions	
	(Btu/scf or Btu/lb)	(scf/hr or lb/hr)	(MMscf/yr or ton/yr)	(MMBtu/hr)	(MMBtu/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Supplemental Natural Gas	1,020 Btu/scf	490.2 scf/hr	4.29 MMscf/yr	0.50	4,380.0	0.0412	0.180	0.0888	0.389	0.0037	0.016	0.003	0.012	0.00004	0.00016
Waste Gas	1,713 Btu/lb	500.0 lb/hr	4,380,000 lb/yr	0.856	7,502.5	0.0705	0.309	0.1521	0.666	0.0064	0.028	--	--	0.00006	0.00028
			Potential to Emit =			**0.112**	**0.489**	**0.241**	**1.055**	**0.010**	**0.044**	**0.003**	**0.012**	**0.00010**	**0.00044**

CO Emission Factor [a]		NOx Emission Factors [b]	PM Emission Factor [a]		SO_2 Emission Factors [c]	HCHO Emission Factor [a]	
(lb/MMscf)	(lb/MMBtu)	(lb/MMBtu)	(lb/MMscf)	(lb/MMBtu)	(gr/100 scf)	(lb/MMscf)	(lb/MMBtu)
84	0.082	0.178	7.6	0.0075	2	0.075	0.0000735

Notes:

a. For all gas combustion, CO, PM, and formaldehyde (CHCO) emission factors (in terms of lb/MMscf) for are from EPA AP-42 Tables 1.4-1, 1.4-2, and 1.4-3, respectively, dated July 1998 for uncontrolled, small boilers (100 MMBtu/hr). Per footnote a to the tables, the lb/MMscf emission factors are converted to lb/MMBtu by dividing by the average heating content, 1020 Btu/scf, of the natural gas basis for the emission factor.

b. For supplemental gas and waste gas combustion, the combined NOx emission factor (in terms of lb/MMBtu) is from the VCU manufacturer.

c. SO_2 emission are calculated based on an estimated maximum sulfur content in natural gas of 2 grains total sulfur per 100 standard cubic feet.

Sample Calculations:

Waste Gas Heat Content = (N-Hexane Heat Content, Btu/lb) * (Waste Gas N-Hexane Weight Fraction, lb N-Hexane/lb Waste Gas)
= (20,940 Btu/lb)*(0.0818 lb N-Hexane/lb Waste Gas) = 1,713 Btu/lb

Supplemental Gas SO_2 = (Supplemental Gas Flow, scf/hr * (Natural Gas Sulfur Content, gr/ccf) * (ccf/100 scf) * (lb/7,000 gr) * (64 lb SO2/32 lb S)
= (490.2 scf/hr) * (2 gr/ccf) * *(ccf/100 scf) * (lb/7,000 gr) * (64 lb SO2/32 lb S) = 0.003 lb/hr

GREENHOUSE GAS (GHG) EMISSIONS

Streams to VCU	Heat Input to VCU	Emission Factors (lb/MMBtu) [d]			Annual Emissions (ton/yr)		
	(MMBtu/yr)	CO_2	N_2O	CH_4	CO_2	N_2O	CH_4
Supplemental Natural Gas	4,380.0	116.98	0.00022	0.0022	256.18	4.8E-04	4.8E-03
Waste Gas	7,502.5		0.0013	0.0066	549.28	5.0E-03	2.5E-02
					805.46	**0.005**	**0.030**

d. CO2 emission factor for Natural Gas is from 40 CFR Part 98 Table C-1. N2O and CH4 emission factors for Natural Gas and Waste Gas are from 40 CFR Part 98 Table C-2. CO2 emissions for N-Hexane are calculated per §98.33 Equation C-5 as follows:

N-Hexane (C_6H_{14}) to PTU VCU	Molecular Weight Ratio (CO_2/C)	N-Hexane Molecular Weight	Molecular Weight Ratio (C_6/C_6H_{14})	N-Hexane CO_2 from PTU VCU
(lb/yr)				(ton/yr CO_2)
358,284	=44/12	86.172	=(6*12.01)/ 86.172	**549.28**

POTENTIAL TO EMIT - WASTEWATER TREATMENT PLANT (WWTP)
ARTESIA PTU LLC

SOURCE	L (ft)	L(m)	W	W(m)	A	VOC, TPY	LB/HR	VOL (GAL)	VOL(M3)	F (dia, ft)	F(m)	D (ht, ft)	F/D	<14?
EQUALIZATION TANK					116.84	0.3804	0.0868	141,260	535.3754	40.00	12.20	17.33	2.31	Yes
EQUALIZATION TANK					116.84	0.3804	0.0868	38,400	145.536	40.00	12.20	17.33	2.31	Yes
PH ADJUSTMENT & COAGULATION TANKS					4.84	0.0158	0.0036	1590					#DIV/0!	Yes
PRIMARY DAF	18	5.49	9	3.15	17.29	0.0564	0.0129			4.69			#DIV/0!	Yes
SECOND PH ADJUSTMENT TANK					2.15	0.0070	0.0016	705					#DIV/0!	Yes
BIOREACTOR					135.53	0.4476	0.1022	314300	1191.197	43.08	13.14	28.83	1.49	Yes
BIOREACTOR					135.53	0.4476	0.1022	314300	1191.197	43.08	13.14	28.83	1.49	Yes
SECONDARY DAF	9	2.75	30	9.15	25.12	0.0818	0.0187						#DIV/0!	Yes
SLUDGE HOLDING TANK					24.88	0.0745	0.0170	34,600	131.134	18.46	5.63	17.33	1.07	Yes
SLUDGE HOLDING TANK					24.88	0.0745	0.0170	34,600	131.134	18.46	5.63	17.33	1.07	Yes
SLUDGE HOLDING TANK					24.88	0.0745	0.0170	34,600	131.134	18.46	5.63	17.33	1.07	Yes
EFFLUENT SURGE TANK					14.31	0.0466	0.0106			14.00	4.27	40.00	0.35	Yes
STORMWATER HOLDING TANK 1					29.21	0.0951	0.0217			20.00	6.10	40.00	0.50	Yes
STORMWATER HOLDING TANK 2					29.21	0.0951	0.0217			20.00	6.10	40.00	0.50	Yes
TOTAL						**2.2774**	**0.5200**							**Value**

SOURCE	L (ft)					CO2, TPY
BIOREACTOR						5,556
BIOREACTOR						5,556
TOTAL						**11,112**

VARIABLE DESCRIPTION	SYMBOL			VALUE	UNITS
Individual liquid mass transfer coefficient	KL		1	Dependent on U10 and F/D	
Individual gas mass transfer coefficient	KG		2		
Overall mass transfer coefficient for water	K		7		
Air emissions	N		20		
Wind speed at 10 m above liquid surface	U10			4.47	> 3.25 m/s
Fetch (effective diameter) to depth ratio	F/D				
Friction velocity	U*				
Viscosity of water	UL			8.93E-03	g/cm-s
Density of water	PL			1.00	g/cm3
Diffusivity of butanol in water	Dw			9.30E-06	cm2/s
Viscosity of air	Ua			1.81E-04	g/cm-s
Density of air	Pa			1.21E-03	g/cm3
Diffusivity of butanol in air	Da			7.63E-02	cm2/2
Henry's Law Constant for glycerol	H			1.73E-08	atm-m3/gmol
Gas Constant	R			8.21E-05	atm-3/gmol-K
Temp	K			298	Kelvin
Half saturation biorate constant, for butanol	KS			70.9091	g/m3
Maximum biorate constant, butanol	KMAX			2.17E-06	g/s-g biomass
Biomass concentration (total biological solids)	bi			6500	g/m3
Initial concentration of glycerol in liquid phase	Co			6478	g/m3

POTENTIAL TO EMIT - WASTEWATER TREATMENT PLANT (WWTP)
ARTESIA PTU LLC

EQUALIZATION TANK	
KL, for U10> 3.25 m/s, F/D < 14	KL = 1.0EE-6 + (144EE-4)(U*^2.2)(ScL)-0.5
KL	6.5341E-06
U*	U*=(0.01)(U10)(SQRT(6.1+0.63(U10)))
U*	0.133473481
ScL	ScL=UL/(PL*Dw)
ScL	960.22
KG	KG=(4.82E-03)*(U10^0.78)*(ScG^0.67)*(F^0.11)
	0.032038597
ScG	ScG=Ua/(Pa*Da)
ScG	1.96E+00
Da	From "Determination of Evaporation Coefficients and Diffusion"
	Y. Su, 2017, for glycerol
K	K=(KL*KEQ*KG)/((KEQ*KG)+KL)
	1.86896E-08
KEQ	KEQ=H/RT
	7.07E-07
N, g/s	N=[(K*A)+(QA*KEQ)]*CL
	0.01096567
N, lb/hr	0.086848107
VOC EMISSION RATE, N, tpy	0.380394708
A	A=(3.14)*(D/2)^2
	116.8394
QA, m3/s, Diffused air flow rate	QA=0.00004(V)
	0.021415016
CL	CL=(-b)+((b^2)-(4*a*c))^0.5)/(2)(a)
	4987.069591
a	a=((K*A)+(QA*KEQ))+1
a	1.000002199
b	b=(KS)*[a)+((KMAX*bi *V)/Q)-Co
	-5079.188585
c	c=-(KS)*(Co)
	459349.1498
Q, volumetric flow rate	90 gallons/min
	0.005678119

EQUALIZATION TANK	
KL, for U10> 3.25 m/s, F/D < 14	KL = 1.0EE-6 + (144EE-4)(U*^2.2)(ScL)-0.5

POTENTIAL TO EMIT - WASTEWATER TREATMENT PLANT (WWTP)
ARTESIA PTU LLC

KL	6.5341E-06
U*	U*=(0.01)(U10)(SQRT(6.1+0.63(U10)))
U*	0.133473481
ScL	ScL=UL/(PL*Dw)
ScL	960.22
KG	KG=(4.82E-03)*(U10^0.78)*(ScG^0.67)*(F^0.11)
	0.032038597
ScG	ScG=Ua/(Pa*Da)
ScG	1.96E+00
Da	From "Determination of Evaporation Coefficients and Diffusion"
	Y. Su, 2017, for glycerol
K	K=(KL*KEQ*KG)/((KEQ*KG)+KL)
	1.86896E-08
KEQ	KEQ=H/RT
	7.07E-07
N, g/s	N=[(K*A)+(QA*KEQ)]*CL
	0.010910681
N, lb/hr	0.086412593
VOC EMISSION RATE, N, tpy	0.378487157
A	A=(3.14)*(D/2)^2
	116.8394
QA, m3/s, Diffused air flow rate	QA=0.00004(V)
	0.00582144
CL	CL=(-b)+((b^2)-(4*a*c))^0.5)/(2)(a)
	4987.069648
a	a=((K*A)+(QA*KEQ))+1
a	1.000002188
b	b=(KS)*[a)+((KMAX*bi *V)/Q)-Co
	-5079.188586
c	c=-(KS)*(Co)
	459349.1498
Q, volumetric flow rate	90 gallons/min
	0.005678119

BIOREACTOR	
KL, for U10> 3.25 m/s, F/D < 14	KL = 1.0EE-6 + (144EE-4)(U*^2.2)(ScL)-0.5
KL	6.5341E-06
U*	U*=(0.01)(U10)(SQRT(6.1+0.63(U10)))

POTENTIAL TO EMIT - WASTEWATER TREATMENT PLANT (WWTP)
ARTESIA PTU LLC

U*	0.133473481
ScL	ScL=UL/(PL*Dw)
ScL	960.22
KG	KG=(4.82E-03)*(U10^0.78)*(ScG^0.67)*(F^0.11)
	0.032301093
ScG	ScG=Ua/(Pa*Da)
ScG	1.96E+00
Da	From "Determination of Evaporation Coefficients and Diffusion"
	Y. Su, 2017, for glycerol
K	K=(KL*KEQ*KG)/((KEQ*KG)+KL)
	1.88427E-08
KEQ	KEQ=H/RT
	7.07E-07
N, g/s	N=[(K*A)+(QA*KEQ)]*CL
	0.012903318
N, lb/hr	0.102194275
VOC EMISSION RATE, N, tpy	0.447610923
A	A=(3.14)*(D/2)^2
	135.5254084
QA, m3/s, Diffused air flow rate	QA=0.00004(V)
	0.04764788
CL	CL=(-b)+((b^2)-(4*a*c))^0.5)/(2)(a)
	4987.067589
a	a=((K*A)+(QA*KEQ))+1
a	1.000002587
b	b=(KS)*[a)+((KMAX*bi *V)/Q)-Co
	-5079.188558
c	c=-(KS)*(Co)
	459349.1498
Q, volumetric flow rate	90 gallons/min
	0.005678119

SLUDGE HOLDING POND	
KL, for U10> 3.25 m/s, F/D < 14	KL = 1.0EE-6 + (144EE-4)(U*^2.2)(ScL)-0.5
KL	6.5341E-06
U*	U*=(0.01)(U10)(SQRT(6.1+0.63(U10)))
U*	0.133473481
ScL	ScL=UL/(PL*Dw)

POTENTIAL TO EMIT - WASTEWATER TREATMENT PLANT (WWTP)
ARTESIA PTU LLC

ScL	960.22
KG	KG=(4.82E-03)*(U10^0.78)*(ScG^0.67)*(F^0.11)
	0.029426078
ScG	ScG=Ua/(Pa*Da)
ScG	1.96E+00
Da	From "Determination of Evaporation Coefficients and Diffusion"
	Y. Su, 2017, for glycerol
K	K=(KL*KEQ*KG)/((KEQ*KG)+KL)
	1.71656E-08
KEQ	KEQ=H/RT
	7.07E-07
N, g/s	N=[(K*A)+(QA*KEQ)]*CL
	0.002148779
N, lb/hr	0.01701833
VOC EMISSION RATE, N, tpy	0.074540284
A	A=(3.14)*(D/2)^2
	24.8847183
QA, m3/s, Diffused air flow rate	QA=0.00004(V)
	0.00524536
CL	CL=(-b)+((b^2)-(4*a*c))^0.5)/(2)(a)
	4987.078701
a	a=((K*A)+(QA*KEQ))+1
a	1.000000431
b	b=(KS)*[a)+((KMAX*bi *V)/Q)-Co
	-5079.188711
c	c=-(KS)*(Co)
	459349.1498
Q, volumetric flow rate	90 gallons/min
	0.005678119

POTENTIAL TO EMIT - EQUIPMENT COMPONENT FUGITIVES
ARTESIA PTU LLC

			Valves			Flanges		Pump Seals		Relief Valves	
			Gas	Light Liquid	Heavy Liquid	All		Light Liquid	Heavy Liquid	All	
			Non-Monitored	Non-Monitored	Non-Monitored	Non-Monitored	AVO Control	Non-Monitored	Non-Monitored	Non-Monitored	Control
			0.0099	0.0055	0.00002	0.00024	30%		0.019	0.23	70%
UNIT ID	PROCESS UNIT	Emission Factors [1]	COMPONENT COUNTS								
FUG-93-PTU	Pretreatment Unit	Oil and Gas	8			50					

1. Emission factors (lb/hr/source) are from "Protocol for Equipment Leak Estimates," EPA-453/R-95-017, Tables 2-1 through 2-4, Nov. 1995 or equivalent factors from guidance.
2. Maximum VOC weight % applies to all stream unless otherwise specified.
3. N-Hexane weight percent in PTU vacuum vent streams, representing the maximum of any streams, is conservatively component VOC to arrive at N-Hexane fugitive emissions.

The fugitive emissions below are Exempted Activities with respect to 20.2.72 NMAC Construction Permits. Per 20.2.72.202.B.(2) NMAC, the l pressure less than 0.2 psia is an exempt source or activity.

FUG-93-PTU-LOVP	Pretreatment Unit - Low Vapor Pressure	Oil and Gas			535	1338			7		

POTENTIAL TO EMIT - EQUIPMENT COMPONENT FUGITIVES
ARTESIA PTU LLC

	Compressor Seals															
	Gas															
	Non-Monitored	Dual Seal	H_2 Service	Total Emissions, lb/hr					Gas VOC	Other VOC [2]	VOC Emissions		N-Hexane [3]	N-Hexane Emissions	
	0.02	100%	30%												
UNIT ID				Valves	Flanges	Pump Seals	Relief Valves	Compressor Seals	Weight %	Weight %	(lb/hr)	(tons/yr)	Weight %	(lb/hr)	(tons/yr)
FUG-93-PTU	4			0.079	0.012	0.000	0.000	0.077	100%	100%	0.169	0.739	8.18%	0.014	0.060

y applied to the PTU waste gas

handling of VOC with vapor

FUG-93-PTU-LOVP	1			0.010	0.324	0.133	0.000	0.019	100%	100%	0.486	2.127	0.00%	0.000	0.000

POTENTIAL TO EMIT - STORAGE TANKS
ARTESIA PTU LLC

Variable	Description	Units	Value
-	Roof Construction (vertical tanks)	-	Cone
DPb	Breather vent pressure range	psi	0.06
I	Solar insolation factor	Btu/ft^2-day	1810
P_A	Atmospheric Pressure	psia	12.9
T	Annual Average Temperature	°F	62
T_{AX}	Daily Maximum Ambient Temperature	°R	535.3
T_{AN}	Daily Minimum Ambient Temperature	°R	507.5
DT_A	Daily average ambient temperature range	°R	27.8
K_N	Turnover Factor	-	1
K_P	Product Factor	-	1

a. Data for Roswell, NM.

Calculation Formulas
L_S = Standing loss (lb/yr) = 365 V_V W_V K_E K_S
L_W = Working loss (lb/yr) = 0.001 Mv P_{VA} Q K_N K_P
L_T = Total Loss (lb/yr) = L_s + L_w
L_H = Hourly loss (lb/hr) = 0.001 Mv P_{MAX} Q_H K_P

NOTE: Tank emissions are based on the equations found in EPA AP 42 Chapter 7.

		Material Properties					Tank Parameters							
Tank No.	Typical Material Stored	Mv	T_{LA}	Tmax	P_{VA}	P_{MAX}	FX/HZ	D	H/L	CAPACITY	COLOR	α	Q	Q_H
		Vapor Molecular Weight	Daily Average Liquid Surface Temp.	Maximum Liquid Temp.	Average True Vapor Pressure	Maximum Vapor Pressure	Tank Type	Tank Dia.	Tank Height/ Length	Tank Capacity	Tank Color	Paint Solar Absorbance Factor	Annual Throughput	Maximum Hourly Throughput
		(lb/lbmol)	(°R)	(°R)	(psia)	(psia)		(ft)	(ft)	(bbl)			(bbl/yr)	(bbl/hr)

NOTE: Althought water evaporates first from aqueous caustic and citric acid solutions, for these calculations it is conservatively assumed some residual caustic and citric acid is in the evaporated water.

