Mail Application To:

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

Phone: (505) 476-4300 Fax: (505) 476-4375 www.env.nm.gov/aqb



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 1-1 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 □ a NOI 20.2.73 NMAC X 20.2.72 NMAC application or revision □ 20.2.72.300 NMAC Streamline application Minor Source: 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:

X 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.

applications).

X Check No.: 16368 in the amount of \$500.00

X 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: 20.2.72.219.D 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

Sec	tion 1-A: Company Information	AI # if known (see 1 st 3 to 5 #s of permit IDEA ID No.): 36536	Updating Permit/NOI #: 7200-M2	
1	Facility Name:	Plant primary SIC Code	e (4 digits): 1321	
1	Road Runner Gas Processing Plant	Plant NAIC code (6 digits): 211112		
a	Facility Street Address (If no facility street address, provide directions from Loving, go South on Pecos Hwy to Higby Hole Road to Bounds Road. of road.			
2	Plant Operator Company Name: Lucid Energy Delaware, LLC	Phone/Fax: 575-748-45	555/575-748-4275	
a	Plant Operator Address: PO Box 158, Artesia, NM 88210			

b	Plant Operator's New Mexico Corporate ID or Tax ID: 36-482521	4					
3	Plant Owner(s) name(s): Lucid Energy Delaware, LLC	Phone/Fax: 575-748-4555/575-748-4275					
а	Plant Owner(s) Mailing Address(s): PO Box 158, Artesia, NM 882	210					
4	Bill To (Company): Lucid Energy Delaware, LLC	Phone/Fax: 575-748-4555/575-748-4275					
а	Mailing Address: PO Box 158, Artesia, NM 88210	E-mail: MEales@lucid-energy.com					
5	X Preparer: X Consultant: Martin Schluep, Alliant Environmental, LLC	Phone/Fax: 505-205-4819					
а	Mailing Address: 7804 Pan American Fwy. NE, Suite 5, Albuquerque, NM 87109	E-mail: mschluep@alliantenv.com					
6	Plant Operator Contact: Nicholas Brown	Phone/Fax: 575-748-4555/575-748-4275					
а	Address: PO Box 158, Artesia, NM 88210	E-mail: NBrown@lucid-energy.com					
7	Air Permit Contact: Matthew Eales	Title: Vice President of EHSR					
а	E-mail: MEales@lucid-energy.com	Phone/Fax: 575-748-4555/575-748-4275					
b	Mailing Address: PO Box 158, Artesia, NM 88210						
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? X Yes □ No	1.b If yes to question 1.a, is it currently operating in New Mexico? X Yes \Box 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?	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? \mathbf{X} Yes \Box No
3	Is the facility currently shut down?	If yes, give month and year of shut down (MM/YY):
4	Was this facility constructed before 8/31/1972 and continuously operated s	since 1972? □Yes X No
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMA	C) or the capacity increased since 8/31/1972?
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? X Yes □ No	If yes, the permit No. is: Not yet assigned
7	Has this facility been issued a No Permit Required (NPR)?	If yes, the NPR No. is:
8	Has this facility been issued a Notice of Intent (NOI)?	If yes, the NOI No. is:
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? X Yes □ No	If yes, the permit No. is: 7200-M2
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? \Box Yes X 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	nt Hourly: 18.33 mmscf Daily: 440 mmscf Annually: 160,600 mmscf							
b	Proposed	opposed Hourly: 36.66 mmscf Daily: 880 mmscf Annually: 321,200 mscf							
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: 18.33 mmscf	Daily: 440 mmscf	Annually: 160,600 mmscf					
b	Proposed	Hourly: 36.66 mmscf	Daily: 880 mmscf	Annually: 321,200 mscf					

Seci	10n 1-D: F	acinty Loca	tion Information						
1	Section: 32	Range: 28E	Township: 23S	County: Eddy	Elevation (ft): 3,124				
2	UTM Zone: [□12 or X 13		Datum: 🗆 NAD 27 X NAD	83 🗆 WGS 84				
а	UTM E (in meter	rs, to nearest 10 meter	s): 583,982.0	UTM N (in meters, to nearest 10 meters):	3,570,216.0				
b	AND Latitude	(deg., min., sec.):	32deg 15min 56.71sec	Longitude (deg., min., sec.): -104d	eg 6min 29.97sec				
3	Name and zip o	code of nearest Ne	ew Mexico town: Loving, I	NM 88256					
4				h a road map if necessary): From Al ad. Turn West for 0.5 miles to facil					
5	The facility is 1	1.5 miles southwo	est of Loving, NM.						
6	Status of land a	at facility (check o	one): X Private 🛛 Indian/Pr	ueblo 🗆 Federal BLM 🛛 Federal Fo	rest Service				
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: Loving, NM; Eddy County								
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 <u>www.env.nm.gov/aqb/modeling/class1areas.html</u>)? X Yes □ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: Lea County (23 miles east); Texas (19 miles south)								
9	Name nearest Class I area: Carlsbad Caverns National Park								
10	Shortest distant	ce (in km) from fa	cility boundary to the boundary	ndary of the nearest Class I area (to th	e nearest 10 meters): 32.5 km				
11	lands, including	g mining overbure	len removal areas) to neare		cture: 0.8 mile				
12	lands, including mining overburden removal areas) to nearest residence, school or occupied structure: 0.8 mile Method(s) used to delineate the Restricted Area: Continuous fencing, gated entrance and 24/7 on-site surveillance."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? \Box Yes X 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			nction with other air regul nit number (if known) of th	ated parties on the same property? ne other facility?	X No 🗌 Yes				

Section 1-D: Facility Location Information

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 $\left(\frac{\text{hours}}{\text{day}}\right)$: 24	$\left(\frac{\text{days}}{\text{week}}\right)$: 7	$(\frac{\text{weeks}}{\text{year}})$: 52	(<u>hours</u>): 8,760			
2	Facility's maximum daily operating schedule (if les	s than $24 \frac{\text{hours}}{\text{day}}$)? Start:	□AM □PM	End:	□AM □PM		
3	Month and year of anticipated start of construction: October 1, 2020 or as soon as permit is issued						
4	Month and year of anticipated construction completion: April 2021						
5	Month and year of anticipated startup of new or modified facility: April 2021						
6	Will this facility operate at this site for more than or	ne year? X Yes □No					

Section 1-F: Other Facility Information

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

а	If yes, NOV date or description of issue:	If yes, NOV date or description of issue:							
b	Is this application in response to any issue listed in 1-F, 1 c	r 1a above? □Yes	X No If Y	es, provide the 1c & 1d info below:					
c	Document Title:	Date:		nent # (or nd 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? X 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 X No								
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? X Yes D No								
a	If Yes, what type of source? \Box Major ($\Box \ge 10$ tpy of anORXMinor (X < 10 tpy of an)			tpy of any combination of HAPS) 55 tpy of any combination of HAPS)					
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? Yes X No								
	If yes, include the name of company providing commercial	electric power to the	e facility: _						
а	Commercial power is purchased from a commercial utility site for the sole purpose of the user.	company, which spo	ecifically c	loes not include power generated on					

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." X N/A (This is not a Streamline application.)

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

(Title V-source required information for all applications submitted pursuant to 20.2.72 NMAC (Minor Construction Permits), or

20.2.74/20.2.79 NMAC (Major PSD/NNSR applications), and/or 20.2.70 NMAC (Title V))

1	Responsible Official (R.O.) (20.2.70.300.D.2 NMAC):		Phone:				
а	R.O. Title:	R.O. e-mail:					
b	R. O. Address:						
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC):		Phone:				
а	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.):						
а	Address of Parent Company:						
5	Names of Subsidiary Companies ("Subsidiary Companies" means of owned, wholly or in part, by the company to be permitted.):	organizations, branc	hes, divisions or subsidiaries, which are				
6	Telephone numbers & names of the owners' agents and site contac	ts familiar with plan	t 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:

- 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

X secure electronic transfer. Air Permit Contact Name_Martin Schluep_____

Email mschluep@alliantenv.com

Phone number 505-205-4819

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

					Manufact- urer's Rated	Requested Permitted	Date of Manufacture ²	Controlled by Unit #	Source Classi-			RICE Ignition	
Unit Number ¹	Source Description	Make	Model #	Serial #	Capacity ³ (Specify Units)	Capacity ³ (Specify Units)	Date of Construction/ Reconstruction ²	Emissions vented to Stack #	fication Code (SCC)	For Each Piece of Equipment, Check One		Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
EP-1	SSM Flare (Pilot with auto ignition)	Zeeco Inc.	FL5100	31927	0.005 MMScfd	0.005 MMScfd	2017 2017	NA EP-1	31000205	X Existing (unchanged) □ To be □ New/Additional □ Repla □ To Be Modified □ To be	cement Unit	NA	NA
2/3-EP-1	SSM Flare (Pilot with auto ignition)	Zeeco Inc.	FL5100	TBD	0.01 MMScfd	0.01 MMScfd	TBD TBD	NA 2/3-EP-1	31000205	5000	Removed cement Unit Replaced	NA	NA
4-EP-1	SSM Flare (Pilot with auto ignition)	Zeeco Inc.	FL5100	TBD	0.005 MMScfd	0.005 MMScfd	TBD TBD	NA 4-EP-1	31000205		Removed cement Unit Replaced	NA	NA
EP-2	Trim Reboiler	Fabsco Shell & Tube	E-207	516-11764-2	15.95 MMBtu/hr	15.95 MMBtu/hr	2017 2017	NA EP-2	31000404	X Existing (unchanged)	Removed cement Unit	NA	NA
2-EP-2	Trim Reboiler	Fabsco Shell & Tube	E-207	TBD	17.55 MMBtu/hr	17.55 MMBtu/hr	TBD TBD	NA 2-EP-2	31000404	5 5 7	Removed cement Unit Replaced	NA	NA
3-EP-2	Trim Reboiler	Fabsco Shell & Tube	E-207	TBD	17.55 MMBtu/hr	17.55 MMBtu/hr	TBD TBD	NA 3-EP-2	31000404	X New/Additional To Be Modified Replace To be	-	NA	NA
4-EP-2	Trim Reboiler	Fabsco Shell & Tube	E-207	TBD	17.55 MMBtu/hr	17.55 MMBtu/hr	TBD TBD	NA 4-EP-2	31000404	X New/Additional To Be Modified Repla	-	NA	NA
EP-3A	Amine Reboiler	Patrick	2BKU30/ 5A-312	717-5145A		55 MMBtu/hr	2017 2017	NA EP-3A	31000404	5 5 ,	*	NA	NA
EP-3B	Amine Reboiler	Patrick	2BKU30/ 5A-312	TBD		55 MMBtu/hr	TDD	NA EP-3B	31000404		cement Unit Replaced	NA	NA
EP-4	Glycol Reboiler	Reset Energy	H-2801	F-9		3 MMBtu/hr	2017 2017 TBD	NA EP-4 NA	31000302		acement Unit Replaced	NA	NA
2-EP-4	Glycol Reboiler	TBD	TBD	TBD	3 MMBtu/hr 3	3 MMBtu/hr 3		2-EP-4 NA	31000302		acement Unit Replaced	NA	NA
3-EP-4	Glycol Reboiler	TBD	TBD	TBD	5	MMBtu/hr	TBD	2-EP-4 NA	31000302	□ To Be Modified □ To be F □ Existing (unchanged) □ To be I	Removed	NA	NA
4-EP-4	Glycol Reboiler	TBD	TBD HCI5010-	TBD	MMBtu/hr 5.61	MMBtu/hr 5.61	TBD 2/2017	2-EP-4 NA	31000302	□ To Be Modified □ To be F X Existing (unchanged) □ To be F	Removed	NA	NA
EP-5 2-EP-5	Regen Reboiler Regen Reboiler	Heatec	40-G TBD	HI16-201 TBD	5.61	MMBtu/hr 5.61	2017 TBD	EP-5 NA	31000404 31000404	□ To Be Modified □ To be F X Existing (unchanged) □ To be I	-	NA	NA NA
3-EP-5	Regen Reboiler	TBD	TBD	TBD	MMBtu/hr 5.61	MMBtu/hr 5.61	TBD TBD	2-EP-5 NA	31000404	□ To Be Modified □ To be F □ Existing (unchanged) □ To be F	Replaced	NA	NA
4-EP-5	Regen Reboiler	TBD	TBD	TBD	MMBtu/hr 5.61 MMBtu/hr	MMBtu/hr 5.61 MMBtu/hr	TBD	2-EP-5 NA	31000404		Removed acement Unit	NA	NA
EP-6	Stabilizer Heater	Phoenix	PX-180	17169	18	18 MMBtu/hr	TBD 2017 2017	2-EP-5 NA EP-6	31000404	□ To Be Modified □ To be F X Existing (unchanged) □ To be I □ New/Additional □ Repla □ To Be Modified □ To be F	Removed acement Unit	NA	NA
2-EP-6	Stabilizer Heater	TBD	TBD	TBD	18 MMBtu/hr	18 MMBtu/hr	TBD	NA 2-EP-6	31000404	□ Existing (unchanged) □ To be □	Removed acement Unit	NA	NA
EP-7	Glycol Dehydrator	Reset Energy	T-2707	153	220 mmscfd	220 mmscfd	2017 2017	EP-9 EP-9	31000302	X Existing (unchanged)	Removed acement Unit	NA	NA
2-EP-7	Glycol Dehydrator	TBD	TBD	TBD	220 mmscfd	220 mmscfd	TBD TBD	EP-9 EP-9	31000302	□ To Be Modified □ To be F	acement Unit Replaced	NA	NA
3-EP-7	Glycol Dehydrator	TBD	TBD	TBD	220 mmscfd	220 mmscfd	TBD TBD	EP-9 EP-9	31000302	□ Existing (unchanged) □ To be] X New/Additional □ Repla □ To Be Modified □ To be F	acement Unit	NA	NA

					Manufact- urer's Rated	Requested Permitted	Date of Manufacture ²	Controlled by Unit #	Source Classi-			RICE Ignition	
Unit Number ¹	Source Description	Make	Model #	Serial #	Capacity ³ (Specify Units)	Capacity ³ (Specify Units)	Date of Construction/ Reconstruction ²	Emissions vented to Stack #	fication Code (SCC)	For Each Piece of Equipment, Check One		Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
4-EP-7	Glycol Dehydrator	TBD	TBD	TBD	220 mmscfd	220 mmscfd	TBD TBD	EP-9 EP-9	31000302	 Existing (unchanged) X New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
EP-8	Amine Vent	PBP Fabrication	V-5520	493	220 mmscfd	220 mmscfd	2017 2017	EP-9 EP-9	31000305	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
EP-9	Thermal Oxidizer	Zeeco Inc	TO-55	32339	71 MMBtu/hr	71 MMBtu/hr	2017 2017	NA EP-9	31000404	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
2-EP-9	Thermal Oxidizer	Zeeco Inc	TO-55	N/A	71 MMBtu/hr	71 MMBtu/hr	NA NA	NA EP-9	31000404	 Existing (unchanged) New/Additional To Be Modified 	X To be Removed Replacement Unit To be Replaced	NA	NA
SSM- misc	Startup, Shutdown, Maintenance Miscellaneous	TBD	TBD	TBD	NA	NA	TBD	TBD TBD	31088811	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
SSMB	Emissions Startup, Shutdown, Maintenance Blowdowns	TBD	TBD	TBD	NA	NA	TBD	TBD	31088811	X Existing (unchanged) New/Additional	To be Removed Replacement Unit	NA	NA
COMB-	Emissions	Zeeco Inc	VCU- 7.5.40	31974-001	0.00156 mmscfd	0.00156 mmscfd	TBD 2017 2017	TBD NA COMB-1	31000404	To Be Modified X Existing (unchanged) New/Additional To De Modified	To be Replaced To be Removed Replacement Unit	NA	NA
LOAD	Loadout Emissions	TBD	Flare TBD	TBD	NA	NA	TBD		30205052	□ To Be Modified X Existing (unchanged) □ New/Additional	 To be Replaced To be Removed Replacement Unit 	NA	NA
HAUL	Haul Road Emissions	TBD	TBD	TBD	NA	NA	TBD TBD TBD		30205054	 To Be Modified X Existing (unchanged) New/Additional To Be Modified 	 To be Replaced To be Removed Replacement Unit To be Replaced 	NA	NA
FUG	Fugitive Emissions	TBD	TBD	TBD	NA	NA	TBD		2310011500	X Existing (unchanged) New/Additional To Be Modified	 To be Removed Replacement Unit To be Replaced 	NA	NA
FUG2	Fugitive Emissions	TBD	TBD	TBD	NA	NA	TBD TBD		2310011500	 Existing (unchanged) X New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
T-1	Condensate Storage Tank	Tank &Vessel Boilers LP	NA	201723	1000 bbl	1000 bbl	2017 2017	COMB-1 COMB-1	40400312	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
T-2	Condensate Storage Tank	Tank &Vessel Boilers LP	NA	201724	1000 bbl	1000 bbl	2017 2017	COMB-1 COMB-1	40400312	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
T-3	Condensate Storage Tank	Tank &Vessel Boilers LP	NA	201720	1000 bbl	1000 bbl	2017	COMB-1	40400312	X Existing (unchanged) New/Additional 	 To be Removed Replacement Unit 	NA	NA
T-4	Condensate Storage Tank	Tank &Vessel Boilers LP	NA	201721	1000 bbl	1000 bbl	2017 2017 2017	COMB-1 COMB-1 COMB-1	40400312	□ To Be Modified X Existing (unchanged) □ New/Additional □ To Be Modified	 To be Replaced To be Removed Replacement Unit To be Replaced 	NA	NA
T-5	Condensate Storage Tank	Tank &Vessel Boilers LP	NA	201722	1000 bbl	1000 bbl	2017 2017 2017	COMB-1 COMB-1	40400312	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
T-6	Waste Water Tank	Palmer	NA	ST-1711323	400 bbl	400 bbl	8/2017 2017	NA NA	40400312	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
D-1	Electric Driven Residue Compressor	Ariel	KBZ/6	F54680	60 MMscf/d	60 MMscf/d	9/2017 2017	NA NA	3100203	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
D-2	Electric Driven Residue Compressor	Ariel	KBZ/6	F54701	60 MMscf/d	60 MMscf/d	9/2017 2017	NA NA	3100203	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
D-3	Electric Driven Residue Compressor	Ariel	KBZ/6	F54720	60 MMscf/d	60 MMscf/d	9/2017 2017	NA NA	3100203	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
D-4	Electric Driven Residue Compressor	Ariel	KBZ/6	F54750	60 MMscf/d	60 MMscf/d	9/2017 2017	NA NA	3100203	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
2-D-1	Electric Driven Flash Gas Compressor	Ariel	JGH/4	F54483	40 MMscf/d	40 MMscf/d	8/2017 2017	NA NA	3100203	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA
2-D-2	Electric Driven Flash Gas Compressor	Ariel	JGH/4	F54484	40 MMscf/d	40 MMscf/d	8/2017 2017	NA NA	3100203	X Existing (unchanged) New/Additional To Be Modified 	 To be Removed Replacement Unit To be Replaced 	NA	NA

	11-24				Manufact- urer's Rated	urer's Rated Permitted	Date of Manufacture ²	Controlled by Unit #	Source Classi-		RICE Ignition	
Unit Number ¹	Source Description	Make	Model #	Serial #	Capacity ³ (Specify Units)	Capacity ³ (Specify Units)	Date of Construction/ Reconstruction ²	Emissions vented to Stack #	fication Code (SCC)	For Each Piece of Equipment, Check One	Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
2-D-3	Electric Driven Flash Gas	Ariel	KBZ/6	TBD	TBD	TBD	TBD TBD	NA NA	3100203	X Existing (unchanged) □ To be Removed □ New/Additional □ Replacement Unit □ To Be Modified □ To be Replaced	NA	NA
	Compressor Electric Driven						TBD	NA		X Existing (unchanged)		
2-D-4	Flash Gas Compressor	Ariel	KBZ/6	TBD	TBD	TBD	TBD	NA	3100203	New/Additional Replacement Unit To Be Modified To be Replaced	NA	NA
3-D-1	Electric Driven	Ariel	KBZ/6	TBD	TBD	TBD	TBD	NA	3100203	 Existing (unchanged) To be Removed X New/Additional Replacement Unit 	NA	NA
5.0.1	Residue Compressor	7 miler	RDE	TDD	TDD	TDD	TBD	NA	5100205	□ To Be Modified □ To be Replaced		INA
3-D-2	Electric Driven	Ariel	KBZ/6	TBD	TBD	TBD	TBD	NA	3100203	 Existing (unchanged) To be Removed X New/Additional Replacement Unit 	NA	NA
	Residue Compressor						TBD	NA		□ To Be Modified □ To be Replaced		
3-D-3	-D-3 Electric Driven	Ariel	KBZ/6	.BZ/6 TBD	TBD	TBD	TBD	NA	3100203	 Existing (unchanged) To be Removed X New/Additional Replacement Unit 	NA	NA
	Residue Compressor						TBD	NA		□ To Be Modified □ To be Replaced		
3-D-4	Electric Driven	Ariel	KBZ/6	TBD	TBD	TBD	TBD	NA	3100203	 Existing (unchanged) To be Removed X New/Additional Replacement Unit 	NA	NA
5-D-4	Residue Compressor	Allel	KDZ/0	IDD	TBD	IDD	TBD	NA	5100205	□ To Be Modified □ To be Replaced	INA	INA
4-D-1	Electric Driven	Ariel	KBZ/6	TBD	TBD	TBD	TBD	NA	3100203	 Existing (unchanged) To be Removed X New/Additional Replacement Unit 	NA	NA
D-1	Residue Compressor	Allel	KDZ/0	IDD	TDD	TDD	TBD	NA	5100205	□ To Be Modified □ To be Replaced	INA	INA
4-D-2	Electric Driven	Ariel	KBZ/6	TBD	TBD	TBD	TBD	NA	3100203	 Existing (unchanged) To be Removed X New/Additional Replacement Unit 	NA	NA
102	Residue Compressor	7 miler	RDE	TDD	TDD	TDD	TBD	NA	5100205	□ To Be Modified □ To be Replaced	1121	1111
4-D-3	Electric Driven	Ariel	KBZ/6	TBD	TBD	TBD	TBD	NA	3100203	 Existing (unchanged) To be Removed X New/Additional Replacement Unit 	NA	NA
т <i>D-</i> 3	Residue Compressor	1 1101				TBD NA	5100203	□ To Be Modified □ To be Replaced		11/1		
4 D 4	4-D-4 Electric Driven Residue Compressor	A: -1	Ariel KBZ/6	3Z/6 TBD	TDD	TBD	TBD	NA	3100203	 Existing (unchanged) To be Removed X New/Additional Replacement Unit 	NA	
4-D-4		Arıel			TBD		TBD	NA	5100205	X New/Additional Replacement Unit To Be Modified To be Replaced 	INA	NA

² Specify dates required to determine regulatory applicability.
³ To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.
⁴ "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

Table 2-B: Insignificant Activities¹ (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

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

http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pd	f. TV sources may elect to enter both TV	V Insignificant Activities and Part	72 Exemptions on this form.
	2	0	1

Unit Number	Source Description	Manufacturer	Model No.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction ²	For Each Piece of Equipment, Check Onc
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction ²	
T-7	Used Oil/Slop Oil/Skid Runoff	NA	NA	400	20.72.202.B(2)(a)	2020	X Existing (unchanged) To be Removed New/Additional Replacement Unit
1 /		1111	NA	BBL	IA List Item #1.a)	TBD	□ To Be Modified □ To be Replaced
T-8	Used Oil/Slop Oil/Skid Runoff	NA	NA	400	20.72.202.B(2)(a)	2020	X Existing (unchanged) To be Removed New/Additional Replacement Unit
1-0		1174	NA	BBL	IA List Item #1.a)	TBD	□ To Be Modified □ To be Replaced
							 Existing (unchanged) To be Removed New/Additional Replacement Unit
							□ To Be Modified □ To be Replaced
							Existing (unchanged) To be Removed New/Additional Replacement Unit
							□ To Be Modified □ To be Replaced
							Existing (unchanged) To be Removed New/Additional Replacement Unit
							To Be Modified To be Replaced
							Existing (unchanged) To be Removed New/Additional Replacement Unit
							□ To Be Modified □ To be Replaced
							Existing (unchanged) Constant
							To Be Modified To be Replaced
							Existing (unchanged) Constant
							□ To Be Modified □ To be Replaced
							 Existing (unchanged) To be Removed New/Additional Replacement Unit
							□ To Be Modified □ To be Replaced
							 Existing (unchanged) To be Removed New/Additional Replacement Unit
							□ To Be Modified □ To be Replaced
							 Existing (unchanged) To be Removed New/Additional Replacement Unit
							□ To Be Modified □ To be Replaced
							□ Existing (unchanged) □ To be Removed
							Image: New/Additional Image: Replacement Unit Image: To Be Modified Image: 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
BTEX-1	Condenser	2017	VOC, HAP	EP-7, 2-EP-7, 3-EP-7, 4-EP-7	98%	GlyCalc
COMB-1	Combustor	2017	VOC	T-1, T-2, T-3, T-4, T-5	95%	Manufacturer Spec
EP-9	Thermal Oxidizer	2017	VOC, HAP	EP-8	99.9%	Manufacturer Spec

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).

TT '4 NT	N	Ox	С	0	V	DC	S	Ox	P	M	PN	1 10 ¹	PM	2.5 ¹	Н	$_{2}S$	Le	ead
Unit No.	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
EP-2	1.56	6.85	1.31	5.75	0.09	0.38	0.00	0.00	0.12	0.52	0.12	0.52	0.12	0.52	< 0.01	< 0.01		
2-EP-2	1.72	7.54	1.45	6.33	0.09	0.41	0.00	0.00	0.13	0.57	0.13	0.57	0.13	0.57	< 0.01	< 0.01		
3-EP-2	1.72	7.54	1.45	6.33	0.09	0.41	0.00	0.00	0.13	0.57	0.13	0.57	0.13	0.57	< 0.01	< 0.01		
4-EP-2	1.72	7.54	1.45	6.33	0.09	0.41	0.00	0.00	0.13	0.57	0.13	0.57	0.13	0.57	< 0.01	< 0.01		
EP-3A	1.74	7.63	3.54	15.48	0.30	1.30	0.00	0.00	0.41	1.79	0.41	1.79	0.41	1.79	< 0.01	< 0.01		
EP-3B	1.74	7.63	3.54	15.48	0.30	1.30	0.00	0.00	0.41	1.79	0.41	1.79	0.41	1.79	< 0.01	< 0.01		
EP-4	0.29	1.29	0.25	1.08	0.02	0.07	0.00	0.00	0.02	0.10	0.02	0.10	0.02	0.10	< 0.01	< 0.01		
2-EP-4	0.29	1.29	0.25	1.08	0.02	0.07	0.00	0.00	0.02	0.10	0.02	0.10	0.02	0.10	< 0.01	< 0.01		
3-EP-4	0.29	1.29	0.25	1.08	0.02	0.07	0.00	0.00	0.02	0.10	0.02	0.10	0.02	0.10	< 0.01	< 0.01		
4-EP-4	0.29	1.29	0.25	1.08	0.02	0.07	0.00	0.00	0.02	0.10	0.02	0.10	0.02	0.10	< 0.01	< 0.01		
EP-5	0.55	2.41	0.46	2.02	0.03	0.13	0.00	0.00	0.04	0.18	0.04	0.18	0.04	0.18	< 0.01	< 0.01		
2-EP-5	0.71	3.13	0.60	2.63	0.04	0.17	0.00	0.00	0.04	0.18	0.04	0.18	0.04	0.18	< 0.01	< 0.01		
3-EP-5	0.71	3.13	0.60	2.63	0.04	0.17	0.00	0.00	0.04	0.18	0.04	0.18	0.04	0.18	< 0.01	< 0.01		
4-EP-5	0.71	3.13	0.60	2.63	0.04	0.17	0.00	0.00	0.04	0.18	0.04	0.18	0.04	0.18	< 0.01	< 0.01		
EP-6	1.76	7.73	1.48	6.49	0.10	0.43	0.00	0.00	0.13	0.59	0.13	0.59	0.13	0.59	< 0.01	< 0.01		
2-EP-6	1.76	7.73	1.48	6.49	0.10	0.43	0.00	0.00	0.13	0.59	0.13	0.59	0.13	0.59	< 0.01	< 0.01		
EP-7					123.77	542.13												
2-EP-7					123.77	542.13												
3-EP-7					123.77	542.13												
4-EP-7					123.77	542.13												
EP-8					380.65	1667.23	0.00	0.00							2.11	9.22		
EP-9		_	_		_		No emi	ssions fror	n this unit	t in an unc	ontrolled	scenario			_		_	
EP-1	0.17	0.76	0.79	3.46	1.68	7.37	0.31	1.35							0.003	0.01		
2/3 EP-1	0.35	1.52	1.58	6.92	3.37	14.74	0.61	2.69							0.01	0.03		
4-EP-1	0.17	0.76	0.79	3.46	1.68	7.37	0.31	1.35							0.003	0.01		
T-1::T-5					24.92	109.16												
T-6					0.14	0.63									0.002	0.01		
COMB-1					-	-												
LOAD					8.71	45.97												
FUG					2.80	12.25									0.00	0.00		
FUG2					2.80	12.25												
HAUL					-	-			0.11	0.39	0.11	0.39	0.01	0.04				
Totals	18.30	80.17	22.10	96.79	923.22	4,051.50	1.23	5.38	1.96	8.51	1.96	8.51	1.87	8.17	2.12	9.29		

¹Condensable 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.	N	Ox	C	C	V	C	S	Ox	PI	M ¹	PM	[10 ¹	PM	2.5 ¹	Н	$_2S$	Le	ead
Unit No.	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr								
EP-2	1.56	6.85	1.31	5.75	0.09	0.38	0.00	0.00	0.12	0.52	0.12	0.52	0.12	0.52	0.00	0.00		
2-EP-2	1.72	7.54	1.45	6.33	0.09	0.41	0.00	0.00	0.13	0.57	0.13	0.57	0.13	0.57	0.00	0.00		
3-EP-2	1.72	7.54	1.45	6.33	0.09	0.41	0.00	0.00	0.13	0.57	0.13	0.57	0.13	0.57	0.00	0.00		
4-EP-2	1.72	7.54	1.45	6.33	0.09	0.41	0.00	0.00	0.13	0.57	0.13	0.57	0.13	0.57	0.00	0.00		
EP-3A	1.74	7.63	3.54	15.48	0.30	1.30	0.00	0.00	0.41	1.79	0.41	1.79	0.41	1.79	0.00	0.00		
EP-3B	1.74	7.63	3.54	15.48	0.30	1.30	0.00	0.00	0.41	1.79	0.41	1.79	0.41	1.79	0.00	0.00		
EP-4	0.29	1.29	0.25	1.08	0.02	0.07	0.00	0.00	0.02	0.10	0.02	0.10	0.02	0.10	0.00	0.00		
2-EP-4	0.29	1.29	0.25	1.08	0.02	0.07	0.00	0.00	0.02	0.10	0.02	0.10	0.02	0.10	0.00	0.00		
3-EP-4	0.29	1.29	0.25	1.08	0.02	0.07	0.00	0.00	0.02	0.10	0.02	0.10	0.02	0.10	0.00	0.00		
4-EP-4	0.29	1.29	0.25	1.08	0.02	0.07	0.00	0.00	0.02	0.10	0.02	0.10	0.02	0.10	0.00	0.00		
EP-5	0.55	2.41	0.46	2.02	0.03	0.13	0.00	0.00	0.04	0.18	0.04	0.18	0.04	0.18	0.00	0.00		
2-EP-5	0.71	3.13	0.60	2.63	0.04	0.17	0.00	0.00	0.04	0.18	0.04	0.18	0.04	0.18	0.00	0.00		
3-EP-5	0.71	3.13	0.60	2.63	0.04	0.17	0.00	0.00	0.04	0.18	0.04	0.18	0.04	0.18	0.00	0.00		
4-EP-5	0.71	3.13	0.60	2.63	0.04	0.17	0.00	0.00	0.04	0.18	0.04	0.18	0.04	0.18	0.00	0.00		
EP-6	1.76	7.73	1.48	6.49	0.10	0.43	0.00	0.00	0.13	0.59	0.13	0.59	0.13	0.59	0.00	0.00		
2-EP-6	1.76	7.73	1.48	6.49	0.10	0.43	0.00	0.00	0.13	0.59	0.13	0.59	0.13	0.59	0.00	0.00		
EP-7					0.12	0.54									0.00	0.00		
2-EP-7					0.12	0.54									0.00	0.00		
3-EP-7					0.12	0.54									0.00	0.00		
4-EP-7					0.12	0.54									0.00	0.00		
EP-8					0.38	1.67												
EP-9	5.49	24.06	2.98	13.05	0.88	1.67	3.96	17.34	0.60	2.63	0.60	2.63	0.60	2.63	0.00	0.01		
EP-1	0.17	0.76	0.79	3.46	1.68	7.37	0.31	1.35							0.16	0.72		
2/3 EP-1	0.35	1.52	1.58	6.92	3.37	14.74	0.61	2.69							0.33	1.43		
4-EP-1	0.17	0.76	0.79	3.46	1.68	7.37	0.31	1.35							0.16	0.72		
T-1::T-5					1.25	5.46									0.00	0.00		
T-6					0.14	0.63									0.00	0.01		
COMB-1	3.66	0.33	7.31	0.65	53.68	6.06	0.00	0.00	0.05	0.02	0.05	0.02	0.05	0.02	0.00	0.00		
LOAD					8.71	45.97												
FUG					2.80	12.25									0.00	0.00		
FUG2					2.80	12.25												
HAUL									0.11	0.39	0.11	0.39	0.01	0.04				
Totals	27.46	104.56	32.39	110.48	79.24	123.60	5.19	22.73	2.61	11.16	2.61	11.16	2.52	10.81	0.66	2.89		

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 scenduled 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/agb/permit/agb_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).