T-0922	Aqueous Caustic	18.5	660	660	0.105	0.105	FX	12.5	8	167	White	0.17	2,000	100
T-0923	Aqueous Citric Acid	18.9	590	590	1.800	1.800	FX	12.5	16	333	White	0.17	13,000	60
T-0924	Aqueous Citric Acid	18.9	590	590	1.800	1.800	FX	12.5	16	333	White	0.17	13,000	60

POTENTIAL TO EMIT - STORAGE TANKS
ARTESIA PTU LLC

Tank No.	DT_V Daily Vapor T Range (^oR)	DP_V Daily Vapor Pressure Range (psia)	H_{RO} Tank Roof Outage (ft)	H_{VO} Vapor Space Outage (ft)	V_V Vapor Space Volume (ft^3)	W_V Vapor Density (lb/ft^3)	K_E Vapor Expansion Factor	K_S Vented Vapor Saturation Factor	L_S Standing Loss (ton/yr)	L_W Working Loss (ton/yr)	L_T Total Annual Loss (ton/yr)	L_H Maximum Hourly Loss (lb/hr)
NOTE: Althought												
T-0922	28.6	0.0000	0.130	4.1	507	2.8E-04	0.039	0.977	9.6E-04	1.9E-03	**0.0029**	**0.195**
T-0923	28.6	0.0000	0.130	8.1	998	5.4E-03	0.043	0.563	2.4E-02	2.2E-01	**0.2443**	**2.036**
T-0924	28.6	0.0000	0.130	8.1	998	5.4E-03	0.043	0.563	2.4E-02	2.2E-01	**0.2443**	**2.036**

Emissions and NMED Toxic Air Pollutant (TAP) Emissions Evaluation

Tank No.	Component	Weight %	Emissions (ton/yr)	Emissions (lb/hr)	NMAC 20.23.72.500 TAP Screening Level (lb/hr)	Emissions < TAP Screening Level?
T-0922	NaOH	5%	0.00015	0.0097		
	NaCl	0.5%	0.00001	0.0010		
T-0923	Citric Acid	5%	0.012	0.102		
T-0924	Citric Acid	5%	0.012	0.102		
		Total NaOH Emissions =		**0.0097**	**0.133**	**Yes**

Only NaOH is a NMAC 20.2.72.502 Toxic Air Pollutant (TAP)

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.

Supporting documentation for the Section 6 emission calculations is provided in this section.

Table 13.4-1 (Metric And English Units). PARTICULATE EMISSIONS FACTORS FOR WET COOLING TOWERS[a]

Tower Type[d]	Total Liquid Drift[b]				PM-10[c]		
	Circulating Water Flow[b]	g/daL	lb/10^3 gal	EMISSION FACTOR RATING	g/daL[e]	lb/10^3 gal	EMISSION FACTOR RATING
Induced Draft (SCC 3-85-001-01, 3-85-001-20, 3-85-002-01)	0.020	2.0	1.7	D	0.023	0.019	E
Natural Draft (SCC 3-85-001-02, 3-85-002-02)	0.00088	0.088	0.073	E	ND	ND	—

[a] References 1-17. Numbers are given to 2 significant digits. ND = no data. SCC = Source Classification Code.

[b] References 2,5-7,9-10,12-13,15-16. Total liquid drift is water droplets entrained in the cooling tower exit air stream. Factors are for % of circulating water flow (10^{-2} L drift/L [10^{-2} gal drift/gal] water flow) and g drift/daL (lb drift/10^3 gal) circulating water flow. 0.12 g/daL = 0.1 lb/10^3 gal; 1 daL = 10^1 L.

[c] See discussion in text on how to use the table to obtain PM-10 emission estimates. Values shown above are the arithmetic average of test results from References 2,4,8, and 11-14, and they imply an effective TDS content of approximately 12,000 parts per million (ppm) in the circulating water.

[d] See Figure 13.4-1 and Figure 13.4-2. Additional SCCs for wet cooling towers of unspecified draft type are 3-85-001-10 and 3-85-002-10.

[e] Expressed as g PM-10/daL (lb PM-10/10^3 gal) circulating water flow.

parameter for the cooling tower water (such as conductivity, calcium, chlorides, or phosphate) to that parameter for the make-up water. This estimated cooling tower TDS can be used to calculate the PM-10 emission factor as above. If neither of these methods can be used, the arithmetic average PM-10 factor given in Table 13.4-1 can be used. Table 13.4-1 presents the arithmetic average PM-10 factor calculated from the test data in References 2, 4, 8, and 11 - 14. Note that this average corresponds to an effective cooling tower recirculating water TDS content of approximately 11,500 ppm for induced draft towers. (This can be found by dividing the total liquid drift factor into the PM-10 factor.)

As an alternative approach, if TDS data are unavailable for an induced draft tower, a value may be selected from Table 13.4-2 and then be combined with the total liquid drift factor in Table 13.4-1 to determine an apparent PM-10 factor.

As shown in Table 13.4-2, available data do not suggest that there is any significant difference between TDS levels in counter and cross flow towers. Data for natural draft towers are not available.

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BUTCH TONGATE
Deputy Secretary

TECHNICAL MEMORANDUM

DATE: September 9, 2013

TO: All Permitting Staff

FROM: Daren Zigich

THROUGH: Ted Schooley, Permit Program Manager
Ned Jerabek, Major Source Section Manager

SUBJECT: Calculating TSP, PM-10 and PM-2.5 from Cooling Towers

The goal of this memo is to offer a Department approved step-by-step approach for calculating particulate emissions from cooling towers. While the Department encourages using this approach, other approaches, that do not use a droplet settling ratio may be approved on a case-by-case basis.

Due to the variability of methods used by permittees to estimate particulate emissions from cooling towers, a consistent, defensible approach is warranted. For example, some permittees have used a droplet settling ratio from Reference 3 to lower the total potential emissions rate of total particulate matter (PM_{total}). This is unacceptable due to the following:

1. Particulate settling is not appropriate since any verification testing would be completed inside the cooling tower fan stack. All particulate mass that can be measured by an EPA reference method and are emitted to the atmosphere shall be counted as particulate emissions. Particle size distribution can then be used to modify the emission rate of each regulated particulate size.
2. The Department is not aware of information that verifies the droplet settling data is representative for arid climates where evaporation rates are high.
3. The droplet size distribution and % mass data from Reference 1 only consider droplets up to 600 microns. Reference 3 states that settling only exists for droplets greater than 450 microns. Reference 1 lists the % mass of droplets greater than 450 microns to be less than 1 percent of the total mass.

4. Reference 2 test data shows that towers with significant drift droplet diameters greater than 600 microns usually suffer from poor installation of the drift eliminator or from poor water distribution due to issues with the tower packing. Large droplets may indicate that the assumed or guaranteed drift eliminator efficiency is not being met. Providing emissions credit for poor installation, operation or maintenance runs counter to general Department practice.
5. References 1 and 2 make no reference to and assign no credit for the settling theory stated in Reference 3.

For the above reasons, the Reference 3 settling ratio is not an acceptable emissions reduction approach.

Acceptable Calculation Method

Cooling tower particulate emissions are a function of the Drift rate and the concentration of dissolved solids present in the water. The Drift rate is normally listed as a percentage of the circulating water flow rate of the cooling tower.

Step 1 – Establish maximum water circulation rate (Q_{circ}) for the cooling tower. This is usually dependent on the capacity of the circulation pumps and the plant cooling system and should be reported as gallons per minute (gpm). The circulation rate is the sum of the circulation rates for each cell in the tower and thus represents the total flow for the tower.

Step 2 – Establish Drift rate (Q_{drift}) of the cooling tower. This information is dependent on the drift eliminator design and is usually supplied by the tower manufacturer. If manufacturer data is unavailable, the standard drift of 0.02 percent, listed in AP-42, should be used.

Step 3 – Establish maximum Total Dissolved Solids concentration (TDS) in the circulating cooling water. This is dependent on the facility's operations. TDS should be reported as parts per million (ppm) or mg/l.

Step 4 – Calculate total potential hourly particulate emissions (PM_{total}) in pounds per hour (lbs/hr).

$$PM_{total} = TDS(mg/l) \times \frac{1(lbs/mg)}{453{,}600} \times 3.785(l/gal) \times Q_{circ}(gpm) \times \frac{Q_{drift}(\%Q_{circ})}{100} \times 60(min/hr)$$

Example: TDS = 3000 ppm or mg/l, Q_{circ} = 50,000 gpm, Q_{drift} = 0.004%

PM_{total} = 3000 x (1/453,600) x 3.785 x 50,000 x (0.004/100) x 60

PM_{total} = 3.0 lbs/hr

Step 5 – Estimate particulate size distribution of the PM_{total} to determine potential emissions of TSP/PM, PM_{10} and $PM_{2.5}$.

The current estimating technique used in References 1 and 2 employs a formula for determining a potential particulate size (i.e. diameter) for a given set of variables. The variables are:

d_d = Drift droplet diameter, microns
C_{TDS} = Concentration of TDS in the circulating water, ppm x 10^{-6}
ρ_w = Density of Drift droplet, g/cm^3
ρ_{salt} = Density of particle, g/cm^3

The equation for determining particle size/diameter (d_p), in microns is:

$$d_p = \frac{d_d}{(\rho_{salt} / \rho_w C_{TDS})^{1/3}}$$

The tables below list particle size related to droplet size for various concentrations (1000 ppm to 12,000 ppm) of TDS in the circulating cooling water. The density of the water droplet (ρ_w) is assumed to be 1.0 g/cm3 (based on density of pure water) and the average density of the TDS salts is assumed to be 2.5 g/cm3. This assumed density is selected based on the average density of common TDS constituents, $CaCO_3$, $CaSO_4$, $CaCl_2$ NaCl, Na_2SO_4, and Na_2CO_3. If actual circulating water constituents are available, that data may be used to estimate the dissolved solids average density.

To determine the droplet size that generates particulate matter of the applicable regulated diameters, TSP/PM (defined as 30 microns or less per NM AQB definition[1]), PM10 and PM2.5, find the column in the table that matches the maximum circulating water TDS concentration and read the values associated with the PM2.5, PM10 and TSP/PM boxes. Boxed values are not exactly equal to the applicable sizes, but are the values greater than and closest to the applicable sizes, given the listed water droplet values from Reference 1.

The far right column of each table provides mass distribution data from Reference 1. The values indicate what percent of the total particulate mass emission, calculated in Step 4, is associated with the applicable particulate size. Read the value that is on the same line (same color) as the applicable particulate size associated with the specified TDS concentration column.

Note: Although the relationship between droplet size and percent mass is not linear, a linear interpolation of the tabulated data is acceptable between two adjacent rows (particle size) to determine an estimate of percent mass for a specific particle size (i.e. PM30, PM10 and PM2.5). Particle sizes for droplets with a non-listed TDS ppm concentration may be calculated using the equation in Step 5.

Example: Continuing from Step 4,

PM_{total} = 3.0 lbs/hr
C_{TDS} = 3000 ppm

From Table:

$PM_{2.5}$:	d_d = 30	%Mass = 0.226%
PM_{10}:	d_d = 110	%Mass = 70.509%
TSP/PM:	d_d = 270	%Mass = 96.288%

The mass emission of each applicable particulate size is:

$PM_{2.5} = PM_{total}(\%Mass/100) = 3.0(0.00226) = 0.007$ lbs/hr
$PM_{10} = 3.0(.70509) = 2.115$ lbs/hr
TSP/PM = 3.0(.96288) = 2.889 lbs/hr

[1]Definition of TSP for purposes of permitting emission sources, 11/2/09, see P:\AQB-Permits-Section\NSR-TV-Common\Permitting-Guidance-Documents – Index & Links document

Size Distribution

1000 ppm (TDS)		2000 ppm		3000 ppm		% Mass
d_d	d_p	d_d	d_p	d_d	d_p	≤
10	0.7387304	10	0.930527	10	1.0650435	0
20	1.4774608	20	1.8610539	20	2.130087 PM2.5	0.196
30	2.2161912	30	2.7915809 PM2.5	30	3.1951306 PM2.5	0.226
40	2.9549216 PM2.5	40	3.7221079	40	4.2601741	0.514
50	3.693652	50	4.6526349	50	5.3252176	1.816
60	4.4323825	60	5.5831618	60	6.3902611	5.702
70	5.1711129	70	6.5136888	70	7.4553046	21.348
90	6.6485737	90	8.3747427	90	9.5853917	49.812
110	8.1260345	110	10.235797 PM10	110	11.715479 PM10	70.509
130	9.6034953	130	12.096851	130	13.845566	82.023
150	11.080956 PM10	150	13.957905	150	15.975653	88.012
180	13.297147	180	16.749485	180	19.170783	91.032
210	15.513339	210	19.541066	210	22.365914	92.468
240	17.72953	240	22.332647	240	25.561045	94.091
270	19.945721	270	25.124228	270	28.756175	94.689
300	22.161912	300	27.915809	300	31.951306 TSP/PM30	96.288
350	25.855564	350	32.568444 TSP/PM30	350	37.276523	97.011
400	29.549216	400	37.221079	400	42.601741	98.34
450	33.242868 TSP/PM30	450	41.873714	450	47.926958	99.071
500	36.93652	500	46.526349	500	53.252176	99.071
600	44.323825	600	55.831618	600	63.902611	100

Size Distribution

4000 ppm (TDS) d_d	d_p	5000 ppm d_d	d_p	6000 ppm d_d	d_p	% Mass ≤
10	1.1721197	10	1.2625337	10	1.3415607	0
20	2.3442393	20	2.5250675 PM2.5	20	2.6831215 PM2.5	0.196
30	3.516359 PM2.5	30	3.7876012	30	4.0246822	0.226
40	4.6884787	40	5.0501349	40	5.366243	0.514
50	5.8605984	50	6.3126686	50	6.7078037	1.816
60	7.032718	60	7.5752024	60	8.0493645	5.702
70	8.2048377	70	8.8377361	70	9.3909252	21.348
90	10.549077 PM10	90	11.362804 PM10	90	12.074047 PM10	49.812
110	12.893316	110	13.887871	110	14.757168	70.509
130	15.237556	130	16.412938	130	17.44029	82.023
150	17.581795	150	18.938006	150	20.123411	88.012
180	21.098154	180	22.725607	180	24.148093	91.032
210	24.614513	210	26.513208	210	28.172776	92.468
240	28.130872	240	30.300809 TSP/PM30	240	32.197458 TSP/PM30	94.091
270	31.647231 TSP/PM30	270	34.088411	270	36.22214	94.689
300	35.16359	300	37.876012	300	40.246822	96.288
350	41.024188	350	44.18868	350	46.954626	97.011
400	46.884787	400	50.501349	400	53.66243	98.34
450	52.745385	450	56.814018	450	60.370234	99.071
500	58.605984	500	63.126686	500	67.078037	99.071
600	70.32718	600	75.752024	600	80.493645	100

Size Distribution

7000 ppm (TDS)		8000 ppm		9000 ppm		% Mass
d_d	d_p	d_d	d_p	d_d	d_p	≤
10	1.4122241	10	1.4764371	10	1.5354962	0
20	2.8244482 PM2.5	20	2.9528742 PM2.5	20	3.0709923 PM2.5	0.196
30	4.2366724	30	4.4293112	30	4.6064885	0.226
40	5.6488965	40	5.9057483	40	6.1419846	0.514
50	7.0611206	50	7.3821854	50	7.6774808	1.816
60	8.4733447	60	8.8586225	60	9.2129769	5.702
70	9.8855688	70	10.33506 PM10	70	10.748473 PM10	21.348
90	12.710017 PM10	90	13.287934	90	13.819465	49.812
110	15.534465	110	16.240808	110	16.890458	70.509
130	18.358914	130	19.193682	130	19.96145	82.023
150	21.183362	150	22.146556	150	23.032442	88.012
180	25.420034	180	26.575867	180	27.638931	91.032
210	29.656707	210	31.005179 TSP/PM30	210	32.245419 TSP/PM30	92.468
240	33.893379 TSP/PM30	240	35.43449	240	36.851908	94.091
270	38.130051	270	39.863801	270	41.458396	94.689
300	42.366724	300	44.293112	300	46.064885	96.288
350	49.427844	350	51.675298	350	53.742365	97.011
400	56.488965	400	59.057483	400	61.419846	98.34
450	63.550085	450	66.439668	450	69.097327	99.071
500	70.611206	500	73.821854	500	76.774808	99.071
600	84.733447	600	88.586225	600	92.129769	100

Size Distribution

10,000 ppm (TDS)		11,000 ppm		12,000 ppm		% Mass
d_d	d_p	d_d	d_p	d_d	d_p	≤
10	1.5903253	10	1.6416091	10	1.6898701	0
20	3.1806507 PM2.5	20	3.2832181 PM2.5	20	3.3797403 PM2.5	0.196
30	4.770976	30	4.9248272	30	5.0696104	0.226
40	6.3613013	40	6.5664363	40	6.7594806	0.514
50	7.9516267	50	8.2080453	50	8.4493507	1.816
60	9.541952	60	9.8496544	60	10.139221 PM10	5.702
70	11.132277 PM10	70	11.491263 PM10	70	11.829091	21.348
90	14.312928	90	14.774482	90	15.208831	49.812
110	17.493579	110	18.0577	110	18.588572	70.509
130	20.674229	130	21.340918	130	21.968312	82.023
150	23.85488	150	24.624136	150	25.348052	88.012
180	28.625856	180	29.548963	180	30.417663 TSP/PM30	91.032
210	33.396832 TSP/PM30	210	34.47379 TSP/PM30	210	35.487273	92.468
240	38.167808	240	39.398618	240	40.556883	94.091
270	42.938784	270	44.323445	270	45.626494	94.689
300	47.70976	300	49.248272	300	50.696104	96.288
350	55.661387	350	57.456317	350	59.145455	97.011
400	63.613013	400	65.664363	400	67.594806	98.34
450	71.56464	450	73.872408	450	76.044156	99.071
500	79.516267	500	82.080453	500	84.493507	99.071
600	95.41952	600	98.496544	600	101.39221	100

References

1. Calculating Realistic PM10 Emissions from Cooling Towers, Abstract No. 216 Session No. AS-1b, J. Reisman and G. Frisbie, Greyston Environmental Consultants, Inc.
2. Cooling Tower Particulate Matter and Drift Rate Emissions Testing Using the Cooling Technology Institute Test Code – CTI ATC-140, August 2003 EPRI Cooling Tower Technology Conference, K. Hennnon, P.E., D. Wheeler, P.E., Power Generation Technology.
3. Effects of Pathogenic and Toxic Materials Transported Via Cooling Device Drift, Vol. 1 Technical Report, EPA-600/7-79-251a, H.D. Freudenthal, J.E. Rubinstein, and A. Uzzo, November 1979.

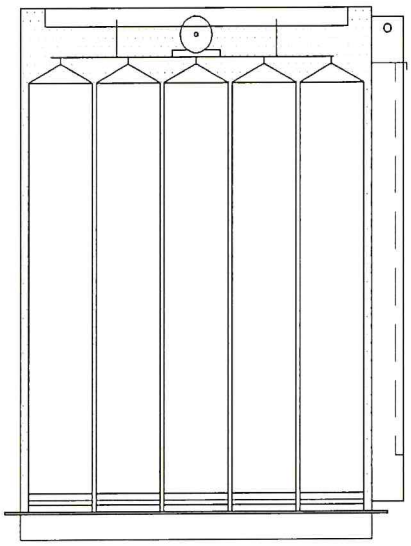
BELGRADE STEEL TANK CO., INC.
PO Box 220
405 Lowery Avenue
Belgrade, MN 56312
Phone 320-254-8246
Fax 320-254-3458

"BELLE" STYLE DUST HOUSE

"Belle" Filter Sock Specifications

Style	PE 37
Fiber	100% Polyester
Weight	9 oz./Sq. Yd.
Construction	Spun/Spun
Count	100W x 60F
Air Permeability	20-30 C.F.M.
Mullen Burst	500 PSI
Tensile Strength	Warp Direction 300# Fil Direction 275#
Max Operating Temp	275 Degrees F
Efficiency	99.99%

Square Ft. Bag Area	Cap. Cement
150	375 C.F.M.
225	675 C.F.M.



The dust house is equipped with either an air powered or electric powered vibrator used for cleaning of the bags. If air powered, connect air supply line to the 3/8" NPT coupling located on center above the door, and supply the vibrator with 80 psi oiled or non-oiled air. If electric powered, reconnect power cord which exits the top side of dust house to the control box supplied. Operate vibrator for approx. 10-15 minutes after each load of material has been blown in.

FABRIC FILTERS

Point Number (from flow diagram)	Manufacturer & Model No. (if available)
	Belgrade Steel Tank Co. - Belle 225
Name of Abatement Device	**Type of Particulate Controlled**
Belle 225 Dust House	Cement Dust

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	**Average Expected**		**Inlet**	**Outlet**
675	675	Ambient	N/A	0.01

Pressure Drop	Water Vapor Content of	Fan Requirements	
(in H2O)	**Effluent Stream (lb water/lb dry air)**	**(hp)**	**(cubic ft/min)**
5"	Ambient	N/A	N/A

PARTICULATE DISTRIBUTION

(by weight)

Micron Range	Inlet	Outlet
0.0 - 0.5	0%	99.98%
0.5 - 1.0	3%	0.02%
1.0 - 5.0	17%	0.00%
5.0 - 10.0	18%	0.00%
10.0 - 20.0	21%	0.00%
over 20.0	41%	0.00%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/sq ft of cloth)	Bag Diameter (inches)	Bag Length (inches)	Number of Bags	Number of Compartments in Baghouse
3	8"	72"	18	1

Bag rows will be:	Walkways will be provided between banks of bags:
Staggered	No

Filtering Material: PE 37 100% Polyester 9oz.

Describe Bag Cleaning Method and Cycle: Air Vibrator Shaker

Kice Industries, Inc.
Standard Filter Efficiency Statement

7/23/2013

The standard filter bags supplied with Kice filters are rated to a mass efficiency of no less than 99.9% based on the inlet loading. For an inlet dust loading up to 2 grains per dry standard cubic foot of air, the particle emissions in the discharge gas stream from our filter should not exceed 0.002 grains per dry standard cubic foot over the life of the media. Efficiency results, reported by the media manufacturer from independent test sites, have shown system efficiencies to be 99.97% at 1 micron and in some cases higher.

For gas streams handling primarily very small particles (less than 10 micron) some variation in efficiency can be expected. This is especially true during the break-in period of the filter bags, prior to a dust cake forming on the outer surface of the media which increases the filtering efficiency.

Filter bags should be periodically inspected to insure no holes or leaks exist that will allow dust particles to enter the discharge gas stream. Pressure drop across the filter bags should also be monitored utilizing the included differential pressure gauge.

CLARIANT

TECHNICAL INFORMATION

Highly active bleaching earth

TONSIL® OPTIMUM 210 FF

Product description

TONSIL OPTIMUM 210 FF is a highly active bleaching earth used in a wide scope of applications. It is manufactured by acid activation of calcium bentonite.

TONSIL OPTIMUM 210 FF is a fine, yellowish-grey powder showing a highly porous inner structure and a multitude of acid sites upon its surface.

TONSIL OPTIMUM 210 FF possesses an outstanding adsorptive capacity for polar compounds like chlorophyll, carotinoids, phospholipids, peroxides, via chemisorption and acid catalysis.

TONSIL OPTIMUM 210 FF is very suitable for refining vegetable and animal oils and fats, moreover for finishing and/or reprocessing numerous types of mineral oils, paraffins and waxes.

Physical/chemical characteristics (typical product data)

Apparent bulk density	g/l	550
Free moisture (2 h, 110 °C)	%	~ 10
Loss on ignition (predried, 2 h, 1.000 °C)	%	8,0
pH (10% suspension, filtered)	-	2,2 – 4,8
Acidity	mg KOH/g	4,5
Chloride content	mg Cl/g	0,5
Surface area (B.E.T.)	m^2/g	200
Micropore volume		
0 - 80 nm	ml/g	0,29
0 - 25 nm	ml/g	0,25
0 - 14 nm	ml/g	0,23

Filtration properties

TONSIL OPTIMUM 210 FF shows excellent filtration performance as so-called "FF"-grade (**FF** = **f**ast **f**iltration). The filtration time (according to the standard method BE 0013) averages between 40 and 70 seconds. .

Particle size

Besides other methods, the particle size of TONSIL OPTIMUM 210 FF is characterized by a sieve analysis of the dry powder. The following average values have been determined for the various sieve fractions:

>150 µm	%	5
>100 µm	%	17
>63 µm	%	29
>45 µm	%	40
>25 µm	%	60

Chemical analysis

TONSIL OPTIMUM 210 FF (dried at 110°C for 2 hours) has the following chemical composition (average values):

SiO_2	%	66,8
Al_2O_3	%	14,2
Fe_2O_3	%	3,7
CaO	%	1,1
MgO	%	2,3
Na_2O	%	0,8
K_2O	%	2,2
Loss on ignition	%	8,0
Total	%	99,1

Further information and technical advice

All data mentioned in this leaflet are typical for this product and based on average values. Certain deviations can appear due to the processing of natural clays as a raw material. In no case, are these values to be regarded as specifications. On request, certificates of analysis according to DIN (German standard regulations) for specified values of single properties can be agreed upon.
Detailed information concerning application and handling can be taken from our material safety data sheet of TONSIL OPTIMUM 210 FF.
If desired, our Technical Service Department will readily provide further support.

COLUMBUS CHEMICAL INDUSTRIES

Safety Data Sheet

Celite® 545 Diatomaceous Earth

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Celite® 545 Diatomaceous Earth

Synonyms/Generic Names: Aqua-Cel; Kieselguhr, soda ash flux calcined; Activated diatomite

Product Number: 1295

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information: 920-623-2140 (Monday-Friday 8:00-4:30)
www.columbuschemical.com

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Carcinogen, Target organ effect. Irritant

Target Organs: Lungs

Signal Words: Warning

Pictograms:

GHS Classification:

Carcinogenicity	Category 1
Specific target organ toxicity – single exposure	Category 3
Specific target organ toxicity – repeated exposure, Inhalation	Category 2

GHS Label Elements, including precautionary statements:

Hazard Statements:

H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H350	May cause cancer.

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/eye protection/face protection.

P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

Eyes	Causes eye irritation.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	1
Flammability	0
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	1
Fire	0
Reactivity	0
Personal	Not Available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Diatomaceous Earth	>99	68855-54-9	272-489-0	N/A	N/A
Silicon Dioxide	<50	14464-46-1	238-455-4	SiO_2	60.08 g/mol
Quartz	<4	14808-60-7	238-878-4	SiO_2	60.08 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention if necessary.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention if necessary.
Ingestion	**Do Not Induce Vomiting!** Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if necessary.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (silicon oxides) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and	See section 8 for recommendations on the use of personal protective equipment.

emergency procedures	
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. Sweep up and shovel. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling
See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Silicon dioxide (Silica-Crystalline Cristobalite)	0.025 mg/m^3	TLV	ACGIH
	0.05* mg/m^3	REL	NIOSH
Quartz (Silica-Crystalline α-Quartz	0.025 mg/m^3	TLV	ACGIH
	0.05* mg/m^3	REL	NIOSH

*Respirable dust
TWA: Time Weighted Average over 8 hours of work.
TLV: Threshold Limit Value over 8 hours of work.
REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit during x minutes.
IDLH: Immediately Dangerous to Life or Health
WEEL: Workplace Environmental Exposure Levels
CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. Use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat.
Other	Not Available

Other Recommendations
Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	White solid.
Odor	Odorless
Odor threshold	Not Available
pH	Not Available

Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Flammable
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	Not Available
Solubility (ies)	Slightly soluble in water: 0.1 - 1%
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Moisture, heat.
Incompatible Materials	Strong oxidizing agents, hydrogen fluoride, strong acids, fluorine, chlorine trifluoride, oxygen difluoride, strong bases.
Hazardous Decomposition Products	Silicon oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	Not Available
Eyes	Not Available
Respiratory	Not Available
Ingestion	Not Available

Carcinogenicity

IARC	3: Not classifiable as to its carcinogenicity to humans (Diatomaceous earth). 1: Carcinogenic to humans (Silicon dioxide). 1: Carcinogenic to humans (Quartz).
ACGIH	A2: Suspected human carcinogen (Silicon dioxide). A2: Suspected human carcinogen (Quartz).
NTP	Known human carcinogen (Silicon dioxide, Quartz)
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Itching, redness, tearing, burning.
Eyes	Itching, redness, swelling, dermatitis.
Respiratory	Drying of throat, burning sensation, coughing, wheezing, laryngitis, shortness of breath.
Ingestion	Drying of throat, vomiting, nausea.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Inhalation – May cause respiratory irritation. Inhalation – May cause damage to organs through prolonged or repeated exposure.

Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Product or Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	No
IATA/ICAO	Not Dangerous Goods

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	This product contains chemicals known to the State of California to cause cancer.
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Acute Health Hazard, Chronic Health Hazard
SARA 312	Acute Health Hazard, Chronic Health Hazard
SARA 313	Not Listed
WHMIS Canada	Class D-2A: Very toxic material causing other toxic effects.

16. OTHER INFORMATION

Revision	Date
Revision 1	07/02/2012
Revision 2	05/18/2015
Revision 3	03/22/2018

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

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO_x[b]		CO	
	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS)[c]	280	A	84	B
Uncontrolled (Post-NSPS)[c]	190	A	84	B
Controlled - Low NO_x burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO_x burners	50	D	84	B
Controlled - Low NO_x burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from $lb/10^6$ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

[b] Expressed as NO_2. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_X emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_X emission factor.

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

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

Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
CO_2[b]	120,000	A
Lead	0.0005	D
N_2O (Uncontrolled)	2.2	E
N_2O (Controlled-low-NO_X burner)	0.64	E
PM (Total)[c]	7.6	D
PM (Condensable)[c]	5.7	D
PM (Filterable)[c]	1.9	B
SO_2[d]	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $lb/10^6$ scf to 1b/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

[b] Based on approximately 100% conversion of fuel carbon to CO_2. $CO_2[lb/10^6 \text{ scf}] = (3.67)(CON)(C)(D)$, where CON = fractional conversion of fuel carbon to CO_2, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2×10^4 $lb/10^6$ scf.

[c] All PM (total, condensible, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM_{10}, $PM_{2.5}$ or PM_1 emissions. Total PM is the sum of the filterable PM and condensible PM. Condensible PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Based on 100% conversion of fuel sulfur to SO_2. Assumes sulfur content is natural gas of 2,000 grains/10^6 scf. The SO_2 emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf.

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

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

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

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

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

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

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

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

United States Environmental Protection Agency
Office of Air Quality Planning and Standards Research Triangle Park NC 27711
EPA-453/R-95-017 November 1995
Air

EPA

Protocol for Equipment Leak Emission Estimates

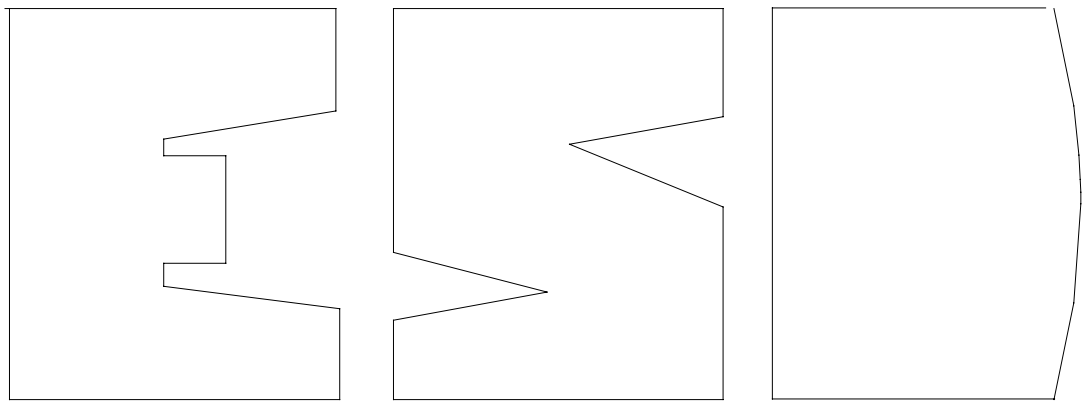


TABLE 2-4. OIL AND GAS PRODUCTION OPERATIONS AVERAGE EMISSION FACTORS (kg/hr/source)

Equipment Type	Service[a]	Emission Factor (kg/hr/source)[b]
Valves	Gas	4.5E-03
	Heavy Oil	8.4E-06
	Light Oil	2.5E-03
	Water/Oil	9.8E-05
Pump seals	Gas	2.4E-03
	Heavy Oil	NA
	Light Oil	1.3E-02
	Water/Oil	2.4E-05
Others[c]	Gas	8.8E-03
	Heavy Oil	3.2E-05
	Light Oil	7.5E-03
	Water/Oil	1.4E-02
Connectors	Gas	2.0E-04
	Heavy Oil	7.5E-06
	Light Oil	2.1E-04
	Water/Oil	1.1E-04
Flanges	Gas	3.9E-04
	Heavy Oil	3.9E-07
	Light Oil	1.1E-04
	Water/Oil	2.9E-06
Open-ended lines	Gas	2.0E-03
	Heavy Oil	1.4E-04
	Light Oil	1.4E-03
	Water/Oil	2.5E-04

[a]Water/Oil emission factors apply to water streams in oil service with a water content greater than 50%, from the point of origin to the point where the water content reaches 99%. For water streams with a water content greater than 99%, the emission rate is considered negligible.

[b]These factors are for total organic compound emission rates (including non-VOC's such as methane and ethane) and apply to light crude, heavy crude, gas plant, gas production, and off shore facilities. "NA" indicates that not enough data were available to develop the indicated emission factor.

[c]The "other" equipment type was derived from compressors, diaphrams, drains, dump arms, hatches, instruments, meters, pressure relief valves, polished rods, relief valves, and vents. This "other" equipment type should be applied for any equipment type other than connectors, flanges, open-ended lines, pumps, or valves.

2 Madison Ave. Larchmont, NY 10538
Ph: 914-834-1881 Fax: 914-834-4611

Univar
3075 Highland Pkwy STE 200
Downers Grove, IL 60515
425-889-3400

SAFETY DATA SHEET

1. Identification

Product identifier: CAUSTIC SODA 50%

Other means of identification

Synonyms: Sodium Hydroxide

SDS number: 000100000088

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Emergency telephone number:For emergency assistance Involving chemicals

call CHEMTREC day or night at: 1-800-424-9300. CHEMTREC INTERNATIONAL Tel# 703-527-3887

2. Hazard(s) identification

Hazard classification

Health hazards

Acute toxicity (Oral)	Category 4
Skin corrosion/irritation	Category 1A
Serious eye damage/eye irritation	Category 1
Environmental hazards Acute hazards to the aquatic environment	Category 3

Label elements

Hazard symbol

Signal word	Danger
Hazard statement	Corrosive. Harmful if swallowed. Causes severe skin burns and eye damage.
Precautionary statement	
Prevention	Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust or mists. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.
Storage	Store in a closed container. Keep container tightly closed. Store in a well-ventilated place. Store in a dry place. Store locked up.
Disposal	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification	None.

[illegible]

Substances

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
Sodium hydroxide		1310-73-2	>=48 - <=52%
Water		7732-18-5	>=48 - <=52%
Sodium Chloride		7647-14-5	>=0 - <=5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

[illegible]

General information: CAUTION! First aid personnel must be aware of own risk during rescue!

Ingestion: Do NOT induce vomiting. Never give liquid to an unconscious person. Get medical attention immediately.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Perform artificial respiration if breathing has stopped. Get medical attention immediately.

Skin contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Eye contact: If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

[illegible]

General fire hazards: No data available.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use: Powder. In case of fire in the surroundings: all extinguishing agents allowed.

Unsuitable extinguishing media: No data available.

Specific hazards arising from the chemical:	No data available.
Special protective equipment and precautions for firefighters	
Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	No data available.

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Keep unauthorized personnel away.
Methods and material for containment and cleaning up:	Absorb spillage with non-combustible, absorbent material. Dike for later disposal.