(https://www	NC)C		Dx								$_{2}S$	T.	ad
Unit No.								-		M ²		[10 ²		2.5 ²		-		ead
	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
EP-1	666.97	6.56	3,040.58	29.91	2,138.96	16.54	0.00	0.00							0.00	0.00		
2/3-EP1	1,333.93	13.13	6,081.17	59.83	4,277.92	33.08	0.00	0.00							0.00	0.00		
4-EP-1	666.97	6.56	3,040.58	29.91	2,138.96	16.54	0.00	0.00							0.00	0.00		
SSM-misc					269.37	4.29												
SSMB					29.73	0.59												
Totals	2,667.87	26.25	12,162.33	119.65	8,854.93	71.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

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.

²Condensable 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.

	Serving Unit	N	Ox	0	2 0	V	OC	S	Ox	Р	M	PN	/110	PN	12.5	X H ₂ S or	r 🗆 Lead
Stack No.	Number(s) from Table 2-A	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
EP-9	EP-9, EP-8	5.49	24.06	2.98	13.05	0.88	1.67	3.96	17.34	0.60	2.63	0.60	2.63	0.60	2.63	0.002	0.009
COMB-1	T1::T5	3.66	0.33	7.31	0.65	53.68	6.06	0.00	0.00	0.05	0.02	0.05	0.02	0.05	0.02	0.002	0.0002
	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	Serving Unit Number(s)	Orientation	Rain Caps	Height Above	Temp.	Flow	Rate	Moisture by	Velocity	Inside
Number	from Table 2-A	(H-Horizontal V=Vertical)	(Yes or No)	Ground (ft)	(F)	(acfs)	(dscfs)	Volume (%)	(ft/sec)	Diameter (ft)
EP-1	EP-1	V	No	100	1832	52			65.6	1.00
2/3-EP-1	2/3-EP-1	V	No	199	1832	104			65.6	1.00
4-EP-1	4-EP-1	V	No	100	1832	52			656	1.00
EP-2	EP-2	V	No	23	624	110			51.1	3.83
2-EP-2	2-EP-2	V	No	26	624	110			51.1	2.33
3-EP-2	3-EP-2	V	No	26	624	110			51.1	2.33
4-EP-2	4-EP-2	V	No	26	624	110			51.1	2.33
EP-3A	EP-3A	V	No	25	624	380			176.1	3.50
EP-3B	EP-3B	V	No	33	624	380			176.1	4.00
EP-4	EP-4	V	No	25	624	21			60	2.00
2-EP-4	2-EP-4	V	No	32	624	21			60	2.00
3-EP-4	3-EP-4	V	No	32	624	21			60	2.00
4-EP-4	4_EP-4	V	No	32	624	21			60	2.00
EP-5	EP-5	V	No	16	624	39			5.6	2.50
2-EP-5	2-EP-5	V	No	22	550	39			42.7	1.33
3-EP-5	3-EP-5	V	No	22	550	39			42.7	1.33
4-EP-5	4-EP-5	V	No	22	550	39			42.7	1.33
EP-6	EP-6	V	No	25	624	388			90.9	2.33
2-EP-6	2_EP-6	V	No	25	624	388			90.9	2.33
EP-9	EP-7, 2-EP-7, 3-EP-7, 4-EP-7, EP-8	V	No	76	1600	350			12.1	10.0
COMB-1	T-1::T-5	V	No	50	1500	708			18.4	7.00

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		zene or 🗆 TAP	Tolı X HAP o	iene ir 🗆 TAP		^{lene} or □ TAP		ane r 🗆 TAP	2,2 Trimethy X HAP o	2,4- ylpentane r 🗆 TAP	Ethylb X HAP o	enzene r 🗆 TAP		Pollutant e Here or 🗆 TAP		Pollutant e Here 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
EP-2		0.001	0.01	0.000	0.000														
2-EP-2		0.001	0.01	0.000	0.000														
3-EP-2		0.001	0.01	0.000	0.000														
4-EP-2		0.001	0.01	0.000	0.000														
EP-3A		0.004	0.02	0.000	0.000														
EP-3B		0.004	0.02	0.000	0.000														
EP-4		0.0002	0.001	0.000	0.000														
2-EP-4		0.0002	0.001	0.000	0.000														
3-EP-4		0.0002	0.001	0.000	0.000														
4-EP-4		0.0002	0.001	0.000	0.000														
EP-5		0.0004	0.002	0.000	0.000														
2-EP-5		0.0004	0.002	0.000	0.000														
3-EP-5		0.0004	0.002	0.000	0.000														
4-EP-5		0.0004	0.002	0.000	0.000														
EP-6		0.001	0.01	0.000	0.000														
2-EP-6		0.001	0.01	0.000	0.000														
EP-7		0.03	0.15	0.093	0.101	0.01	0.05	0.000	0.000					0.000	0.000				
2-EP-7		0.03	0.15	0.023	0.101	0.01	0.05	0.000	0.000					0.000	0.000				
3-EP-7		0.03	0.15	0.023	0.101	0.01	0.05	0.000	0.000					0.000	0.000				
4-EP-7		0.03	0.15	0.023	0.101	0.01	0.05	0.000	0.000					0.000	0.000				
EP-8		0.09	0.40	0.02	0.07	0.01	0.04	0.003	0.01	0.03	0.15	0.000	0.000	0.003	0.013				
EP-9																			
EP-1		22.64	0.27	1.15	0.01	0.46	0.01	0.000	0.000	21.04	0.25	0.000	0.000	0.000	0.000				
2/3 EP-1		45.29	0.54	2.30	0.02	0.92	0.02	0.000	0.000	42.08	0.5	0.000	0.000	0.000	0.000				
4-EP-1		22.64	0.27	1.15	0.01	0.46	0.01	0.000	0.000	21.04	0.25	0.000	0.000	0.000	0.000				
T-1::T-5		0.19	0.85	0.01	0.04	0.002	0.01	0.0005	0.0021	0.18	0.78	0.003	0.02	0.0005	0.002				
T-6		0.005	0.02	0.004	0.02	0.001	0.004	0.0001	0.0004	0.0003	0.001	0.00001	0.0001	0.0001	0.001				
COMB-1 LOAD		8.36 0.06	0.94 0.29	0.37	0.04	0.10	0.01	0.01	0.000	7.70	0.87	0.15	0.02	0.02	0.000				
FUG		0.08	0.36																
FUG2		0.08	0.36																
HAUL SSM-misc																			
SSMB		0.12	0.002	0.12	0.002														
Tota	ls:	99.7	4.9	5.3	0.9	2.0	0.3	0.0	0.0	92.1	2.8	0.2	0.0	0.0	0.0	-	-	-	<u> </u>

Table 2-J: Fuel

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

	Fuel Type (low sulfur Diesel,	Fuel Source: purchased commercial,		Speci	fy Units		
Unit No.	ultra low sulfur diesel, Natural Gas, Coal,)	pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Lower Heating Value	Hourly Usage (Scf)	Annual Usage (MMScf)	% Sulfur	% Ash
EP-1	Pipeline Quality Natural Gas	Residue Gas	1020	9,166,862.00	221.71	NA	NA
2/3-EP-1	Pipeline Quality Natural Gas	Residue Gas	1020	18,333,724.00	443.42	NA	NA
4-EP-1	Pipeline Quality Natural Gas	Residue Gas	1020	9,166,862.00	221.71	NA	NA
EP-2	Pipeline Quality Natural Gas	Residue Gas	1020	16,078.63	140.85	NA	NA
2-EP-2	Pipeline Quality Natural Gas	Residue Gas	1020	16,078.63	140.85	NA	NA
3-EP-2	Pipeline Quality Natural Gas	Residue Gas	1020	16,078.63	140.85	NA	NA
4-EP-2	Pipeline Quality Natural Gas	Residue Gas	1020	16,078.63	140.85	NA	NA
EP-3A	Pipeline Quality Natural Gas	Residue Gas	1020	55,443.55	485.69	NA	NA
EP-3B	Pipeline Quality Natural Gas	Residue Gas	1020	55,443.55	485.69	NA	NA
EP-4	Pipeline Quality Natural Gas	Residue Gas	1020	3,024.19	26.49	NA	NA
2-EP-4	Pipeline Quality Natural Gas	Residue Gas	1020	3,024.19	26.49	NA	NA
3-EP-4	Pipeline Quality Natural Gas	Residue Gas	1020	3,024.19	26.49	NA	NA
4-EP-4	Pipeline Quality Natural Gas	Residue Gas	1020	3,024.19	26.49	NA	NA
EP-5	Pipeline Quality Natural Gas	Residue Gas	1020	5,655.24	49.54	NA	NA
2-EP-5	Pipeline Quality Natural Gas	Residue Gas	1020	5,655.24	49.54	NA	NA
3-EP-5	Pipeline Quality Natural Gas	Residue Gas	1020	5,655.24	49.54	NA	NA
4-EP-5	Pipeline Quality Natural Gas	Residue Gas	1020	5,655.24	49.54	NA	NA
EP-6	Pipeline Quality Natural Gas	Residue Gas	1020	18,145.16	158.95	NA	NA
2-EP-6	Pipeline Quality Natural Gas	Residue Gas	1020	18,145.16	158.95	NA	NA
EP-9	Pipeline Quality Natural Gas	Residue Gas	1020	310,792.00	2,722.54	NA	NA
COMB-1	Pipeline Quality Natural Gas	Residue Gas	1020	4,361.88	0.85	NA	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.

					Vanor	Average Stor	age Conditions	Max Storag	ge Conditions
Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
T-1	40400312	Condensate	Composition	7.1	50	80	4.0	80	5.3
T-2	40400312	Condensate	Composition	7.1	50	80	4.0	80	5.3
T-3	40400312	Condensate	Composition	7.1	50	80	4.0	80	5.3
T-4	40400312	Condensate	Composition	7.1	50	80	4.0	80	5.3
T-5	40400312	Condensate	Composition	7.1	50	80	4.0	80	5.3
T-6	40400312	Waste Water	Composition	8.3	27.3	63	0	63	0

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		Roof Type (refer to Table 2-	Сар	acity	Diameter (M)	Vapor Space		olor ible VI-C)	Paint Condition (from Table	Annual Throughput	Turn- overs
			LR below)	LR below)	(bbl)	(M ³)	()	(M)	Roof	Shell	VI-C)	(gal/yr)	(per year)
T-1	2017	Condensate	NA	FX	1,000	159.0	4.8	3.0	White	White	Good	24,528,000	730
T-2	2017	Condensate	NA	FX	1,000	159.0	4.8	3.0	White	White	Good	24,528,000	730
T-3	2017	Condensate	NA	FX	1,000	159.0	4.8	3.0	White	White	Good	24,528,000	730
T-4	2017	Condensate	NA	FX	1,000	159.0	4.8	3.0	White	White	Good	24,528,000	730
T-5	2017	Condensate	NA	FX	1,000	159.0	4.8	3.0	White	White	Good	24,528,000	730
T-6	2017	Waste Water	NA	FX	500	79.5	4.7		White	White	Good	1,076,040	64

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

Roof Type	Seal Type, W	elded Tank Seal Type	Seal Type, Riv	eted 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	1
					MG: Medium Gray	
Note: $1.00 \text{ bbl} = 0.159 \text{ N}$	$1^3 = 42.0 \text{ gal}$				BL : Black	
					OT : Other (specify)	

Table 2-M: Materials Processed and Produced	(Use additional sheets as necessary.)
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	Materi	Ν	Iaterial Produced						
Description	Chemical Composition	Phase (Gas, Liquid, or Solid)	Quantity (specify units)	Description	Chemical Composition	Phase	Quantity (specify units)		
Natural Gas	Natural Gas	Gas	880 mmscfd	Natural Gas	Natural Gas	Gas 880 mmscfd			
				Condensate	Condensate	Liquid	8000 bpd		
				Waste Water	Waste Water	Liquid	70 bpd		

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. **NOT APPLICABLE**

Stack No.	Pollutant(s)	Manufacturer	Model No.	Serial No.	Sample Frequency	Averaging Time	Range	Sensitivity	Accuracy

Table 2-O: Parametric Emissions Measurement Equipment

Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary. **NOT APPLICABLE**

Unit No.	Parameter/Pollutant Measured	Location of Measurement	Unit of Measure	Acceptable Range	Frequency of Maintenance	Nature of Maintenance	Method of Recording	Averaging Time

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 \Box By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

		CO ₂ ton/yr	N2O ton/yr	CH ₄ ton/yr	SF ₆ ton/yr	PFC/HFC ton/yr ²					Total GHG Mass Basis ton/yr ⁴	Total CO₂e ton/yr ⁵
Unit No.	GWPs ¹	1	298	25	22,800	footnote 3						
EP-2	mass GHG	8,172.07	0.02	0.15							8,172	
E1 -2	CO ₂ e	8,172.07	4.59	3.85								8,181
2-EP-2	mass GHG	8,991.83	0.02	0.17							8,992	
2-111-2	CO ₂ e	8,991.83	5.05	4.24								9,001
3-EP-2	mass GHG	8,991.83	0.02	0.17							8,992	
0 11 2	CO ₂ e	8,991.83	5.05	4.24								9,001
4-EP-2	mass GHG	8,991.83	0.02	0.17							8,992	
	CO ₂ e	8,991.83	5.05	4.24				_				9,001
EP-3A	mass GHG	28,179.54	0.05	0.53							28,180	
	CO ₂ e	28,179.54	15.83	13.28								28,209
EP-3B	mass GHG	28,179.54	0.05	0.53							28,180	
	CO ₂ e	28,179.54	15.83	13.28							1.527	28,209
EP-4	mass GHG CO ₂ e	1,537.07 1,537.07	0.00	0.03 0.72							1,537	1,539
	mass GHG	1,537.07	0.80	0.72							1,537	1,339
2-EP-4	CO ₂ e	1,537.07	0.86	0.72							1,557	1,539
	mass GHG	1,537.07	0.00	0.03							1,537	-,,
3-EP-4	CO ₂ e	1,537.07	0.86	0.72							,	1,539
4 55 4	mass GHG	1,537.07	0.00	0.03							1,537	
4-EP-4	CO ₂ e	1,537.07	0.86	0.72								1,539
ED 5	mass GHG	2,874.31	0.01	0.05							2,874	
EP-5	CO ₂ e	2,874.31	1.61	1.35								2,877
2-EP-5	mass GHG	3,735.07	0.01	0.07							3,735	
2-EF-3	CO ₂ e	3,735.07	2.10	1.76								3,739
3-EP-5	mass GHG	3,735.07	0.01	0.07							3,735	
J-E1-J	CO ₂ e	3,735.07	2.10	1.76								3,739
4-EP-5	mass GHG	3,735.07	0.01	0.07							3,735	
1 11 3	CO ₂ e	3,735.07	2.10	1.76								3,739
EP-6	mass GHG		0.02	0.17							9,223	
	CO ₂ e	9,222.39	5.18	4.35								9,232
2-EP-6	mass GHG	9,222.39	0.02	0.17						<u> </u>	9,223	0.000
	CO ₂ e	9,222.39	5.18	4.35							0	9,232
EP-7	mass GHG			0.00							0	0
	CO ₂ e			0.00							0	0
2-EP-7	mass GHG			0.00							0	0
	CO ₂ e			0.00								0

	mass GHG			0.00					0	
3-EP-7	CO ₂ e			0.00						0
4 ED 7	mass GHG			0.00					0	
4-EP-7	CO ₂ e			0.00						0
EP-8	mass GHG	60,585.82		0.00					60,586	
EF-0	CO ₂ e	60,585.82		0.04						60,586
EP-9	mass GHG	38,426.64	0.07	0.72					38,427	
EI - 9	CO ₂ e	38,426.64	21.58	18.11						38,466
EP-1	mass GHG		0.03	60.38					13,635	
121 -1	CO ₂ e	13,574.26	7.79	1,509.48						15,092
2/3-EP-1	mass GHG		0.05	120.76					27,269	
2/3-11-1	CO ₂ e	27,148.52	15.57	3,018.96						30,183
4-EP-1	mass GHG		0.03	60.38					13,635	
E1 -1	CO ₂ e	13,574.26	7.79	1,509.48						15,092
COMB-1	mass GHG		0.00	0.33					272	
comb i	CO ₂ e	271.94	0.04	8.26						280
FUG	mass GHG	0.46	0.00	107.34					108	
100	CO ₂ e	0.13	0.00	2,683.50						2,684
FUG2	mass GHG		0.00	107.34					108	
1002	CO ₂ e	0.13	0.00	2,683.50						2,684
Total		283,761.57	0.42	459.71					284,222	0
- 500	CO ₂ e	283,760.90	125.88	11,492.67					0	295,379

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

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

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

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

⁵ CO₂e means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

Application Summary

The <u>Application Summary</u> 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 **<u>Process</u>** <u>Summary</u> shall include a brief description of the facility and its processes.

<u>Startup, Shutdown, and Maintenance (SSM)</u> 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.

Lucid Energy Delaware, LLC (Lucid) owns and operates the Road Runner Gas Processing Plant located near Loving in Eddy County, NM. The most recent New Source Review (NSR) permit No. 7200-M2 was issued on November 28, 2018. Lucid is proposing a significant revision to its NSR Permit No. 7200-M2 to authorize a proposed expansion project to expand its current Road Runner Gas Processing Plant by adding two processing trains (processing trains 3 and 4).

The primary function of the Road Runner Gas Processing Plant is to separate natural gas (methane) from heavier (liquid) hydrocarbons, raw sweet field gas so that the gas can meet pipeline specifications. The plant has been designated a primary Standard Industrial Classification (SIC) Code of 1311. The gas is treated to remove CO_2 , H_2S , water and heavy (liquid) hydrocarbons from the gas stream.

The amine treater vent flows to a thermal oxidizer to remove volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions. There will be minimal natural gas liquid storage options on location as the NGL's will be transported through a pipeline. NGL production will be optimized, which will limit the production of stable condensate.

Startup, shutdown and maintenance (SSM) emissions are included in this application. SSM emissions include blowdown events routed to the three proposed flares.

As discussed above, the expansion project will add two additional processing trains (trains 3 and 4) to the exiting trains 1 and 2; however, some design changes of the entire gas processing plant will also be implemented:

- 1. Only one Thermal Oxidizer is proposed, eliminating the second Thermal Oxidizer currently permitted
- 2. A total of three flares is proposed: one for train 1, one for train 2 and 3 (larger flare) and one for train 4
- 3. The processing capacity will increase from 160,600 MMScf/year to 321,200 MMScf/yr
- 4. No additional storage tanks are proposed and the existing tanks remain unchanged

5. Proposed SSM flare emissions will be based on actual SSM flare data from the current facility plus a safety factor of 25% per the pre-application meeting discussions. The currently permitted SSM flare emissions were over estimated

This expansion project will not trigger prevention of significant deterioration (PSD) review as the facility will stay below 250 tons per year (tpy) for any criteria pollutant.

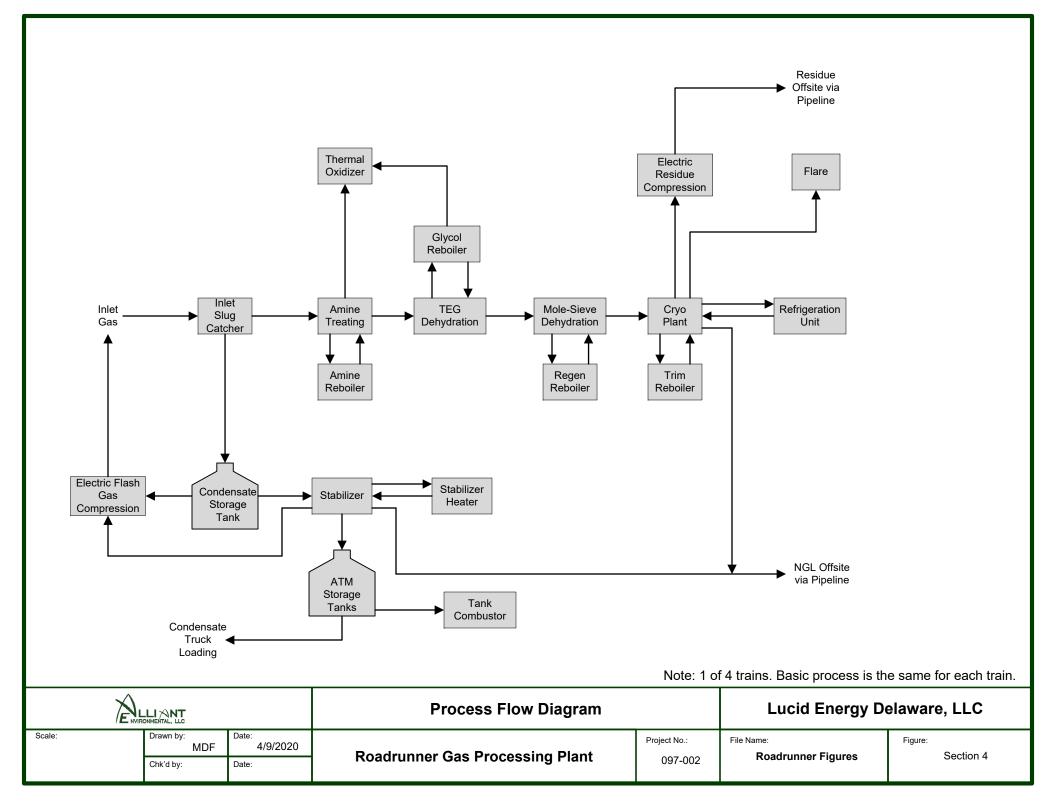
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Process Flow Sheet

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.

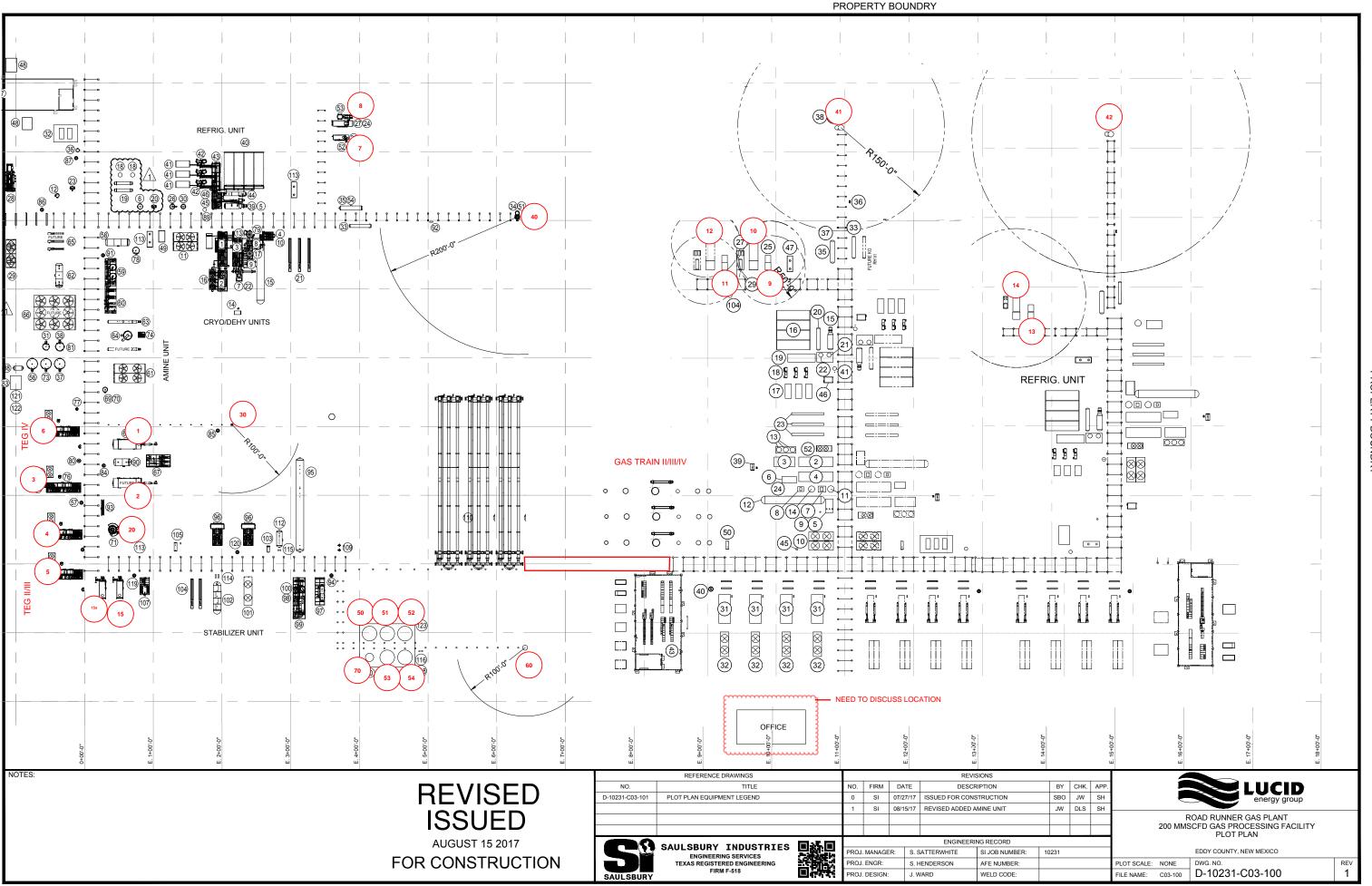
A process flow diagram is shown on the following page.



Plot Plan Drawn To Scale

A <u>plot plan drawn to scale</u> 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.

An up-to-date plot plan is shown on the following page.



J:\Lucid Energy\10231 Lucid Road Runner 200MM Cryo\03 ENGINEERING, DESIGN\3.4 Piping\3.4.3 Drawings - Plot Plans\C03-100 (8/15/2017 6:07:22 PM)

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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 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.

Heaters, Reboilers

The facility will be equipped with several burners, heaters and reboilers of various heat input capacity. In accordance with standard NMED permitting procedures, external combustion equipment in boilers and heaters generate emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC).

Emissions from all burners except the amine reboilers (EP-3A, EP-3B, 2-EP-3A, and 2-EP-3B) are calculated based on AP-42 emission factors for natural gas combustion in small commercial burners. The burners will not be equipped with a catalytic converter or other emission control equipment. Therefore, uncontrolled and controlled emissions from this unit are equivalent.

NOx and CO emissions from the amine reboilers were calculated utilizing manufacturer emission factors corrected for 3% excess oxygen.

SSM Flares

The facility will be equipped with three (3) SSM flares. The emissions calculated for the pilot lights are exempt. In accordance with standard NMED permitting procedures, the flares generate emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC). Emissions from the flares are calculated based on AP-42 emission factors for industrial flares for NOx and CO. VOCs were calculated based on a mass balance approach.

SSM emissions (NOx, CO, and VOC) associated with the flares are based on actual SSM flare data collected at the Road Runner Gas Plant based on a 12-months rolling basis. Previously estimated and permitted SSM emissions proved to have been over estimated based on actual data collected. Therefore, it is proposed that the SSM annual (tpy) flare emission rates be based on actual data plus a 25% safety factor.

Condensate Storage Tanks (no changes to these emission units)

There are five 1,000 barrel stable condensate tanks permitted at this facility. The overhead stabilization system is in place to assist in increasing plant efficiencies of natural gas liquid (NGL) production and to lower the Reid Vapor Pressure (RVP) of the pipeline liquids and condensate after they are dropped out of the gas stream. Through a process that chills and compresses the gas from the inlet system, remaining vapors are separated off the refrigeration stream and are processed so the RVP is lowered to 9. Both the condensate from the refrigeration section of the plant and the liquids out of the slug catcher are combined, stabilized and sent to the tank farm for truck or pipeline sales. Any remaining vapors are recycled back to the front of the stabilization process. The liquid in the tank farm is then stable and thus does not give off significant vapors.

With an API gravity around 86 and an RVP of 9, there are no flashing emissions associated with these tanks. ProMax, using AP-42 factors, calculates working and standing losses of 109.16 tpy VOC. A combustor will be utilized to comply with NSPS Subpart OOOOa compliance. Loading losses are calculated at 45.97 tpy also using AP-42 methodology.

Amine Units

The amine aqueous mixture is regenerated via heat provided by the hot oil heaters. The "acid gas" is comprised primarily of the CO_2 and up to 12 parts per million (ppm) H₂S removed in the amine contactor. However, the amine can remove hydrocarbons. The vent stream was analyzed using the ProMax program. The three-phase separator has the potential to introduce a gaseous emissions stream. However, the gas phase will be routed back to the fuel system or the inlet of the plant and will not vent to the atmosphere.

The amine vent streams are primarily composed of CO₂, H₂S, and water. All amine vents will be routed to one (1) thermal oxidizer.