Precautions for safe handling:	Use personal protective equipment as required. Use only with adequate ventilation. Container must be kept tightly closed.
Conditions for safe storage, including any incompatibilities:	No data available.

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Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
Sodium hydroxide	Ceiling	2 mg/m3	US. ACGIH Threshold Limit Values (03 2013)
	Ceil_Time	2 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	Ceiling	2 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	Ceiling	2 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
Sodium hydroxide - Particulate.	ST ESL	20 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL	2 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
Sodium hydroxide	Ceiling	2 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)

Appropriate engineering controls No data available.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Practice good housekeeping.

Eye/face protection: Use personal protective equipment as required. Wear goggles/face shield.

Skin protection

Hand protection: No data available.

Other: No data available.

Respiratory protection: No data available.
Hygiene measures: No data available.

Physical state:	Liquid
Form:	No data available.
Color:	No data available.
Odor:	No data available.
Odor threshold:	No data available.
pH:	14
Melting point/freezing point:	-12 - 10 °C
Initial boiling point and boiling range:	105 - 140 °C
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10 Stability and reactivity

Reactivity:	No data available.
Chemical stability:	No data available.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	No data available.
Incompatible materials:	No data available.
Hazardous decomposition products:	No data available.

11 Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion:	No data available.
Inhalation:	No data available.
Skin contact:	No data available.
Eye contact:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix (): 353.488372 mg/kg

Dermal

Product:

Not classified for acute toxicity based on available data.

Inhalation

Product: No data available.

Specified substance(s):

Sodium Chloride — LC 50 (Rat,): > 42 mg/l 2 (reliable with restrictions)

Repeated dose toxicity

Product: No data available.

Skin corrosion/irritation

Product: No data available.

Serious eye damage/eye irritation

Product: No data available.

Respiratory or skin sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ cell mutagenicity
In vitro
Product: No data available.
In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific target organ toxicity - single exposure
Product: No data available.

Specific target organ toxicity - repeated exposure
Product: No data available.

Aspiration hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity
Expected to be harmful to aquatic organisms
Fish
Product: No data available.
Specified substance(s):
Sodium hydroxide — LC 50 (Western mosquitofish (Gambusia affinis), 24 h): 125 mg/l Mortality LC 50 (Guppy (Poecilia reticulata), 24 h): 145 mg/l Mortality LC 50 (Goldfish (Carassius auratus), 24 h): 160 mg/l Mortality LC 50 (Bony fish superclass (Osteichthyes), 48 h): 33 - 100 mg/l Mortality LC 50 (Western mosquitofish (Gambusia affinis), 48 h): 125 mg/l Mortality

Aquatic invertebrates
Product: No data available.
Specified substance(s):
Sodium hydroxide — EC 50 (Water flea (Ceriodaphnia dubia), 48 h): 34.59 - 47.13 mg/l Intoxication LC 50 (Common shrimp, sand shrimp (Crangon crangon), 48 h): 33 - 100 mg/l Mortality LC 50 (Cockle (Cerastoderma edule), 48 h): 330 -

1,000 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and degradability

Biodegradation

Product: No data available.

BOD/COD ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)

Product: No data available.

Partition coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Sodium hydroxide	No data available.
Water	No data available.
Sodium chloride	No data available.

Known or predicted distribution to environmental compartments

Water	No data available.

1 [illegible]

Disposal instructions: No data available.

Contaminated packaging: No data available.

1 [illegible]

DOT

UN number:	UN 1824
UN proper shipping name:	Sodium hydroxide solution
Transport hazard class(es)	
Class:	8
Label(s):	8
Packing group:	II
Marine Pollutant:	Not regulated.

Version: 1.2
Revision date: 04/29/2015

Special precautions for user:	–

IMDG

UN number:	UN 1824
UN proper shipping name:	SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)	
Class:	8
Label(s):	8
EmS No.:	F-A, S-B
Packing group:	II
Marine Pollutant:	Not regulated.
Special precautions for user:	–

IATA

UN number:	UN 1824
Proper Shipping Name:	Sodium hydroxide solution
Transport hazard class(es):	
Class:	8
Label(s):	8
Packing group:	II
Environmental hazards	Not regulated.
Special precautions for user:	–
Other information	
Passenger and cargo aircraft:	Allowed.
Cargo aircraft only:	Allowed.

1 R r r

US federal regulationsUS. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Sodium hydroxide Reportable quantity: 1000 lbs.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

Not listed.

SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

SARA 304 Emergency release notification

Chemical identity	RQ
Sodium hydroxide	1000 lbs.

SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity
Sodium hydroxide	500 lbs
Sodium Chloride	500 lbs

SARA 313 (TRI reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

Sodium hydroxide Reportable quantity: 1000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydroxide Listed

US. Massachusetts RTK - Substance List

Sodium hydroxide Listed

US. Pennsylvania RTK - Hazardous Substances

Sodium hydroxide Listed

US. Rhode Island RTK

Sodium hydroxide Listed

Version: 1.2
Revision date: 04/29/2015

Inventory Status: Australia AICS:	Not in compliance with the inventory.
Canada DSL Inventory List:	Not in compliance with the inventory.
EU EINECS List:	Not in compliance with the inventory.
EU ELINCS List:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
EU No Longer Polymers List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	Not in compliance with the inventory.
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	Not in compliance with the inventory.
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

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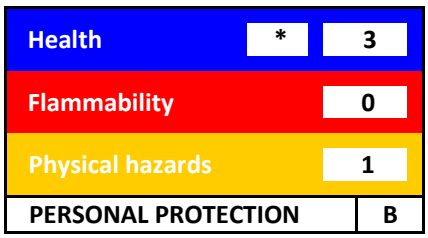
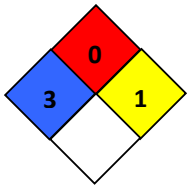
HMIS Hazard ID

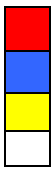


B - Safety Glasses & Gloves

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; *Chronic health effect

NFPA Hazard ID





Flammability
Health
Reactivity
Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue date:	04/29/2015
Revision date:	No data available.
Version #:	1.2
Further information:	No data available.

Version: 1.2
Revision date: 04/29/2015

Univar USA Inc Material Safety Data Sheet

For Additional Information contact MSDS Coordinator during business hours, Pacific time: (425) 889-3400

Notice

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Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Univar sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Univar makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process

SAL CHEMICAL

ISO Registered Company

Material Safety Data Sheet

Citric Acid Solution

Product# 1043-MB

Section 01 · Product and Company Identification

SAL Chemical Company
3036 Birch Drive
Weirton, WV 26062

Date Prepared: 06.01.2010
Revision Date: 06.01.2010

For More Information Call:
304-748-8200
800-879-1725

Emergency Phone Number:
ChemTrec: 800-424-9300
24 Hours/Day—7 Days/Week

TRADE NAME: Citric Acid Solution
CAS NUMBER: 77-92-9

Section 02 · Hazardous Ingredients

HAZARDOUS INGREDIENT	PERCENT	CAS #	PEL
Citric Acid	50%	77-92-9	Not Established

Section 03 · Physical Data

APPEARANCE: Clear, Colorless
ODOR: Acidic Odor
BULK DENSITY: 10.330 lb/gal.
pH : 1.65 +/- 0.3
SOLUBILITY IN WATER: 100% - Complete
VAPOR PRESSURE (MMhG): N/A
VAPOR DENSITY (AIR=1) N/A
BOILING POINT: 208°F
FREEZING/MELTING POINT: 29°F
SPECIFIC GRAVITY 1.241 (WATER=1.000)

Section 04 · Fire and Explosion Data

FLASH POINT: N/A—Water borne product
EXTINGUISHING MEDIA: Water, water spray, dry chemical, carbon dioxide or foam. Remove container from fire source if possible and safe to do so.
SPECIAL FIRE FIGHTING PROCEDURES: Always use personal protective equipment or self-contained breathing apparatus when fighting a fire in an enclosed area.

Section 05 · Reactivity Data

STABILITY: Stable
HAZARDOUS DECOMPOSITION: CO (Carbon Monoxide), CO_2 (Carbon Dioxide) may be formed on burning in limited air supply.
HAZARDOUS POLYMERIZATION: Will not occur
INCOMPATIBILITY: Strong Bases, Oxidizing Agents

As the result of our inspection(s), this certifies that the material identified above, blended by SAL Chemical Company, Inc., meets or exceeds all conformance standards listed above, and fully complies with the customer's order. In no way is this certificate intended to alter SAL Chemical's General Terms & Conditions of the parties' contract.

Section 06 · Health Data

EMERGENCY OVERVIEW:	Odorless, colorless solution with a strong acidic taste. Citric acid solutions may be a skin and mucous membrane irritant. It is also a strong eye irritant and may produce allergenic reactions in some individuals.
ROUTES OF ENTRY:	Eyes, Skin, Inhalation
INHALATION:	May cause mucous membrane irritation with symptoms of a sore throat, coughing and/or shortness of breath.
INGESTION:	May cause acute gastrointestinal irritation with abdominal pain.
SKIN (DERMAL):	May cause irritation with redness, swelling and pain.
EYES:	May cause irritation with redness, pain, conjunctivitis, possible eye burns, ulceration and permanent cloudiness.
POTENTIAL CARCINOGEN:	Not a carcinogen or potential carcinogen according to the National Toxicology Program I.A.R.C. Monographs and OSHA
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:	Conjunctivitis, dermatitis with long or repeated contact
HUMAN EXPERIENCE:	Health injuries are not known or expected under normal use.
ACUTE TOXICITY:	$L.D._{50}$/p.o./rat 11,700 mg/kg
	$L.D._{50}$/p.o./rat 885 mg/kg
	$L.D._{50}$/p.o./mouse 5,040 mg/kg
	$L.D._{50}$/p.o./mouse 961 mg/kg
CHEMICAL OXYGEN DEMAND:	(COD) = 728 mg o_2 /g
READILY BIODEGRADABLE:	(BOD) = 528 mg o_2 /g
BIOACCUMULATION:	98% after 2 days
ECOTOXICITY EFFECTS:	Toxicity to Fish (LC_{50}/96h/goldfish=440-706 mg/L Toxicity to Bacteria (ECO) - >10,000 mg/L

Section 07 · First Aid

SWALLOWING (INGESTION):	Drink large amounts of water. DO NOT induce vomiting. Consult a physician if necessary
EYES:	Flood eyes and eye lid area with water for 15 minutes. Call physician and seek medical advice.
SKIN (DERMAL):	Wash off immediately with soap and water. Rinse thoroughly. If irritation develops, call a physician.

Section 08 · Employee Protection

EXPIRATORY PROTECTION:	None needed if exposure limits are not exceeded.
PROTECTIVE CLOTHING:	Gloves, Goggles/Safety Glasses, Normal work clothing covering arms and legs.
EXPOSURE LIMITS:	Not established for this product.
VENTILATION:	Local exhaust to provide clean, general ventilation

Section 09 · Spill and Disposal Data

SPILLS:	Do not allow material to dry. Dried material is more irritating than liquid to both eyes and mucous membranes. Contain spill if possible to do so without risk of personal injury or harm. Wipe up or absorb spill on suitable material. Place in approved container for disposal.
WASTE DISPOSAL:	Any disposal must be in compliance with local, state and federal laws and regulations. Contact local or state environmental agencies for specific rules.

Section 10 · Handling/Storage/Transportation Data

HANDLING:	Avoid allowing material to dry. Resultant powder is more irritating than liquid and should avoid being breathed. Wash all splashes and spillages with water. Avoid letting washings go to storm sewers or waterways without neutralization. Comply with all existing regulations for discharges.
STORAGE:	Store in a cool, dry place away from incompatible materials, protect containers from damage.
STORAGE TEMPERATURE:	Ambient
INCOMPATIBLITIES:	Avoid contact with strong bases and oxidizing agents
EMPTY CONTAINERS:	Can retain product residue and odors. Observe all label precautions even after the container is emptied. Do not reuse containers unless thoroughly cleaned.
PROPER SHIPPING NAME:	Citric Acid Solution
HAZARD CLASS AND LABEL:	Not DOT regulated

Section 11 · Other Regulatory Information

GENERAL:	Citric Acid is generally regarded as safe (gras) by USA FDA, 21 CFR 182.1033 Meets the criteria for hazardous material as defined by OSHA Hazard Communication Standard 29 CRF 1910.1200. Listed European Food Additive E330. This material is listed on the TSCA Inventory List
CERCLA:	Not Hazardous *(Comprehensive Response Compensation and Liability Act)*
SARA TITLE III:	Not considered hazardous *(Superfund Amendments and Reauthorization Bill)*
FOREIGN INVENTORY STATUS:	Canadian DSL *(Domestic Substance List)*
CA PROP 65:	Does not contain any California Prop 65 Substances

Section 12 · Additional Information

DISCLAIMER: The information contained within this Material Safety Data Sheet is for the specific material described only and may not be valid if the material is used in combination with any other materials or process. The user is responsible to determine the completeness of the information and suitability for the user's own particular use. To the knowledge and belief of Sal Chemical, the information is accurate and reliable as of the date indicated but Sal Chemical makes no express implied warranty of merchantability for the material or for the information.

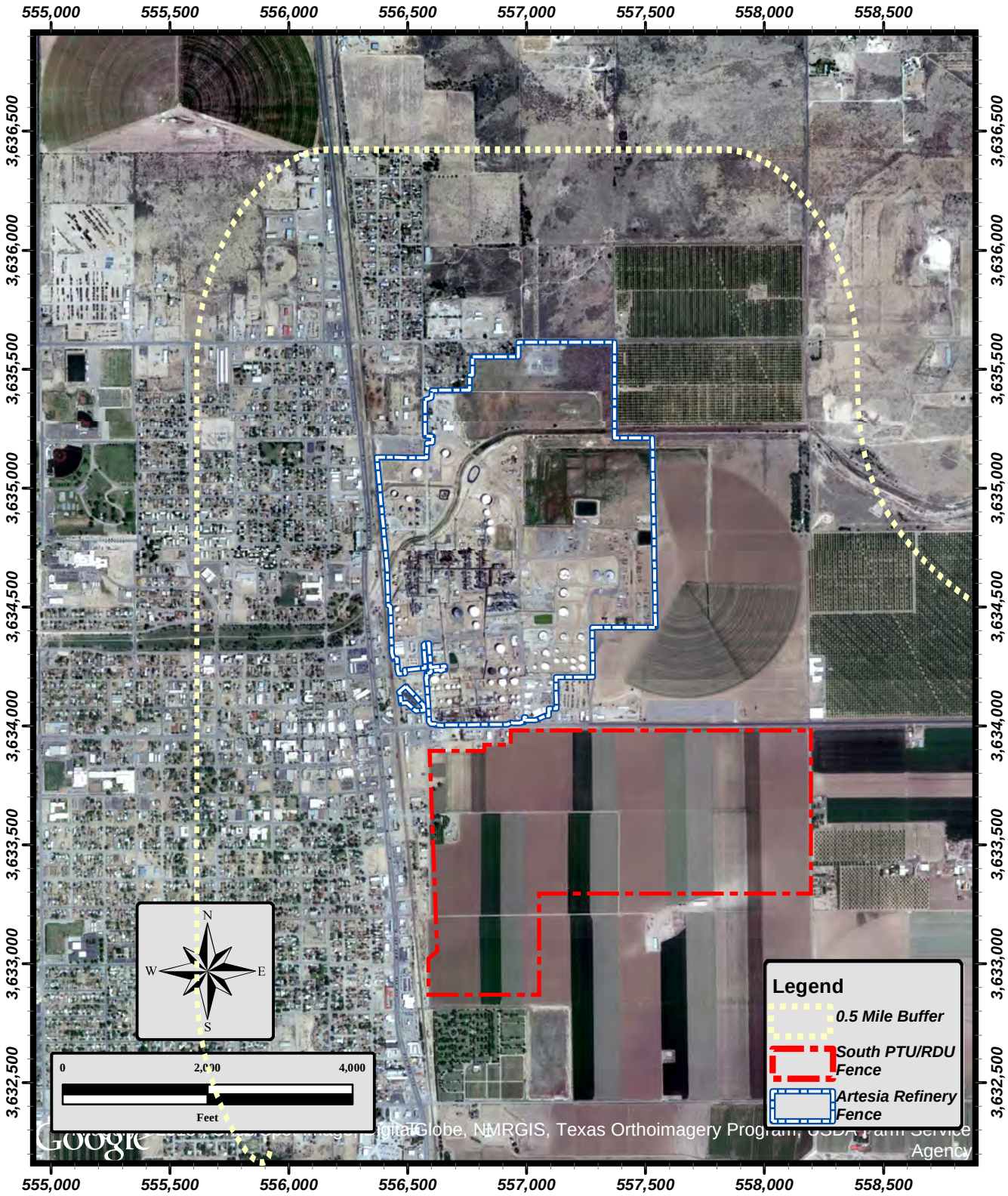
Section 8

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	

Figure 1 is a map of the Pretreatment Unit and surrounding area. Figure 2 shows the location of the proposed PTU emission units.



Grid Presented is UTM Zone 13, NAD 1983

TASCOSA ALLIANCE COMPANY

HOLLYFRONTIER.

FIGURE 1 AREA MAP

PTU and RDU Source
Artesia, New Mexico

from USGS Quadrangle Artesia, New Mexico
Ground Condition Depicted May 2014
Digital Data Courtesy of Google Earth

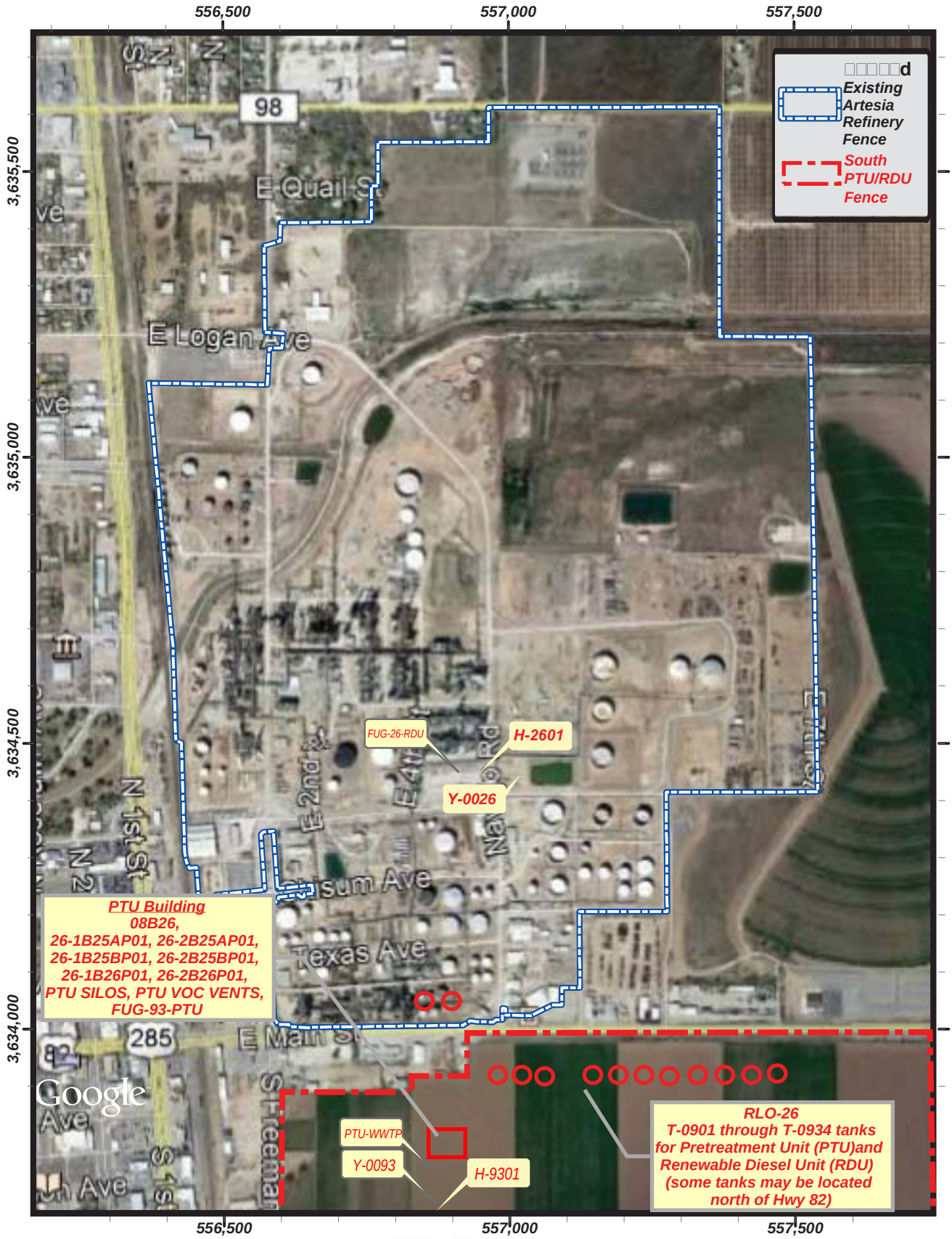


FIGURE 2 U□I□ □□□□□I□□ M□□

□□U □□d RDU Source

□r□□□□□□□□ M□□□□□

Digital Data Courtesy of Google Earth

TASCOSA ALLIANCE COMPANY

HOLLYFRONTIER.

Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)
(This proof is required by: 20.2.72.203.A.14 NMAC "Documentary Proof of applicant's public notice")

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

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

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

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

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

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

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OCT 22 2020
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USPS 88210

Ms. Aubrey Hobson
City of Artesia – City Clerk
511 W. Texas
Artesia, NM 88210

SMD
10/22/20

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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ARTESIA, NM
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Ms. Robin Van Natta
Eddy County – County Clerk
325 S. Main Street
Carlsbad, NM 88220

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Mr. Dave Kunko
Chaves County – County Clerk
#1 St. Marty's Place, Suite 110
Roswell, NM 88203

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Jackie L & Diana Joy
603 Vogel Rd
Artesia NM 88210

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Gayla Sue & Sherrill Gurley
401 S Bolton Road
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Chase Farms
PO Box 658
Artesia NM 88211-0658

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Sue C. Pemberton
PO Box 914
Artesia, NM 88211-0914

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PO Drawer 2360
Casper, WY 82602-2360

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Murdock Machine Shop
PO Box 1438
Artesia, NM 88211-1438

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Schlumberger Technology Corp
PO Box 2629
Addison, TX 75001-2629

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Richard Chase Qualified Per Res Trst
PO Box 359
Artesia, NM 88211-0359

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Littleton, CO 80123

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Pedro A & Maria E Ruiz
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Artesia, NM 88210

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Donald R & David Golemon
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Artesia, NM 88210

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Amanda Rose Munoz
604 E Richey
Artesia, NM 88210

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Gene G & Yolanda Burgos
410 E Quail
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Raul V Chavarria
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Buddy L & Brenda J Simmons
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Tulsa, OK 74101-1152

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Prideco LLC
PO Box 513
Charleston, WV 25322
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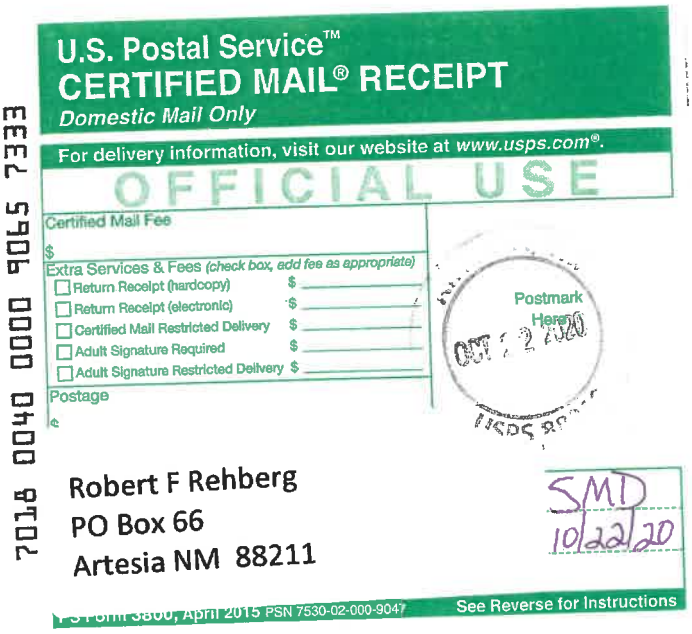
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C E & Wanda La Rue & Chase Farms LLC
PO Box 206
Artesia, NM 88211-0206
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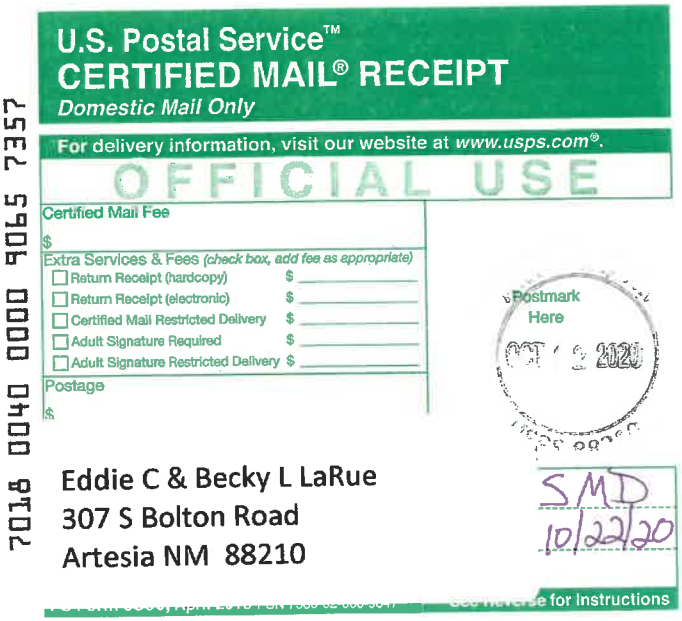
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7018 0040 0000 9065 7357
Eddie C & Becky L LaRue
307 S Bolton Road
Artesia NM 88210
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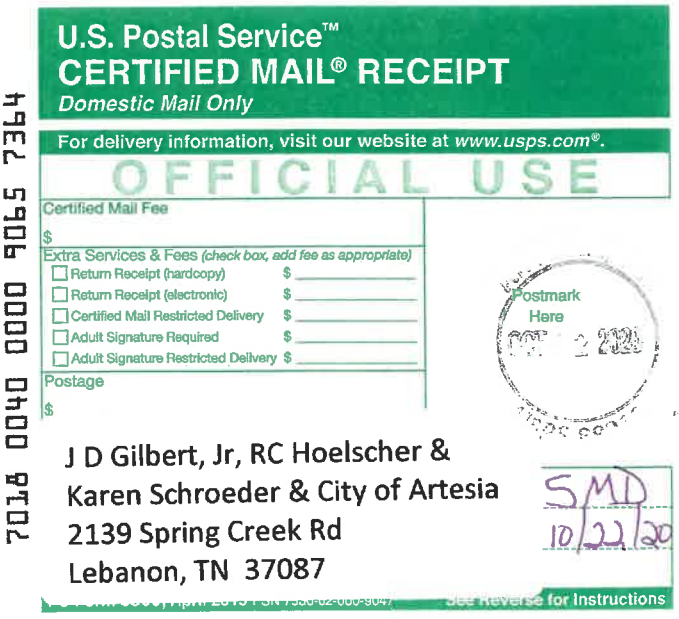
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7018 0040 0000 9065 7364
J D Gilbert, Jr, RC Hoelscher &
Karen Schroeder & City of Artesia
2139 Spring Creek Rd
Lebanon, TN 37087
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7018 0040 0000 9065 7371

EHW LLC & Charlene M Ward
101 S 4th St
Artesia NM 88210

SMD
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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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James L & Leah J Joseph
PO Box 157
Artesia, NM 88211-0157

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Artesia Alfalfa Growers Assoc
PO Box 930
Artesia, NM 88211-0930

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Timmy K & Teresa L Baize
210 S Roselawn Ave
Artesia, NM 88210

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Stephen Earl & Jana S Borland
PO Box 371
Artesia, NM 88211-0371

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Josephine Wooten
1802 Standridge St
Killeen, TX 76543

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Manuel, Clotilde & Manuel D Fuentes
410 S. Freeman Avenue
Artesia , NM 88210

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City of Artesia
511 W Texas Avenue
Artesia NM 88210

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Johnny W & Terry J Fowler
PO Box 1223
Artesia, NM 88211-1223

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G G Armstrong & Son
PO Box 1973
Roswell, NM 88202-1973

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Bell Gas Inc
PO Box 490
Roswell, NM 88202-0490

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Reydesel Flores
206 E Grand Ave
Artesia, NM 88210

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Postage
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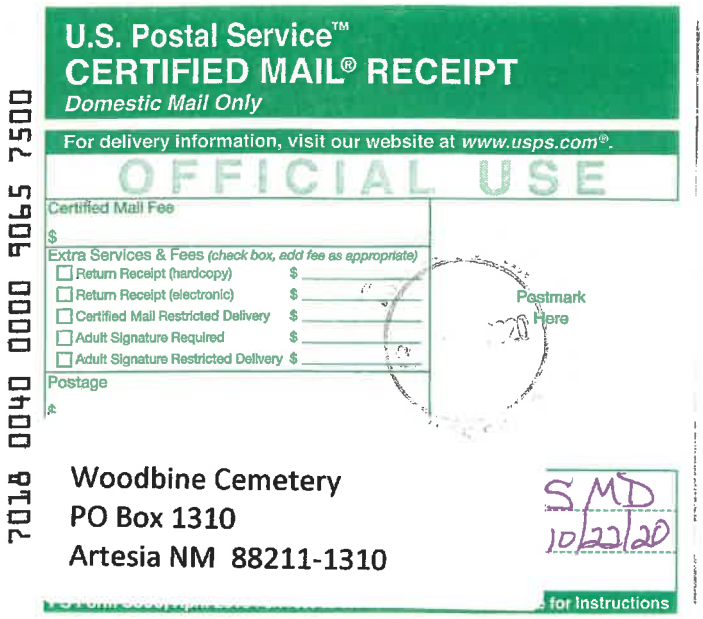
Artesia Metals Inc
PO Box 957
Artesia, NM 88211-0957
SMD
10/22/20
See Reverse for Instructions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Woodbine Cemetery
PO Box 1310
Artesia NM 88211-1310
SMD
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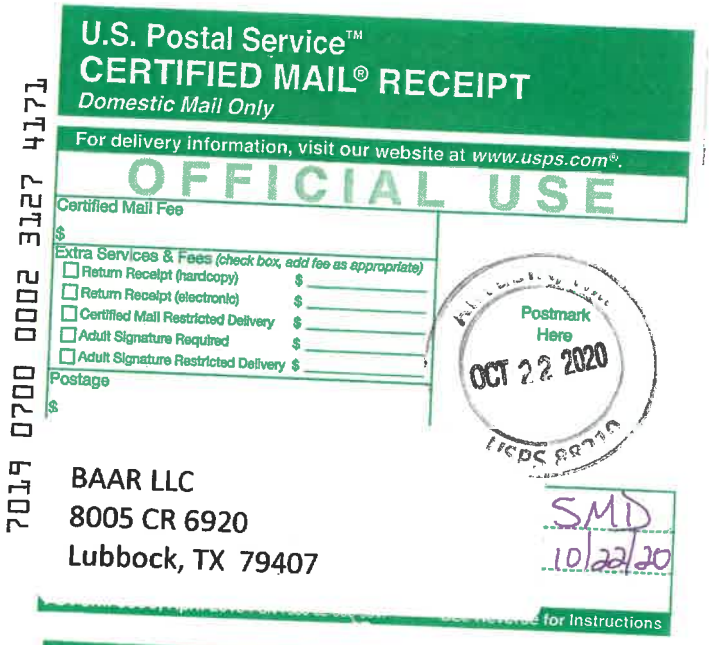
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Certified Mail Restricted Delivery $
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OCT 22 2020
BAAR LLC
8005 CR 6920
Lubbock, TX 79407
SMD
10/22/20
for Instructions


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OCT 22 2020
BAAR LLC
410 E Main Street
Artesia, NM 88210
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OCT 22 2020
Southwestern Public Service Co
PO Box 1979
Denver, CO 80201
SMD
10/22/20
for Instructions


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OCT 22 2020
Chanda Hawkins
169 E Blevins Rd
Artesia, NM 88210
SMD
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7019 0700 0002 3127 4218

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BNSF Railway Company
PO Box 961089
Fort Worth, TX 76161

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OCT - 2 2020

Murdock Machine Shop Inc
PO Box 1438
Artesia NM 88211-1438

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Jose Angel Guillermo Garcia &
Marisela Pando
2011 N Oak St
Artesia NM 88210

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Eleazar Hernandez Arriola
1914 Pine Street
Artesia NM 88210

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Pedro A & Maria E Ruiz
1611 N Freeman Avenue
Artesia NM 88210

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Maria C Soto-Cano
3109 W Dallas Ave
Artesia NM 88210

SMD
10/22/20

for Instructions

Municipalities, Counties, and Tribes Provided Notice by Certified Mail

Entity	Contact/Office	Mailing Address
City of Artesia	Ms. Aubrey Hobson, City Clerk	511 W. Texas Avenue Artesia, NM 88210
Eddy County	Ms. Robin Van Natta Eddy County - County Clerk	325 S. Main Street Carlsbad, NM 88220
Chavez County	Mr. Dave Kunko Chaves County - County Clerk	#1 St. Marty's Place, Suite 110 Roswell, NM 88203