Glycol Dehydration Units

Emissions from the glycol recovery still consist of water vapor and various volatile organic compounds (VOC), including several hazardous air pollutants (HAPs). The vent stream from the glycol recovery still vents to atmosphere. The recovery still (regenerator) is considered a significant source operation. Maximum emissions from the glycol recovery still are calculated in accordance with department policy using the ProMax program.

The composition of the wet gas introduced to the glycol dehydration units was determined using appropriate analytical techniques and this information was entered into ProMax to calculate emissions from the glycol recovery still. A copy of the results of the gas analysis is provided in this section, along with a copy of the output report from the ProMax simulation. The glycol dehydration units are equipped with a flash tanks. The flash tanks off gases are routed to the fuel system or the plant inlet. These emissions are not vented to the atmosphere. All units are equipped with an individual aftermarket BTEX condenser. The non-condensable stream is also routed to the amine thermal oxidizer unit. The control device will achieve 99.9% control efficiency.

All units are subject to 40 CFR 63 Subpart HH. Provisions within HH were used to calculate the lean glycol recirculation rate. Calculation of the optimum glycol circulation rate determined in accordance with § 63.764(d)(2)(i).

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO₂e emissions from your facility.

2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO₂e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 <u>Mandatory Greenhouse Gas Reporting</u>.

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 <u>short</u> 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 \Box 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 <u>Mandatory Green House Gas Reporting</u> 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 <u>Mandatory Greenhouse Reporting</u> requires metric tons. 1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

Combustion Sources

The facility will be equipped with several external combustion sources. The combustion sources result in CO_2 , CH_4 , and N_2O from combustion and will be calculated using Equation C-2a and Equation C-9a from Subpart C of 40 CFR 98.

Amine Vent Emissions

The amine vents emissions were calculated using a process stimulation as per Subpart W 40 CFR 98.

Startup, Shutdown, and Maintenance Emissions (SSM)

Startup, shutdown and maintenance emissions are gas streams that are flared. SSM emissions were calculated by estimating flaring events and times for the full volumes of the processing unit being served by the SSM flare. This constitutes the worst-case scenario and is highly unlikely.

ontrolle	d Emissions		_																						
					-		1		-		1						-			-	-	CO ₂	CH ₄	N ₂ O	CO2e
Unit ID	Equipment 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	lb/hr	ton/yr	lb/hr	ton/yr	ton/yr	ton/yr	ton/yr	ton/yr
EP-2	Trim Reboiler	1.56	6.85	1.31	5.75	0.09	0.38	< 0.01	< 0.01	0.12	0.52	0.12	0.52	0.12	0.52	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	8,172.07	0.15	0.02	8,180.51
2-EP-2	Trim Reboiler	1.72	7.54	1.45	6.33	0.09	0.41	< 0.01	< 0.01	0.13	0.57	0.13	0.57	0.13	0.57	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	8,991.83	0.17	0.02	9,001.12
3-EP-2	Trim Reboiler	1.72	7.54	1.45	6.33	0.09	0.41	< 0.01	< 0.01	0.13	0.57	0.13	0.57	0.13	0.57	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	8,991.83	0.17	0.02	9,001.12
4-EP-2	Trim Reboiler	1.72	7.54	1.45	6.33	0.09	0.41	< 0.01	< 0.01	0.13	0.57	0.13	0.57	0.13	0.57	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	8,991.83	0.17	0.02	9,001.12
EP-3A	Amine Reboiler	1.74	7.63	3.54	15.48	0.30	1.30	< 0.01	< 0.01	0.41	1.79	0.41	1.79	0.41	1.79	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	28,179.54	0.53	0.05	28,208.64
	Amine Reboiler	1.74	7.63	3.54	15.48	0.30	1.30	< 0.01	< 0.01	0.41	1.79	0.41	1.79	0.41	1.79	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	28,179.54	0.53	0.05	28,208.64
EP-4	Glycol Reboiler	0.29	1.29	0.25	1.08	0.02	0.07	<0.01	<0.01	0.02	0.10	0.02	0.10	0.02	0.10	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	1,537.07	0.03	<0.01	1,538.65
2-EP-4	Glycol Reboiler	0.29	1.29	0.25	1.08	0.02	0.07	<0.01	<0.01	0.02	0.10	0.02	0.10	0.02	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,537.07	0.03	<0.01	1,538.65
3-EP-4	Glycol Reboiler	0.29	1.29	0.25	1.08	0.02	0.07	<0.01	<0.01	0.02	0.10	0.02	0.10	0.02	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,537.07	0.03	<0.01	1,538.65
4-EP-4	Glycol Reboiler	0.29	1.29	0.25	1.08	0.02	0.07	<0.01	<0.01	0.02	0.10	0.02	0.10	0.02	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,537.07	0.03	<0.01	1,538.65
EP-5	Regen Reboiler	0.55	2.41	0.46	2.02	0.03	0.13	<0.01	<0.01	0.04	0.18	0.04	0.18	0.04	0.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2,874.31	0.05	<0.01	2,877.28
	Regen Reboiler	0.71	3.13	0.60	2.63	0.04	0.17	<0.01	<0.01	0.04	0.18	0.04	0.18	0.04	0.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	3,735.07	0.07	<0.01	3,738.93
3-EP-5	Regen Reboiler	0.71	3.13	0.60	2.63	0.04	0.17	<0.01	<0.01	0.04	0.18	0.04	0.18	0.04	0.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	3,735.07	0.07	<0.01	3,738.93
4-EP-5	Regen Reboiler	0.71	3.13	0.60	2.63	0.04	0.17	<0.01	<0.01	0.04	0.18	0.04	0.18	0.04	0.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	3,735.07	0.07	<0.01	3,738.93
EP-6	Stabilizer Heater	1.76	7.73	1.48	6.49	0.10	0.43	<0.01	<0.01	0.13	0.59	0.13	0.59	0.13	0.59	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	9,222.39	0.17	0.02	9,231.92
2-EP-6	Stabilizer Heater	1.76	7.73	1.48	6.49	0.10	0.43	<0.01	<0.01	0.13	0.59	0.13	0.59	0.13	0.59	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	9,222.39	0.17	0.02	9,231.92
EP-7	Glycol Dehydrator (99.9% Control)					0.12	0.54									<0.01	<0.01	0.03	0.15	0.09	0.10		<0.01		<0.01
2-EP-7	Glycol Dehydrator (99.9% Control)					0.12	0.54									<0.01	<0.01	0.03	0.15	0.02	0.10		<0.01		<0.01
3-EP-7	Glycol Dehydrator (99.9% Control)					0.12	0.54									<0.01	<0.01	0.03	0.15	0.02	0.10		<0.01		<0.01
4-EP-7	Glycol Dehydrator (99.9% Control)					0.12	0.54									<0.01	< 0.01	0.03	0.15	0.02	0.10		<0.01		<0.01
EP-8	Amine Vent					0.38	1.67											0.09	0.40	0.02	0.07	60,585.82	<0.01		60,585.86
EP-9	Thermal Oxidizer	5.49	24.06	2.98	13.05	0.88	1.67	3.96	17.34	0.60	2.63	0.60	2.63	0.60	2.63	<0.01	< 0.01					38,426.64	0.72	0.07	38,466.33
EP-1	Flare (SSM)	667.14	7.32	3,041.37	33.37	2,140.64	23.91	0.31	1.35							0.16	0.72	22.64	0.27			13,574.26	60.38	0.03	15,091.53
2/3-EP-1	Flare (SSM)	1,334.28	14.64	6,082.75	66.75	4,281.28	47.82	0.61	2.69							0.33	1.43	45.29	0.54			27,148.52	120.76	0.05	30,183.06
4-EP-1	Flare (SSM)	667.14	7.32	3,041.37	33.37	2,140.64	23.91	0.31	1.35							0.16	0.72	22.64	0.27			13,574.26	60.38	0.03	15,091.53
T-1::T-5	Condensate Storage Tank (95% Control)					1.25	5.46									<0.01	<0.01	0.19	0.85	<0.01	0.04				
	Waste Water Tank					0.14	0.63									<0.01	<0.01	<0.01	0.02	<0.01	0.02				1
	Tank Combustor	3.66	0.33	7.31	0.65	53.68	6.06	<0.01	<0.01	0.05	0.02	0.05	0.02	0.05	0.02	< 0.01	< 0.01	8.36	0.94	0.37	0.04	271.94	0.33	<0.01	280.24
LOAD	Loading Emissions					8.71	45.97											0.06	0.29	0.06	0.29				1
FUG	Fugitive Emissions					0.76	3.34									<0.01	<0.01	0.02	0.10			0.13	29.23	<0.01	730.82
FUG2	Fugitive Emissions					0.76	3.34									<0.01	<0.01	0.02	0.10			0.13	29.23	<0.01	730.82
HAUL	Haul									0.41	1.51	0.11	0.39	0.01	0.04										1
	MSS Miscellaneous					269.37	4.29																		1
	MSS Blowdowns					29.73	0.59											0.12	<0.01	0.12	<0.01				1
	Totals	2,695.33	130.81	12,194.72	230.14	8.930.09	176.81	5.19	22.72	2.92	12.29	2.61	11.16	2.52	10.81	0.66	2.88	99.60	4.48	0.74	0.87	283,760.90	303.48	0.42	291,473.84

Table 1

Emissions Summary Roadrunner Gas Processing Plant Eddy County Lucid Energy Delware LLC

Uncontro	lled Emissions																								
		N	0 _x	C	:0	VC	00	S	02	T	SP ²	PN	/1 ₁₀ ²	PM ₂	2 2.5	н	I₂S	Total	HAP	Ber	nzene	CO ₂	CH ₄	N ₂ O	CO2e
Unit ID	Equipment 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	lb/hr	ton/yr	lb/hr	ton/yr	ton/yr	ton/yr	ton/yr	ton/yr
EP-2	Trim Reboiler	1.56	6.85	1.31	5.75	0.09	0.38	<0.01	<0.01	0.12	0.52	0.12	0.52	0.12	0.52	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	8,172.07	0.15	0.02	8,180.51
2-EP-2	Trim Reboiler	1.72	7.54	1.45	6.33	0.09	0.41	<0.01	<0.01	0.13	0.57	0.13	0.57	0.13	0.57	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	8,991.83	0.17	0.02	8,180.51
3-EP-2	Trim Reboiler	1.72	7.54	1.45	6.33	0.09	0.41	<0.01	<0.01	0.13	0.57	0.13	0.57	0.13	0.57	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	8,991.83	0.17	0.02	8,180.51
4-EP-2	Trim Reboiler	1.72	7.54	1.45	6.33	0.09	0.41	<0.01	<0.01	0.13	0.57	0.13	0.57	0.13	0.57	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	8,991.83	0.17	0.02	8,180.51
EP-3A	Amine Reboiler	1.74	7.63	3.54	15.48	0.30	1.30	<0.01	<0.01	0.41	1.79	0.41	1.79	0.41	1.79	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	28,179.54	0.53	0.05	28,208.64
EP-3B	Amine Reboiler	1.74	7.63	3.54	15.48	0.30	1.30	<0.01	<0.01	0.41	1.79	0.41	1.79	0.41	1.79	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	28,179.54	0.53	0.05	28,208.64
EP-4	Glycol Reboiler	0.29	1.29	0.25	1.08	0.02	0.07	<0.01	<0.01	0.02	0.10	0.02	0.10	0.02	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,537.07	0.03	<0.01	1,538.65
2-EP-4	Glycol Reboiler	0.29	1.29	0.25	1.08	0.02	0.07	<0.01	<0.01	0.02	0.10	0.02	0.10	0.02	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1,537.07	0.03	<0.01	1,538.65
3-EP-4	Glycol Reboiler	0.29	1.29	0.25	1.08	0.02	0.07	<0.01	<0.01	0.02	0.10	0.02	0.10	0.02	0.10	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	1,537.07	0.03	<0.01	1,538.65
4-EP-4	Glycol Reboiler	0.29	1.29	0.25	1.08	0.02	0.07	<0.01	<0.01	0.02	0.10	0.02	0.10	0.02	0.10	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	1,537.07	0.03	<0.01	1,538.65
EP-5	Regen Reboiler	0.55	2.41	0.46	2.02	0.03	0.13	<0.01	<0.01	0.04	0.18	0.04	0.18	0.04	0.18	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	2,874.31	0.05	<0.01	2,877.28
2-EP-5	Regen Reboiler	0.71	3.13	0.60	2.63	0.04	0.17	<0.01	<0.01	0.04	0.18	0.04	0.18	0.04	0.18	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	3,735.07	0.07	<0.01	3,738.93
3-EP-5	Regen Reboiler	0.71	3.13	0.60	2.63	0.04	0.17	<0.01	<0.01	0.04	0.18	0.04	0.18	0.04	0.18	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	3,735.07	0.07	<0.01	3,738.93
4-EP-5	Regen Reboiler	0.71	3.13	0.60	2.63	0.04	0.17	<0.01	<0.01	0.04	0.18	0.04	0.18	0.04	0.18	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	3,735.07	0.07	<0.01	3,738.93
EP-6	Stabilizer Heater	1.76	7.73	1.48	6.49	0.10	0.43	<0.01	<0.01	0.13	0.59	0.13	0.59	0.13	0.59	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	9,222.39	0.17	0.02	9,231.92
2-EP-6	Stabilizer Heater	1.76	7.73	1.48	6.49	0.10	0.43	<0.01	<0.01	0.13	0.59	0.13	0.59	0.13	0.59	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	9,222.39	0.17	0.02	9,231.92
EP-7	Glycol Dehydrator (99.9% Control)					123.77	542.13											34.27	150.12	23.16	101.43		18.39		459.67
2-EP-7	Glycol Dehydrator (99.9% Control)					123.77	542.13											34.27	150.12	23.16	101.43		18.39		459.67
3-EP-7	Glycol Dehydrator (99.9% Control)					123.77	542.13											34.27	150.12	23.16	101.43		18.39		459.67
4-EP-7	Glycol Dehydrator (99.9% Control)					123.77	542.13											34.27	150.12	23.16	101.43		18.39		459.67
EP-8	Amine Vent (99.9% Control)					380.65	1,667.23	<0.01	<0.01							2.11	9.22	92.21	403.88	16.97	74.34	60,585.82	327.55	<0.01	68,774.47
EP-9	Thermal Oxidizer			•		•	•	-	•	•		No emis	ssions from	this unit in ar	n uncontroll	ed scenario	•	-		-		-	•		
EP-1	Flare (Pilot and Purge)	0.17	0.76	0.79	3.46	1.68	7.37	0.31	1.35							<0.01	0.01								
2/3 EP-1	Flare (Pilot and Purge)	0.35	1.52	1.58	6.92	3.37	14.74	0.61	2.69							<0.01	0.03								
4-EP-1	Flare (Pilot and Purge)	0.17	0.76	0.79	3.46	1.68	7.37	0.31	1.35							<0.01	0.01								
T 4T E	Condensate Storage Tank (95%					24.02	100.10											2.00	17.00						
T-1::T-5	Control)					24.92	109.16											3.88	17.00						
T-6	Waste Water Tank					0.14	0.63									<0.01	<0.01	<0.01	0.02						
COMB-1	Tank Combustor					-	-															271.94	0.33	<0.01	280.24
LOAD	Loading Emissions					8.71	45.97											0.06	0.29	0.06	0.29				
FUG	Fugitive Emissions					2.80	12.25									<0.01	<0.01	0.08	0.36	<0.01	<0.01	0.13	29.23	<0.01	730.82
FUG2	Fugitive Emissions					2.80	12.25																		
HAUL	Haul					-	-			0.41	1.51	0.11	0.39	0.01	0.04										
	MSS Miscellaneous					269.37	4.29																		
MSSB	MSS Blowdowns					594.56	11.89											1.17	0.01	2.34	0.05				
	Totals	18.30	80.17	22.10	96.79	1,787.14	4,067.68	1.23	5.38	2.27	9.64	1.96	8.51	1.87	8.17	2.12	9.29	234.52	1,022.13	112.00	480.41	191,037.09	433.11	0.25	199,476.03

Emissions Summary Roadrunner Gas Processing Plant Eddy County Lucid Energy Delware LLC

Natural Gas Combustion Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delware LLC

Heater/Boiler rating (MMBtu/hr):	15.95			
Rating above is (select from list):	below 100 MMBtu/hr, uncontrolled	(assume unco	ntrolled, unles	ss specifically stated otherwise)
Operating hours/year:	8760			
Fuel Heat Value, LHV (Btu/SCF):	1020.0			
		•		
pollutant	emission factor (lb/MMCF)	lb/hr	tpy	
VOC	5.5	0.086	0.377	
NOx	100	1.564	6.849	
CO	84	1.314	5.753	
PM	7.6	0.119	0.521	
Benzene	2.10E-03	0.000	0.000]
Toluene	3.40E-03	0.000	0.000]
Formaldehyde	7.50E-02	0.001	0.005]
SO ₂	0	0.000	0.000	

 If the heater/boiler is fueled by Sour Gas, cannot use emission factors above to calculate SO2 emissions, must use SO2 mass balance:

 SO2 Mass Balance calculation:

 Fuel H2S content (mol %) =
 0.0000

 SO2 produced (lb/hr) =
 0.0000

 SO2 MW
 64.06 lb/lb-mole

 SO2 produced (lb/hr) =
 0.0000

 SO2 MW
 64.06 lb/lb-mole

 Ideal Gas Law
 378.61 SCF/lb-mole

Heater/Boiler rating (MMBtu/hr):	17.55			
Rating above is (select from list):	below 100 MMBtu/hr, uncontrolled	(assume unco	ontrolled, unles	ss specifically stated otherwise)
Operating hours/year:	8760			
Fuel Heat Value, LHV (Btu/SCF):	1020.0	1		
		-		
pollutant	emission factor (lb/MMCF)	lb/hr	tpy	
VOC	5.5	0.095	0.414	
NOx	100	1.721	7.536	
СО	84	1.445	6.330	
PM	7.6	0.131	0.573	
Benzene	2.10E-03	0.000	0.000	
Toluene	3.40E-03	0.000	0.000	1
Formaldehyde	7.50E-02	0.001	0.005	1
SO ₂	0	0.000	0.000	1

If the heater/boiler is fueled by Sour Gas, <u>cannot</u>	use emission factors	s above to calculate SO ₂	emissions, must use SO ₂ ma	ss balance:
SO ₂ Mass Balance calculation	on:			
Fuel H ₂ S content (mol %) =	0.0000		assumptions:	
SO ₂ produced (lb/hr) =	0.0000		SO2 MW	64.06 lb/lb-mole
SO ₂ produced (tpy) =	0.0000		Ideal Gas Law	378.61 SCF/lb-mole
· · · · · · · · · · · · · · · · · · ·				

Natural Gas Combustion Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delware LLC

Heater/Boiler rating (MMBtu/hr):	55				
Flow Rate (dscfm):					
Rating above is (select from list):	helow 100 MMBtu/hr	(assume unco	ntrolled, unles	s specifically stated	d otherwise)
Operating hours/year:	8760				
Fuel Heat Value, LHV (Btu/SCF):	1020.0				
		•			
pollutant	emission factor (lb/MMCF)	emission factor (ppmv)	lb/hr	tpy	
VOC	5.5		0.297	1.299	
NOx ¹	-	30	1.742	7.631	
CO ¹	-	100	3.535	15.484	
PM	7.6		0.410	1.795	
Benzene	2.10E-03		0.000	0.000	
Toluene	3.40E-03		0.000	0.001	
Formaldehyde	7.50E-02		0.004	0.018	
SO ₂	0		0.000	0.000	

If the heater/boiler is fueled by Sour Gas, cannot use emission factors above to calculate SO₂ emissions, must use SO₂ mass balance:

SO ₂ Mass Balance calc	ulation:
Fuel H ₂ S content (mol %) =	0.0000
SO ₂ produced (lb/hr) =	0.0000
SO ₂ produced (tpy) =	0.0000

calculation factors	
SO2 MW	64.06 lb/lb-mole
NO2 MW	46 lb/lb-mole
CO MW	28 lb/lb-mole
Ideal Gas Law	379.43 SCF/lb-mole
F_d^2	8710 dscf/MMBtu

 1 Manufacturer specific emission factors per Devco corrected for 3% O_2

² Factor per 40 CFR 40 Appx A Method 19 Table 19-2

Heater/Boiler rating (MMBtu/hr):	3.00			
Rating above is (select from list):	below 100 MMBtu/hr, uncontrolled	(assume unco	ntrolled, unles	ss specifically stated otherwise)
Operating hours/year:	8760			
Fuel Heat Value, LHV (Btu/SCF):	1020.0			
				_
pollutant	emission factor (lb/MMCF)	lb/hr	tpy]
VOC	5.5	0.016	0.071	
NOx	100	0.294	1.288	
СО	84	0.247	1.082	
PM	7.6	0.022	0.098	
Benzene	2.10E-03	0.000	0.000	
Toluene	3.40E-03	0.000	0.000	
Formaldehyde	7.50E-02	0.000	0.001	
SO ₂	0	0.000	0.000	

SO ₂ Mass Balance calculatio	n:		
Fuel H ₂ S content (mol %) =	0.0000	assumptions:	
SO ₂ produced (lb/hr) =	0.0000	SO2 MW	64.06 lb/lb-mole
SO ₂ produced (tpy) =	0.0000	Ideal Gas Law	378.61 SCF/lb-mole

Heater/Boiler rating (MMBtu/hr):	3.00			
Rating above is (select from list):	below 100 MMBtu/hr, uncontrolled	(assume unco	ontrolled, unles	s specifically stated otherwise)
Operating hours/year:	8760			
Fuel Heat Value, LHV (Btu/SCF):	1020.0			
pollutant	emission factor (lb/MMCF)	lb/hr	tpy	
VOC	5.5	0.016	0.071	
NOx	100	0.294	1.288	
CO	84	0.247	1.082]
PM	7.6	0.022	0.098	
Benzene	2.10E-03	0.000	0.000]
Toluene	3.40E-03	0.000	0.000]
Formaldehyde	7.50E-02	0.000	0.001]
SO ₂	0	0.000	0.000]

f the heater/boiler is fueled by Sour Gas, <u>cannot</u>	use emission factors abo	ove to calculate SO ₂ emissions, must use SO ₂ m	ass balance:
SO ₂ Mass Balance calculation	n:		
Fuel H ₂ S content (mol %) =	0.0000	assumptions:	
SO ₂ produced (lb/hr) =	0.0000	SO2 MW	64.06 lb/lb-mole
SO ₂ produced (tpy) =	0.0000	Ideal Gas Law	378.61 SCF/lb-mole
	0.0000	Ideal Gas Law	378.61 SCF/lb-mole

Heater/Boiler rating (MMBtu/hr):	5.61			
Rating above is (select from list):	below 100 MMBtu/hr, uncontrolled	(assume unco	ntrolled, unles	ss specifically stated otherwise)
Operating hours/year:	8760			
Fuel Heat Value, LHV (Btu/SCF):	1020.0			
				_
pollutant	emission factor (lb/MMCF)	lb/hr	tpy	
VOC	5.5	0.030	0.132	
NOx	100	0.550	2.409	
CO	84	0.462	2.024	
PM	7.6	0.042	0.183	
Benzene	2.10E-03	0.000	0.000]
Toluene	3.40E-03	0.000	0.000	
Formaldehyde	7.50E-02	0.000	0.002	
SO ₂	0	0.000	0.000]

SO ₂ Mass Balance calculatio	n:		
Fuel H ₂ S content (mol %) =	0.0004	assumptions:	
SO ₂ produced (lb/hr) =	0.0037	SO2 MW	64.06 lb/lb-mole
SO ₂ produced (tpy) =	0.0163	Ideal Gas Law	378.61 SCF/lb-mole

Natural Gas Combustion Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delware LLC

Heater/Boiler rating (MMBtu/hr):	7.29					
Rating above is (select from list):	below 100 MMBtu/hr, uncontrolled	(assume uncontrolled, unless specifically stated otherwise)				
Operating hours/year:	8760					
Fuel Heat Value, LHV (Btu/SCF):	1020.0					
		-				
pollutant	emission factor (lb/MMCF)	lb/hr	tpy			
VOC	5.5	0.039	0.172			
NOx	100	0.715	3.130			
СО	84	0.600	2.630			
PM	7.6	0.042	0.183			
Benzene	2.10E-03	0.000	0.000			
Toluene	3.40E-03	0.000	0.000	1		
Formaldehyde	7.50E-02	0.000	0.002]		
SO ₂	0	0.000	0.000	1		

If the heater/boiler is fueled by Sour Gas, <u>cannot</u> use emission factors above to calculate SO₂ emissions, must use SO₂ mass balance:

SO ₂ Mass Balance calculation:		
Fuel H ₂ S content (mol %) = 0.0004	assumptions:	
SO ₂ produced (lb/hr) = 0.0048	SO2 MW	64.06 lb/lb-mole
SO ₂ produced (tpy) = 0.0212	Ideal Gas Law	378.61 SCF/lb-mole

Heater/Boiler rating (MMBtu/hr):	18				
Rating above is (select from list):	below 100 MMBtu/hr, uncontrolled	(assume uncontrolled, unless specifically stated otherwise)			
Operating hours/year:	8760				
Fuel Heat Value, LHV (Btu/SCF):	1020.0				
				_	
pollutant	emission factor (lb/MMCF)	lb/hr	tpy		
VOC	5.5	0.097	0.425		
NOx	100	1.765	7.729		
CO	84	1.482	6.493		
PM	7.6	0.134	0.587		
Benzene	2.10E-03	0.000	0.000]	
Toluene	3.40E-03	0.000	0.000		
Formaldehyde	7.50E-02	0.001	0.005]	
SO ₂	0	0.000	0.000		

SO ₂ Mass Balance calculatio	n:		
Fuel H ₂ S content (mol %) =	0.0000	assumptions:	
SO ₂ produced (lb/hr) =	0.0000	SO2 MW	64.06 lb/lb-mole
SO ₂ produced (tpy) =	0.0000	Ideal Gas Law	378.61 SCF/lb-mole

Glycol Dehydrator Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delware LLC

Emission Unit:

Source Description:

EP-7, 2-EP-7, 3-EP-7, and 4-EP-7 TEG Dehydrator emissions TEG Dehydrator controlled by thermal oxidizer unit EP-9 TEG Dehydrator controlled emissions exit via stack EP-9 but are listed as EP-7, 2-EP-7, 3-EP-7, and 4-EP-7 emission unit emissions

Thermal Oxidizer Control Efficiency 99.9%

	VC	C	H ₂	2 <mark>S</mark>	Total HAP		Benzene		Toluene		Ethylbenzene		Xylene		Methane	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Uncontrolled Emissions from ProMax	495.10	2168.52	1.81E-04	7.92E-04	137.10	600.48	92.63	405.72	44.47	194.76	0.00	0.00	0.00	0.00	16.79	73.55
TOTAL Controlled Emissions	0.50	2.17	0.00	0.00	0.14	0.60	0.09	0.41	0.04	0.19	0.00	0.00	0.00	0.00	8.40E-05	3.68E-04
Uncontrolled Emissions Per Unit	123.77	542.13	4.52E-05	1.98E-04	34.27	150.12	23.16	101.43	11.12	48.69	0.00	0.00	0.00	0.00	4.20	18.39
Controlled Emissions Per Unit	0.12	0.54	4.52E-08	1.98E-07	0.03	0.15	0.02	0.10	0.01	0.05	0.00	0.00	0.00	0.00	2.10E-05	9.19E-05

Note: Controlled methane based on 99.9995% destruction (based on 0.001 kg/MMBtu emission EF in 40 CFR Part 98). Emissions estimated using ProMax, "Inlet Gas Amine Tre...PStr (1)", column E, starting at row 235 (propane).

Amine Vent Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delware LLC

Emission Unit: Source Description:

Amine vent controlled by thermal oxidizer unit EP-9

Controlled emissions exit via stack EP-9 but are listed as EP-8 emisision unit emissions except for SO2 and H2S

Thermal Oxidizer Control Efficiency 99.9%

	Uncor	trolled	Cont	Controlled			
Components	EP-8 Amine Vent (lb/hr)	EP-8 Amine Vent (ton/yr)	EP-8 Amine Vent (Ib/hr)	EP-8 Amine Vent (ton/yr)			
Carbon Dioxide	13,832	60,586	13,832	60,586			
Hydrogen Sulfide	2.11	9.22	0.002	0.01			
Sulfur Dioxide	-	-	3.96	17.34			
Nitrogen	0.21	0.90	0.21	0.90			
Methane	74.78	327.55	3.74E-04	1.64E-03			
Ethane	96.98	424.76	0.10	0.42			
Propane	104.34	457.03	0.10	0.46			
Isobutane	17.93	78.52	0.02	0.08			
n-Butane	71.44	312.91	0.07	0.31			
Isopentane	25.89	113.42	0.03	0.11			
n-Pentane	33.27	145.73	0.03	0.15			
n-Hexane	60.00	262.79	0.06	0.26			
Heptane	34.89	152.83	0.03	0.15			
Cyclopentane	0.00	0.00	0.00	0.00			
Benzene	16.97	74.34	0.02	0.07			
Cyclohexane	0.54	2.38	<0.01	<0.01			
Methylcyclohexane	0.12	0.52	<0.01	<0.01			
2,2,4-Trimethylpentane	1.01E-03	4.40E-03	<0.01	<0.01			
Toluene	9.43	41.29	0.01	0.04			
Ethylbenzene	2.92	12.80	<0.01	0.01			
Xylenes	2.89	12.65	<0.01	0.01			
Octane	0.0040	0.02	<0.01	<0.01			
MDEA	5.23E-05	2.29E-04	<0.01	<0.01			
Piperazine	4.57E-05	2.00E-04	<0.01	<0.01			
TEG	2.92E-12	1.28E-11	0.00	0.00			
TOTAL	S: 14,387	63,015	13837.02	60606.16			
TOTAL VOC	cs: 380.65	1667.23	0.38	1.67			
TOTAL HAP	s: 92.21	403.88	0.09	0.40			

EP-8

Molecular Weights	lb/lb-mol
Carbon Dioxide	44.01
Hydrogen Sulfide	34.08
Sulfur Dioxide	64.07
Nitrogen	28.01
Methane	16.04
Ethane	30.07
Propane	44.10
Isobutane	58.12
n-Butane	58.12
Isopentane	72.15
n-Pentane	72.15
n-Hexane	86.18
Heptane	100.21
Cyclopentane	70.10
Benzene	78.11
Cyclohexane	84.16
Methylcyclohexane	98.19
2,2,4-Trimethylpentane	114.23
Toluene	92.14
Ethylbenzene	106.17
Xylenes	106.16
Octane	114.23
MDEA	119.16
Piperazine	86.14
TEG	150.17

Notes:

Uncontrolled emissions calculated from Promax output data of molar fraction, total molar flow and MW. Controlled methane based on 99.9995% destruction (based on 0.001kg/MMBtu emission EF in 40 CFR Part 98) Controlled H₂S emissions assume conversion to SO₂ based on control efficiency.

Controlled SO₂ emissions assumed 100% conversion of H_2S to SO₂.