UPC	ACRES	OWNERNAME	OWNERADDRE
4-152-098-523-523	0.35	AIRGAS USA LLC	PO BOX 1152 TULSA, OK 74101-1152
4-153-099-110-019	0.46	ARMSTRONG, G G & SON	PO BOX 1973 ROSWELL, NM 88202-1973
4-152-099-516-056	2.58	ARTESIA ALFALFA GROWERS ASSOC	PO BOX 930 ARTESIA, NM 88211-0930
4-152-098-437-283	0.16	ARTESIA LUMBER COMPANY	PO BOX 5564 MIDLAND, TX 79701-5564
4-152-098-478-053	12.70	ARTESIA METALS INC	PO BOX 957 ARTESIA, NM 88211-0957
4-153-099-071-029	0.56	BAAR LLC	8005 CR 6920 LUBBOCK, TX 79407
4-153-099-086-018	0.63	BAAR LLC	410 E MAIN STREET ARTESIA, NM 88210
4-152-099-518-112	0.78	BAIZE, TIMMY K & TERESA L (JT)	210 S ROSELAWN AVE ARTESIA, NM 88210
4-153-099-007-023	0.66	BELL GAS INC	A NEW MEXICO CORPORATON PO BOX 490 ROSWELL, NM 88202-0490
4-152-099-521-369	10.45	BNSF RAILWAY COMPANY	PO BOX 961089 FORT WORTH, TX 76161-0089
4-152-099-525-177	0.11	BORLAND, STEPHEN EARL & JANA S	PO BOX 371 ARTESIA, NM 88211-0371
4-153-098-017-057	0.51	BURGOS, GENE G & YOLANDA (JT)	404 E QUAIL ARTESIA, NM 88210
4-156-098-066-191	40.36	CAZA RANCHES LLC	PO BOX 658 ARTESIA, NM 88211-0658
4-153-097-399-453	79.93	CHASE FARMS	CHASE, RICHARD L PO BOX 658 ARTESIA, NM 88211-0658
4-153-098-510-493	4.30	CHASE FARMS LLC	PO BOX 658 ARTESIA, NM 88211-0658
4-153-098-029-057	0.51	CHAVARRIA, RAUL V	PO BOX 1507 ARTESIA, NM 88211-1507
4-153-098-062-031	0.53	CHAVARRIA, ROLANDO P SR	421 E QUAIL STREET ARTESIA, NM 88210
4-152-098-436-331	0.88	DOC PROPERTIES LLC	813 N WASHINGTON AVE ROSWELL, NM 88201
4-152-099-524-133	0.34	FLORES, REYDESEL	206 E GRAND AVE ARTESIA, NM 88210-2446
4-153-099-099-018	0.58	FOWLER, JOHNNY W & TERRY J (JT)	PO BOX 1223 ARTESIA, NM 88211-1223
4-152-099-524-147	0.12	FUENTES, MANUEL & CLOTILDE & FUENTES, MANUEL D (JT)	410 S FREEMAN AVENUE ARTESIA, NM 88210
4-152-098-454-255	0.07	GAS WELL SERVICES INC	26 E COMPRESS RD ATRESIA, NM 88210
4-152-098-455-273	0.08	GILBERT, J D JR & HOELSCHER, RC & SCHROEDER,KAREN &	GILBERT, JOHNNY DOYAL ETAL 2139 SPRING CREEK RD LEBANON, TN 37087-0366
4-153-098-115-011	0.45	GOLEMON, DONALD R & DAVID (JT)	MUNOZ, STEVE D K/S 602 E RICHEY AVE ARTESIA, NM 88210
4-154-099-012-131	5475.00	GURLEY, GAYLA SUE & SHERRILL (JT)	401 BOLTON ROAD, Artesia NM 88210
4-153-098-132-011	0.19	GRACE, CORINNE B TRUST	WESTERN COMMERCE BANK TRUSTEES PO BOX 1358 CARLSBAD, NM 88221-1358
4-155-098-397-333	244.62	HAINES, STEVEN B	11032 LOVINGTON HWY ARTESIA, NM 88210
4-152-099-524-217	1.14	HAWKINS, CHANDA	169 E BLEVINS RD ARTESIA, NM 88210
4-153-098-041-057	0.51	HERNANDEZ, LUPE L & LUPE A	VASQUEZ, MARCELLA Y (JT) 414 E QUAIL STREET ARTESIA, NM 88210-1356
4-152-098-504-090	9.09	JOSEPH, JAMES L & LEAH J (JT)	PO BOX 157 ARTESIA, NM 88211-0157
4-154-099-133-439	54000.00	JOY, JACKIE L & DIANA L	603 VOGEL RD, Artesia NM 88210
4-154-099-146-071	36148.00	JOY, JACKIE L & DIANA L	604 VOGEL RD, Artesia NM 88210
4-153-097-235-506	3.26	KIDDY, H DONALD	7366 S PLATTE CANYON DRIVE LITTLETON, CO 80123
4-152-098-437-293	0.16	LA RUE, C E & WANDA (JT)	COATS, ALLEN L & JENNIFER L(JT)K/S 3717 MANOR CIRCLE ARTESIA, NM 88210
4-154-099-012-102	7446.00	LARUE, EDDIE C & BECKY L	307 S BOLTON RD, Artesia, NM 88210
4-153-098-097-010	0.36	MARTINEZ, CLAUDIA E	510 E RICHEY AVENUE ARTESIA, NM 88210
4-153-098-006-060	0.28	MASCORRO, JESUS M & MARIA (N-JT)	1416 N FREEMAN AVE ARTESIA, NM 88210
4-153-098-125-011	0.45	MUNOZ, AMANDE ROSE	604 E RICHEY ARTESIA, NM 88210
4-153-098-220-518	0.09	MURDOCK MACHINE SHOP INC	PO BOX 1438 ARTESIA, NM 88211-1438
4-153-098-515-219	5.04	PEMBERTON, SUE C	PO BOX 914 ARTESIA, NM 88211-0914
4-152-098-512-519	0.63	PRIDECO LLC	MCJUNKIN RED MAN CORPORATION C/O PO BOX 513 CHARLESTON, WV 25322-0513
4-154-099-020-245	924.00	REHBERG, ROBERT F	PO BOX 66, Artesia NM 88211
4-153-098-057-010	0.36	RUIZ, PEDRO A & MARIA E (JT)	1611 N FREEMAN AVENUE ARTESIA, NM 88210
4-152-098-437-303	0.16	SANT, DAVID L & DEBI M (JT)	PO BOX 306 HAGERMAN, NM 88232
4-153-097-127-506	0.67	SCHLUMBERGER TECHNOLOGY CORP	PO BOX 2629 ADDISON, TX 75001-2629
4-153-098-053-057	0.51	SIMMONS, BUDDY L & BRENDA J (JT)	420 QUAIL ARTESIA, NM 88210
4-156-098-464-169	51.90	SMITH, SYBIL ET AL	NEWBERRY, WAYLAND B R252 N HALDEMAN RURAL RD ARTESIA, NM 88210-9591
4-153-098-052-031	0.52	SOSA, OSCAR & MARY HELEN (JT)	612 N 14TH ST ARTESIA, NM 88210
4-152-099-525-152	288.00	SOTO-CANO, MARIA C	3109 W DALLAS AVE
4-152-099-517-096	0.73	SOUTHWESTERN PUBLIC SERVICE CO	ATTN: PROPERTY TAX DEPT PO BOX 1979 DENVER, CO 80201-0840
4-153-098-184-518	0.09	TOOLPUSHERS SUPPLY CO	PO DRAWER 2360 CASPER, WY 82602-2360
4-152-099-525-152	0.12	WOOTEN, JOSEPHINE	1802 STANDRIDGE ST KILLEEN, TX 76543
4-154-099-020-203	6971.00	VILLA, BARBARA MITCHELL & ROBERT F (Mailed under Rehberg, Robert	PO BOX 66, Artesia NM 88211
4-154-099-020-223	6366.00	VILLA, BARBARA M & ROBERT F (Mailed under Rehberg, Robert F)	PO BOX 66, Artesia NM 88211

HOLLYFRONTIER.

October 22, 2020

Ms. Aubrey Hobson
City of Artesia – City Clerk
511 W. Texas
Artesia, NM 88210

Certified Mail/Return Receipt No.
7019 0700 0002 3127 4225

Re: Public Notice
Application for Minor Source Construction Air Permit
for Pretreatment Unit
Artesia PTU LLC
Artesia, Eddy County, New Mexico

Dear Neighbor,

Artesia PTU LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the construction of its Pretreatment Unit. The expected date of application submittal to the Air Quality Bureau is October 23, 2020.

The exact location for the proposed facility known as, Pretreatment Unit, is at 501 E. Main Street, in Artesia, Eddy County, New Mexico adjacent to and just south of the existing Artesia Refinery.

The proposed construction consists of a cooling tower, material handling systems, bulk material silos, a vapor combustion unit, a wastewater treatment plant, fugitive components, and storage tanks.

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

Pollutant:	Pounds per hour	Tons per year
Particulate Matter (PM)	0.2	0.7
PM_{10}	0.2	0.7
$PM_{2.5}$	0.2	0.5
Sulfur Dioxide (SO_2)	0.1	0.1
Nitrogen Oxides (NO_x)	0.3	1.1
Carbon Monoxide (CO)	0.2	0.5
Volatile Organic Compounds (VOC)	3.3	14.1
Total sum of all Hazardous Air Pollutants (HAPs)	2.1	9.0
Toxic Air Pollutant (TAP)	0.1	0.1
Green House Gas Emissions as Total CO_2e	n/a	12,000

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

Owner and operator of the facility is Artesia PTU LLC, P.O. Box 159, Artesia, NM 88211-0159.

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

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

Attención

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Sincerely,

Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC
501 E. Main Street
Artesia, NM 88210

cc: City of Artesia: Aubrey Hobson, City Clerk
Eddy County: Robin Van Natta, County Clerk
Chaves County: Dave Kunko, County Clerk
NMED: Joe Kimbrell, Advanced Air Permit Specialist, Major Source Permits Section, Air Quality Bureau, New Mexico Environment Department, 525 Camino de los Marquez, Suite 1, Santa Fe, NM 87505, (505) 476-4347, via email to Joseph.Kimbrell@state.nm.us
HollyFrontier: B. Arrington, P. Miller, T. Wheeler, S. Gokhale
Tascosa: Brian L. Gunzelman, P.E.

Notice of Non-Discrimination

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HOLLYFRONTIER.

October 22, 2020

Jackie L & Diana Joy
603 Vogel Rd
Artesia, NM 88210

Certified Mail/Return Receipt No.
7018 0040 0000 9065 7104

Re: Public Notice
Application for Minor Source Construction Air Permit
for Pretreatment Unit
Artesia PTU LLC
Artesia, Eddy County, New Mexico

Dear Neighbor,

Artesia PTU LLC announces its application submittal to the New Mexico Environment Department for an air quality permit for the construction of its Pretreatment Unit. The expected date of application submittal to the Air Quality Bureau is October 23, 2020.

The exact location for the proposed facility known as, Pretreatment Unit, is at 501 E. Main Street, in Artesia, Eddy County, New Mexico adjacent to and just south of the existing Artesia Refinery.

The proposed construction consists of a cooling tower, material handling systems, bulk material silos, a vapor combustion unit, a wastewater treatment plant, fugitive components, and storage tanks.

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Volatile Organic Compounds (VOC)	3.3	14.1
Total sum of all Hazardous Air Pollutants (HAPs)	2.1	9.0
Toxic Air Pollutant (TAP)	0.1	0.1
Green House Gas Emissions as Total CO_2e	n/a	12,000

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

Owner and operator of the facility is Artesia PTU LLC, P.O. Box 159, Artesia, NM 88211-0159.

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

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

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Attachment 1 [delete this text]

General Posting of Notices – Certification

I, **Scott Denton**, the undersigned, certify that on **October 22, 2020,** posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the **City of Artesia in Eddy County,** State of New Mexico on the following dates:

1. HollyFrontier Navajo Refining Facility Entrance (October 22, 2020)
2. Artesia City Hall (October 22, 2020)
3. Artesia Public Library (October 22, 2020)
4. Artesia Post Office (October 22, 2020)

Signed this 22 day of October, 2020.

Signature

10/22/2020
Date

Scott M. Denton
Printed Name

Environmental Manager HollyFrontier Navajo Refining LLC
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

NOTICE

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Green House Gas Emissions as Total CO_2e	n/a	12,000

The standard and maximum operating schedule of the facility will be continuous 7days a week and a maximum of 52 weeks per year.

Owner and operator of the facility is Artesia PTU LLC, P.O. Box 159, Artesia, NM 88211-0159.

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

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

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Submittal of Public Service Announcement – Certification

I, **Scott Denton**, the undersigned, certify that on **October 22, 2020**, submitted a public service announcement to **Pecos Valley Broadcasting Company (KSVP-AM)** that serves the City of **Artesia, Eddy County,** New Mexico, in which the source is or is proposed to be located and that **Pecos Valley Broadcasting Company RESPONDED THAT IT WOULD AIR THE ANNOUNCEMENT}.**

Signed this 22 day of OCTOBER, 2020.

Signature

10/22/2020
Date

SCOTT M. DENTON
Printed Name

ENVIRONMENTAL MANAGER HOLLYFRONTIER NAVAJO REFINING LLC
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

Affidavit of Publication

No.

State of New Mexico Publisher

County of Eddy:

Danny Scott

being duly sworn sayes that he is the **Publisher**

of the Artesia Daily Press, a daily newspaper of General circulation, published in English at Artesia, said county and state, and that the hereto attached

Display Ad

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1 Consecutive weeks/day on the same day as follows:

First Publication October 22, 2020

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Sixth Publication

Seventh Publication

Subscribed and sworn before me this

22nd day of October 2020

OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 5/12/2023

Latisha Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

Copy of Publication:

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Artesia PTU LLC announces their application submittal to the New Mexico Environment Department for an air quality permit for construction of its Pretreatment Unit. The expected date of application submittal to the Air Quality Bureau is October 23, 2020.

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Sulfur Dioxide (SO2)	0.1	0.1
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The standard and maximum operating schedule of the facility will be continuous, 7 days a week and a maximum of 52 weeks per year.

Owner and operator of the facility is Artesia PTU LLC, P.O. Box 159, Artesia, NM 88211-0159.

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

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

General information about air quality and the permitting process can be found at the Air Quality Bureau's web site. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC. This regulation can be found in the "Permits" section of this web site.

Attención

Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-476-5557.

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Affidavit of Publication

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County of Eddy:

Danny Scott

being duly sworn sayes that he is the **Publisher**

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1 Consecutive weeks/day on the same day as follows:

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Subscribed and sworn before me this

22nd day of October 2020

OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 5/12/2023

Latisha Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

NOTIFICACION - SOLICITUD DE RENOVACION DE PERMISO DE CALIDAD DE AIRE

Artesia PTU LLC anuncia su solicitud al Departamento Ambiental de New Mexico (NMED) para un permiso de calidad del aire para la construcción de unidad de Pretratamiento. La fecha esperada para introducir la solicitud a la oficina de calidad de aire es el 23 de octubre del 2020.

La dirección exacta para la facilidad propuesta conocida como Unidad de Pretratamiento es 501 E. Main Street, en Artesia, Eddy County, New Mexico. Adyacente a y al sur de la existente Refinería de Artesia.

La construcción propuesta consiste en una Torre de enfriamiento, Sistema de manejo de material, Silos, una unidad de combustión de vapor, una planta de tratamiento de aguas residuales, componentes fugitivos, and Tanques de almacenamiento.

Las cantidades máximas estimadas para cada contaminante regulado del aire serán en libras por hora (pounds per hour, pph) y toneladas por año (tons per year, typ) y es posible que las cantidades calculadas sean moderadamente modificadas durante la evaluación realizada por el Departamento de Aire.

Contaminante:	Libras por hora	Toneladas por año
Total de Partículas Suspendidas (TSP)	0.2	0.7
PM 10	0.2	0.7
PM 2.5	0.2	0.5
Dióxido de Sulfuro (SO2)	0.1	0.1
Oxido de Nitrógeno (NOx)	0.3	1.1
Monóxido de Carbono (CO)	0.2	0.5
Compuestos Orgánicos Volátiles (VOC)	3.3	14.1
Total (suma) de Contaminantes Aéreos Peligrosos (HAPs)	2.1	9.0
Contaminantes Aéreos Tóxicos (TAP)	0.1	0.1
Emisiones de Efecto Invernadero (CO2e Totales)	n/a	12,000

El calendario estándar y máximo de operación de la facilidad será continuo, 7 días a la semana y un máximo de 52 semanas por año.

El dueño/responsable y operador de la facilidad es Artesia PTU LLC, P.O. Box 159, Artesia, NM 88211-0159.

Para enviar comentarios sobre la construcción u operación de la facilidad, y si desea que sus comentarios se incluyan en el proceso de evaluación de este permiso, por favor envíe sus comentarios, por escrito, a la siguiente dirección: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Otros comentarios deben hacerse verbalmente.

Por favor, incluya en sus comentarios el nombre y ubicación de la refinería, o incluya una copia de este aviso, en caso de que el Departamento (NMED) no haya recibido la solicitud de permiso antes de sus comentarios. Por favor, incluya una dirección postal. Después de la primera evaluación efectuada por el Departamento (NMED), el mismo publicará un aviso en la sección legal del diario local.

Información general sobre este permiso y del proceso de autorización del mismo puede obtenerse en la página web de AQB. La regulación de participación pública en el proceso de evaluación para otorgar este permiso se encuentra en 20.2.72.206 NMAC. Esta regulación puede obtenerse en la sección "Permits" de esta página web.

Atención

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Aviso Contra Discriminación

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Affidavit of Publication

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Danny Scott

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OFFICIAL SEAL
Latisha Romine
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My commission expires: 5/12/2023

Latisha Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

Copy of Publication:

Legal Notice

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General information about air quality and the permitting process can be found at the Air Quality Bureau's web site. The regulation dealing with public participation in the permit review process is 20.2.72.206 NMAC. This regulation can be found in the "Permits" section of this web site.

Attención

Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-476-5557.

Notice of Non-Discrimination

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

Published in the Artesia Daily Press, Artesia, N.M., Oct. 22, 2020 Legal No. 25583.

Affidavit of Publication

No. 25584

State of New Mexico Publisher

County of Eddy:

Danny Scott

being duly sworn sayes that he is the **Publisher** of the Artesia Daily Press, a daily newspaper of General circulation, published in English at Artesia, said county and state, and that the hereto attached

Display Ad

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 Consecutive weeks/day on the same day as follows:

First Publication October 22, 2020

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Sixth Publication

Seventh Publication

Subscribed and sworn before me this 22nd day of October 2020

OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 5/12/2023

Latisha Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

NOTIFICACION - SOLICITUD DE RENOVACION DE PERMISO DE CALIDAD DE AIRE

Artesia PTU LLC anuncia su solicitud al Departamento Ambiental de New Mexico (NMED) para un permiso de calidad del aire para la construcción de unidad de Pretratamiento. La fecha esperada para introducir la solicitud a la oficina de calidad de aire es el 23 de octubre del 2020.

La dirección exacta para la facilidad propuesta conocida como Unidad de Pretratamiento es 501 E. Main Street, en Artesia, Eddy County, New Mexico. Adyacente a y al sur de la existente Refinería de Artesia.

La construcción propuesta consiste en una Torre de enfriamiento, Sistema de manejo de material, Silos, una unidad de combustión de vapor, una planta de tratamiento de aguas residuales, componentes fugitivos, and Tanques de almacenamiento.

Las cantidades máximas estimadas para cada contaminante regulado del aire serán en libras por hora (pounds per hour, pph) y toneladas por año (tons per year, typ) y es posible que las cantidades calculadas sean moderadamente modificadas durante la evaluación realizada por el Departamento de Aire.

Contaminante:	Libras por hora	Toneladas por año
Total de Partículas Suspendidas (TSP)	0.2	0.7
PM 10	0.2	0.7
PM 2.5	0.2	0.5
Dióxido de Sulfuro (SO2)	0.1	0.1
Oxido de Nitrógeno (NOx)	0.3	1.1
Monóxido de Carbono (CO)	0.2	0.5
Compuestos Orgánicos Volátiles (VOC)	3.3	14.1
Total (suma) de Contaminantes Aéreos Peligrosos (HAPs)	2.1	9.0
Contaminantes Aéreos Tóxicos (TAP)	0.1	0.1
Emisiones de Efecto Invernadero (CO2e Totales)	n/a	12,000

El calendario estándar y máximo de operación de la facilidad será continuo, 7 días a la semana y un máximo de 52 semanas por año.

El dueño/responsable y operador de la facilidad es Artesia PTU LLC, P.O. Box 159, Artesia, NM 88211-0159.

Para enviar comentarios sobre la construcción u operación de la facilidad, y si desea que sus comentarios se incluyan en el proceso de evaluación de este permiso, por favor envíe sus comentarios, por escrito, a la siguiente dirección: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Otros comentarios deben hacerse verbalmente.

Por favor, incluya en sus comentarios el nombre y ubicación de la refinería, o incluya una copia de este aviso, en caso de que el Departamento (NMED) no haya recibido la solicitud de permiso antes de sus comentarios. Por favor, incluya una dirección postal. Después de la primera evaluación efectuada por el Departamento (NMED), el mismo publicará un aviso en la sección legal del diario local.