General Information						
Flare functions as emergency cont	rol device. When	n streams are fed to flare it will be treated as an emission event.				
(1) Flare Name:		TO 1				
(2) Flare EPN:		EP-9				
(3) What kind of device is this? Pick from list.		Thermal Oxidizer				
		Emission Factors for Waste Gas Stream(s) (ppmv)NOx50CO40				
(4) Is there one or more pilot streams fired with pipeline quality natural gas or propane? Pick Yes or No. Follow instructions below.	No					
		Please move on to next question below.				
		Emission Factors for Pilot Stream (lb/MMscf)NOx0CO0				
5) Is there one or more pilot treams fired with field gas? Pick Yes or No. Follow nstructions below.	No					
	Please move on to next question below.					
		Emission Factors for Pilot Stream (ppmv)NOx0CO0				
(6) Is there an added fuel stream made up of pipeline quality natural gas or propane? Pick Yes or No. Follow instructions below.	Yes					
	Enter add	ded fuel stream information into the boxes in the column for Steam No. 2 below.				
		Emission Factors for Added Fuel Stream (ppmv) NOx CO				
(7) Is there an added fuel stream						
made up of field gas? Pick Yes or No. Follow instructions below.	No					
	Please move on to next question below.					
		Emission Factors for Added Fuel Stream (Ib/MMBtu) NOx 0 CO 0				
(8) VOC percent destruction efficiency (%)	99.9					
(9) propane percent destruction efficiency (%) *OPTIONAL*						
(10) H ₂ S percent destruction efficiency (%)	99.9					

Thermal Oxidizer Emissions (EP-9) Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

	PM (Total)			008 lb/MMBtu		
Manufacturers Pollutant	Guaranteed	<u>Outlet Conce</u> (ppmv)	entration			
NOx		50				
0		40				
calculation facto NO2 MW	ors:	41.3	lb/lb-mole	2		
CO MW		28	lb/lb-mole	2		
Ideal Gas Law		379.43	SCF/lb-mo	e		
Exhaust Stream Component CO2	per Zeeco Gu lb/hr 33421	iarantee	lb/lbmol 44	lbmol/hr 759.57	L/hr 32,349,756	vol% 32%
H2O	7086.1		18	393.67	16,766,369	17%
12	31261.58		28	1110.93	47,314,154	47%
			<i></i>		40.000	0.01020/
502 02	15.47 3158.75		64 32	0.24 98.7109375	10,283 4,204,066	0.0102% 4.1771% 100%
upplemental Fo Aaximum Heati				30 MMBtu/hr 75 MMBtu/hr		
PV=nRT						
			1600 F	1	,144 K	
T= n=			2,363 lbmol/hr	1,071	,889 gmol/hr	
Γ= 1= 2= 3=			2,363 lbmol/hr 1 atm)82057 atm-L/mol-K	1,071 2	,889 gmol/hr 9.92 in Hg	
T= n= P= R=			2,363 lbmol/hr 1 atm	1,071 2	,889 gmol/hr	
PV=nRT T= n= P= R= V			2,363 lbmol/hr 1 atm)82057 atm-L/mol-K	1,071 2	,889 gmol/hr 9.92 in Hg	
Γ= 			2,363 lbmol/hr 1 atm)82057 atm-L/mol-K	1,071 2 3,554	,889 gmol/hr 9.92 in Hg	
T= n= P= R= V Γ (act) T (std)			2,363 lbmol/hr 1 atm)82057 atm-L/mol-K 44,628 L/hr	1,071 2 3,554 205 32	,889 gmol/hr 9.92 in Hg ,212 ft3/hr 9.67 R 7.67 R	
-= P= R= / (act) (std) / (std) / (std)			2,363 lbmol/hr 1 atm)82057 atm-L/mol-K 44,628 L/hr	1,071 2 3,554 205 32 759 12	,889 gmol/hr 9.92 in Hg ,212 ft3/hr 9.67 R 7.67 R ,040 dscfh ,651 dscfm	
-= -= -= -= -= - (act) - (act) - (std) / (std) - (std) - (std) - (std) - (std) - (std) - (std) - - (std) - - - - - - - - - - - - -	ety factor		2,363 lbmol/hr 1 atm)82057 atm-L/mol-K 44,628 L/hr	1,071 2 3,554 205 32 759 12	,889 gmol/hr 9.92 in Hg ,212 ft3/hr 9.67 R 7.67 R ,040 dscfh	
Γ= >= {= /		100,6	2,363 lbmol/hr 1 atm)82057 atm-L/mol-K 44,628 L/hr 1600 F	1,071 2 3,554 205 32 759 12	,889 gmol/hr 9.92 in Hg ,212 ft3/hr 9.67 R 7.67 R ,040 dscfh ,651 dscfm 1.33	
Γ= P= R= / Γ (act) Γ (std) / (std) / (std) Safety Factor / (std) with safe	s from AP-42 SO ₂	100,6	2,363 lbmol/hr 1 atm)82057 atm-L/mol-K 44,628 L/hr 1600 F	1,071 2 3,554 205 32 759 12 1,009 0.6	,889 gmol/hr 9.92 in Hg ,212 ft3/hr 9.67 R 7.67 R ,040 dscfh ,651 dscfm 1.33	
T= P= R= / (act) (std) (std) (std) Safety Factor / (std) with safe	s from AP-42	100,6	2,363 lbmol/hr 1 atm)82057 atm-L/mol-K 44,628 L/hr 1600 F	1,071 2 3,554 205 32 759 12 1,009	,889 gmol/hr 9.92 in Hg ,212 ft3/hr 9.67 R 7.67 R ,040 dscfh ,651 dscfm 1.33	

1					
(11) Which is utilized for this device?	automatic ignition system				
Stream Sent to Flare/Vapor					
Combustor No.	1	2	3	4	5
Stream Sent to Flare/Vapor					
Combustor Name (Enter Names					
of Each Stream Here)		Waste Gas from Dehy	Waste Gas from Amine	Supplemental Fuel	
Maximum Expected Hourly Volumtric Flow Rate of Stream (scf/hr)		0	137370	29,412	
Amount of Time Stream Fired (hrs/yr)		0	8760	8760	
Maximum Expected Annual Volumtric Flow Rate of Stream (scf/yr)			1,203,361,036	257,647,059	
Heat Value of Stream - from program results or gas analysis (Btu/scf)		0	10.03	1,020	
propane weight percent of total stream (%) *OPTIONAL*					
VOC weight percent of total stream (%) *OPTIONAL*					
Stream Sent to Flare/Vapor Combustor No.	1	2	3	4	5

Thermal Oxidizer Emissions (EP-9) Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

-		-			-		
6	7	8	9	10	11	12	Total
							-
							166781.746
							_
							1,461,008,095
							-
							_

Hourly (lb/h	Hourly (lb/hr)							
6	7	8	9	10	11	12	Total	

Stream Sent to Flare/Vapor													
Combustor Name				Supplemental Fuel									-
H2S Crude or Condensate VOC	-	0.00	2.11										2.11 0.00
Natural Gas VOC Total VOC	-	495.10 495.10											875.74 875.74
benzene	-	92.63											109.60
H2S	-	0	9			<u>Annual (tpy</u>)						9.22
Crude or Condensate VOC	-	0.00											0.00
Natural Gas VOC Total VOC	-	0.00											<u>1667.23</u> 1667.23
benzene	-	0.00	74.34										74.34
Controlled Emissions						Hourly (lb/h	1						
Stream Sent to Flare/Vapor Combustor No.	1	2	3	4	5	6	7	8	9	10	11	12	Total
Stream Sent to Flare/Vapor Combustor Name		Waste Gas from Dehy	Waste Gas from Amine	Supplemental Fuel									
NOx	0.000	1	1	¹	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.49
со	0.000	1	1	1	0.000		0.000	0.000	0.000	0.000		0.000	2.98
PM2.5	0.000	2	2	2	0.000		0.000	0.000	0.000	0.000		0.000	0.60
PM10	0.000	2	2	2	0.000								
н25	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
SO2	0.000	0.000	3.957	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.96
Crude or Condensate VOC			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Natural Gas VOC	0.00	0.50	0.381	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.88
Total VOC	0.00	0.50	0.381	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.88
benzene	0.000	0.09263	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.11
			· · · · · · · · · · · · · · · · · · ·			Annual (tpy							
Stream Sent to Flare/Vapor Combustor No.	1	2	3	4	5	6	7	8	9	10	11	12	Total
Stream Sent to Flare/Vapor Combustor Name		Waste Gas from Dehy	Waste Gas from Amine	Supplemental Fuel									_
NOx	0.000	1	1	¹	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	24.06
со	0.000	¹	¹	¹	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.05
PM2.5	0.000	²	²	²	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.63
PM10	0.000	2	2	²	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.63
H2S	0.000	0.000	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.01
SO2	0.000	0.000	17.334	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.33
Crude or Condensate VOC	-	-	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
Natural Gas VOC	0.000	0.000	1.667	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.67
Total VOC	0.000	0.000	1.667	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.67
benzene ¹ CO and NOx emissions calculated	0.000			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.07

¹ CO and NOx emissions calculated based on the emission gurantees from manufacturer and the exhaust flue from the TO. 2 PM₁₀/PM_{2.5} emissions based on the emission guarantee from the manufacturer and the maximum heating rate of the TO.

Table 5

Thermal Oxidizer Emissions (EP-9) Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

Thermal Oxidizer Emissions (EP-9) Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

Flare/Vapor Combustor Total	Emissions (Each TO)	
	Hourly Emissions (lb/hr)	Annual Emissions (tpy)
Crude or Condensate VOC	0.00	0.00
Natural Gas VOC	0.88	1.67
Total VOC	0.88	1.67
NOx	5.49	24.06
СО	2.98	13.05
PM2.5	0.60	2.63
PM10	0.60	2.63
H2S	0.00	0.01
SO2	3.96	17.34
benzene	0.11	0.07

Table 5

Emergency Flare Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

Emission Unit: EP-1 and 4-EP-1 (2/3-EP1 is double EP-1 or 4-EP-1)

Emission Factors		<u>Constants</u>	
Emission Factors from AP-42 Tables 13.5, 1.4-2, and 1.4-3		Btu/MMBt	1,000,000
NOx	0.068 lb/MMBtu	scf/MMscf	1,000,000
СО	0.310 lb/MMBtu	lb/ton н ₂ 5 molocular	2,000 34.08
VOC	0.6600 lb/MMBtu	SO ₂	64.06
SO2	0.6 lb/MMBtu	seconds/ho	3,600
		inches/ft	12
		DRE	98%

Stream Sent to Flare/Vapor Combustor Name (Enter Names of Each Stream Here)	pilot(s)	Purge	Malfunction Stream	-
Maximum Expected Hourly Volumtric Flow Rate of Stream (scf/hr)	500	2000	9,166,667	9169166.67
Amount of Time Stream Fired (hrs/yr)	8760	8760	24	-
Maximum Expected Annual Volumtric Flow Rate of Stream (scf/yr)	4,380,000.00	17,520,000.00	220,000,000.00	241900000
Heat Value of Stream - from program results or gas analysis (Btu/scf)	1,020.00	1,020.00	1,070.00	-
VOC mol percent of total stream (%) *OPTIONAL*			8.200	-

Emergency Flare Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

Hourly (lb/hr)						
Stream Sent to Flare/Vapor Combustor Name	pilot(s)	Purge	Malfunction Stream			
H2S	-	-	0.00	(
VOC	-	-	106947.88			
Benzene	-	-	57.37			
Toluene	-	-	23.04			
Ethylbenzene	-	-	0.00			
Xylene			0.00			
Hexane			1051.77			
2,2,4-trimethylpentane			0.00			
	<u>Anr</u>	iual (tpy)				
H2S	-	-	0.00	(
VOC	-	-	1283.37			
Benzene	-	-	0.69			
Toluene	-	-	0.28			
Ethylbenzene	-	-	0.00			
Xylene			0.00			
Hexane			12.62			
2,2,4-trimethylpentane			0.00			

	<u>Hourly (lb</u>	<u>/hr)</u>		
Stream Sent to Flare/Vapor Combustor Name	pilot(s)	Purge	Malfunction Stream	-
NOx	0.0347	0.139	666.967	667.14
CO	0.158	0.632	3040.583	3041.37
H2S	0.163	0.001	0.000	0.16
SO2	0.306	0.001	0.000	0.31
Natural Gas VOC	0.337	1.346	2138.958	2140.64
Benzene	-	-	1.147	1.15
Toluene	-	-	0.461	0.46
Ethylbenzene	-	-	0.000	0.00
Xylene	-	-	0.000	0.00
Hexane	-	-	21.035	21.04
2,2,4-trimethylpentane	-	-	0.000	0.00
Total VOC	0.337	1.346	2138.958	2140.64

0.1734

Emergency Flare Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

	Annual (tpy)						
Stream Sent to Flare/Vapor Combustor Name	pilot(s)	Purge	Malfunction Stream	-			
NOx	0.152	0.608	6.563	7.32			
со	0.692	2.770	29.913	33.37			
H2S	0.713	0.003	0.000	0.72			
SO2	1.340	0.005	0.000	1.35			
Natural Gas VOC	1.474	5.897	16.538	23.91			
Benzene	-	-	0.014	0.01			
Toluene	-	-	0.006	0.01			
Ethylbenzene	-	-	0.000	0.00			
Xylene	-	-	0.000	0.00			
Hexane	-	-	0.252	0.25			
2,2,4-trimethylpentane	-	-	0.000	0.00			
Total VOC	1.474	5.897	16.538	23.91			

Emergency Flare Total Emissions					
	Hourly Emissions	Annual Emissions			
	(lb/hr)	(tpy)			
Natural Gas VOC	2140.64	23.91			
Total VOC	2140.64	23.91			
NOx	667.14	7.32			
СО	3041.37	33.37			
H2S	0.16	0.72			
SO2	0.31	1.35			

Working/Breathing Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

Promax Tank Loss Stencil Input				
Emission Unit		T1-5		
Number of Tanks		5		
Tank Contents		Condensate		
Tank Color		White		
Location		Eddy-Loving, NM		
Tank Size	bbl	1000		
Shell Length	ft	16		
Shell Diameter	ft	21.5		
Breather Vent Pressure	psig	0.03		
Breather Vac Pressure	psig	-0.03		
Operating Pressure	psig	0		
Avg. Percent Liquid	%	50		
Max Percent Liquid	%	90		
Net Throughput	bbl/day	8000		
Atmospheric Pressure	psia	14.70		
Max Liq Surface Temperature	°F	70.00		
Combustor Control Efficiency	%	95%		

Components	T1-5 Working/Breathing ¹ Losses (Ib/hr)	T1-5 Working/Breathing ¹ Losses (ton/yr)
Carbon Dioxide	0.00	0.00
Hydrogen Sulfide	0.00	0.00
Nitrogen	0.00	0.00
Methane	0.00	0.00
Ethane	0.00	<0.01
Propane	<0.01	<0.01
Isobutane	0.09	0.38
n-Butane	4.54	19.89
Isopentane	6.95	30.42
n-Pentane	7.35	32.20
n-Hexane	3.58	15.66
Heptane	0.96	4.22
Cyclopentane	0.38	1.68
Benzene	0.17	0.76
Cyclohexane	0.43	1.87
Methylcyclohexane	0.28	1.23
2,2,4-Trimethylpentane	0.07	0.30
Toluene	0.05	0.21
Ethylbenzene	0.01	0.04
Xylenes	<0.01	0.02
Octane	0.06	0.27
TOTAL UNCONTROLLED LOSSES:	24.92	109.16
TOTAL UNCONTROLLED VOC LOSSES:	24.92	109.16
TOTAL UNCONTROLLED HAP LOSSES:	3.88	17.00
TOTAL CONTROLLED VOC LOSSES:	1.25	5.46
TOTAL CONTROLLED HAP LOSSES:	0.19	0.85

¹ Flashing losses were not considered as the condensate is stable prior to storage in the tanks.

² Produced water emissions were calculated assuming a 99% reduction of condensate emissions

Working/Breathing Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

Promax Tank Loss Stencil Input					
Emission Unit		Т6			
Number of Tanks		1			
Tank Contents		Waste Water			
Tank Color		White			
Location		Eddy-Loving, NM			
Tank Size	bbl	500			
Shell Length	ft	16			
Shell Diameter	ft	15.5			
Breather Vent Pressure	psig	0.03			
Breather Vac Pressure	psig	-0.03			
Operating Pressure	psig	0			
Avg. Percent Liquid	%	50			
Max Percent Liquid	%	90			
Net Throughput	bbl/day	70.19			
Atmospheric Pressure	psia	14.70			
Max Liq Surface Temperature	°F	63.40			
Combustor Control Efficiency	%	0%			

	T6 Working/Breathing ¹	T6 Working/Breathing ¹
Components	Losses	Losses
	(lb/hr)	(ton/yr)
Carbon Dioxide	0.23	1.00
Hydrogen Sulfide	<0.01	0.01
Nitrogen	<0.01	<0.01
Methane	0.23	1.01
Ethane	0.19	0.84
Propane	0.10	0.42
Isobutane	0.01	0.05
n-Butane	0.02	0.11
Isopentane	<0.01	0.02
n-Pentane	<0.01	<0.01
n-Hexane	<0.01	<0.01
Heptane	<0.01	<0.01
Cyclopentane	<0.01	<0.01
Benzene	<0.01	0.02
Cyclohexane	<0.01	<0.01
Methylcyclohexane	<0.01	<0.01
2,2,4-Trimethylpentane	<0.01	<0.01
Toluene	<0.01	<0.01
Ethylbenzene	<0.01	<0.01
Xylenes	<0.01	<0.01
Octane	<0.01	<0.01
TOTAL UNCONTROLLED LOSSES:	0.80	3.50
TOTAL UNCONTROLLED VOC LOSSES:	0.14	0.63
TOTAL UNCONTROLLED HAP LOSSES:	<0.01	0.02
TOTAL CONTROLLED VOC LOSSES:	0.14	0.63
TOTAL CONTROLLED HAP LOSSES:	<0.01	0.02

 $^{1}\,\ensuremath{\mathsf{Flashing}}$ losses were not considered as the waste water is stable prior to storage in the tank.

MSS - Tank Cleaning Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware

Emission Unit	MSSM
Name	Condensate Tanks
Tank No.:	5
Product stored:	Condensate
Type of tank roof	Fixed Roof
Tank Capacity (bbl)	1,000
Tank Diameter (ft) (D)	21.50
Vapor Molecular Wt. (lb/lb mol) (M _v)	71.96
Number of events/yr	5
Height of the roof (ft)	16.00
Saturation factor (S)	1.0

Vapor Space Volume (ft^3) (V _v)	5808.80
Height of Vapor Space under roof (ft)* (h _v)	16.00

	Max. hourly emissions lb/hr	Avg.Annual emissions tpy	
Duration of activity (hrs/event)	1	1	
True Vapor Pressure (psia) (P)	11.23	6.79	Max > Avg
Day time temperature (°F)	95.00	63.20	Max > Avg
Night time temperature (°F)	68.00	49.10	
Temperature Expansion %	4.86	2.69	
Emissions (lb/event)	788.18	505.38	
Max. Hourly Emissions (lb/hr)	38.34		
Avg. Hourly Emissions (lb/hr)		13.62	
Avg. Annual emissions (tpy)		0.03	

VOC Wt%	100.00
H ₂ S Wt%	-
Benzene Wt%	0.69

Type of Control Device			
Are tank vapors (A) uncontrolled; (B) controlled by a			
flare, vapor combustor, thermal oxidizer, or vapor			
recovery unit (VRU); or (C) controlled by another type	(B) cont. by flare/ VC/TO/VRU		
of control device?			
VOC Control Efficiency	95		
H ₂ S Control Efficiency	95		

<u>VOC Type:</u> (pick from list) Natural Gas VOC

<u>Emission Type:</u> (pick from list) Low Pressure Periodic

MSS - Tank Cleaning Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware

Emissions before control and before wt% reduction				
Type of Losses	Max. hourly emissions lb/hr	Avg.Annual emissions tpy		
Thermal / Passive Expansion	38.34	0.03		
Vapo	ors Captured by Control Device			
Air Contaminant	Max. hourly emissions lb/hr	Avg.Annual emissions tpy		
Total VOC	36.43	0.03		
Total H ₂ S	0.00	0.00		
Total Benzene	0.25	0.00		
	Planned MSS Emissions			
Air Contaminant Max. hourly emissions lb/hr Avg.Annual emissions tpy				
Total VOC	1.92	<0.01		
Benzene	0.01	<0.01		
Toluene	<0.01	<0.01		
Ethylbenzene	<0.01	<0.01		
Xylene	<0.01	<0.01		
Hexane	0.28	<0.01		
2,2,4-Trimethylpentane	<0.01	<0.01		
Total H₂S	-	-		
Total Benzene	0.01	<0.01		

Notes: Calculations based on four tanks being cleaned once a year for the duration of one hour. True vapor pressure calculated from Reid vapor pressur using AP-42 Figure 7.1-14a. Reid vapor pressure collected from Promax simulation.

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Table 8

MSS - Tank Refilling Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware

Emission Unit	MSSM
Tank#	5
How many events in a year per tank	1
What is the net throughput through each tank (bbl/cleaning)	1000
What is the RVP of the mixture	9.00
What is the average surface liquid temperature (F)	70.70
Vapour pressure at average surface temperature (psia)	7.69
Tank height (ft)	16
Tank Diameter (ft)	21.5
Tank Roof Height (ft)	16.0
Tank Average Liquid Height (ft)	8.0
Tank maximum volume (ft3)	5808.80
Turnovers	1.00
Working loss saturation factor	1.00
Working loss product factor	0.75
Vapor space outage (ft)	13.33
Vented Space Saturation Factor	0.16
Stock Vapor Density (lb/ft3)	0.10

Venting Gas Molecular Weight (lb/lb-mol)	71.96
VOC Wt%	100.00
H ₂ S Wt%	0.00
Benzene Wt%	0.69
Are tank vapors (A) uncontrolled; (B) controlled by a flare, vapor combustor, thermal oxidizer, or vapor recovery unit (VRU); or (C) controlled by another type of control device?	(B) cont. by flare/ VC/TO/VRU
VOC Control Efficiency	95.00
H ₂ S Control Efficiency	95.00

Breathing Losses (Ibs/event)	2.92
Working Losses (Ibs/event)	414.79

TVP Calculation at Avg. Annual Temp.

Annou remp.
9.75
63.20
7.57

MSS - Tank Refilling Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware

Emissions Before Control		
	Hourly Emissions (Ib/event)	Annual Emissions (tons/event)
Total VOC	417.71	0.21
Benzene	2.90	0.00
Toluene	0.00	0.00
Ethylbenzene	0.00	0.00
Xylene	0.00	0.00
Hexane	0.14	0.03
2,2,4-Trimethylpentane	0.00	0.00
Total H₂S	0.00	0.00

Planned MSS Emissions							
	Hourly Emissions (lb/hr)	Annual Emissions (tpy)					
Total VOC	20.89	0.01					
Benzene	0.14	0.07					
Toluene	<0.01	<0.01					
Ethylbenzene	<0.01	<0.01					
Xylene	<0.01	<0.01					
Hexane	<0.01	<0.01					
2,2,4-Trimethylpentane	-	-					
Total H₂S	-	-					

Enter any notes here:	

Condensate Loading Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware, LLC

Fruck Hourly Loading Emission Calculations							
Ising equation $L_L = 12.46*$ S	PM/T from AP-42,	, Chapter 5, Section 5.2-4					
S =	1.00	Saturation Factor					
P =	11.23	True vapor pressure of liquid loaded (psia)					
M =	71.96	Molecular Weight of Vapors (Ib/Ib-mole)					
_							
T =	554.67	Temperature of bulk liquid loaded (in degrees Rankine)					
Hourly Loading Rate	8,000	Gallons Loaded per Hour					
L _L =	1.09	Loading Loss (lb VOC released/1000 gal liquid loaded)					
	8.71	VOC Uncontrolled Emissions (lb/hr)					
	Ta	ank Vapor Weight Percents					
voc	100.00	Tank Vapor VOC wt%					
benzene	0.64	Tank Vapor Benzene wt%					
H₂S	0.00	Tank Vapor H2S wt%					
	Ρ	roduced Water Reduction					
Percent Reduction for Produced Water Tank Calc. as Oil/Cond. (%)							
		Uncontrolled Emissions					
voc	8.71	Emissions Uncontrolled VOC (lb/hr)					
benzene	0.06	Emissions Uncontrolled Benzene (lb/hr)					
H₂S	0.00	Emissions Uncontrolled H ₂ S (lb/hr)					
Collection E	fficiency (only fil	l out if loading vapors are routed to a control device)					
voc		VOC Collection Efficiency (%)					
H₂S		H ₂ S Collection Efficiency (%)					
Vapors Uncaptured b	oy Control Device	e (only fill out if loading vapors are routed to a control device)					
voc	8.71	VOC Uncaptured Vapors (Ib/hr)					
benzene	0.06	benzene Uncaptured Vapors (lb/hr)					
H₂S	0.00	H ₂ S Uncaptured Vapors (lb/hr)					
Control Efficiency (only fill out if loading vapors are routed to a control device)							
voc	0.00	VOC Control Efficiency (%)					
H₂S	0.00	H ₂ S Control Efficiency (%)					
Vapors Uncaptured b	oy Control Device	e (only fill out if loading vapors are routed to a control device)					
voc	0.00	VOC Results (lb/hr)					
benzene	0.00	Benzene Results (lb/hr)					
H₂S	0.00	H ₂ S Results (lb/hr)					

Reduction Efficiency

94

Enter temperature in Fahrenheit °F):	Temperature in Rankine (°R):					
95	554.67					
Enter Barrels of Liquid	Gallons of liquid:					
8000	336000					
Gallons per Year	Barrels per day:					
122,640,000	8000					
Enter any notes here:						

- Uncaptured emissions presented in summary Table 3.

- Molecular weight and vapor pressure referenced from EPA TANKS 4.0.9D

Condensate Loading Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware, LLC

Truck Annual Loadi	ng Emission C	alculations					
Using equation $L_1 = 12.46^*$ SPM/T from AP-42, Chapter 5, Section 5.2-4							
Using equation $L_{L} = 12.40^{\circ}$	5F1VI7 1 110111 AF-42,						
S =	1.00	= Saturation Factor					
P =	7.35	= True vapor pressure of liquid loaded (psia)					
M =	71.96	= Molecular Weight of Vapors (lb/lb-mole)					
T =	527.67	= Temperature of bulk liquid loaded (in degrees Rankine)					
Annual Loading Rate	122,640,000	= Gallons Loaded per Year					
L _L =	0.75	Loading Loss (lb VOC released/1000 gal liquid loaded)					
	45.97	VOC Uncontrolled Emissions (ton/yr)					
	Та	nk Vapor Weight Percents					
VOC 100.00 Tank Vapor VOC wt%							
benzene	0.64	Tank Vapor Benzene wt%					
H ₂ S 0.00 Tank Vapor H2S wt%							
	Ρ	roduced Water Reduction					
0.00 Percent Reduction for Produced Water Tank Calc. as Oil/Cond. (%)							
		Uncontrolled Emissions					
voc	45.97	Emissions Uncontrolled VOC (ton/yr)					
benzene	0.29	Emissions Uncontrolled Benzene (ton/yr)					
H₂S	0.00	Emissions Uncontrolled H ₂ S (ton/yr)					
Collection E	fficiency (only fil	l out if loading vapors are routed to a control device)					
voc	0.00	VOC Collection Efficiency (%)					
H₂S	0.00	H ₂ S Collection Efficiency (%)					
Vapors Uncaptured	by Control Device	e (only fill out if loading vapors are routed to a control device)					
voc	45.97	VOC Uncaptured Vapors (ton/yr)					
benzene	0.29	benzene Uncaptured Vapors (ton/yr)					
H₂S	0.00	H ₂ S Uncaptured Vapors (ton/yr)					
Control Efficiency (only fill out if loading vapors are routed to a control device)							
voc	0.00	VOC Control Efficiency (%)					
H ₂ S	0.00	H ₂ S Control Efficiency (%)					
Vapors Uncaptured	Vapors Uncaptured by Control Device (only fill out if loading vapors are routed to a control device)						
voc	0.00	VOC Results (ton/yr)					
benzene	0.00	Benzene Results (ton/yr)					
H₂S	0.00	H ₂ S Results (ton/yr)					

Reduction Efficiency 94 Enter temperature in Temperature in Fahrenheit °F): Rankine (°R): 527.67 68 **Enter Barrels of Liquid** Gallons of liquid: 8000 336000 Enter gallons per year Barrels per day: 122640000 8000 Enter any notes here: - Uncaptured emissions presented in summary Table 3. - Molecular weight and vapor pressure referenced from TANKS 4.0.9D

Enclosed Combuster Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

Emission Unit: COMB-1

Emission Factors				<u>Constants</u>	
Emission Factors from AP-42	Table 1.4-1 and 1.4-2 (lb/MMsc	<u>f)</u>		Btu/MMBt	1,000,000
	NOx	100	0.138 lb/MMBtu	scf/MMscf	1,000,000
	СО	84	0.276 lb/MMBtu	lb/ton	2,000
Emission Factors from AP-42	PM (Total) Table 1.4-3 (lb/MMscf)	7.6	0.0075 lb/MMBtu	molecular SO ₂ seconds/ho inches/ft	34.08 64.06 3,600 12
	SO ₂ VOC benzene propane	0.6 5.5 2.10E-03 1.60	0.0054 lb/MMBtu	DRE	95%

Stream Sent to Flare/Vapor Combustor Name (Enter Names of Each Stream Here)	MSS	Tank Working/Breathing	
Maximum Expected Hourly Volumtric Flow Rate of Stream (scf/hr)	6526.309534	131.43	6657.73576
Amount of Time Stream Fired (hrs/yr)	5	8760	
Maximum Expected Annual Volumtric Flow Rate of Stream (scf/yr)	32,631.55	1,151,293.80	1183925.343
Heat Value of Stream - from program results or gas analysis (Btu/scf)	3985.80	3,985.80	
propane weight percent of total stream (%) *OPTIONAL*			
VOC weight percent of total stream (%) *OPTIONAL*			

Hourly (lb/hr)									
Stream Sent to Flare/Vapor Combustor Name MSS Tank Working/Breathing									
VOC	-	1048.70			1073.62				
Annual (tpy)									
VOC	-	12.13	109.16		121.30				

Enclosed Combuster Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

Hourly (lb/hr)									
Stream Sent to Flare/Vapor Combustor Name		MSS	Tank Working/Breathing						
NOx	0.000	3.590	0.072	0.000	3.66				
со	0.000	7.166	0.144	0.000	7.31				
PM2.5	0.000	0.050	0.004	0.000	0.05				
PM10	0.000	0.050	0.004	0.000	0.05				
H2S	0.000	0.002	0.000	0.000	0.00				
SO2	0.000	0.004	0.000	0.000	0.00				
Natural Gas VOC	0.000	52.435	1.246	0.000	53.68				
Total VOC	0.000	52.435	1.246	0.000	53.68				

Annual (tpy)									
Stream Sent to Flare/Vapor Combustor Name		MSS	Tank Working/Breathing						
NOx	0.000	0.009	0.317	0.000	0.33				
со	0.000	0.018	0.632	0.000	0.65				
PM2.5	0.000	0.000	0.017	0.000	0.02				
PM10	0.000	0.000	0.017	0.000	0.02				
H2S	0.000	0.000	0.000	0.000	0.00				
SO2	0.000	0.000	0.000	0.000	0.00				
Natural Gas VOC	0.000	0.607	5.458	0.000	6.06				
Total VOC	0.000	0.607	5.458	0.000	6.06				

Enclosed Combuster Emissions Roadrunner Gas Processing Plant Eddy County Lucid Energy Delaware LLC

Flare/Vapor Combustor Total Emissions								
	Hourly	Annual Emissions						
	Emissions	(tpy)						
Natural Gas VOC	53.68	6.06						
Benzene	0.37	0.04						
Toluene	0.10	0.01						
Ethylbenzene	0.02	0.00						
Xylene	0.01	0.00						
Hexane	7.70	0.87						
2,2,4-Trimethylpentane	0.15	0.02						
NOx	3.66	0.33						
со	7.31	0.65						
PM2.5	0.05	0.02						
PM10	0.05	0.02						
H2S	0.00	0.00						
SO2	0.00	0.00						

Fugitive Emissions Roadrunner Gas Processing Plant Lucid Energy Delaware, LLC

Emission Unit:Fug and FUG2Source Description:Fugitive Emissions

Emission Calculation

											Total Organic (Compounds
		Monitor	Component								Uncontrolled	Controlled
Equip Cat	Туре	Frequency	Count	Emission Factor ¹	Control	Inlet Gas	Inlet Gas	Inlet Gas	Inlet Gas	Inlet Gas	Rate	Rate
				(kg/hr/source)	(%)	% VOC	% HAP	% H ₂ S	% CH4	% CO2	(lb/hr)	(lb/hr)
Connector	Vapor	Yearly (SS)	10892	2.00E-04	0%						4.8025	4.8025
Press Relief Device	Vapor	Yearly (SS)	20	8.80E-03	0%	8.8%	0.26%	0.000%	77.219%	0.331%	0.3880	0.3880
Valve	Vapor	Monthly (SS)	2676	4.50E-03	87%						26.5478	3.4512
		-								Hourly Total	31.74	8.64
										Annual Total	139.0	37.9

		VOC		Total HAP		H ₂ S		CH ₄		CO ₂	
		Uncontrolled	Controlled		Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
Equip Cat	Туре	Rate	Rate	Uncontrolled Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate
		(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Connector	Vapor	0.42	0.42	1.25E-02	1.25E-02	0.00E+00	0.00E+00	3.71E+00	3.71E+00	1.59E-02	1.59E-02
Press Relief Device	Vapor	0.034	0.034	1.01E-03	1.01E-03	0.00E+00	0.00E+00	3.00E-01	3.00E-01	1.28E-03	1.28E-03
Valve	Vapor	2.34	0.30	6.92E-02	8.99E-03	0.00E+00	0.00E+00	2.05E+01	2.66E+00	8.77E-02	1.14E-02
Ho	ourly Total	2.80	0.76	0.083	0.0225	0.00E+00	0.00E+00	24.51	6.67	0.10	0.029
Annual Total (tpy)		12.3	3.3	0.36	0.099	0.00E+00	0.00E+00	107.34	29.23	0.46	0.13

Notes

¹ Emission factors from Table 2-4 of the EPA Protocol for Equipment Leak Emission Estimates, November 1995

² An hourly emission limit is not appropriate for this source type.

Haul Road Emissions Roadrunner Gas Processing Plant Lucid Energy Delaware, LLC

Haul Road Inputs

Site-Wide

Description	Value	Unit
Crude Throughput	5,490	bbl/day
Annual Operating Hours:	8,760	hr
Daily Operating Hours:	24	hr

Unpaved Haul Road

Parameter	Value	Unit
Empty Vehicle Weight ¹	16	ton
Load Size ²	21.2	ton
Loaded Vehicle Weight ³	37.2	ton
Mean Vehicle Weight ⁴	26.6	ton
Vehicles Per Day ⁵	12	VPD
Vehicles Per Year	4380	VPY
Segment Length	0.06	mile
Trips per Segment	2	-
Effective Segment Length ⁶	0.12	mile
Trips per Hour ⁷	1.00	-
Wet Days ⁸	60	day
Surface Silt Content ⁹	4.8	%
Control Efficiency	0	%

¹ Empty vehicle weight includes driver and occupants and full fuel load.

² Include cargo, transported materials, etc. (5.6 lb/gal RVP10 *7560 gal truck/ 2000lb/ton)

³ Loaded vehicle weight = Empty + Load Size

⁴ Mean Vehicle weight = (Loaded Weight + Empty Weight) / 2

⁵ Vehicles per day = (Turnovers/year) / (365 days/year)

⁶ Effective segment length = trips per segment * segment length

⁷ Trips per hour = Vehicles per day * Segments per trip ÷ Hours of Operation per Day

⁸ Wet days is the NM default allowed by NMED without additional justification

⁹ Surface silt content based on AP-42 Section 13.2.2.3

Haul Road Emissions **Roadrunner Gas Processing Plant** Lucid Energy Delaware, LLC

Unpaved Road Emission Factors

												Hourly I	Emission	Factors	Annual Emission Factors			
	s W P			k		а		b		E ²		E _{ext} ⁵						
Route	Silt Content ¹ %	Mean Vehicle Weight tons	Wet Days day	PM ₃₀ Ib/VMT	PM₁₀ Ib/VMT	PM _{2.5} Ib/VMT	PM ₃₀	PM ₁₀	PM _{2.5}	PM ₃₀	PM ₁₀	PM _{2.5}	PM ₃₀ ³ lb/VMT	PM ₁₀ Ib/VMT	PM _{2.5} Ib/VMT	PM ₃₀ Ib/VMT	PM ₁₀ Ib/VMT	PM _{2.5} Ib/VMT
	70	lons	uay															
Crude Oil Trucks	4.8	26.6	60	4.9	1.5	0.15	0.70	0.90	0.90	0.45	0.45	0.45	6.9	1.8	0.18	5.8	1.5	0.15

¹ Emission factors calculated per AP-42 Sec. 13.2.2.3 November, 2006, Equation 2.

Unpaved Road Emissions

	Calculation Inputs							Uncontrolled Emissions						Controlled Emissions ⁶				
Route	Annual Operation	Segment Length	Trips per Segment	Trucks per	Effective Segment Length	Average VMT/yr ⁴	PM ₃₀		PM ₁₀		PM _{2.5}		PM ₃₀		PM ₁₀		PM _{2.5}	
	hr	mi		trucks/yr	mi	mi/yr	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Crude Oil Trucks	8,760	0.06	2	4380	0.12	526	0.41	1.5	0.11	0.39	0.011	0.039	0.41	1.5	0.11	0.39	0.011	0.039
						Totals	0.41	1.5	0.11	0.39	0.011	0.039	0.41	1.5	0.11	0.39	0.011	0.039

¹ Surface silt = % of 75 micron diameter and smaller particles

 2 E = k x (s/12)^A x (W/3)^A (AP-42 page 13.2.2-4 Equation 1a, November 2006)

E= Size Specific Emission Factor (lb/VMT)

s = surface material silt content (%)

k, a, b = constants from AP-42 Table 13.2.2-2

W = Weighted Mean Vehicle Weight from Haul Road Inputs (tons)

 $^3\,$ $\rm PM_{30}\,emission$ factor in equation is assumed as a surrogate for TSP emissions

⁴ VMT/yr = Vehicle Miles Travelled per year= Trips per year * Segment Length

⁵ Wet Day Emission Factor = E * (365 - Wet Days)/365. Wet days value is the NM default allowed by NMED without additional justification.

⁶ Controlled Emissions = Uncontrolled Emissions * (1 - Control Factor/100%) 0%

Control Efficiency =

		Table	15		Page 3
Emission Unit	MSSM	MOO Dimaina	- Fuela el en e		
dentifier	MSS Pigging	MSS - Pigging			
		Roadrunner Gas P	-		
		Lucid Energy D	elaware, LLC		
Describe this MSS event in detail,	F				
include specifically what is being done and how it is being done.	Emissions from rou	tine pigging activities.			
done and now it is being done.					
Actual Volume of the Vented Unit (s		3,850.00		Ideal Gas Constant, [(ft3*psia)/(R*lb-mo
	feet)	-,		, , , , , , , , , , , , , , , , , , ,	(
Actual Volume of the Vented Unit	-	62.43		10.7315	59
	feet)				
Pressure of Gas Inside the Unit Be	fore Venting (psig)	900			
Atmosphe	eric Pressure (psia)	14.7			
Pressure of Gas Inside the Unit Be	fore Venting (psia)	914.7			
		c5 00			
Temperature of Gas Inside the Unit E	Sefore Venting (F)	65.00			
Temperature of Gas Inside the Unit B	Sefore Venting (°R)	524.67			
Duration of Each Ev	- · ·	0.17		Gas Molecular Weigh	at and Weight Perce
	ents (events/year)	156		From Analyses Tab:	it and weight reice
Venting Gas Molecular		20.94		Molecular Weight	20.94
	VOC wt %	21.55		VOC wt %	21.55
	benzene wt%	0.085		Benzene wt %	0.085
	H ₂ S wt%	0.000		H2S wt %	0.000
Are planned MSS vapors (A) uncontrolled: (B)				
controlled by a flare, vapor co	ombustor, thermal				
oxidizer, or vapor recovery unit (VRU		(A) uncontrolled			
	of control device?				
	ntrol Efficiency (%)	0			
H ₂ S Col	ntrol Efficiency (%)	0			
Vapors	Captured by Contro	<u>ol Device</u>			

	Hourly Emissions (lb/hr)	Annual Emissions (tpy)
VOC Results:	0.00	0.0000
Benzene Results:	0.00	0.0000
H ₂ S Results:	0.00	0.0000

Planned MSS Emissions									
	Hourly Emissions	Annual							
	(lb/hr)	Emissions (tpy)							
VOC Results:	269.20	3.57							
Benzene Results:	1.06	0.01							
H ₂ S Results:	<0.01	<0.01							

VOC Type: (pick from list)						
Natural Gas VOC						
Emission Type: (pick from list)						
High Pressure Periodic						

MSS - Blowdown Emissions Roadrunner Gas Processing Plant Lucid Energy Delaware, LLC

	-		Constant:	•
Emission Unit	VISSB			
Venting Volume per Event (SCF/event):	50000	(standard cubic feet)	379.4	8 scf/lb-mol
Number of events per hour:	1			
Number of events per year:	40			
Venting Gas Molecular Weight	20.94		Gas Wt % From Ar	alyses Tab:
VOC wt %	21.55		VOC wt %	21.55
benzene wt%	0.08		Benzene wt %	0.08
H₂S wt%	0.00		H2S wt %	0.00
VOC Control Efficiency (%)	95.00			
H ₂ S Control Efficiency (%)	98.00			
	lb/hr	tpy		
Uncontrolled VOC Emissions:	594.6	11.8911		
Uncontrolled benzene Emissions:	2.3362	0.0467		
Uncontrolled H ₂ S Emissions:	0.0000	0.0000		
VOC Results:	29.7	0.5946		
Benzene Results:	0.1168	0.0023		
H ₂ S Results:	0.0000	0.0000		

MSS - Miscellaneous Emissions Roadrunner Gas Processing Plant Lucid Energy Delaware, LLC

Default VOC emissions for Miscellaneous MSS activities

	npany Name		Lucid Energy Delaware						
Site	Name		Roadrunner Gas Processing Plant	_					
		ated with miscellaneous MSS activities	0.250						
Add	I default VOC emissions from m	niscellaneous MSS activities to the emissions summary	Yes						
#	Activity	Description / comments	Default parameters		Equation used		Input parameters		Annual emissions (tpy)
	(b)(1) Engine Oil changes / <i>Filter changes</i> The emissions associated with	-Engine has been isolated and blow down occurs prior to oil change. The emissions associated with the blow down [106.359 (b) (8)] need to be accounted for in the oil and gas emission calculation spreadsheet.	Vapor pressure (psia)	212 0.001	Loading loss L _L (lb/1000 gal)	0.009	Number of engines 0	C	0.000
	n engine oil/filter change occur uring the draining of the used	cur -Oil is drained into a 4 ft x 4 ft open pan and transferred to a closed container per ed Best Management Practice (BMP).	Motor oil (gal/activity)	1 500 112	Loading loss per activity (lb/activity)	0.001			
	engine oil into oil pan or container.	 -Input parameters based on manufacturer specifications of engine oil SAE 10W (a). -Used a 1380 hp Caterpillar G3516B LE engine (b) as basis for calculation. In order to account for emissions from larger horse power engines, the emissions are 	U wind speed (m/s) Vapor pressure P _v (Pa)	10	Evaporation Loss (lb/activity)	1.027			
		doubled. An average engine uses 112 gallons of motor oil and manufacturer recommends changing oil every 1000 hrs. We used 10 changes of oil per year as a conservative estimate.	Molecular weight (lb/lbmol) Surface Area A _p (m ²) (4ft * 4ft) Evaporation time t (hrs)	500 1.48 10	-				
		-Emission estimates for 1380 hp engine are being doubled to be conservative and to accommodate engines with higher hp.	Number of activities per year (Number of oil changes per engine per year) Factor used to account for larger horsepower engines	10 2	Total (lbs/yr/engine)	20.565			
	Rod Packings	 ine -Engine has been isolated and blow down occurs prior to changing rod packing. The emissions associated with the blow down [106.359 (b) (8)] need to be accounted for in the oil and gas emission calculation spreadsheet. -Emissions from clingage are the evaporation of the lubricant adhered to the rod packing casing. 	Temperature (°F) Vapor pressure (psia)	104 0.001		0.0001	Number of engines	0	0
	Emissions from changing of the rod would be from clingage of lubricant in the casing.		Molecular weight (lb/lb-mole) V _v Casing volume (ft ³) (1ft * 3ft) Ideal gas constant (psia-ft3/lb-mol-°R)	500 2.355 10.73	-				
		-Casing volume for calculations is based on field observation of casing for a 1380hp G3516B LE engine(b). -Input parameters based on material specifications for AP 101(c) grease.		10	Total (lbs/yr/engine)	0.0012			
3	(b)(3) Changing wet and dry seals Emissions from	-Engine has been isolated and blow down occurs prior to changing seals. The	Temperature (°F) Vapor pressure of material stored (psia)	104 0.001	Clingage loss (lb/activity)	0.0001	Number of engines	0	0.000000
		for in the oil and gas emission calculation spreadsheet. -Emissions from clingage are the evaporation of the lubricant adhered to the rod	Molecular weight (lb/lb-mole) V _v Casing volume (ft ³) (1ft * 3ft)	500 2.355 10.73	-				
		-Casing volume for calculations is based on field observation of casing for a 1380 hp Caterpillar G3516B LE engine (b). -Input parameters based on material specifications for AP 101(c) grease.			Total (lbs/yr/engine)	0.0002			
	(b)(2) Glycol dehydration unit	-Calculations based on physical properties of mono ethylene glycol (MEG)(d) because of its low molecular weight and high vapor pressure which gives the most	Temperature (°F) Vapor pressure (psia)	68 0.001	Loading loss L _L (lb/1000 gal)	0.0015	Number of Dehy units	4	0.000043
	Emissions associated with replacement of glycol solution	conservative emissions estimate. -Typically the glycol solution used in dehydration unit is not entirely replaced but it is conservatively assumed that the glycol solution is drained once per year for	Saturation factor	1	Loading loss per activity (Ib/activity)	0.0059			
	are two vessels in a dehydration	n vessel maintenance. - Per field experience, 4000 gal of glycol solution is used in a large dehydration unit.	Temperature (°F) Vapor pressure (psia) Molecular weight (lb/lb-mole)	68 0.001 62.07 2355	Clingage loss (lb/activity) 001 .07	0.0155			
			V _v Vessel volume (ft ³) (5 ft radii * 30 ft height) Ideal gas constant (psia-ft3/lb-mol-°R)	10.73					
			Number of activities per year	1	Total (lbs/yr/unit)	0.0213			

MSS - Miscellaneous Emissions Roadrunner Gas Processing Plant Lucid Energy Delaware, LLC

			Edola Ellorgy Bolalia	-, -	
5	(b)(2) Amine unit	-Calculations based on physical properties of mono ethanol amine (MEA)(e)	Temperature (°F)	68	Loading loss L _L (lb/2
	Emissions associated with	because of its low molecular weight and high vapor pressure which gives the most	Vapor pressure (psia)	0.004	
	replacement of solution used in	conservative emissions estimate.	Saturation factor	1	Loading loss per ac
	the amine unit. There are two	-Typically the solution used in amine unit is not entirely replaced but it is			(lb/activity)
	vessels in an amine unit:	conservatively assumed that the amine solution is drained once per year for vessel	Amine solution (gal/activity)	4000	
	Contactor and regenerator.	maintenance.	Temperature (°F)	68	Clingage loss (lb/ad
		-Per field experience, 4000 gal of solution is used in a large amine unit.	Vapor pressure (psia)	0.004	
			Molecular weight (lb/lb-mole)	61.08	
			V _v Vessel volume (ft ³) (5 ft radii * 30 ft	2355	
			height)		
			Ideal gas constant (psia-ft3/lb-mol-°R)	10.73	1
			Number of activities per year	1	Total (lbs/yr/unit)
6	(b)(2) Heater Treater	-Calculations based on condensate (RVP 10) because it has higher vapor pressure	Temperature (°F)	100	Clingage loss (Ib/ad
Ŭ		than crude oil (RVP 5) and results in a more conservative emission estimate.	Vapor pressure (psia)	10.5	
		-Emission estimates are based on a large site that typically has 4 heater treaters.		66	
			V _v Vessel volume (ft ³) (2ft radii * 10 ft	125.6	
			height)		
			Ideal gas constant (psia-ft3/lb-mol-°R)	10.73	
			Number of activities per year	1	Total (lbs/yr/unit)
/	(b)(2) Aerosol Lubricants	 -45-50% VOC by weight volatilizes. -Material specification per Lubricant MSDS (f). -VOC evaporation is based off standard engineering judgment consistent with prod Standard Industrial Size Cans (oz.) 16 	uct specification.		Pounds of emissior (Ib/can)
8	(b)(3) Piping Components	-Calculations based on condensate (RVP 10) because it has higher vapor pressure than crude oil (RVP 5) and results in a more conservative emission estimate.	Temperature (°F)	100	Clingage loss (Ib/ac
		-100 foot long pipe sections conservatively assumed for emission calculations.	Vapor pressure (psia)	10.5	
				66	
			V_v Vessel volume (ft ³) (0.5 ft radii * 100 ft	78.50	
			height)		
			Ideal gas constant (psia-ft3/lb-mol-°R)	10.73	
			Number of activities per year	1	Total (lbs/yr)
9	(b)(3) Pneumatic controllers	Based on field experience and recent site visits to two plants in Central Texas area, associated with changing the controller.	changing pneumatic controllers of equipme	ent und	er pressure requires
10	(b)(2) Calibration	-Per Monitoring Division's Laboratory and Quality Assurance Section - One cylinder of pentane or other calibration gas used per year and a typical cylinder contains 100 lbs.	Pounds of pentane in one cylinder (lb)		Pounds of pentane (lb/cylinder)
-					
11	(b)(6) Safety factor to account for	or MSS activities with the same character and quantity of emissions as those listed ir	paragraphs (b) (1) - (5) of §106.359		

VOC Type: (pick from list)	
Crude Oil or Condensate VOC	

Emission Type: (pick from list)	
Steady State (continuous)	

		Total VOC emissions		0.721	0.165
			ТРҮ	lbs/hr	
			Ŧ		
			1	0.028	
e in one cylinder	100	Number of cylinders	2	0.100	
es isolation of pipe section or process equipment and a blow down. There are no emissions					
	5.4321				
	E 4221				
ctivity)	5.4321	Number of 100 ft in length of pipes	200	0.543	
ns per can	0.5	Number of 16 oz cans used	200	0.050	
	8.6913				
ictivity)	0.0915		U	0.000	
	0.0840 8.6913	Number of Heater Treaters	0	0.000	
	0.0040				
ctivity)	0.0609				
ctivity	0.0231				
/1000 gal)	0.0058	Number of Amine units	2	0.000084	

Greenhouse Gas Emissions from Combustion Sources Roadrunner Gas Processing Plant Lucid Energy Delaware, LLC

GHG Emissions from Natural Gas Combustion

		Heat Rate	CO ₂ EF	CO ₂ Em	issions	CH₄ EF	CH ₄ Em	nissions	N ₂ O EF	N ₂ O Emiss	sions
Emission Source	Source Description	mmbtu/hr	kg/mmbtu	metric TPY	short tpy	kg/mmbtu	metric TPY	short tpy	kg/mmbtu	metric TPY	short tpy
EP-2	Trim Reboiler	15.95	53.06	7413.65	8172.07	0.001	0.140	0.154	0.0001	0.014	0.015
2-EP-2, 3-EP-2, 4-EP-2	Trim Reboiler	17.55	53.06	8157.34	8991.83	0.001	0.154	0.169	0.0001	0.015	0.017
EP-3A	Amine Reboiler	55	53.06	25564.31	28179.54	0.001	0.482	0.531	0.0001	0.048	0.053
EP-3B	Amine Reboiler	55	53.06	25564.31	28179.54	0.001	0.482	0.531	0.0001	0.048	0.053
EP-4	Glycol Reboiler	3	53.06	1394.42	1537.07	0.001	0.026	0.029	0.0001	0.003	0.003
2-EP-4, 3-EP-4, 4-Ep-4	Glycol Reboiler	3	53.06	1394.42	1537.07	0.001	0.026	0.029	0.0001	0.003	0.003
EP-5	Regen Reboiler	5.61	53.06	2607.56	2874.31	0.001	0.049	0.054	0.0001	0.005	0.005
2-EP-5, 3-EP-5, 4-EP-5	Regen Reboiler	7.29	53.06	3388.43	3735.07	0.001	0.064	0.070	0.0001	0.006	0.007
EP-6, 2-EP-6	Stabilizer Heater	18	53.06	8366.50	9222.39	0.001	0.158	0.174	0.0001	0.016	0.017
EP-9	Thermal Oxidizer	75.00	53.06	34860.42	38426.64	0.001	0.657	0.724	0.0001	0.066	0.072
EP-1	Flare Pilot	0.19	53.06	88.31	97.35	0.001	0.002	0.002	0.0001	0.000	0.000
2/3-EP1	Flare Pilot	0.38	53.06	176.63	194.69	0.001	0.003	0.004	0.0001	0.000	0.000
4-EP-1	Flare Pilot	0.19	53.06	88.31	97.35	0.001	0.002	0.002	0.0001	0.000	0.000

Emission Factors (EF) from Tables C-1 and C-2 to 40 CFR 98 Subpart C

Greenhouse Gas Emissions from Combustion Sources Roadrunner Gas Processing Plant Lucid Energy Delaware, LLC

Emergency Flare GHG Emisssions §98.233(n) Flare stack GHG emissions.

Step 1. Calculate	contribution of un-combusted CH ₄ emissions				
	$E_{a,CH4}$ (un-combusted) = $V_a * (1 - \eta) * X_{CH4}$ (Equation W-39B)				
	where:			4 1	
	$E_{a,CH4}$ = contribution of annual un-combusted CH ₄ emissions from	regenerator in	i cubic feet under a	actual conditions.	
	V_a = volume of gas sent to combustion unit during the year (cf)				
	η = Fraction of gas combusted by a burning flare (or regenerator), of	default value fr	rom	0.088	
	For gas sent to an unlit flare, η is zero. X _{CH4} = Mole fraction of CH ₄ in gas to the flare =		0 7700	(Client geo en	
	Λ_{CH4} – Note fraction of Ch ₄ in gas to the hare –		0.7722	(Client gas and	alysis)
Step 2. Calculate	contribution of un-combusted CO ₂ emissions				
	$E_{a,CO2} = V_a * X_{CO2}$ (Equation W-20) where:				
	$E_{a,CO2}$ = contribution of annual un-combusted CO ₂ emissions from	regenerator in	n cubic feet under a	actual conditions.	
	V_a = volume of gas sent to combustion unit during the year (cf)	0			
	X_{CO2} = Mole fraction of CO ₂ in gas to the flare =			0.003	
	χ_{C02} mole induction of OO_2 in gas to the halo			0.003	
Step 3. Calculate	contribution of combusted CO ₂ emissions				
	$E_{a,CO2}$ (combusted) = $\sum (\eta * V_a * Y_j * R_j)$ (Equation W-21)				
	where:				
	η = Fraction of gas combusted by a burning flare (or regenerator) =			0.98	
	For gas sent to an unlit flare, η is zero.				
	V_a = volume of gas sent to combustion unit during the year (cf)				
	Y _j = mole fraction of gas hydrocarbon constituents j:				
	Constituent j, Methane =	0.7722	(Client gas an	alysis)	
	Constituent j, Ethane =	0.1222			
	Constituent j, Propane =	0.0562			
	Constituent j, Butane =	0.01550			
	Constituent j, Pentanes Plus =	0.0067			
	R_j = number of carbon atoms in the gas hydrocarbon constituent j:	4			
	Constituent j, Methane = Constituent j, Ethane =	1			
	Constituent j, Propane =	2 3			
	Constituent j, Butane =	4			
	Constituent j, Pentanes Plus =	5			
Step 4. Calculate	GHG volumetric emissions at standard conditions (scf).				
E _{s,n}	= E _{a,n} * (459.67 + T _s) * P _a (Equation W-33)				
	(459.67 + T _a) * P _s				
where	e:				
	$E_{s,n}$ = GHG i volumetric emissions at standard temperature and pre-	ssure (STP) in	n cubic feet		
	E _{a,n} = GHG i volumetric emissions at actual conditions (cf)				
	T _s = Temperature at standard conditions (F) =			60 F	
					(Based on Ann
	T _a = Temperature at actual conditions (F) =			76 F	
	P_s = Absolute pressure at standard conditions (psia) =			14.7 psia	
	P _a = Absolute pressure at actual conditions (psia) =			12.73 psia	(Assumption)
	Constant = 459.67 (temperature conversion	from E to P)			

0.98

ual Avg Max Temperature for Hobbs, NM from Western Regional Climate Center)

Greenhouse Gas Emissions from Combustion Sources Roadrunner Gas Processing Plant Lucid Energy Delaware, LLC

Step 5. Calculate annual CH_4 and CO_2 mass emissions (ton). $Mass_{si} = E_{si} * \rho_i * 0.001 * 1.1023$ (Equation W-36) where: Mass_{s,i} = GHG i (CO₂, CH₄, or N₂O) mass emissions at standard conditions in tons (tpy) $E_{s,i}$ = GHG i (CO₂, CH₄, or N₂O) volumetric emissions at standard conditions (cf) ρ_i = Density of GHG i. Use: 0.0192 kg/ft³ (at 60F and 14.7 psia) CH4: CO₂: 0.0526 kg/ft³ (at 60F and 14.7 psia) 1×10^{-3} = conversion factor from kg to metric tons. 1.1203 = conversion factor from metric tons to short tons. Step 6. Calculate annual N₂O emissions from portable or stationary fuel combustion sources under actual conditions (cf) using Equation W-40. $Mass_{N2O} = 0.001 * Fuel * HHV * EF*1.1023$ (Equation W-40) where: $Mass_{N2O}$ = annual N_2O emissions from combustion of a particular type of fuel (tons). Fuel = mass or volume of the fuel combusted HHV = high heat value of the fuel 0.00107 MMBtu/scf SSM flaring gas HHV = EF = 1.00E-04 kg N₂O/MMBtu 10^{-3} = conversion factor from kg to metric tons.

1.1203 = conversion factor from metric tons to short tons.

Step 7. Calculate total annual emission from flare by summing Equations W-40, W-19, W-20, and W-21.

		CH ₄ Un-	CO ₂ Un-	CO ₂ Combusted,	CH₄ Un-	CO ₂ Un-	CO ₂ Combusted,	CH₄ Un-	CO ₂ Un-	CO ₂ Combusted,		
Gas Sent to	Gas Sent to Flare	Combusted, E _{a,CH4}	Combusted, E _{a,CO2}	$E_{a,CO2}$	Combusted, E _{a,CH4}	Combusted, E _{a,CO2}	$E_{a,CO2}$	Combusted, E _{a,CH4}	Combusted, E _{a,CO2}	E _{a,CO2}	N₂O Mass	CO2e (tpy)
Emergency Flare	(cf/yr)	(cf)	(cf)	(cf)	(scf)	(scf)	(scf)	(tpy)	(tpy)	(tpy)	Emissions (tpy)	
SSM Flaring (EP-1)	220,000,000	3,397,620	727,109	276,098,741	2,852,812	610,517	231,826,276	60.38	35.40	13,441.51	0.02595	14,994
Total	220,000,000	3,397,620	727,108.9	276,098,741	2,852,812	610,516.9	231,826,276	60.4	35.4	13,441.5	0.02595	14,994
SSM Flaring (2/3-EP-1)	440,000,000	6,795,241	1,454,218	552,197,481	5,705,623	1,221,034	463,652,553	121	71	26,883	0	29,988
Total	440,000,000	6,795,241	1,454,218	552,197,481	5,705,623	1,221,034	463,652,553	121	71	26,883	0	29,988
SSM Flaring (4-EP-1)	220,000,000	3,397,620	727,109	276,098,741	2,852,812	610,517	231,826,276	60	35	13,442	0	14,994
Total	220,000,000	3,397,620	727,109	276,098,741	2,852,812	610,517	231,826,276	60	35	13,442	0	14,994
		•	•		•	•		GWP	. 1	25	298	•

Greenhouse Gas Emissions from Combustion Sources Roadrunner Gas Processing Plant Lucid Energy Delaware, LLC

er GHG Emissi Flare stack GHG ei					
Step 1. Calcu	ulate contribution of un-combusted CH ₄ emissions				
	$E_{a,CH4}$ (un-combusted) = $V_a * (1 - \eta) * X_{CH4}$ (Equation W-3) where:	9B)			
	$E_{a,CH4}$ = contribution of annual un-combusted CH ₄ emission	s from regenerator in	cubic feet under a	actual conditions.	
	V_a = volume of gas sent to combustion unit during the year (cf)			
	η = Fraction of gas combusted by a burning flare (or regener For gas sent to an unlit flare, η is zero.	ator), default value fi	rom Subpart W =		0.
	X_{CH4} = Mole fraction of CH_4 in gas to the flare =		0.7852	(Client gas analysis)
Step 2. Calcı	ulate contribution of un-combusted CO ₂ emissions				
•	$E_{a,CO2} = V_a * X_{CO2}$ (Equation W-20)				
	where:				
	$E_{a,CO2}$ = contribution of annual un-combusted CO ₂ emission	s from regenerator ir	n cubic feet under a	actual conditions.	
	V_a = volume of gas sent to combustion unit during the year (•			
	X_{CO2} = Mole fraction of CO ₂ in gas to the flare =			0.013	
	$\lambda_{\rm CO2}$ while induction of OO_2 in gap to the name			0.013	
Step 3. Calcu	ulate contribution of combusted CO ₂ emissions				
	$E_{a,CO2}$ (combusted) = $\sum (\eta * V_a * Y_j * R_j)$ (Equation W-22) where:)			
	η = Fraction of gas combusted by a burning flare (or regener For gas sent to an unlit flare, η is zero.	ator) =		0.98	
	V_a = volume of gas sent to combustion unit during the year (cf)			
	Y_i = mole fraction of gas hydrocarbon constituents j:				
	Constituent j, Methane =	0.0000	(Client gas and	alvsis)	
	Constituent j, Ethane =	0.0000	(Onent gas and	arysis	
	Constituent j, Propane =	0.0000			
	Constituent j, Butane =	0.18570			
	Constituent j, Pentanes Plus =	0.8143			
	R_i = number of carbon atoms in the gas hydrocarbon constitu				
	Constituent j, Methane =	, 1			
	Constituent j, Ethane =	2			
	Constituent j, Propane =	3			
	Constituent j, Butane =	4			
	Constituent j, Pentanes Plus =	5			
Step 4. Calcu	ulate GHG volumetric emissions at standard conditions (scf).				
·					
	$E_{s,n} = E_{a,n} * (459.67 + T_s) * P_a $ (Equation W-33)				
	(459.67 + T _a) * P _s				
١	where:				
	$E_{s,n}$ = GHG i volumetric emissions at standard temperature a	nd pressure (STP) ir	i cubic feet		
	E _{a,n} = GHG i volumetric emissions at actual conditions (cf)				
	T _s = Temperature at standard conditions (F) =			60 F	
	T_a = Temperature at actual conditions (F) =			76 F	(Based on Annual Avg
	P_s = Absolute pressure at standard conditions (psia) =			14.7 psia	
					(Accumption)
	P_a = Absolute pressure at actual conditions (psia) =	(orbion from E to D)		12.73 psia	(Assumption)
	Constant = 459.67 (temperature conv	version from F to R)			

0.98

vg Max Temperature for Hobbs, NM from Western Regional Climate Center)

Greenhouse Gas Emissions from Combustion Sources Roadrunner Gas Processing Plant Lucid Energy Delaware, LLC

Step 5. Calculate annual CH_4 and CO_2 mass emissions (ton). Mass_{s i} = E_{s i} * ρ_i * 0.001 * 1.1023 (Equation W-36) where: $Mass_{s,i} = GHG i (CO_2, CH_4, or N_2O)$ mass emissions at standard conditions in tons (tpy) $E_{s,i}$ = GHG i (CO₂, CH₄, or N₂O) volumetric emissions at standard conditions (cf) ρ_i = Density of GHG i. Use: 0.0192 kg/ft³ (at 60F and 14.7 psia) CH₄:

0.0526 kg/ft³ (at 60F and 14.7 psia) CO₂:

 1×10^{-3} = conversion factor from kg to metric tons.