Información general sobre este permiso y del proceso de autorización del mismo puede obtenerse en la página web de AQB. La regulación de participación pública en el proceso de evaluación para otorgar este permiso se encuentra en 20.2.72.206 NMAC. Esta regulación puede obtenerse en la sección "Permits" de esta página web.

Atención

Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-476-5557.

Aviso Contra Discriminación

NMED no discrimina por raza, color, nacionalidad, impedimento físico o mental, edad o género, en la administración de sus programas o actividades, como lo establecen las leyes y regulaciones vigentes. NMED es responsable de la coordinación de las tareas de cumplimiento de leyes y recibo de preguntas asociadas con requerimientos de no-discriminación implementadas por 40 C.F.R. Parte 7, la cual iincluye Title VI de Ley de Derechos Civiles de 1964, sección amendada No. 504 de la Ley de Rehabilitación de 1973, la Ley de Discriminación por Edad de 1975, Title IX of the Education Amendments of 1972, y Sección 13 de Federal Water Pollution Control Act Amendments de 1972. Por consultas o preguntas sobre este aviso o cualquier programa de No-Discriminación, ppor favor contáctese con: Kristine Pintado, Non-Discrimination Coordinator, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. Si usted cree que ha sido discriminado con respecto a cualquier programa o actividad de NMED, por favor contáctese con el Coordinador de No-Discriminación Coordinador mencionado arriba, o visite nuestra página web: https://www.env.nm.gov/NMED/EJ/index.html para enviar una queja de discriminación.

Section 10

Written Description of the Routine Operations of the Facility

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

The description below is a summary of the operations for the Pretreatment Unit (PTU) which along with the Renewable Diesel Unit (RDU) will comprise a single source. The parallel application for the stand-alone RDU minor source air permit will be submitted separately.

Pretreatment Unit (PTU)/

The PTU will upgrade various fats and renewable oils from a low quality to a quality suitable for feeding the Renewable Diesel Unit (RDU). The feedstocks will be received at a new railcar unloading/loading facility, potentially heated in the railcars, and routed to the PTU feed tanks. From the PTU feed tanks, the feed will be routed to the pretreatment process. The pretreatment process is a multi-step approach to remove impurities from the feedstocks. The main pretreatment steps are Polyethylene Filtration, Degumming, and Bleaching. The pretreated products will be stored in product tanks prior to routing to the RDU feed tanks or to railcar loading for transport to other customers for that product.

The pretreatment steps are summarized as follows:

- Polyethylene (PE) Filtration – Applied to the tallow feedstocks with high levels of PE. PE filtration includes mixing adsorbent with the oil at low temperature which adsorbs the PE from the oil. The oil/adsorbent mix is then passed through pressure leaf filters to remove the spent adsorbent.
- Degumming – Involves removal of phospholipids (gums) by hydrating the gums then separating the heavy phase from the oil. The gums are hydrated by adding citric acid and water then separated by centrifuges. The degummed oil is sent to the Bleaching step while the water phase is sent to the PTU Wastewater Treatment Plant (PTU WWTP).
- Bleaching – Takes the degummed oil, mixes it with adsorbent, and reacts the mixture at elevated temperature which results in adsorption of trace impurities from the oil. The oil/adsorbent mix is passed through pressure leaf filters to remove the spent adsorbent. The bleached oil is then sent to the PTU product tanks for further routing to the RDU feed tanks or to railcar loading for offsite sales.

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)**:**

Air emissions units associated with the PTU are:

1. Y-0093 PTU Cooling Tower
2. 08B26 Filter Aid Tank Vent; and 26-1B25AP01, 26-2B25AP01, 26-1B25BP01, 26-2B25BP01, 26-1B26P01, and 26-2B26P01 Adsorption Vents - Vents for material (i.e., filter aid and bleaching earth) handling pneumatic conveyance systems
3. PTU SILOS Combined Silos 1-5 Vent - Vent for material (i.e., filter aid and bleaching earth) handling pneumatic filling into the silos
4. H-9301 Vapor Combustion Unit - Vapor combustion device for reduction of n-hexane emissions that evolve from residual n-hexane contained in soybean oil feedstock
5. PTU-WWTP PTU Wastewater Treatment Plant - Wastewater treatment plant that treats wastewater from the PTU prior to discharge to the City of Artesia Publicly Owned Treatment Works (POTW)
6. FUG-93-PTU PTU Fugitives - Piping components fugitive emissions for streams with VOC vapor pressure greater than the permitting exemption
7. T-0922 Bulk Caustic Tank; T-0923 and T-0924 Bulk Citric Acid Tanks

Per 20.2.702.202.B.(2), the following emission units are exempt from permitting due to the handling or storing of VOC having vapor pressure less than 0.2 psia at the handled or stored temperature:

8. FUG-93-PTU-LOVP - Piping components fugitive emissions for streams with VOC vapor pressure less than the permitting exemption
9. T-0915 through T-0917 PTU Product Tanks; T-0918 through T-0921 PTU Charge Tanks; and T-0925 through T-0927 Bulk Gums Tanks

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):

As indicated in Section 3, this is a minor source air permit application for the PTU. A separate application will be submitted to the NMED for a minor source permit for the Renewable Diesel Unit ("RDU"). The RDU is currently included in NSR Permit No. PSD-NM-0195-M38, that was issued to the HollyFrontier Navajo Refining LLC's Artesia Refinery in Artesia, New Mexico ("Navajo Artesia Refinery") on September 20, 2019. After the NMED issues the minor source permit for the RDU, an administrative Revision will be requested to remove the RDU from the Navajo Artesia Refinery air permit.

As shown in the "PTU and RDU Source – Proposed Emission Limits and Permitting Applicability Evaluation" provided at the beginning of Section 6, the RDU and the PTU – while a single stationary source – will not constitute a major source under PSD and Title V operating permit regulations. As a result, a PSD review and an associated PSD air quality analysis are not required.

Background

APTU plans to construct, own and operate a PTU to treat certain feedstocks for the RDU, which will separately be owned and operated by Artesia Renewable Diesel Company LLC ("ARDC"). The feedstocks for these operations will be derived from nonpetroleum renewable resources, specifically, plant- and animal-based oils and fats – principally, based on current plans, soybean oil and corn oil, and, to a lesser extent, tallow. The PTU will pre-treat primarily the soybean oil, corn oil and beef tallow feedstock to make the material amenable to production of renewable diesel in the RDU. The PTU may also pre-treat these materials for intra-company shipment to another renewable diesel unit under construction by HFC at the Cheyenne Renewable Diesel Company LLC facility in Cheyenne, Wyoming or, potentially, in the future, to third party renewable diesel facilities.

Although APTU and ARDC will be located within and adjacent to Navajo Artesia Refinery, and all three entities will be under common control of HFC, the RDU and PTU will carry a Standard Industrial Classification ("SIC") major group different from the SIC major group carried by Navajo Artesia Refinery, and therefore the PTU and the RDU constitute a separate stationary source than the Navajo Artesia Refinery, as the term is defined in the Clean Air Act and its underlying Prevention of Significant Deterioration (PSD) and Title V operating permit regulations.

The Navajo Artesia Refinery falls within SIC Major Group 29 (Petroleum Refining and Related Industries), and specifically, SIC code 2911 (Petroleum Refining). Unlike the Navajo Artesia Refinery, the RDU and the PTU will not be engaged in in petroleum refining and will not produce refined petroleum products through fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other processes. As a result, the RDU and PTU will not fall within the petroleum refining SIC code of 2911.

Rather, because of the raw materials used and the resulting non-petroleum-based renewable diesel product, the RDU is properly classified in SIC Major Group 28 (Chemicals and Allied Products), with the specific SIC code of 2869 (Industrial Organic Chemicals, Not Elsewhere Classified).[4] This is also consistent with our understanding of the SIC code assigned to other renewable diesel facilities in the United States. Regarding the PTU, this unit will serve as an auxiliary establishment to the RDU (or other renewable diesel units within HFC), because, based on current plans, it will be primarily engaged in producing goods or providing services for other establishments of the same company, rather than for the general public or for other business units. The SIC Manual prescribes that auxiliary establishments are classified on the basis of the primary activity of the operating establishment(s) they serve. The PTU is therefore properly assigned a SIC code based on the primary economic activity of the establishment that it supports, namely, SIC Major Group 28 and SIC code 2869, corresponding to the production of renewable diesel.[5] Thus, the RDU and the PTU are treated as a single stationary source with respect to PSD, Title V operating permit applicability, and minor source air dispersion modeling/ambient air impacts analysis. Regarding the PTU, this unit will serve as an auxiliary establishment to the RDU (or other renewable diesel units within HFC), because, based on current plans, it will be primarily engaged in producing goods or providing services for other establishments of the same company, rather than for the general public or for other business units.[6]

The RDU and the PTU – while a single stationary source – will not constitute a major source under PSD and Title V operating permit regulations. As a result, a PSD review and an associated PSD air quality analysis are not required.

The PTU and RDU may be subject to a 40 CFR Part 63 Maximum Achievable Control Technology (MACT) standard if the affected source as defined under that standard includes the types of processes and units at the PTU/RDU and this equipment otherwise meets that standard's applicability criteria. This is because the PTU (and RDU) are part of a group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit (considering controls) above major source thresholds for hazardous air pollutants (HAPs). Specifically, the RDU/PTU are contiguous with the Navajo Artesia Refinery, which is by itself a major source of HAPs, and the Refinery, the RDU and the PTU will all be under common control. Specific 40 CFR Part 63 applicability is discussed in Section 13 of this application.

Initially, the RDU was added to the Navajo Artesia Refinery's air permit via a Significant Revision that resulted in NMED issuing NSR Permit No. PSD-NM-0195-M38 on September 20, 2019. Since permit issuance, the scope of project expanded to include the PTU, with ARDC being the owner and operator of the RDU, and APTU being the owner and operator of the PTU. As such, the RDU will be removed from the Navajo Artesia Refinery's air permit via an Administrative Revision upon NMED's issuance of the stand-alone RDU minor source permit. The parallel application for that stand-alone RDU minor source air permit will be submitted separately.

[4] Per the SIC Manual published by the United States Office of Management and Budget (1972), SIC code 2869 encompasses establishments "primarily engaged in manufacturing industrial organic chemicals, not elsewhere classified." Products of this industry include diesel-range paraffinic or isoparaffinic hydrocarbons not resulting from petroleum refining, such as the aliphatic and other acyclic organic chemicals that are the primary constituents of renewable diesel.

[5] It is possible that in the future, APTU might enter into contracts to supply treated materials to renewable diesel units outside of the HollyFrontier organization, and should this economic activity become significant enough, the PTU's SIC code assignment may have to be revisited.

[6] The products manufactured in the PTU will fall within SIC industry group 207.

Section 12

Section 12.A
PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

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

A. This facility is:

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

B. **This facility is one of the listed 20.2.74.501 Table I – PSD Source Categories.**
Per the "PTU and RDU Source – Proposed Emission Limits and Permitting Applicability Evaluation" provided at the beginning of Section 6, the PTU and the RDU are treated as a single source with respect to Prevention of Significant Deterioration (PSD) and Title V permitting applicability. The emissions below reflect the proposed allowable emissions for the PTU and RDU source. The proposed allowable emissions conservatively show the sum of the source allowable emissions are less than the applicable PSD major source threshold and Title V permitting threshold of 100 ton/yr for each regulated pollutant. Therefore, the PTU and RDU source is not a major source with respect to PSD or Title V.

a. **CO:** 11.96 **TPY**
b. **NOx:** 6.88 **TPY**
c. **PM:** 2.50 **TPY**
d. **PM10:** 2.35 **TPY**
e. **PM2.5:** 2.12 **TPY**
f. **SOx:** 2.14 **TPY**
g. **VOC:** 36.69 **TPY**
h. **Fluorides:** 0 **TPY**
i. **Lead:** 0 **TPY**
j. **Sulfur compounds (listed in Table 2):** 0**TPY**
k. **GHG:** 34,978 **TPY**

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

Section 13

Determination of State & Federal Air Quality Regulations

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

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

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

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

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

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

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

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

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

Table for STATE REGULATIONS:

STATE REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.1 NMAC	General Provisions	Yes	Facility	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	Facility	20.2.3 NMAC is a State Implementation Plan (SIP) approved regulation that limits the maximum allowable concentration of, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC The TSP NM ambient air quality standard was repealed by the EIB effective November 30, 2018.
20.2.7 NMAC	Excess Emissions	Yes	Facility	The entire facility or individual pieces of equipment will be subject to emissions limits in a permit or numerical emissions standards in a federal or state regulation. Therefore, this applies.
20.2.23 NMAC	Fugitive Dust Control	No for permitted facilities, possible for NOIs	Facility	The facility is not in an area subject to a mitigation plan pursuant to 40 CFR 51.930. http://164.64.110.134/parts/title20/20.002.0023.html As of January 2019, the only areas of the State subject to a mitigation plan per 40 CFR 51.930 are in Doña Ana and Luna Counties.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	Yes	H-9301	This facility has new gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit Note: "New gas burning equipment" means gas burning equipment, the construction or modification of which is commenced after February 17, 1972.
20.2.34 NMAC	Oil Burning Equipment: NO_2	No		This facility does not have oil burning equipment.
20.2.38 NMAC	Hydrocarbon Storage Facility	No		The facility is not a petroleum production or processing facility.
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No		The facility does not include a sulfur recovery plant.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	H-9301	This regulation that limits opacity to 20% applies to Stationary Combustion Equipment, such as engines, boilers, heaters, and flares unless your equipment is subject to another state regulation that limits particulate matter.
20.2.70 NMAC	Operating Permits	No		The facility's potential to emit (PTE) will be less than the major source thresholds when the Vapor Combustion Unit (H-9301) is required under the air permit and therefore becomes federally enforceable. The major source potential to emit thresholds are: - 100 ton/yr or more of any regulated air pollutant other than HAPs. - 10 ton/yr or more for a single HAP; and - 25 or more ton/yr for combined HAP's. In addition, the facility in not subject to a 20.2.79 NMAC nonattainment permit and is not subject to a federal regulation that requires a Title V permit.
20.2.71 NMAC	Operating Permit Fees	No		The facility is not subject to 20.2.70 NMAC.
20.2.72 NMAC	Construction Permits	Yes	Facility	The facility's site-wide potential emission rate (PER) (i.e., potential uncontrolled emissions) of VOC/n-hexane is greater than the major source threshold. Therefore, a permit is required to make the use of the Vapor Combustion Unit (VCU) federally enforceable. .
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	The facility will have a construction permit issued under 20.2.72 NMAC. Therefore, the facility will submit **Emissions Inventory Reporting per** 20.2.73.300 NMAC.

STATE REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.)
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No		Per Section 12, the facility will not be a new PSD major source or a major modification to an existing PSD major source.
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	This applies because this application is being submitted pursuant to 20.2.72 NMAC. Therefore, the facility is subject to the 20.2.75.10 filing fee ($500), the 20.2.75.11 permit fee (to be invoiced by NMED based on the application and the regulatory point-based fee schedule), and the 20.2.75.11.E annual fee ($1,500).
20.2.77 NMAC	New Source Performance	No		The facility does not include emission units subject to the requirements of 40 CFR Part 60.
20.2.78 NMAC	Emission Standards for HAPS	No		The facility does not include emission units subject to the requirements of 40 CFR Part 61.
20.2.79 NMAC	Permits – Nonattainment Areas	No		This facility is located in an area classified as attainment for all criteria pollutants. Therefore, it is not an existing nonattainment major source pursuant to 20.2.79.7.V NMAC.
20.2.80 NMAC	Stack Heights	No		The proposed stack heights do not exceed the “good engineering practice (GEP)” stack height as defined in 40 CFR Part 51.100(ii).
20.2.82 NMAC	MACT Standards for source categories of HAPS	No	Units Subject to 40 CFR 63	The facility may include emission units subject to the requirements of 40 CFR Part 63.

Table for Applicable FEDERAL REGULATIONS:

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
40 CFR 50	NAAQS	Yes	Facility	Defined as applicable at 20.2.72.203.A.(4) NMAC.
NSPS 40 CFR 60, Subpart A	General Provisions	No		Does not apply because there are no emission units at the facility that are subject to 40 CFR Part 60.
40 CFR 60.40c, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	No		The only combustion device at the facility, the H-9301 Vapor Combustion Unit, is not subject the 40 CFR Part 60 Subpart Dc because it is not a steam generating unit and is not a unit that has a maximum design heat input capacity of 29 MW (100 MMBtu/hr) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).
NSPS 40 CFR 60, Subpart Ja	Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007	No	See Attached Lists	The facility is not a petroleum refinery.
NSPS 40 CFR 60, Subpart Kb	Standards of Performance for **Volatile Organic Liquid Storage Vessels** (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced **After** July 23, 1984	No		This facility has storage tanks with a capacity greater than or equal to 75 cubic meters (m^3, 19,810 gal) that are used to store organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984. However, the tanks store organic liquids with maximum true vapor pressure less than 3.5 kPa (0.5 psia). Therefore, the tanks are not subject to 40 CFR Part 60 Subpart Kb.
NSPS 40 CFR VVa	Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After November 7, 2006	No		The facility does not produce, as intermediates or final products, any of the chemicals listed synthetic organic chemicals in §60.489.
NESHAP 40 CFR 61 Subpart A	General Provisions	No		Does not apply because there are no emission units at the facility that are subject to 40 CFR Part 61.
NESHAP 40 CFR 61 Subpart V	National Emission Standards for **Equipment Leaks** (Fugitive Emission Sources)	No		The equipment component fugitives are not subject to 40 CFR Part 61 Subpart V because they are not in volatile hazardous air pollutant (VHAP) service. VHAP service means a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent by weight of VHAP (i.e., benzene or vinyl chloride).