1.1203 = conversion factor from metric tons to short tons.

Step 6. Calculate annual N₂O emissions from portable or stationary fuel combustion sources under actual conditions (cf) using Equation W-40.

Mass _{N2O} = 0.001 * Fuel * HHV * EF*1.1023	(Equation W-40)
where:	
Mass _{N2O} = annual N ₂ O emissions from combu	ustion of a particular type of fuel (tons).
Fuel = mass or volume of the fuel combusted	l
HHV = high heat value of the fuel	
SSM flaring gas HHV =	0.00107 MMBtu/scf
EF =	1.00E-04 kg N ₂ O/MMBtu
1×10^{-3} = conversion factor from kg to metric	tons.

1.1203 = conversion factor from metric tons to short tons.

Step 7. Calculate total annual emission from flare by summing Equations W-40, W-19, W-20, and W-21.

		CH₄ Un-	CO ₂ Un-	CO ₂ Combusted,	CH ₄ Un-	CO ₂ Un-	CO ₂ Combusted,	CH₄ Un-	CO ₂ Un-	CO ₂ Combusted,		
Gas Sent to	Gas Sent to	Combusted, E _{a,CH4}	Combusted, E _{a,CO2}	E _{a,CO2}	Combusted, E _{a,CH4}	Combusted, E _{a,CO2}	E _{a,CO2}	Combusted, E _{a,CH4}	Combusted, E _{a,CO2}	E _{a,CO2}	N₂O Mass	CO2e (tp
Combuster	Combuster (cf/yr)	(cf)	(cf)	(cf)	(scf)	(scf)	(scf)	(tpy)	(tpy)	(tpy)	Emissions (tpy)	
COMB-1	1,183,925	18,592	15,141	5,585,770	15,610	12,713	4,690,091	0.33	0.74	271.94	0.00014	281
Total	1,183,925	18,592	15,141.2	5,585,770	15,610	12,713.3	4,690,091	0.3	0.7	271.9	0.00014	281
									CO_2	CH_4	N ₂ O	
								GWP	1	25	298	-

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 <u>and</u> 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.

The following information was used to determine emissions:

- 1. ProMax Simulation: The output file from the simulationswas used to produce gas and liquid characteristics for all streams;
- 2. Tank Emissions: A spreadsheet was used to calculate working, standing and breathing losses at the ten storage tanks. Flash emissions do not occur at the tanks;
- 3. Inlet gas analytical specifications; all AP-42 sections showing emission factors used, including for natural gas combustion; industrial flares; and submerged-fill truck loading; and EPA leak factors;
- 4. Amine Heater Emission Factors show vendor performance data for EP-3A, EP-3B;
- 5. 40 CFR 98 Table C-1 presents the greenhouse gas emissions factors used in this analysis;
- 6. 40 CFR 98_Table C-2 presents the default greenhouse gas CO₂ conversion factors for methane and N₂O.



Certificate of Analysis

Number: 5030-19110424-001A

Lucid Energy Group 416 E. Main St. Artesia, NM 88210

Station Name: ROAD RUNNER INLETMethod:GPA 2286Cylinder No:A102Analyzed:11/20/2019 19:30:36 by WH

Nov. 21, 2019

Sampled By:DEREK SAUDERSample Of:GasSpotSample Date:11/19/2019Sample Conditions: 797.5 psig, @ 75 °F

Analytical Data **Components** Mol. % Wt. % GPM at 14.696 psia Hydrogen Sulfide 0.000 0.000 GPM TOTAL C2+ 5.985 GPM TOTAL C3+ Nitrogen 1.397 1.840 2.710 Carbon Dioxide 0.330 0.683 GPM TOTAL iC5+ 0.409 Methane 76.983 58.062 Ethane 12.234 17.295 3.275 Propane 5.668 11.750 1.563 Iso-butane 0.717 1.959 0.235 n-Butane 1.595 4.358 0.503 Iso-pentane 0.287 0.973 0.105 n-Pentane 0.288 0.977 0.105 **Hexanes** Plus 0.501 2.103 0.199 100.000 100.000 5.985 **Calculated Physical Properties** C6+ Total **Relative Density Real Gas** 0.7367 3.0526 Calculated Molecular Weight 88.41 21.27 **Compressibility Factor** 0.9964 GPA 2172 Calculation: Calculated Gross BTU per ft³ @ 14.696 psia & 60°F Real Gas Dry BTU 1264 4785 Water Sat. Gas Base BTU 1242 4701

Hydrocarbon Laboratory Manager

Quality Assurance:

The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.



Certificate of Analysis

Number: 5030-19110424-001A

Lucid Energy Group 416 E. Main St. Artesia, NM 88210

Station Name: ROAD RUNNER INLET Method: GPA 2286 Cylinder No: A102 Analyzed: 11/20/2019 19:30:36 by WH

Nov. 21, 2019

Sampled By:DEREK SAUDERSample Of:GasSpotSample Date:11/19/2019Sample Conditions: 797.5 psig, @ 75 °F

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.696 psia			
Hydrogen Sulfide	0.000	0.000		GPM TOTAL C2+	5.9850	
Nitrogen	1.397	1.840		GPM TOTAL C3+	2.7100	
Methane	76.983	58.062		GPM TOTAL iC5+	0.4090	
Carbon Dioxide	0.330	0.683				
Ethane	12.234	17.295	3.275			
Propane	5.668	11.750	1.563			
Iso-Butane	0.717	1.959	0.235			
n-Butane	1.595	4.358	0.503			
Iso-Pentane	0.287	0.973	0.105			
n-Pentane	0.288	0.977	0.105			
Hexanes	0.284	1.122	0.113			
Heptanes Plus	0.217	0.981	0.086			
	100.000	100.000	5.985			
Calculated Physica	I Properties		Total	C7+		
Relative Density Rea	al Gas		0.7367	3.1977		
Calculated Molecula	r Weight		21.27	92.61		
Compressibility Fact	or		0.9964			
GPA 2172 Calculati	on:					
Calculated Gross B	TU per ft ³ @	2 14.696 ps	sia & 60°F			
Real Gas Dry BTU	-		1263.6	4913.3		
Water Sat. Gas Base	e BTU		1241.5	4827.6		

Hydrocarbon Laboratory Manager

Quality Assurance:

The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.



Lucid Energy Group 416 E. Main St. Artesia, NM 88210

Certificate of Analysis

Number: 5030-19110424-001A

Station Name: ROAD RUNNER INLETMethod:GPA 2286Cylinder No:A102Analyzed:11/20/2019 19:30:36 by WH

Sampled By:DEREK SAUDERSample Of:GasSpotSample Date:11/19/2019

Sample Date: 11/19/2019 Sample Conditions: 797.5 psig, @ 75 °F

Nov. 21, 2019

Analytical Data

Components	Mol. %	Wt. %	GPM at 14.696 psia		
• ••:			14.000 polu		
Nitrogen	1.397	1.840		GPM TOTAL C2+	5.985
Methane	76.983	58.062			
Carbon Dioxide	0.330	0.683			
Hydrogen Sulfide	NIL	NIL			
Ethane	12.234	17.295	3.275		
Propane	5.668	11.750	1.563		
Iso-Butane	0.717	1.959	0.235		
n-Butane	1.595	4.358	0.503		
Iso-Pentane	0.287	0.973	0.105		
n-Pentane	0.288	0.977	0.105		
i-Hexanes	0.179	0.700	0.070		
n-Hexane	0.105	0.422	0.043		
Benzene	0.017	0.062	0.005		
Cyclohexane	0.048	0.190	0.016		
i-Heptanes	0.091	0.387	0.036		
n-Heptane	0.017	0.079	0.008		
Toluene	0.007	0.029	0.002		
i-Octanes	0.034	0.174	0.016		
n-Octane	0.002	0.012	0.001		
Ethylbenzene	NIL	0.001	NIL		
Xylenes	NIL	0.007	0.001		
i-Nonanes	0.001	0.016	0.001		
n-Nonane	NIL	0.004	NIL		
i-Decanes	NIL	0.008	NIL		
n-Decane	NIL	0.002	NIL		
Undecanes	NIL	0.002	NIL		
Dodecanes	NIL	0.002	NIL		
Tridecanes	NIL	0.005	NIL		
Tetradecanes Plus	NIL	0.001	NIL		
	100.000	100.000	5.985		
Calculated Physical P		Tot	al	C14+	
Relative Density Real G	Gas	0.736	67	NIL	
Calculated Molecular W	/eight	21.27	71	NIL	
Compressibility Factor	-	0.996	64		
GPA 2172 Calculation					
Calculated Gross BTL	J per ft ³ @ 14				
Real Gas Dry BTU		1263		NIL	
Water Sat. Gas Base B	TU	1241	5	NIL	

Hydrocarbon Laboratory Manager

Quality Assurance:

The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.



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Simulation Report

Project: Roadrunner I_II_III_IV 880MM_EHSR (2.15.2020) CASE I.pmx

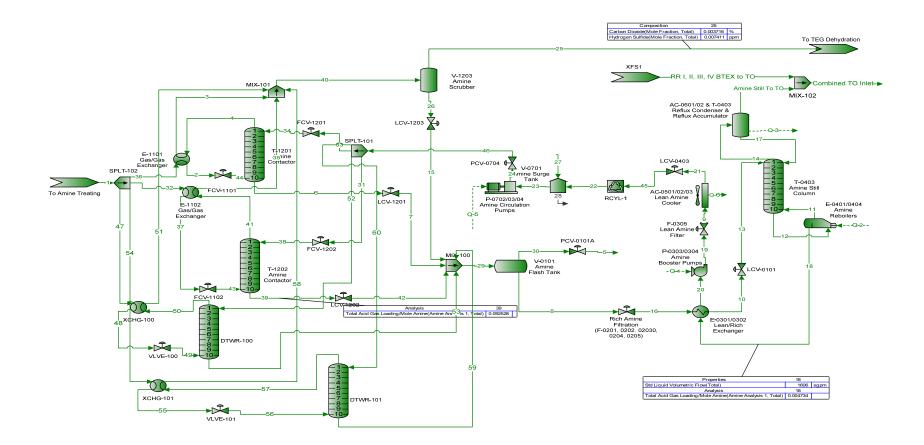
Licensed to Lucid Energy Group II, LLC and Affiliates

Client Name: Lucid Energy Location: Loving, New Mexico Job: Roadrunner 200MM Cryo Plant

ProMax Filename: C:\Users\CKassen\Documents\Projects\1_Plants\RoadRunner\Roadrunner II\Roadrunner I_II_III_IV 880MM_EHSR (2.15.2020) CASE I.pmx ProMax Version: 5.0.19050.0 Simulation Initiated: 2/15/2020 12:36:50 PM

> Bryan Research & Engineering, LLC Chemical Engineering Consultants P.O. Box 4747 Bryan, Texas 77805 Office: (979) 776-5220 FAX: (979) 776-4818

Report Navigator can be activated via the ProMax Navigator Toolbar. An asterisk (*), throughout the report, denotes a user specified value.



From: Ben Ciotti [mailto:bciotti@resetenergy.com]
Sent: Monday, July 24, 2017 3:14 PM
To: McAfee, Grant <<u>GMcAfee@lucid-energy.com</u>>; Middleton, Chris <<u>CMiddleton@lucid-energy.com</u>>; Subject: RE: Amine Heaters @ Red Hills

Here is what I received:

< 30 ppmvd
< 100 ppmvd

The high fire figures listed are parts per million by volume on a dry basis corrected to 3% O2. Please note these figures are ratios. Even though the ratio figures may increase with turndown, the calculated finite value at high fire will not be exceeded at any point within requirements.

Thanks,

Ben Ciotti Reset Energy Process Engineer 432-248-1030 - Cell # bciotti@resetenergy.com www.resetenergy.com



ELECTRONIC CODE OF FEDERAL REGULATIONS

e-CFR data is current as of August 23, 2017

Title 40 \rightarrow Chapter I \rightarrow Subchapter C \rightarrow Part 98 \rightarrow Subpart C \rightarrow Appendix

Title 40: Protection of Environment PART 98—MANDATORY GREENHOUSE GAS REPORTING Subpart C—General Stationary Fuel Combustion Sources

TABLE C-1 TO SUBPART C OF PART 98-DEFAULT CO2 EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

Link to an amendment published at 81 FR 89252, Dec. 9, 2016.

Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

Fuel type	Default high heat value	Default CO ₂ emission factor
Coal and coke	mmBtu/short ton	kg CO ₂ /mmBtu
Anthracite	25.09	103.69
Bituminous	24.93	93.28
Subbituminous	17.25	97.17
Lignite	14.21	97.72
Coal Coke	24.80	113.67
Mixed (Commercial sector)	21.39	94.27
Mixed (Industrial coking)	26.28	93.90
Mixed (Industrial sector)	22.35	94.67
Mixed (Electric Power sector)	19.73	95.52
Natural gas	mmBtu/scf	kg CO ₂ /mmBtu
(Weighted U.S. Average)	1.026 × 10 ⁻³	53.06
Petroleum products	mmBtu/gallon	
		kg CO ₂ /mmBtu
Distillate Fuel Oil No. 1	0.139	73.25
Distillate Fuel Oil No. 2 Distillate Fuel Oil No. 4	0.138 0.146	73.96
Distillate Fuel Oil No. 4 Residual Fuel Oil No. 5		75.04
Residual Fuel Oli No. 5 Residual Fuel Oil No. 6	0.140 0.150	72.93
Used Oil		75.10
	0.138 0.135	74.00
Kerosene	0.092	75.20
Liquefied petroleum gases (LPG) ¹		61.71
Propane ¹	0.091	62.87
Propylene ²	0.091	67.77
Ethane ¹	0.068	59.60
Ethanol	0.084	68.44
Ethylene ²	0.058	65.96
Isobutane ¹	0.099	64.94
Isobutylene ¹	0.103	68.86
	0.103	64.77
Butane ¹		
Butylene ¹	0.105	68.72
Naphtha (<401 deg F)	0.125	68.02
Natural Gasoline	0.110	66.88
Other Oil (>401 deg F)	0.139	76.22
Pentanes Plus	0.110	70.02
Petrochemical Feedstocks	0.125	71.02
Petroleum Coke	0.143	102.41
Special Naphtha	0.125	72.34
Unfinished Oils	0.139	74.54
Heavy Gas Oils Lubricants	0.148 0.144	74.92
Motor Gasoline	0.144	74.27
Aviation Gasoline	0.125	69.25
Kerosene-Type Jet Fuel	0.120	72.22
Asphalt and Road Oil	0.158	75.36
Crude Oil	0.138	75.30
Other fuels—solid	mmBtu/short ton	kg CO ₂ /mmBtu
Municipal Solid Waste		90.7
	9.95 ³	
Tires	28.00	85.97
Plastics	38.00	75.00

eCFR — Code of Federal Regulations

Petroleum Coke	30.00	102.41
Other fuels—gaseous	mmBtu/scf	kg CO ₂ /mmBtu
Blast Furnace Gas	0.092 × 10 ⁻³	274.32
Coke Oven Gas	0.599 × 10 ⁻³	46.85
Propane Gas	2.516 × 10 ^{−3}	61.46
Fuel Gas ⁴	1.388 × 10 ⁻³	59.00
Biomass fuels—solid	mmBtu/short ton	kg CO ₂ /mmBtu
Wood and Wood Residuals (dry basis) ⁵	17.48	93.80
Agricultural Byproducts	8.25	118.17
Peat	8.00	111.84
Solid Byproducts	10.39	105.51
Biomass fuels—gaseous	mmBtu/scf	kg CO ₂ /mmBtu
Landfill Gas	0.485 × 10 ⁻³	52.07
Other Biomass Gases	0.655 × 10 ⁻³	52.07
Biomass Fuels—Liquid	mmBtu/gallon	kg CO ₂ /mmBtu
Ethanol	0.084	68.44
Biodiesel (100%)	0.128	73.84
Rendered Animal Fat	0.125	71.06
Vegetable Oil	0.120	81.55

¹The HHV for components of LPG determined at 60 °F and saturation pressure with the exception of ethylene.

²Ethylene HHV determined at 41 °F (5 °C) and saturation pressure.

³Use of this default HHV is allowed only for: (a) Units that combust MSW, do not generate steam, and are allowed to use Tier 1; (b) units that derive no more than 10 percent of their annual heat input from MSW and/or tires; and (c) small batch incinerators that combust no more than 1,000 tons of MSW per year.

⁴Reporters subject to subpart X of this part that are complying with \$98.243(d) or subpart Y of this part may only use the default HHV and the default CO₂ emission factor for fuel gas combustion under the conditions prescribed in \$98.243(d)(2)(i) and (d)(2)(ii) and \$98.252(a)(1) and (a)(2), respectively. Otherwise, reporters subject to subpart X or subpart Y shall use either Tier 3 (Equation C-5) or Tier 4.

⁵Use the following formula to calculate a wet basis HHV for use in Equation C-1: HHV_w = ((100 – M)/100)*HHV_d where HHV_w = wet basis HHV, M = moisture content (percent) and HHV_d = dry basis HHV from Table C-1.

[78 FR 71950, Nov. 29, 2013]

Need assistance?

ELECTRONIC CODE OF FEDERAL REGULATIONS

e-CFR data is current as of August 23, 2017

Title 40 \rightarrow Chapter I \rightarrow Subchapter C \rightarrow Part 98 \rightarrow Subpart C \rightarrow Appendix

Title 40: Protection of Environment PART 98—MANDATORY GREENHOUSE GAS REPORTING Subpart C—General Stationary Fuel Combustion Sources

TABLE C-2 TO SUBPART C OF PART 98—DEFAULT CH_4 and N_2O Emission Factors for Various Types of Fuel

Link to an amendment published at 81 FR 89252, Dec. 9, 2016.

Fuel type	Default CH₄ emission factor (kg CH₄/mmBtu)	Default N ₂ O emission factor (kg N ₂ O/mmBtu)
Coal and Coke (All fuel types in Table C-1)	1.1 × 10 ⁻⁰²	1.6 × 10 ⁻⁰³
Natural Gas	1.0×10^{-03}	1.0×10^{-04}
Petroleum (All fuel types in Table C-1)	3.0×10^{-03}	6.0 × 10 ⁻⁰⁴
Fuel Gas	3.0×10^{-03}	6.0 × 10 ⁻⁰⁴
Municipal Solid Waste	3.2×10^{-02}	4.2 × 10 ⁻⁰³
Tires	3.2×10^{-02}	4.2 × 10 ⁻⁰³
Blast Furnace Gas	2.2×10^{-05}	1.0 × 10 ⁻⁰⁴
Coke Oven Gas	4.8×10^{-04}	1.0 × 10 ⁻⁰⁴
Biomass Fuels—Solid (All fuel types in Table C-1, except wood and wood residuals)	13.2×10^{-02}	4.2 × 10 ⁻⁰³
Wood and wood residuals	7.2×10^{-03}	3.6 × 10 ⁻⁰³
Biomass Fuels—Gaseous (All fuel types in Table C-1)	3.2×10^{-03}	6.3 × 10 ⁻⁰⁴
Biomass Fuels—Liquid (All fuel types in Table C-1)	1.1 × 10 ⁻⁰³	1.1 × 10 ⁻⁰⁴

Note: Those employing this table are assumed to fall under the IPCC definitions of the "Energy Industry" or "Manufacturing Industries and Construction". In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC "Energy Industry" category may employ a value of 1g of CH₄/mmBtu.

[78 FR 71952, Nov. 29, 2013]

Need assistance?

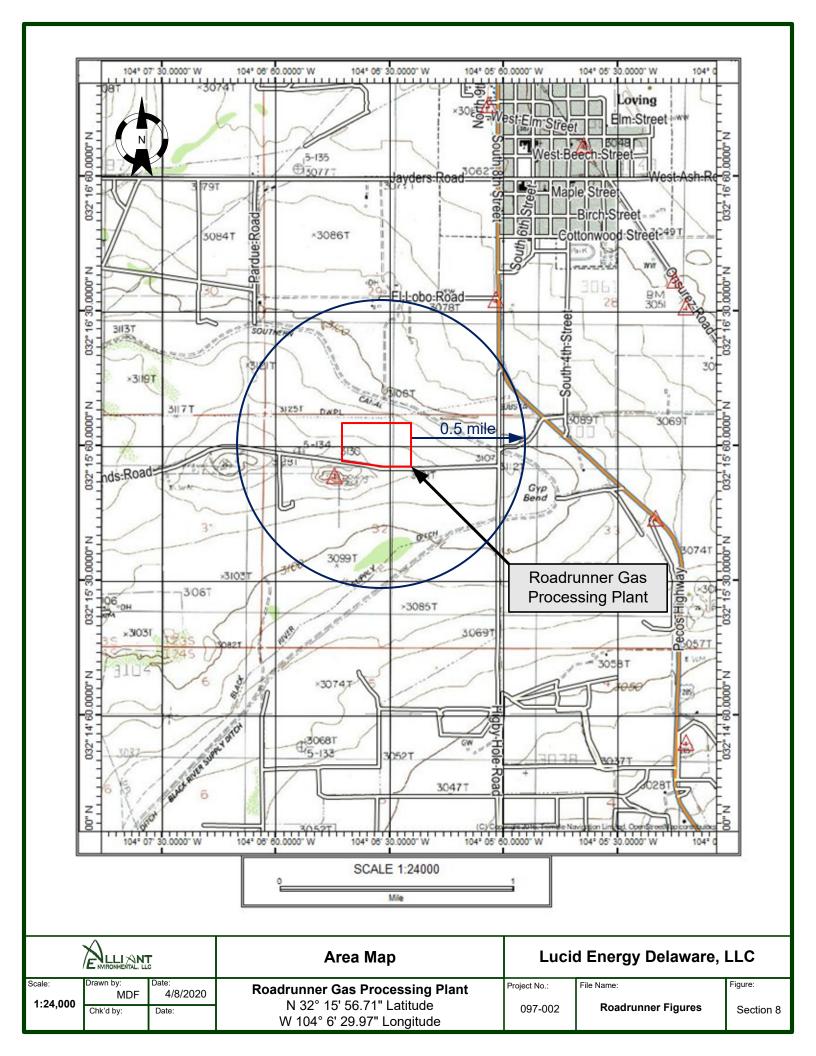
Section 8

Map(s)

<u>A map</u> 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	

An are map is included on the following page.



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. X A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC) See note below
- 2. X 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.)
- X A copy of the property tax record (20.2.72.203.B NMAC). 3.
- 4. X A sample of the letters sent to the owners of record. See note below
- X A sample of the letters sent to counties, municipalities, and Indian tribes. See note below 5.
- 6. X A sample of the public notice posted and a verification of the local postings.
- 7. X A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
- 8. X A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
- X A copy of the <u>classified or legal</u> ad including the page header (date and newspaper title) or its affidavit of 9. publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
- 10. X A copy of the <u>display</u> 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. X 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.

Note:

In light of the New Mexico Governor's Extended Stay-At-Home orders due to the COVID-19 virus pandemic, Mr. Ted Schooley, Permit Programs Section Chief, New Mexico Environment Department Air Quality Bureau, agreed that in lieu of mailing the 23 letters via certified mail through the post office, pictures of the stamped envelops addressed to the recipients listed below and a copy of the public notice letter addressed to these individuals, would be acceptable. Mr. Schooley's e-mail is attached.

Lucid Road Runner Gas Plant Public Notice List:

Name	Mailing Address	Category of Notice
ZUNIGA, RYAN M	24 Mesquite Lane	Nearby Landowner
	Artesia, NM 88210	
MCDONALD, HENRY	PO Box 597	Nearby Landowner
,	Loving, NM 88256-0597	5
BLACKMON, SUSAN D &	3501 BONNIEBROOK DR	Nearby Landowner
BLACKMON, JOHN E	Plano, TX 75075	
HUFFER, GEORGE A	1473 ROYAL PALM DR	Nearby Landowner
	Slidell, LA 70458	
ONSUREZ, CONCEPCION C	PO BOX 393	Nearby Landowner
	Loving, NM 88256	
OGDEN ESTATE HEIRS	2302 FOREHAND RD	Nearby Landowner
OODEN ESTATE HEIKS	Carlsbad, NM 88220	Realby Landowner
HEDNANDEZ DADLO & MADIA		Neerby Londowner
HERNANDEZ, PABLO & MARIA	1971 PECOS HWY	Nearby Landowner
REV TRUST HERNANDEZ,	Loving, NM 88256	
PABLO P & MARIA Q		
TRUSTEES PINA, REYMUNDO &	DO DOX 250	Norther Londonson
	PO BOX 356	Nearby Landowner
VICTORIA (JT)	Loving, NM 88256	
ONSUREZ, JOEL SANTOS	PO BOX 1058	Nearby Landowner
	Loving, NM 88256	
ONSUREZ, ANTONIO C &	PO BOX 598	Nearby Landowner
GLORIA S	Loving, NM 88256	
PARDUE LIMITED COMPANY	PO BOX 2018	Nearby Landowner
	Carlsbad, NM 88221	
BALLARD, MITCHELL &	273 HIGBY HOLE RD	Nearby Landowner
WENDY	Loving, NM 88256	
ZUNIGA, JOSE D & ELISA (N-	211 W FIESTA DR	Nearby Landowner
JT)	Carlsbad, NM 88220	
SOUTHWESTERN PUBLIC	PO BOX 1979	Nearby Landowner
SERVICE CO	Denver, CO 80201	
ATTN: PROPERTY TAX DEPT		
BALLARD, PARKER &	PO BOX 716	Nearby Landowner
WHITNEY (N-JT)	Loving, NM 88256	-
ONSUREZ, DAMIAN S &	PO BOX 1088	Nearby Landowner
CYNTHIA KAY (JT)	Carlsbad, NM 88221	-
WYRICK, GERALDINE M	3101 SEXTON DRIVE	Nearby Landowner
,	Norman, OK 73026	
CALDERON, FELIX & DEBRA	PO BOX 64	Nearby Landowner
(JT)	Loving, NM 88256	
CONNALLY, VICKIE	125 BRINKLEY LN	Nearby Landowner
	Elgin, TX 78621	
SOOBY, F W MRS	921 MONTCREST DR	Nearby Landowner
	Redding, CA 96003	
STATE OF NEW MEXICO	310 OLD SANTA FE TRAIL	Nearby Landowner
STATE OF NEW MEAICO		inearby Landowner
Edde Counter Mon	Santa Fe, NM 87504	Country and Nav. 1 or 1 and
Eddy County Manger	101 W Greene Street, Suite 110	County and Nearby Landowner
Allen R. Davis	Carlsbad, NM 88220	
Village of Loving, NM	PO Box 56	Municipality and Nearby
Mayor Pete H. Estrada	Loving, NM 88256	Landowner

Newspaper: Carlsbad Current-Argus Classified section: (800) 473-0088 weekdays from 7:00 am until 4:00 pm classifieds@currentargus.com legals@currentargus.com

Published on Friday April 10, 2020.

Radio:

Carlsbad Radio - KAMQ/ESPN-AM, KATK-AM PO Box 1538 Carlsbad, NM 88220 Phone: 575-887-7563 Fax: 575-887-7000

Sales Manager - Don Hughes Cell Phone: 575-302-3803 don@carlsbadradio.com

Sent request for PSA on 4/7/2020 to Debbie Thomas carlsbadradiotraffic@gmail.com, PSA was aired April 10, 2020.

Postings:

- Plant Entrance
- Allsup's Convivence Store: 105 N. 8th Loving, NM 88256
- Village of Loving City Hall and Police Department: 415 W. Cedar Street Loving, NM 88256
- Loving USPS: 402 W. Beech Street Loving, NM 88256

Timestamp	Account Number (If Known)
4/8/2020 16:49:43 (CDT)	171048
Publication Date	Name
4/10/2020 0:00:00 (CDT)	Martin Schluep
Ad Number	Street
GCI0404291 & GCI0404300	6010 La Paz Road
Publication	City
Carlsbad Current Argus	Rio Rancho
Special Requests	State
Affidavits for Two Display ads - GCI0404291	NM
& GCI0404300 - they are identical ads run	ZIP Code
in legal and main section	87144
Market	Your Name
New Mexico	Amirtha Sargunam
Delivery Method Both Number of Affidavits Needed 1	Email Address asathisarg@gannett.com
r Customer Email mfetman@alliantenv.com	
Customer Name	

Alliant Environmental LLC

Customer Phone Number (505) 205-4819

Customer Address 7804 Pan American Fwy. NE, Suite 5, Albuquerque, NM 87109

CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No. GCI0404300

ALLIANT ENVIRONMENTAL LLC 7804 PAN AMERICAN FWY. NE SUITE 5 ALBUQUERQUE, NM 87109

I, a legal clerk of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

4/10/2020

Legal Clerk

Subscribed and sworn before me this 10TH of APRIL 2020

e of WI, County of Brown NOTARY PUBLIC

My Commission Expires

Ad#: GC10404300 P O : NOTICE OF AIR QUALITY PERMIT APPLICATION # of Affidavits :1

> SHELLY HORA Notary Public State of Wisconsin

NOTICE OF AIR QUALITY PERMIT APPLICATION

Lucid Energy Delaware, LLC announces its application to the New Mexico Environment Department for an air quality permit for the **modification** of its **Road Runner Gas Processing Plant**. The expected date of application submittal to the Air Quality Bureau is **April 23, 2020**.

The exact location for the proposed facility is at latitude **32** deg, 15 min, **56.71** sec and longitude **-104** deg, **6** min, **29.97** sec. The approximate location of this facility is **1.7** miles sout-west of Loving in Eddy County, New Mexico

The proposed **modification** of the facility includes updating NSR Permit 7200-M2 based on the most current plans and expanding the plant by adding two additional processing trains. The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	2.61 pph	11.2 tpy
PM 10	2.61 pph	11.2 tpy
PM 2.5	2.52 pph	10.8 tpy
Sulfur Dioxide (SO2)	5.19 pph	22.7 tpy
Nitrogen Oxides (NOx)	2,695 pph	130.8 tpy
Carbon Monoxide (CO)	12,195 pph	230.1 tpy
Volatile Organic Compounds (VOC)	8,930 pph	176.8 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	99.6 pph	4.4 tpy
Toxic Air Pollutant (TAP)	n/a pph	n/a tpy
Green House Gas Emissions as Total CO2e	n/a	290,743 tpy

The standard and maximum operating schedules of the facility will be 24 hour a day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: Lucid Energy Delaware, LLC, PO Box 158, Artesia, NM 88210 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; <u>https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html</u>. Other comments and questions may be submitted verbally.

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Notice of Non-Discrimination

CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No. GCI0404291

ALLIANT ENVIRONMENTAL LLC 7804 PAN AMERICAN FWY. NE SUITE 5 ALBUQUERQUE, NM 87109

I, a legal clerk of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

4/10/2020

- A

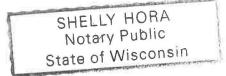
Legal Clerk

Subscribed and sworn before me this 10^{TH} of APRIL 2020

NOTARY PUBLIC

My Commission Expires

Ad#: GCI0404291 P O : NOTICE OF AIR QUALITY PERMIT APPLICATION # of Affidavits :1



NOTICE OF AIR QUALITY PERMIT APPLICATION

Lucid Energy Delaware, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Road Runner Gas Processing Plant. The expected date of application submittal to the Air Quality Bureau is April 23, 2020.

The exact location for the proposed facility is at latitude **32** deg, 15 min, **56.71** sec and longitude **-104** deg, **6** min, **29.97** sec. The approximate location of this facility is **1.7** miles sout-west of Loving in Eddy County, New Mexico

The proposed **modification** of the facility includes updating NSR Permit 7200-M2 based on the most current plans and expanding the plant by adding two additional processing trains. The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	2.61 pph	11.2 tpy
PM 10	2.61 pph	11.2 tpy
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Sulfur Dioxide (SO2)	5.19 pph	22.7 tpy
Nitrogen Oxides (NOx)	2,695 pph	130.8 tpy
Carbon Monoxide (CO)	12,195 pph	230.1 tpy
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Notice of Non-Discrimination

mschluep@alliantenv.com

From:	Schooley, Ted, NMENV <ted.schooley@state.nm.us></ted.schooley@state.nm.us>
Sent:	Tuesday, April 7, 2020 3:28 PM
То:	mschluep@alliantenv.com; Olson, Kirby, NMENV
Cc:	'Matthew Eales'; 'Melissa Fetman'
Subject:	RE: [EXT] Permit Application Certified Letters

Mr. Schluep,

In light of the Governor's Extended Stay-At-Home orders, this is an acceptable solution to resolve your concerns. Be careful and be safe. Provide feedback on how this works for you so we can adjust and/or revise our guidance to others in your situation. Please include a copy of this e-mail in the public notice section of your application to alert the permit specialist of this procedural approval.

Ted

Obn#r#kh Lagxwu/2Fravxordow#hgedfn#rxhwiragdlih#

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Whgt fkrrch # Permit Programs Section Chief New Mexico Environment Department Air Quality Bureau 525 Camino de los Marquez, Suite 1, Santa Fe, NM 87505 Office: (505) 476-4334 ted.schooley@state.nm.us https://www.env.nm.gov/air-quality/

"Innovation, Science, Collaboration, Compliance"

From: mschluep@alliantenv.com <mschluep@alliantenv.com>
Sent: Tuesday, April 7, 2020 3:07 PM
To: Olson, Kirby, NMENV <Kirby.Olson@state.nm.us>; Schooley, Ted, NMENV <ted.schooley@state.nm.us>
Cc: 'Matthew Eales' <MEales@lucid-energy.com>; 'Melissa Fetman' <mfetman@alliantenv.com>
Subject: [EXT] Permit Application Certified Letters

Dear Kirby and Ted,

We are preparing the public notices for the Lucid Energy Road Runner Gas Plant permit revision application. There are 25 letters we will mail out. I don't feel comfortable right now going to the post office to have 25 letters mailed certified mail. Would it be acceptable to NMED if I took pictures of the addressed and stamped envelopes instead of the proving we mailed it with the certified green receipts, in addition to a copy of the letters sent?

Thank you, Martin

Martin R. Schluep Alliant Environmental, LLC 7804 Pan American Fwy. NE, Suite 5 Albuquerque, NM 87109







Dear Ryan Zuniga:

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Notice of Non-Discrimination

Dear Henry McDonald:

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Dear Susan D. and John E. Blackmon:

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Dear George A. Huffer:

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Dear Concepcion C. Onsurez:

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Dear Ogden Estate Heirs:

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Dear Pablo and Maria Hernandez Trustees:

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Notice of Non-Discrimination

Dear Reymundo and Victoria Pina:

Lucid Energy Delaware, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Road Runner Gas Processing Plant. The expected date of application submittal to the Air Quality Bureau is April 23, 2020.

The exact location for the proposed facility is at latitude 32 deg, 15 min, 56.71 sec and longitude -104 deg, 6 min, 29.97 sec. The approximate location of this facility is 1.7 miles sout-west of Loving in Eddy County, New Mexico

The proposed **modification** of the facility includes updating NSR Permit 7200-M2 based on the most current plans and expanding the plant by adding two additional processing trains. The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	2.61 pph	11.2 tpy
PM 10	2.61 pph	11.2 tpy
PM _{2.5}	2.52 pph	10.8 tpy
Sulfur Dioxide (SO ₂)	5.19 pph	22.7 tpy
Nitrogen Oxides (NO _x)	2,695 pph	130.8 tpy
Carbon Monoxide (CO)	12,195 pph	230.1 tpy
Volatile Organic Compounds (VOC)	8,930 pph	176.8 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	99.6 pph	4.4 tpy
Toxic Air Pollutant (TAP)	n/a pph	n/a tpy
Green House Gas Emissions as Total CO2e	n/a	290,743 tpy

The standard and maximum operating schedules of the facility will be 24 hour a day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: Lucid Energy Delaware, LLC, PO Box 158, Artesia, NM 88210

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; <u>https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html</u>. 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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Notice of Non-Discrimination

Dear Joel Santos Onsurez:

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Notice of Non-Discrimination

Dear Antonio C. and Gloria S. Onsurez:

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Notice of Non-Discrimination

Dear Pardue Limited Company:

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Notice of Non-Discrimination

Dear Mitchell and Wendy Ballard:

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Notice of Non-Discrimination

Dear Jose D. and Elisa Zuniga:

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Notice of Non-Discrimination

Dear Southwestern Public Service Co.:

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Notice of Non-Discrimination

Dear Parker and Whitney Ballard:

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Dear Damian S. and Cynthia Kay Onsurez:

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Dear Geraldine M. Wyrick:

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Green House Gas Emissions as Total CO2e	n/a	290,743 tpy

The standard and maximum operating schedules of the facility will be 24 hour a day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: Lucid Energy Delaware, LLC, PO Box 158, Artesia, NM 88210

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; <u>https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html</u>. 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.

Attención

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Notice of Non-Discrimination

Dear Felix and Debra Calderon:

Lucid Energy Delaware, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Road Runner Gas Processing Plant. The expected date of application submittal to the Air Quality Bureau is April 23, 2020.

The exact location for the proposed facility is at latitude 32 deg, 15 min, 56.71 sec and longitude -104 deg, 6 min, 29.97 sec. The approximate location of this facility is 1.7 miles sout-west of Loving in Eddy County, New Mexico

The proposed **modification** of the facility includes updating NSR Permit 7200-M2 based on the most current plans and expanding the plant by adding two additional processing trains. The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
Total Suspended Particulates (TSP)	2.61 pph	11.2 tpy
PM 10	2.61 pph	11.2 tpy
PM _{2.5}	2.52 pph	10.8 tpy
Sulfur Dioxide (SO ₂)	5.19 pph	22.7 tpy
Nitrogen Oxides (NO _x)	2,695 pph	130.8 tpy
Carbon Monoxide (CO)	12,195 pph	230.1 tpy
Volatile Organic Compounds (VOC)	8,930 pph	176.8 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	99.6 pph	4.4 tpy
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Notice of Non-Discrimination

Dear Vickie Connally:

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Dear Mrs. FW Sooby:

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Dear State of New Mexico:

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Notice of Non-Discrimination

Dear Eddy County Manager:

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Notice of Non-Discrimination

Dear Village of Loving:

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Notice of Non-Discrimination

General Posting of Notices – Certification

I, <u>Glen Blake</u>, the undersigned, certify that on 4/09/2020, posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the Village of Loving in Eddy County, State of New Mexico on the following dates:

- 1. Facility entrance: 4/09/2020
- 2. Loving Allsup's Convenience Store: 4/09/2020
- 3. Village of Loving City Hall: 4/09/2020
- 4. Loving USPS: <u>4/09/2020</u>

Signed this $\underline{\mathcal{P}^{n}}$ day of \underline{April} , 2020,

Then Blake Signature

<u>4-9-2020</u> Date

<u>Finted Name</u>

Field ENSAR MANAGER

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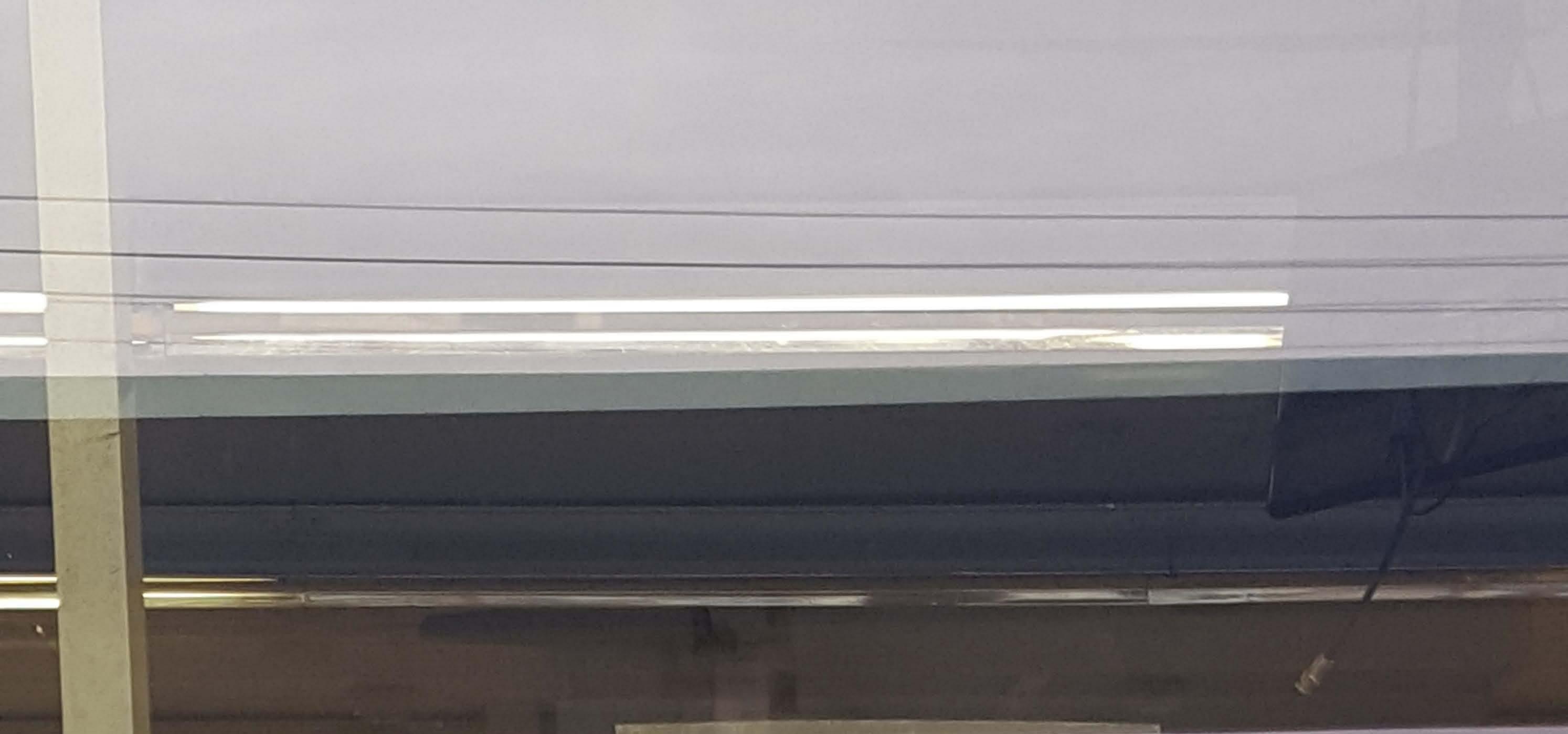
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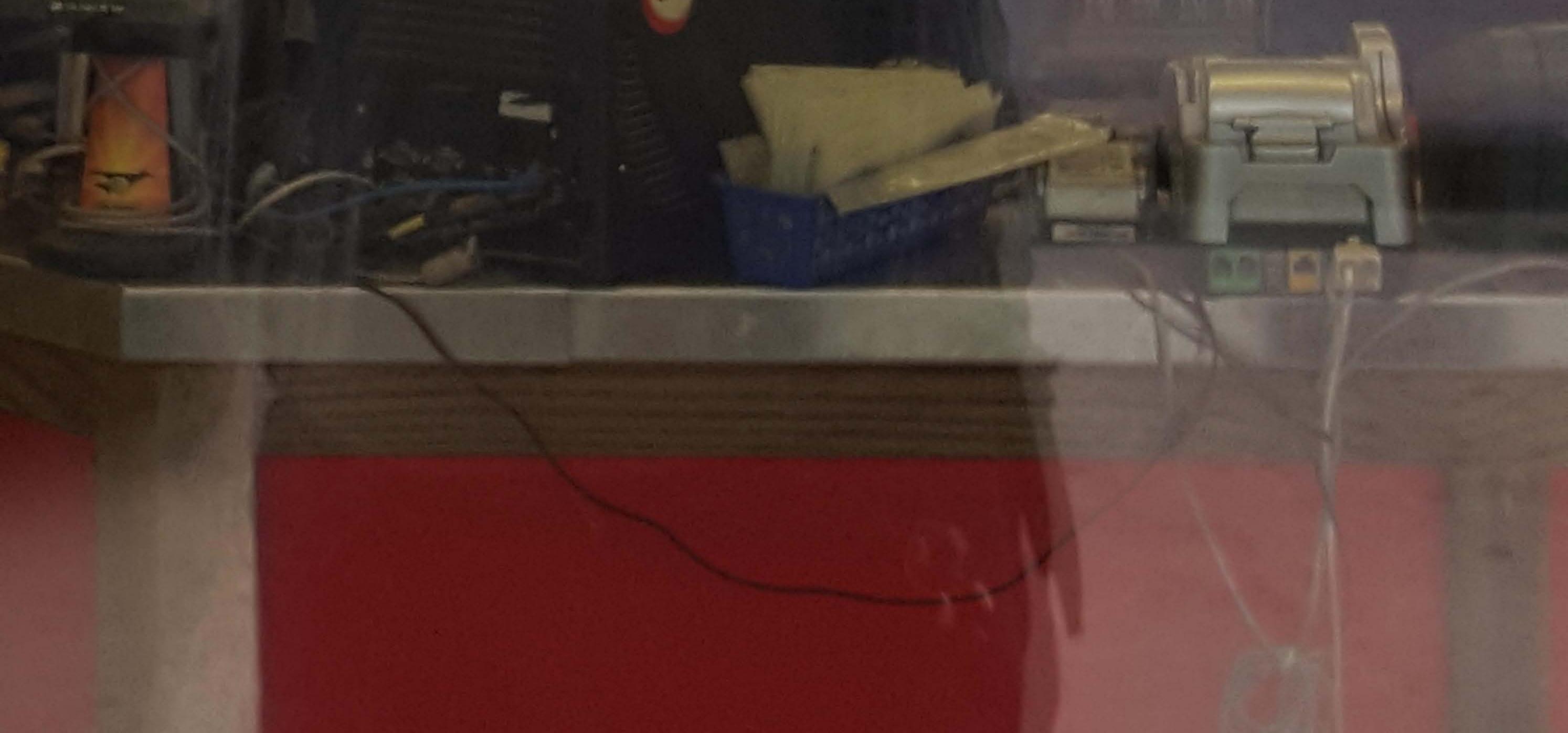
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If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico 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; <u>https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html</u>. 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.

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.



Lucid Energy Delaware, LLC announces its application to the New Mexico Environment Department for an air quality permit for the modification of its Road Runner Gas Processing Plant. The expected date of application submittal to the Air Quality Bureau is April 23, 2020.

The exact location for the proposed facility is at latitude 32 deg, 15 min, 56.71 sec and longitude -104 deg, 6 min, 29.97 sec. The approximate location of this facility is 1.7 miles cont-west of Loving in Eddy County, New Mexico

The proposed modification cof the facility includes undating MSR Permit 7200 M2 based on the most current plans and espanding the plant by adding two additional processing a line. The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (py), These reported emissions - ould change slightly during the course of the Department's review:

	Pounds per hour	Tons per year
Pollutant:	2.61 pph	11.2 tpy
Total Suspended Particulates (TSP)	2.61 pph	11.2 upy
PM 10	2.52 upli	10.8 (p)
PM 2.5	5.19 pph	22.7 tpy
Sulfur Dioxide (SO ₂)	2,695 pph	130.8 tpy
Nitrogen Oxides (NO _x)	12,195 pph	230.1 tpy
Carbon Monoxide (CO)	8,930 pph	176.8 tpy
Volatile Organic Compounds (VOC)	99.6 pph	4.4 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	n/a pph	n/a tpy
Toxic Air Pollutant (TAP)	n/a	290,743 tpy
Green House Gas Emissions as Total CO2e	10/4	

The standard and maximum operating schedules of the facility will be 24 hour a day, 7 days a week and a maximum of 52 weeks per year.

The owner and/or operator of the Facility is: Lucid Energy Delaware, LLC, PO Box 158, Artesia, NM 88210

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Attención

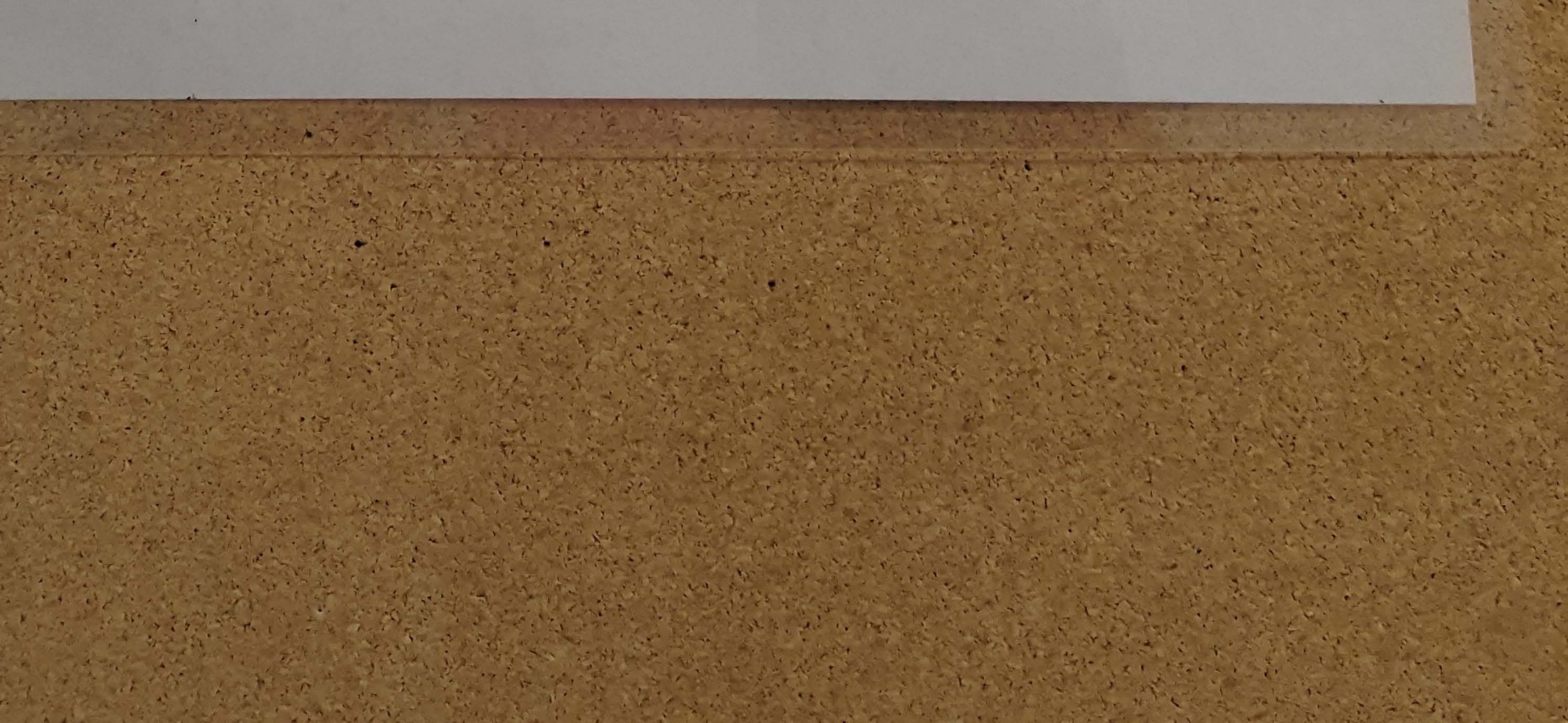
Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuniquese con esa oficina al teléfono 505-476-5557.

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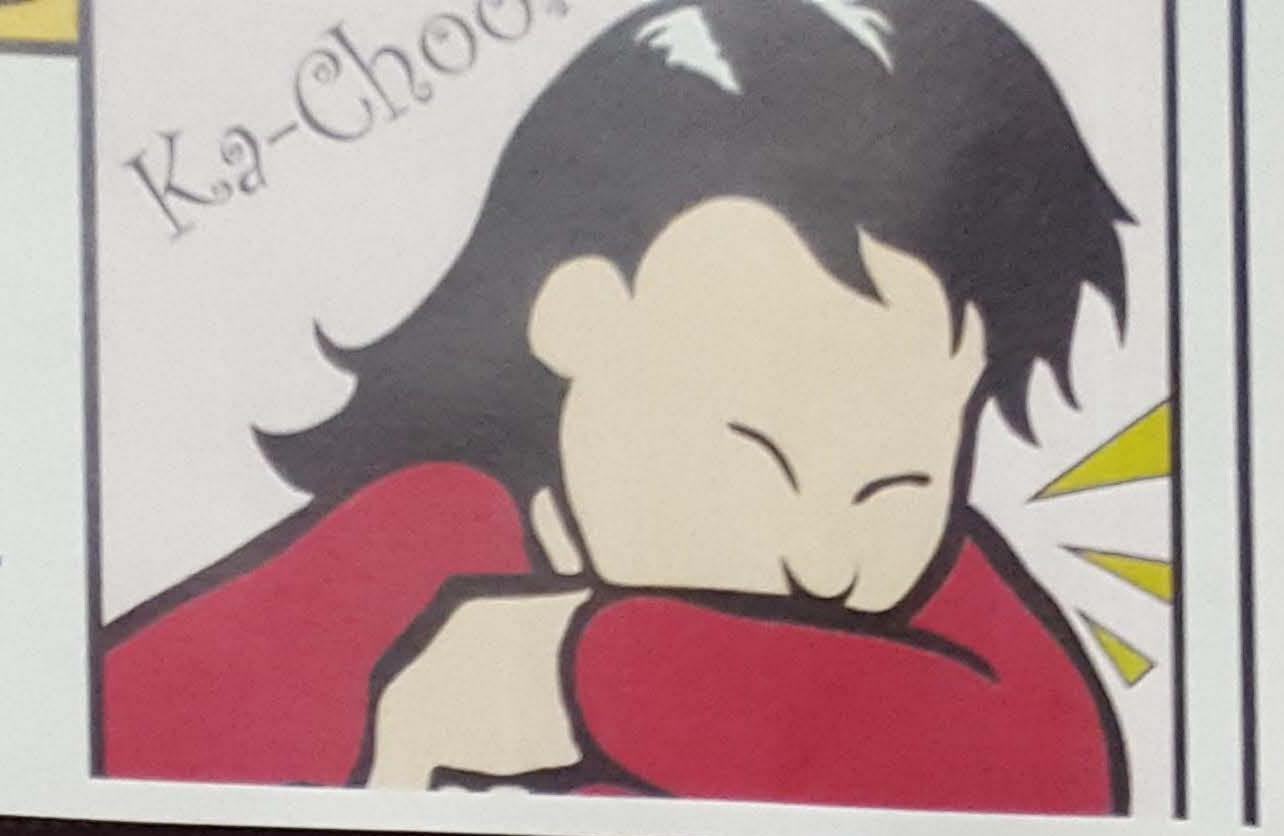
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Notice of Non-Discrimination





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NOTICE

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The proposed modification cof the facility includes updating NSR Permit 7200-M2 based on the most current plans and espanding the plant by adding two additional processing trains. The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and lons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:	Pounds per hour	Tons per year
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PM 10	2.61 ppi	11.2 тру
PM 2.5	2.52 ppè	10.8 tpy
Sulfur Dioxide (SO ₂)	5.19 pph	22.7 тру
Nitrogen Oxides (NO _x)	2,695 pph	130.8 фу
Carbon Monoxide (CO)	12,195 pph	230.1 тру
Volatile Organic Compounds (VOC)	8,930 pph	176.8 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	99.6 pph	4.4 tpy
Toxic Air Pollutant (TAP)	n/a pph	n/a tpy
Green House Gas Emissions as Total CO2e	m/a	290,743 тру

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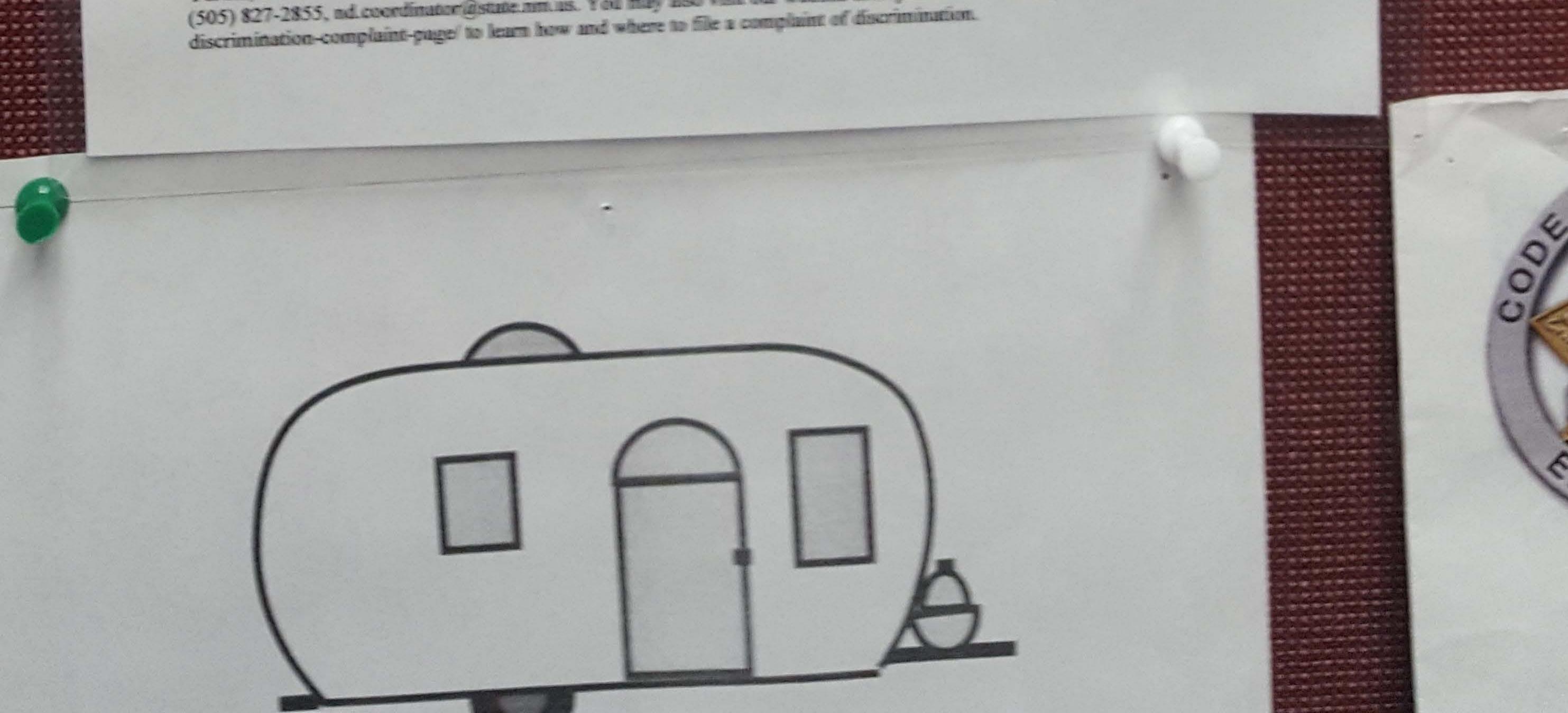
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2 4 4 M 10 10 লাভা আৰু মনা প Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuniquese con esa oficina al teléfono 505-476-5557.







Submittal of Public Service Announcement – Certification

I, <u>Martin Schluep</u>, the undersigned, certify that on 4/7/2020, submitted a public service announcement to Carlsbad Radio (KAMQ 1240 AM) that serves the Village of Loving, Eddy County, New Mexico, in which the source is or is proposed to be located and that Carlsbad Radio (KAMQ 1240 AM). KAMQ 1240 RESPONDED THAT IT WOULD AIR THE ANNOUNCEMENT on April 10, 2020.

Signed this 10th day of April, 2020.

they.

Signature

April 10th 2020

Date

Martin Schluep Printed Name

Principal Consultant with Alliant Environmental, LLC Title

mschluep@alliantenv.com

From:	Melissa Fetman <mfetman@alliantenv.com></mfetman@alliantenv.com>
Sent:	Wednesday, April 8, 2020 3:57 PM
То:	mschluep@alliantenv.com
Subject:	FW: Receipt from CARLSBAD RADIO, INC.

See receipt below for the Road Runner PSA.

Melissa D. Fetman Alliant Environmental, LLC 7804 Pan American Fwy. NE, Suite 5 Albuquerque, NM 87109 (C) 505.385.3407 (F) 505.771.0793 www.alliantenv.com

-----Original Message-----From: CARLSBAD RADIO, INC. <noreply@gge4mailer.com> Sent: Wednesday, April 8, 2020 3:32 PM To: mfetman@alliantenv.com Subject: Receipt from CARLSBAD RADIO, INC.