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
MACT 40 CFR 63, Subpart A	General Provisions	No		40 CFR Part 63 Subpart A may apply if it is determined 40 CFR Part 63 Subpart FFFF applies to the facility.
MACT 40 CFR 63 Subpart F	National Emissions Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) for Process Vents, Storage Vessels, Transfer Operations, and Wastewater	No		The facility is not subject to 40 CFR Part 63 Subpart F because it does not manufacture as a primary product a Table 1-listed chemical and it does not react or manufacture a Table 2-listed organic HAP. N-hexane exists as a trace contaminant in the feed, and is listed in Tables 1 and 2. However, it is not manufactured or reacted.
MACT 40 CFR 63 Subpart Q	National Emissions Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	No		The facility is not subject to 40 CFR Part 63 Subpart Q because chromium-based water treatment chemicals are not used in the Y-0093 PTU Cooling Tower.
MACT 40 CFR 63 Subpart CC	National Emissions Standards for Hazardous Air Pollutants from Petroleum Refineries	No		The facility is not a petroleum refinery.
MACT 40 CFR 63 Subpart FFFF	National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing	No		The facility may be subject to 40 CFR Part 63 Subpart FFFF. An applicability analysis is being conducted in order to make a final determination.
MACT 40 CFR 63 Subpart GGGG	National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production	No		The facility is not subject to 40 CFR Part 63 Subpart GGGG because it does not produce vegetable oil by removing oil from oilseeds through direct contact with an organic solvent.
MACT 40 CFR 63 Subpart DDDDD (5D)	National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources	No		The facility is not subject to 40 CFR Part 63 Subpart 5D the H-9301 Vapor Combustion Unit does not meet the definition of a “process heater”.

FEDERAL REGU-LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
MACT 40 CFR 63 Subpart VVVVVV (6V)	National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources	No		The facility is not subject to 40 CFR Part 63 Subpart 6V because it is not a chemical manufacturing process unit and HAP (listed in Table 1 of this rule) are not present.
MACT 40 CFR 63 Subpart BBBBBBB (7B)	National Emission Standards for Area Sources: Chemical Preparations Industry	No		The facility is not subject to 40 CFR Part 63 Subpart 7B because the facility raw materials and products do not contain target HAP's (chromium, lead, manganese, and nickel).
40 CFR 64	**Compliance Assurance Monitoring**	No		The facility is not subject to Compliance Assurance Monitoring (CAM) because CAM applies only to Title V Major Sources and the facility is not a Title V major source.
40 CFR 68	**Chemical Accident Prevention**	No		The facility does not have more than a threshold quantity of a regulated substance in a process, as determined under §68.115.
Title VI – 40 CFR 82	Protection of **Stratospheric Ozone**		N/A	The facility may maintain and service building air condition units that may contain affected refrigerants. Therefore, Subpart F of Part 82, which regulates maintenance work on air condition systems may be applicable. 40 CFR 82 applies if: **(82.150)** if you service, maintain, or repair appliances, dispose of appliances, refrigerant reclaimers, **if you are an owner or operator of an appliance**, if you are a manufacturer of appliances or of recycling and recovery equipment, if you are an approved recycling and recovery equipment testing organization, and/or if you sell or offer for sell or purchase class I or class I refrigerants. **Note:** Owners and operators of appliances subject to 40 CFR 82.150 Recycling and Emissions Reduction have recordkeeping and reporting requirements even if the owner/operator is not performing the actual work. **Note:** Disposal definition in 82.152: Disposal means the process leading to and including: (1) The discharge, deposit, dumping or placing of any discarded appliance into or on any land or water; (2) The disassembly of any appliance for discharge, deposit, dumping or placing of its discarded component parts into or on any land or water; or (3) The disassembly of any appliance for reuse of its component parts. "Major maintenance, service, or repair means" any maintenance, service, or repair that involves the removal of any or all of the following appliance components: compressor, condenser, evaporator, or auxiliary heat exchange coil; or any maintenance, service, or repair that involves uncovering an opening of more than four (4) square inches of "flow area" for more than 15 minutes.

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.

The PTU and RDU Source has been evaluated and it has been determined that emissions during malfunction, startup, or shutdown will not exceed the emission limits proposed for normal/routine operations.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

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

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

The Pretreatment Unit will operate as described in Section 10 of this application. No alternative operating scenarios are 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.	X
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above.	
Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC)	
Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit replacements.	
Other: i.e. SSM modeling. See #2 above.	
This application does not require modeling since this is a No Permit Required (NPR) application.	
This application does not require modeling since this is a Notice of Intent (NOI) application (20.2.73 NMAC).	
This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4), 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau's Modeling Guidelines.	

Check each box that applies:

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

Navajo submitted, via email, a modeling protocol to the NMED Air Quality Bureau Modeling Manager on October 9, 2020. The NMED Air Quality Bureau approved, via email, the modeling protocol on October 21, 2020. NMED's Universal Application 4 Air Dispersion Modeling Report has been completed and is included on the following pages. It demonstrates the PTU and RDU source will not cause or contribute to a violation of National or New Mexico Ambient Air Quality Standards (NAAQS or NMAAQS).

Universal Application 4

Air Dispersion Modeling Report

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

16-A: Identification

1	Name of facility:	Pretreatment Unit and Renewable Diesel Unit
2	Name of company:	Artesia PTU LLC and Artesia Renewable Diesel Company LLC
3	Current Permit number:	Not applicable, new minor source
4	Name of applicant's modeler:	Miriam Hacker, Aspen Outlook LLC (subcontractor to Tascosa Alliance Company)
5	Phone number of modeler:	(720) 839-5461
6	E-mail of modeler:	miriamhacker@aspenoutlook.com

16-B: Brief

1	Was a modeling protocol submitted and approved?	Yes☒	No☐
2	Why is the modeling being done?	New Facility	
3	Describe the permit changes relevant to the modeling.		
	Emissions for a new minor source, the Pretreatment Unit (PTU) and Renewable Diesel Unit (RDU) source, will be authorized via two separate air permits as follows: 1) a permit for the PTU; and 2) a permit for the RDU. This initial application is for the PTU. The application for the RDU will follow and will include this same modeling report. The modeling evaluation is for the complete source (i.e., the combined PTU and RDU source). The PTU and RDU together constitute a single stationary source because the two facilities will be under the control of persons controlled by HollyFrontier Corporation, on contiguous or adjacent properties, and in the same industrial grouping (i.e., same SIC major group)." Non-VOC emission units, included in the modeling to be constructed, include cooling towers, solid material handling systems/vents, a vapor combustion unit, and a process heater.		

	Accordingly, the NMED-required dispersion modeling in support of the new minor source applications demonstrates the PTU and RDU source emissions will not cause or contribute to a violation of National or New Mexico Ambient Air Quality Standards (NAAQS or NMAAQS) or applicable PSD Increments for carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), or sulfur dioxide (SO_2)..		
4	What geodetic datum was used in the modeling?	NAD83	
5	How long will the facility be at this location?	Permanent	
6	Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)?	Yes☐	No☒
7	Identify the Air Quality Control Region (AQCR) in which the facility is located	155	
8	List the PSD baseline dates for this region (minor or major, as appropriate). Minor Baseline Dates		
	NO2	March 16, 1988	
	SO2	July 28, 1978	
	PM10	February 20, 1979	
	PM2.5	November 13, 2013	
9	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits).		
	None		
10	Is the facility located in a non-attainment area? If so describe below	Yes☐	No☒
11	Describe any special modeling requirements, such as streamline permit requirements.		
	None		

16-C: Modeling History of Facility Note Applicable. New minor source.

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

1	Pollutant	Latest permit and modification number that modeled the pollutant facility-wide.	Date of Permit	Comments
	CO			
	NO_2			
	SO_2			
	H_2S			
	PM2.5			
	PM10			
	Lead			
	Ozone (PSD only)			
	NM Toxic Air Pollutants (20.2.72.402 NMAC)			

16-D: Modeling performed for this application

1

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

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

16-E: New Mexico toxic air pollutants modeling Note Applicable.

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

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

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

16-F: Modeling options

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

16-G: Surrounding source modeling Not Applicable – no cumulative modeling

1	Date of surrounding source retrieval	

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

AQB Source ID	Description of Corrections

16-H: Building and structure downwash

1	How many buildings are present at the facility?	48 (includes buildings in adjacent Artesia Refinery because a portion of the RDU is embedded within the refinery)	
2	How many above ground storage tanks are present at the facility?	61 (includes tanks in adjacent Artesia Refinery because a portion of the RDU is embedded within the refinery)	
3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes☒	No☐
4	Building comments	None	

16-I: Receptors and modeled property boundary

1	"Restricted Area" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility. Describe the fence or other physical barrier at the facility that defines the restricted area.					
	An existing security fence surrounds the Artesia Refinery in which a portion of the RDU will be built. A security fence will be constructed around the new PTU/RDU property to be located to the south of the refinery. Receptors have been placed along the fence lines.					
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?				Yes☐	No☒
3	Are restricted area boundary coordinates included in the modeling files?				Yes☒	No☐
4	Describe the receptor grids and their spacing. The table below may be used, adding rows as needed.					
	Grid Type	Shape	Spacing	Start distance from restricted area or center of facility	End distance from restricted area or center of facility	Comments
	Very Fine	Around fence line	25 – 50 m	NA	NA	Fence line receptors
	Fine	Square	100 m	0 m	1 km	
	Medium	Square	250 m	1 km	3 km	
	Large Medium	Square	500 m	3 km	5 km	
	Large	Square	1000 m	5 km	10 km	

	Course	Square	5000 m	10 km	50 km	
5	Describe receptor spacing along the fence line. Very Fine. A "very fine" grid of 25 - 50-meter spacing was be placed along the fence lines.					
6	Describe the PSD Class I area receptors. Not Applicable					

16-J: Sensitive areas

1	Are there schools or hospitals or other sensitive areas near the facility? If so describe below. This information is optional (and purposely undefined) but may help determine issues related to public notice.	Yes☐	No☒
	The Artesia Refinery (in which a portion of the RDU is embedded) is located adjacent to, and on the east side of, the town of Artesia. The public school nearest to the refinery is Roselawn Elementary School (about 0.2 mile to the west). The hospital nearest to the refinery is Artesia General Hospital (about 0.7 mile to the west). The south property, encompassing the PTU and a portion of the RDU, is located adjacent to, and on the east side of, the town of Artesia. The public school nearest to the south property is Central Elementary School (about 0.4 mile to the west). The hospital nearest to the south property is also Artesia General Hospital which is located closer to the refinery fence line than it is to the south property fence line.		
3	The modeling review process may need to be accelerated if there is a public hearing. Are there likely to be public comments opposing the permit application?	Yes☐	No☒

16-K: Modeling Scenarios

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

	1		13									
	2		14									
	3		15									
	4		16									
	5		17									
	6		18									
	7		19									
	8		20									
	9		21									
	10		22									
	11		23									
	12		24									
	If hourly, variable emission rates were used that were not described above, describe them below.											

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

16-L: NO_2 Modeling

1	Which types of NO_2 modeling were used? Check all that apply.	
	☐	ARM2
	☒	100% NO_X to NO_2 conversion
	☐	PVMRM
	☐	OLM
	☐	Other:
2	Describe the NO_2 modeling.	
	100% NOx to NO2 conversion	

3	Were default NO_2/NO_X ratios (0.5 minimum, 0.9 maximum or equilibrium) used? If not describe and justify the ratios used below.	Yes☐	No☒
	Not applicable		
4	Describe the design value used for each averaging period modeled.		
	1-hour: High first high Annual: One Year Annual Average		

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.	
	☒	PM2.5
	☒	PM10

	☐	None		
2	Describe the particle size distributions used. Include the source of information. For the cooling towers and as reflected in the air permit applications, the PM 2.5 and PM10 emission rates are calculated based on NMED's Technical Memorandum "Calculating TSP, PM-10 and PM-2.5 from Cooling Towers" dated 9/9/2013.			
	Only concentrations were modeled (no deposition). Not applicable.			
3	Does the facility emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2? Sources that emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2 are considered to emit significant amounts of precursors and must account for secondary formation of PM2.5.		Yes☐	No☒
4	Was secondary PM modeled for PM2.5?		Yes☐	No☒
5	If MERPs were used to account for secondary PM2.5 fill out the information below. If another method was used describe below.			
	NO_X (ton/yr)	SO_2 (ton/yr)	$[PM2.5]_{annual}$	$[PM2.5]_{24\text{-}hour}$
	A secondary PM2.5 analysis is only required for modifications that increase emissions of NOx and/or SO2 by more than 40 tpy. This proposed modification does not increase emissions of NOx or SO2 by more than 40 tpy, therefore a secondary PM2.5 analysis is not required.			

16-N: Setback Distances

1	Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location.		
	Not applicable – No setback distance was applied.		
2	Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling.		
	Not applicable.		

16-O: PSD Increment and Source IDs

1	The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. Do these match? If not, provide a cross-reference table between unit numbers if they do not match below.		Yes☒	No☐
	Unit Number in UA-2	Unit Number in Modeling Files		
2	The emission rates in the Tables 2-E and 2-F should match the ones in the modeling files. Do these match? If not, explain why below.		Yes☒	No☐
3	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?		Yes☐	No☒

4	Which units consume increment for which pollutants? Not applicable – predicted impacts are less than significance.				
	Unit ID	NO_2	SO_2	PM10	PM2.5
5	PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date).	Not applicable.			
6	Are all the actual installation dates included in Table 2A of the application form, as required? This is necessary to verify the accuracy of PSD increment modeling. If not please explain how increment consumption status is determined for the missing installation dates below.			Yes☒	No☐

16-P: Flare Modeling Not applicable

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

16-Q: Volume and Related Sources Not Applicable

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

16-R: Background Concentrations Not Applicable

1	Were NMED provided background concentrations used? Identify the background station used below. If non-NMED provided background concentrations were used describe the data that was used.	Yes☐	No☒
	CO: Choose an item.		
	NO_2: Choose an item.		
	PM2.5: Choose an item.		
	PM10: Choose an item.		
	SO_2: Choose an item.		
	Other:		
	Comments:		
2	Were background concentrations refined to monthly or hourly values? If so describe below.	Yes☐	No☐

16-S: Meteorological Data

1	Was NMED provided meteorological data used? If so select the station used. Artesia	Yes☒	No☐
2	If NMED provided meteorological data was not used describe the data set(s) used below. Discuss how missing data were handled, how stability class was determined, and how the data were processed.		

16-T: Terrain

1	Was complex terrain used in the modeling? If not, describe why below.	Yes☒	No☐
2	What was the source of the terrain data?		
	USGS NED 1: n33w104 n33w105 n33w106 n34w104 n34w105 n34w106		

16-U: Modeling Files

1	Describe the modeling files:		
	File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
	Navajo Artesia RDU 1020 SO2 2015 Rev 1	SO2	ROI/SIA
	Navajo Artesia RDU 1020 CO 2015 Rev 1	CO	ROI/SIA
	Navajo Artesia RDU 1020 PM2.5 2015 Rev 1	PM2.5	ROI/SIA
	Navajo Artesia RDU 1020 PM10 2015 Rev 1	PM10	ROI/SIA
	Navajo Artesia RDU 1020 NO2 2015 Rev 2a	NO2	ROI/SIA

16-V: PSD New or Major Modification Applications Not Applicable

1	A new PSD major source or a major modification to an existing PSD major source requires additional analysis. Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)?	Yes☐	No☐
2	If not, did AQB approve an exemption from preconstruction monitoring?	Yes☐	No☐
3	Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption.		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC.		
5	If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? If so describe below.	Yes☐	No☐

16-W: Modeling Results

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

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (m)
CO, 8-hr, Significance	3.0	NA	NA	NA	3.0	500	0.60%	556782.18	3633911.24	1027.76
CO, 1-hr, Significance	5.1	NA	NA	NA	5.1	2,000	0.25%	556782.18	3633911.24	1027.76
NO2, Annual, Significance	0.43	NA	NA	NA	0.43	1	42.78%	556782.18	3633911.24	1027.76
NO2, 24-hr, Significance	2.4	NA	NA	NA	2.4	5	47.66%	556782.18	3633911.24	1027.76
NO2, 1-hr, Significance	7.3	NA	NA	NA	7.3	7.52	97.33%	556784.58	3633944.77	1027.65
PM2.5, Annual, Significance	0.19	NA	NA	NA	0.19	0.2	96.46%	556809.01	3633944.77	1027.65
PM2.5, 24-hr, Significance	0.67	NA	NA	NA	0.67	1.2	55.59%	556784.58	3633944.77	1027.65
PM10, Annual, Significance	0.2	NA	NA	NA	0.2	1	17.96%	556809.01	3633944.77	1027.65
PM10, 24-hr, Significance	0.7	NA	NA	NA	0.7	5	13.73%	556784.6	3633944.8	1027.7
SO2, Annual, Significance	0.04	NA	NA	NA	0.04	1	4.04%	556571.00	3635131.00	1025.36

Pollutant, Time Period and Standard	Modeled Facility Concentration (µg/m3)	Modeled Concentration with Surrounding Sources (µg/m3)	Secondary PM (µg/m3)	Background Concentration (µg/m3)	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Location		
								UTM E (m)	UTM N (m)	Elevation (m)
SO2, 24-hr, Significance	0.31	NA	NA	NA	0.31	5	6.27%	557031.42	3633997.70	1027.19
SO2, 3-hr, Significance	0.97	NA	NA	NA	0.97	25	3.87%	556944.00	3634011.50	1027.43
SO2, 1-hr, Significance	1.30	NA	NA	NA	1.30	7.8	16.70%	556956.60	3633997.56	1027.48

16-X: Summary/conclusions

	A statement that modeling requirements have been satisfied and that the permit can be issued.
1	The dispersion modeling performed in support of the minor source air permit applications demonstrates the proposed source, comprising the Pretreatment Unit and Renewable Diesel Unit, does not cause or contribute to an exceedance of the Significant Impact Level's (SIL's) for all applicable pollutants: CO, NO_2, PM_{10} , $PM_{2.5}$, and SO_2. Based on the data presented in the previous tables showing impacts below all applicable SIL's, and the demonstration of adherence to EPA and NMED modeling guidance, modeling requirements have been satisfied and the permit can be issued.

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 Pretreatment Unit will be a new facility. Therefore, a compliance test history is not applicable.

Compliance Test History Table **(Modify this sample table to suit your facility)**

Unit No.	Test Description	Test Date
	None	

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.

The requested permitting action is completely described in Section 3.

Section 22: Certification

Company Name: Artesia PTU LLC

I, Blake Arrington, 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 23 day of October, 2020, upon my oath or affirmation, before a notary of the State of

Wyoming.

*Signature

10-23-20
Date

Blake Arrington
Printed Name

Vice President, Renewables-Operations
Title

Scribed and sworn before me on this 23 day of October, 2020.

My authorization as a notary of the State of Wyoming expires on the

29 day of September, 2021.

Notary's Signature

10/23/2020
Date

Anna Frogge
Notary's Printed Name

ANNA FROGGE - NOTARY PUBLIC
COUNTY OF LARAMIE
STATE OF WYOMING
MY COMMISSION EXPIRES SEP 29, 2021

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