THANKS

Receipt follows:

======= TRANSACTION RECORD ======== CARLSBAD RADIO, INC.

CARLSBAD, NM 882206427

TYPE: Purchase

ACCT: American Express \$ 538.22 USD

CARDHOLDER NAME : Alliant Environmental CARD NUMBER : ##########2171 DATE/TIME : 08 Apr 20 15:31:33 REFERENCE # : 001 0800280 M AUTHOR. # : 164203 TRANS. REF. : order #3509-00002

Approved - Thank You 100

Please retain this copy for your records.

Cardholder will pay above amount to card issuer pursuant to cardholder agreement.

Melissa Fetman

From:Debbie Thomas <carlsbadradiotraffic@gmail.com>Sent:Wednesday, April 8, 2020 8:24 AMTo:Melissa FetmanSubject:Re: PSA Request

I will get this taken care of for you. It will run on Friday.

On Tue, Apr 7, 2020 at 4:00 PM Melissa Fetman <<u>mfetman@alliantenv.com</u>> wrote:

Ms. Thomas,

Lucid Energy Delaware, LLC kindly requests, according to New Mexico air quality regulations, that Carlsbad Radio (KAMQ 1240 AM) make the following public services announcement:

"Lucid Energy Delaware, LLC has applied to modify NSR permit No. 7200-M2 for the Road Runner Gas Processing Plant located at latitude: 32 degrees, 15 minutes, 56.71 seconds and longitude: -104 degrees, 6 minutes, 29.97 seconds. The plant is approximately 1.7 miles southwest of Loving, NM. The proposed modification of the facility includes expanding the plant by adding two additional processing trains. Public notice of this change is being posted at the facility entrance, the Allsup's Convenience Store in Loving, the Village of Loving City Hall, and also at the Loving USPS.

If you have any questions regarding this application, please contact the New Mexico Environmental Department, Air Quality Bureau located at 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico 87505-1816; (505) 476-4300; 1-800-224-7009."

Please contact me if you need anything else or with any questions you may have.

Thank you for your help,

Melissa D. Fetman

Alliant Environmental, LLC

7804 Pan American Fwy. NE, Suite 5

Albuquerque, NM 87109

(C) 505.385.3407

(F) 505.771.0793

www.alliantenv.com

Thanks!

Debbie Thomas (575) 302-2555 debbie@carlsbadradio.com

Carlsbad Radio does not discriminate on the bases of race or ethnicity. Any provisions in any order or agreement for advertising that purports to discriminate on the basis of race of ethnicity is void.



Melissa Fetman

From:Melissa Fetman <mfetman@alliantenv.com>Sent:Tuesday, April 7, 2020 4:00 PMTo:'carlsbadradiotraffic@gmail.com'Subject:PSA Request

Ms. Thomas,

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Please contact me if you need anything else or with any questions you may have.

Thank you for your help,

Melissa D. Fetman **Alliant Environmental, LLC** 7804 Pan American Fwy. NE, Suite 5 Albuquerque, NM 87109 (C) 505.385.3407 (F) 505.771.0793 www.alliantenv.com

Property Record Card

Eddy Assessor

Legal Description

LUCID ENERGY DELAWARE LLC

Account: R200265

Tax Area: CO_NR - CARLSBAD-OUT (Nonresidential) Acres: 122.000

Parcel: 4-164-138-202-066

Situs Address: E OF 1011 BOUNDS ROAD CARLSBAD, 88220

3100 MCKINNON ST STE 800 DALLAS, TX 75201-7014

Value Summary

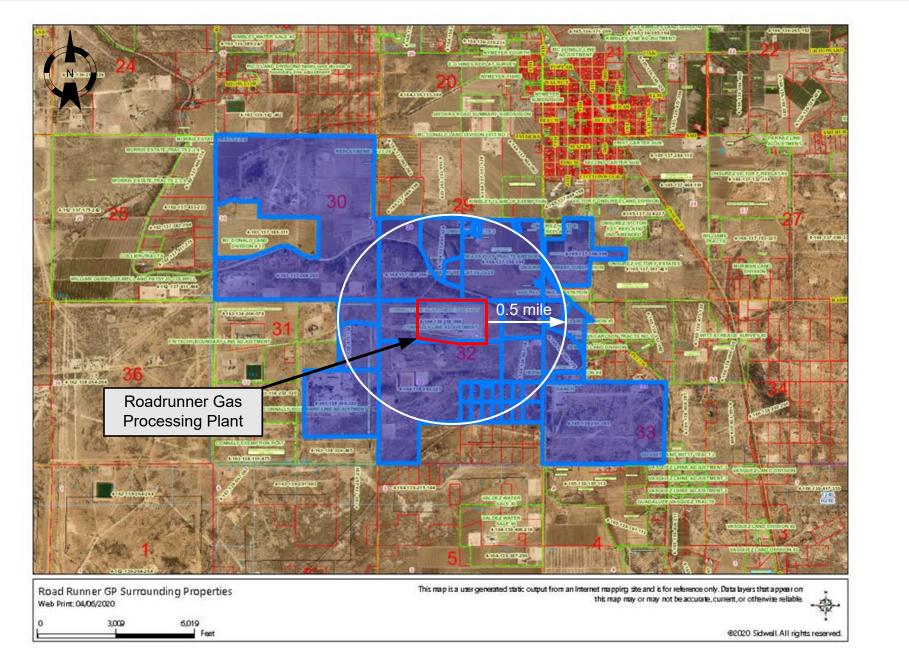
value Sulli	nai y		
Value By:	Market	Override	Subd: CONNALLY LINE ADJUSTMENT Tract: A THIS TRACT IS IN TWO DIFFERENT SEC'S AND HAS TO BE SOLD TOGETHER SEE 4 163-138-471-039 Quarter: NE S: 31 T: 23S R: 28E
Land (1)	\$220	N/A	-
Total	\$220	\$220	0
Public Rem	arks		
Entry Date	Model Remark		
	AVA Remark		

Entry Date	Model	Remark	
02/06/2017		BK 1091 PG 666	
Land Occu	irrence 1		

Property Code	0400 - AGRICULTURAL LAND	Land Code	122_1_8 - Grazing Land C - 1.8
Description	AGRICULTURAL LAND	Measure	A - Acres

Abstract Summary

Code	Classification	Actual Value Value	Taxable Value	Actual Value Override	Taxable Override
0400	AGRICULTURAL LAND	\$220	\$73	NA	NA
Total		\$220	\$73	NA	NA



			Area Map (Surrounding Land Owners)		Lucid Energy Delaware, LLC	
Scale:	Drawn by: MDF	Date: 4/8/2020	Roadrunner Gas Processing Plant N 32° 15' 56.71" Latitude W 104° 6' 29.97" Longitude	Project No.:	File Name: Roadrunner Figures	Figure: Section 9
	Chk'd by:	Date:		097-002		

Section 10

Written Description of the Routine Operations of the Facility

<u>A written description of the routine operations of the facility</u>. 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 Roadrunner Gas Processing Plant is a natural gas processing plant located in Eddy County. The primary function of the plant is to separate natural gas (methane) from heavier (liquid) hydrocarbons, raw sweet field gas so that the gas can meet pipeline specifications. The plant has been designated a primary Standard Industrial Classification (SIC) Code of 1311.

The operation of the Roadrunner Gas Processing Plant is intended to process 880 MMscfd of gas. The gas will be treated to remove CO_2 , H_2S , dehydrated to remove water and processed to remove heavy (liquid) hydrocarbons from the gas stream. Several plant systems will be involved to perform these functions.

Slug Catcher / Separator

A large slug catcher has been placed at the front of the plant to catch and separate any free hydrocarbon liquids and water present in the inlet pipeline gas stream. It is capable of handling large slugs of liquid brought into the plant from pipeline pigging operations. The equipment also serves as a three-phase separator to separate the free hydrocarbons, gas to be processed, and any water that may have condensed out in the pipeline after field dehydration.

<u>Stabilizers</u>

The overhead stabilization system is in place to lower the Reid Vapor Pressure (RVP) of the pipeline liquids and condensate after they are dropped out of the gas stream. Through a process that heats the condensate to flash off lighter hydrocarbons so the RVP is lowered to 9. The liquids out of the slug catcher are stabilized and sent to the tank farm for truck sales. Any remaining vapors are recycled back to the front of the Slug Catcher. The liquid in the tank farm is then stable and thus does not give off significant flashing vapors. Significant working and standing losses will occur at the tank farm. These emissions will be controlled with a vapor combustor.

Amine Treating

The amine units are designed to remove CO_2 and H_2S (from the natural gas stream) to meet pipeline specifications. In addition, the carbon dioxide can freeze in the cryogenic unit forming dry ice and forcing the shutdown of the facility. Amine treating is an exothermic chemical reaction process. The treating solution is a mixture of 50% RO water, 40% methyl-diethanolamine (MDEA) and 10% Piperazine. This aqueous mixture is regenerated and reused. Lean MDEA solution is pumped to the top of the contactor and allowed to flow downward. Wet gas is fed into the bottom of the contactor and flows upward.

As the lean MDEA solution flows down through the contactor, it comes into contact with the wet gas. The CO_2 and H_2S are absorbed by amine. The amine is now known as rich amine and the remaining gas is sweet and continues to the dehydration systems.

The regeneration of the amine utilizes two 55 MBTU/hr heaters per amine unit. Significant amounts of VOC and HAP can be generated in this process. The acid gas is sent to a thermal oxidizer where additional combustion will occur further minimizing emissions.

Glycol Dehydration

Triethylene glycol (TEG) is used to remove water from the natural gas stream. Water is saturated into the sweet gas stream during the Amine Treating process. This water is absorbed by the TEG solution. The wet gas is brought into contact with dry glycol in an absorber. Water vapor is absorbed in the glycol and consequently, the water content is reduced. The wet rich glycol then flows from the absorber to a regeneration system in which the entrained gas is separated and fractionated in a

Lucid Energy Delaware, LLC

column and re-boiler. The heating allows boiling off the absorbed water vapor and the water dry lean glycol is cooled (via heat exchange) and pumped back to the absorber.

The regeneration of the TEG utilizes a small (less than 10 MMBtu/hr) heaters per TEG dehydration unit. This process produces VOC and HAP emission. This stream is condensed. The wastewater stream is sent to a wastewater tank. The non-condensable stream is sent to the thermal oxidizer for control where further combustion reduces the emissions.

Molecular Sieve Dehydration

Molecular sieve dehydration is used upstream of the cryogenic processes to achieve a -160° F water dew point. The process uses three molecular sieve vessels with two vessels in service adsorbing moisture from the gas stream and the other vessel in the regeneration mode.

During the regeneration mode, hot, dry gas (regen gas) is passed up through the vessel to drive off the adsorbed moisture from the molecular sieve. The gas comes from the discharge of the residue compressors and it is passed through a heat exchanger and a heater to achieve a temperature of approximately 500°F. After the gas passes through the bed it is cooled in an air cooled exchanger. The water in the gas condenses and is separated from the gas stream in a separator. The regen gas is routed to the inlet of the cryogenic unit.

Cryogenic Unit

The cryogenic unit is designed to liquefy natural gas components from the sweet, dehydrated inlet gas by removing work from the gas be means of the turbo expander/compressor. The cryogenic unit recovers natural gas liquids (NGL) by cooling the gas stream to extremely cold temperatures (-160°F and lower) and condensing components such as ethane, propane, butanes and heavier. The gas is cooled by a series of heat exchangers and by lowering the pressure of the gas from around 950 PSIG to approximately 190 PSIG. Once the gas has passed through the system of heat exchangers and expansion it is re-compressed using the energy obtained from expanding the gas.

The gas will flow through the following heat exchangers:

- **Gas to Gas Exchanger** This unit exchanges heat from the warm inlet gas and the cold residue gas that has already been expanded. This cools the inlet gas.
- **Product Heater** This unit will cool the inlet gas by exchanging heat with the cold liquid product that has been recovered.
- **Side-Reboiler** This unit uses heat from the inlet gas to boil the methane out of the liquid. One stream comes off the side of the tower and one stream comes off of the bottom of the tower. This also cools the inlet gas.

The gas is expanded and recompressed in the expander/compressor.

SSM Flares

Three SSM flares are proposed. These flares' header system gathers hydrocarbons from Pressure Safety Devices in the plant, and routes them to the flares. These systems are also used to safely control blow-down hydrocarbons from equipment in the plant.

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, <u>Single Source Determination Guidance</u>, 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): Lucid Energy Delaware, LLC – Road Runner Gas Processing Plant

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

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

X Yes \Box No

<u>Common</u> <u>Ownership</u> or <u>Control</u>: Surrounding or associated sources are under common ownership or control as this source.

X Yes \Box No

<u>Contiguous or Adjacent</u>: Surrounding or associated sources are contiguous or adjacent with this source.

X Yes \Box No

C. Make a determination:

- X 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, <u>does not</u> 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):

Section 12.A PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

<u>A PSD applicability determination for all sources</u>. 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 <u>EPA New Source Review</u> <u>Workshop Manual</u> to determine if the revision is subject to PSD review.

- A. This facility is:
 - X 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 not one of the listed 20.2.74.501 Table I PSD Source Categories. The "project" emissions for this modification are not significant since this facility is a minor source for PSD. This is a modification but total facility emissions are presented below.
 - a. NOx: 130.8 TPY
 - b. CO: 230.1 TPY
 - c. VOC: 176.8 TPY
 - d. SOx: 22.7 TPY
 - e. PM: 11.2 TPY
 - f. PM10: 11.2 TPY
 - g. PM2.5: 10.8 TPY
 - h. Fluorides: 0 TPY
 - i. Lead: 0 TPY
 - j. Sulfur compounds (listed in Table 2): H₂S: 2.9 TPY
 - k. GHG: 291,473.8 TPY

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: <u>http://cfpub.epa.gov/adi/</u>

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

STATE REGULATIONS:

STATE		Applies		JUSTIFICATION:		
REGU- LATIONS CITATION	Title	? Enter Yes or No	Unit(s) or Facility	(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 Total Suspended Particulates, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC If your entire facility or individual pieces of equipment are subject to emissions 		
20.2.7 NMAC	Excess Emissions	Yes	Facility	Title V applications, see exemption at 20.2.3.9 NMAC		
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	No		this applies. This would not apply to Notices of Intent since these are not permits.This facility has no new gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit.		
20.2.34 NMAC	Oil Burning Equipment: NO ₂	No		This facility has no oil burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit.		
20.2.35 NMAC	Natural Gas Processing Plant – Sulfur	Yes	Facility	This regulation establishes sulfur emission standards for natural gas processing plants. The proposed facility meets the definition of a new natural gas processing plant under this regulation and is subject to the requirements of this regulation [20.2.35.7 (B) NMAC]. The facility will comply with all requirements under 20.2.35 NMAC as applicable.		
20.2.38 NMAC	Hydrocarbon Storage Facility	No		The proposed facility is not a tank battery or petroleum production facility as defined in this regulation [20.2.38.7 (D) and (E) NMAC]. The facility does not receive crude oil or condensate from a well. All gas and liquids enter the facility through a pipeline.		
20.2.39 NMAC	Sulfur Recovery Plant - Sulfur	No		This regulation establishes sulfur emission standards for sulfur recovery plants which are not part of petroleum or natural gas processing facilities. This regulation does not apply to the facility because it is superseded by 20.2.35 NMAC.		
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	EP-1, 2/3-EP-1, 4-EP-1, EP-2, 2-EP-2, 3-EP-2, 4-EP-2, EP-3A, EP-3B, 2-EP-3A, 2-EP-3B, 2-EP-3B, 2-EP-3B, 2-EP-4, 3-EP-4, 4-EP-4, EP-5, 2-EP-5, 3-EP-5, 4-EP-5, EP-6, 2-EP-6, EP-9, COMB-1,	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 such as 20.2.19 NMAC (see 20.2.61.109 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.)	
20.2.70 NMAC	Operating Permits	Yes	Facility	This regulation establishes requirements for obtaining an operating permit. The facility is a Title V major source.	
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	This regulation establishes a schedule of operating permit emission fees. The facility is subject to 20.2.70 NMAC and is therefore subject to requirements of this regulation.	
20.2.72 NMAC	Construction Permits	Yes	Facility	This regulation establishes the requirements for obtaining a construction permit. This facility is subject to 20.2.72 NMAC as per 20.2.72.202.C.1.a. Include both stack and fugitive emissions to determine PER.	
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	This regulation establishes emission inventory requirements. The facility meets the applicability requirements of 20.2.73.300 NMAC.	
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No		This regulation establishes requirements for obtaining a prevention of significant deterioration permit. The facility does not have the potential to emit greater than 250 tons per year of any criteria pollutant and, therefore, is not subject to this regulation.	
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	This facility is subject to 20.2.72 NMAC and is in turn subject to 20.2.75 NMAC for NSR permit application fees only. This facility is exempt from annual fees under this part (20.2.75.11.E NMAC) as it is subject to fees pursuant to 20.2.71 NMAC.	
20.2.77 NMAC	New Source Performance	Yes	Units subject to 40 CFR 60	This is a stationary source which is subject to the requirements of 40 CFR Part 60, as amended through September 23, 2013. This facility is subject to NSPS Subpart OOOOa, and NSPS Subpart Dc.	
20.2.78 NMAC	Emission Standards for HAPS	No		This facility does not emit hazardous air pollutants which are subject to the requirements of 40 CFR Part 61 and is therefore not subject to this regulation. This facility is an area source for HAPs.	
20.2.79 NMAC	Permits – Nonattainment Areas	No		This regulation establishes the requirements for obtaining a non-attainment area permit. The facility is not located in a non-attainment area and therefore is not subject to this regulation.	
20.2.80 NMAC	Stack Heights	No			
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	Units Subject to 40 CFR 63	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63, as amended through August 29, 2013. This facility is subject to a MACT standard, specifically Subpart HH.	

FEDERAL REGULATIONS

FEDERAL REGU- LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:	
40 CFR 50			Facility	If subject, this would normally apply to the entire facility. This applies if you are subject to 20.2.70, 20.2.72, 20.2.74, and/or 20.2.79 NMAC.	

FEDERAL REGU- LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	y JUSTIFICATION:	
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	Units subject to 40 CFR 60	t to Applies if any other Subpart in 40 CEP 60 applies	
NSPS 40 CFR60.40b Subpart Dc	Standards of Performance for Small Industrial- Commercial- Institutional Steam Generating Units	Yes	E P-2, 2-EP-2, 3-EP-2, 4-EP-2, EP-3A, EP-3B, 2-EP-3A, 2-EP-3B, EP-6, 2-EP-6,	This regulation establishes standards of performance for small industrial-commercial-institutional steam generating units. Several units will be installed or modified after June 9, 1989, with a heat input capacity greater than or equal to 10 MMbtu/hr but less than 100 MMbtu/hr. The units will only burn natural gas and therefore will not subject to performance tests, reporting requirements, or emission limits under this regulation. The facility will follow all record keeping requirements for these units.	
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 vessels with a capacity greater than or equal to 75 cubic meters (m ³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. However, this subpart does not apply as per 60.110b(d)(4) Vessels with a design capacity less than or equal to 1,589.874 m ³ used for petroleum or condensate stored, processed, or treated prior to custody transfer.	
NSPS 40 CFR 60, Subpart KKK	Subpart KKK— Standards Of Performance For Equipment Leaks Of Voc From Onshore Natural Gas Processing Plants For Which Construction, Reconstruction, Or Modification Commenced After January 20, 1984, And On Or Before August 23, 2011	No		This facility will have commenced construction after August 23, 2011. Thus the facility is not subject to this subpart.	
NSPS 40 CFR Part 60 Subpart LLL	Standards of Performance for Onshore Natural Gas Processing: SO ₂ Emissions	No		The facility is a natural gas processing plant, however, there is not sulfur recovery plant, thus this location does not meet the applicability criteria of 40 CFR 60.640	
NSPS 40 CFR Part 60 Subpart 00000	Standards of Performance for Crude Oil and Natural Gas Production,	No		Construction commenced after September 18, 2015	

FEDERAL REGU- LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:
	Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015			
NSPS 40 CFR Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	Yes		 D-1, D-2, D-3, D-4, 2-D-1, 2-D-2, 2-D-3, 2-D-4, 3-D-1, 3-D-2, 3-D-3, 3-D-4, 4-D-1. 4-D-2, 4-D-3, and 4-D-4 are electric driven compressors manufactured after September 18, 2015 and are thus subject to 60.5385a, 60.5410a, 60.5415a, and 60.5420a T-1, T-2, T-3, T-4, and T-5 are storage vessels constructed after September 18, 2015 with federally enforceable limitations that limit emissions to less than 6 tpy of VOCs. T-6 is a storage vessel that emits less than 6 tpy of VOCs. As such, T1::T6 are not subject to 60.5395a, 60.5410a, 60.5417a, 60.5420a EP-8 and 2-EP-8 are sweetening units as defined in this subpart and are constructed after September 18, 2015. Per 60.5365a(g) (3) these units are required to comply with 60.5423a(c) but not required to comply with 60.5405a through 60.5407 a and 60.5410a(g) and 60.5415a(g). The facility is defined as an onshore natural gas processing plant covered by 60.5400a, 60.5401a, 60.5402a, 60.5421a, and 60.5422a.
NSPS 40 CFR Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	No		There are no internal reciprocating compressor engines located on location.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	Units Subject to 40 CFR 63	Applies if any other Subpart in 40 CFR 63 applies.
MACT 40 CFR 63.760 Subpart HH	Oil and Natural Gas Production Facilities	Yes	EP-7, 2-EP-7, 3-EP-7, 4-EP-7	This regulation establishes national emission standards for hazardous air pollutants from oil and natural gas production facilities. The facility is an area source of HAPs and meets the definition of a natural gas processing plant. This regulation applies to units EP-7 and 2-EP-7. These units must comply with 40 CFR 63.764(d)(2) as area sources not located in a UA plus offset and UC boundary.
MACT 40 CFR 63 Subpart HHH		No		This facility is not a natural gas transmission or storage facility. Thus this subpart does not apply,

FEDERAL REGU- LATIONS CITATION	Title	Applies? Enter Yes or No	Unit(s) or Facility	JUSTIFICATION:	
MACT 40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters	No		This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. As this facility is not a major source of HAP, this subpart does not apply.	
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	No		There are no internal reciprocating compressor engines located on location.	
40 CFR 64	Compliance Assurance Monitoring	No		This is modification application is for a minor NSR permit.	
40 CFR 68	Chemical Accident Prevention	Yes	Facility	The facility is an affected facility, as it will use flammable process chemicals such as propane at quantities greater than the thresholds. The facility will develop and mintain a RMP Plan for these chemicals.	

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 <u>Operational Plan to Mitigate Emissions During Startups</u>, <u>Shutdowns</u>, <u>and Emergencies</u> 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.
- X 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 <u>Operational Plan to Mitigate Source Emissions</u> <u>During Malfunction, Startup, or Shutdown</u> 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.

Startup and shutdown procedures are either based on manufacturer's recommendations or based on Lucid's experience with specific equipment. These procedures are designed to proactively address the potential for malfunction to the greatest extent possible. These procedures dictate a sequence of operations that are designed to minimize emissions from the facility during events that result in shutdown and subsequent startup.

Equipment located at this facility is equipped with various safety devices and features that aid in the prevention of excess emissions in the event of an operational emergency. SSM emissions over the SSM emission limit, and any Malfunction emissions, will be reported as excess emissions. Corrective action to eliminate the excess emissions and prevent recurrence in the future will be undertaken as quickly as safety allows.

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.

This application is not seeking to permit any Alternative Operating Scenarios.

Section 16 Air Dispersion Modeling

- 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 (<u>http://www.env.nm.gov/aqb/permit/app_form.html</u>) 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).	Х
See #1 above. Note: Neither modeling nor a modeling waiver is required for VOC emissions.	
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3	
above.	
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.	Х
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.
- **X** 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.
- \Box No modeling is required.

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-	16-A: Identification				
1	Name of facility:	Road Runner Gas Processing Plant			
2	Name of company:	Lucid Energy Delaware, LLC			
3	Current Permit number:	7200-М2			
4	Name of applicant's modeler:	Martin R. Schluep			
5	Phone number of modeler:	(505) 205-4819			
6	E-mail of modeler:	mschluep@alliantenv.com			

16	16-B: Brief								
1	Was a modeling protocol submitted and approved?	Yes⊠	No□						
2	2 Why is the modeling being done? Adding New Equipment								
	Describe the permit changes relevant to the modeling.								
3	Lucid Energy Delaware, LLC (Lucid) owns and operates the Road Runner Gas Processing Plant located near Loving in Eddy County, NM. The most recent New Source Review (NSR) permit No. 7200-M2 was issued on November 28, 2018. Lucid is proposing a significant revision to its NSR Permit No. 7200-M2 to authorize a proposed expansion project to expand its current Road Runner Gas Processing Plant by adding two processing trains (processing trains 3 and 4).								
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	155						
	List the PSD baseline dates for this region (minor or major, as appropriate).							
8	NO2	3/16/1988						
0	SO2	7/28/1978						
	PM10	2/20/1979						
	PM2.5 11/13/2013							
	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits).							
9	The nearest Class I area is Carlsbad Caverns National Park at 32.5 km from the facility.							
10	Is the facility located in a non-attainment area? If so describe below $Yes \Box$ $No \boxtimes$							
11	Describe any special modeling requirements, such as stre	amline permit requirements.						
	N/A							

16-C: Modeling History of Facility 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). Latest permit and modification Pollutant number that modeled the Date of Permit Comments pollutant facility-wide. 7200-M2 CO 11/28/2018 NO_2 7200-M2 11/28/2018 7200-M2 11/28/2018 SO_2 1 H_2S 7200-M2 11/28/2018 PM2.5 7200-M2 11/28/2018 PM10 7200-M2 11/28/2018 TSP 7200-M2 11/28/2018 Lead N/A Ozone (PSD only) N/A NM Toxic Air

16	(20.2.72.402 NM		ned for this app	olication				
	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.							
1	Pollutant	ROI	Cumulative analysis	Culpability analysis	Waiver approved	Pollutant not emitted or not changed.		
	СО	\boxtimes	\boxtimes					
	NO ₂	\boxtimes	\boxtimes					

N/A

Pollutants

SO ₂	\boxtimes			
H_2S	\boxtimes			
PM2.5	\boxtimes	\boxtimes		
PM10	\boxtimes	\boxtimes		
TSP (N/A)				
Lead				\boxtimes
Ozone				\boxtimes
State air toxic(s) (20.2.72.402 NMAC)				

1	•E: New Mexico toxic air pollutants modeling 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. N/A – There are no New Mexico TAPs that are modeled for this application.								
	List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required.								
2	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							
	1	Date of surroundi	ng source retrieval	2/17/2020 (from NMED – Eric Peters)				
If the surrounding source inventory provided by the Air Quality Bureau was believed to be inaccurate, descrisources modeled differ from the inventory provided. If changes to the surrounding source inventory were may below to describe them. Add rows as needed.								
2		AQB Source ID	Description of Corrections					
		Various	Deleted Lucid Energy Road Runner Gas Plant sources since that is the site we are modeling for.					

16-H: Building and structure downwash

1	How many buildings are present at the facility?	Two (2) buildings					
2	How many above ground storage tanks are present at the facility?	Five (5) above ground storage tanks					
3	Was building downwash modeled for all buildings and tanks? If not explain why below.			No□			
4	Building comments	No comments					

16-	-I: Recept	ors and	modeled	property bou	Indary					
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.									
	The restricted	area at the fac	ility is defined	by a fence and entry g	ates.					
2				ccessible roads in the re restricted area?	estricted area.		Yes□	No⊠		
3	Are restricted	area boundary	coordinates ir	ncluded in the modeling	g files?		Yes⊠	No□		
	Describe the re	eceptor grids a	nd their spacin	ng. The table below ma	y be used, adding row	s as need	led.			
4	Grid Type	Shape	Spacing	Start distance from restricted area or center of facility	End distance from restricted area or center of facility	Comme	ients			
	D "									
	Describe recep	· ·				1: 0	1. 1.			
	Fenceline rece	ptors were pla	ced along the	facility boundary at lea	st every 50-meters in	linear fer	iceline distan	ce.		
	A rectangular all directions.	A rectangular fine grid receptor array was placed at 100- by 100-meter spacing from the fenceline outward to 1,000 meters in all directions.								
5		A medium receptor grid was placed at 250- by 250-meter spacing from the fine grid to areas beyond 2,500 meters if the radius of impact exceeds 1,000 meters.								
	A coarse recept of impact exce			00-meter spacing from	the medium grid to a	reas beyc	ond 5,000 me	ters if the radius		
				1,000-meter spacing finance fi		to areas	beyond 10,00	00 meters but no		

ſ		Describe the PSD Class I area receptors.
	6	PSD Class I area receptors were obtained from the NMED MergeMaster database.

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 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: Mo	deling	s Scena	arios							
1	rates, time etc. Altern	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).									
	The one sc	enario wh	ich was mo	odeled was	s SSM/M t	flaring wit	h all other	units opera	ting.		
	Which sce	nario prod	uces the hi	ghest conc	entrations	? Why?					
2	N/A – only	y one scena	ario was m	odeled							
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.)										
4		r duplicate							ore the factor if it makes fo		up.
	Hour of Day	Factor	Hour of Day	Factor							
	1		13								
	2		14								
	3		15				_				
	4		16								
5	5		17								
	6		18 19								
	8		20								
	9		20								
	10		22								
	10	1	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□			
	SSM emission rates from the flares were modeled for short term (lb/hr) and annual (tpy). The short term emission rates are much higher due to short term operation (flaring). The flares do not continuously flare waste gas.					

16-	L: NO ₂	Modeling						
	Which types Check all th	s of NO ₂ modeling were used? at apply.						
	\boxtimes	ARM2						
1		100% NO _X to NO ₂ conversion						
		D PVMRM						
		OLM						
		Other:						
2	Describe the NO ₂ modeling.							
-	ARM2 was used to convert from NO _X to NO ₂ .							
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 \boxtimes								
4	Describe the	Describe the design value used for each averaging period modeled.						
		n eighth high						
	Annual: Hig	hest Annual Average of Three Years						

16-	-M: Par	ticulate Matter Modeling							
	Select the p	Select the pollutants for which plume depletion modeling was used.							
1		PM2.5							
		PM10							
	\boxtimes	None							
2	Describe th	e particle size distributions used. Include the source of information.							
2	N/A	N/A							
3	Sources that	cility emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2 ? t emit at least 40 tons per year of NO_X or at least 40 tons per year of SO_2 are to emit significant amounts of precursors and must account for secondary of PM2.5.	Yes⊠	No□					
4	Was secondary PM modeled for PM2.5? Yes No								
5	If MERPs v below.	were used to account for secondary PM2.5 fill out the information below. If anothe	er method was	used describe					

NO _X (ton/yr)	SO ₂ (ton/yr)	[PM2.5] _{annual}	[PM2.5] _{24-hour}
130.81	22.72	0.01 ug/m ³	0.25 ug/m ³

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.
	N/A
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.
	N/A

16-	-O: PSD In	crement and So	ource IDs				
1	The unit numbe modeling files.		es⊠	No□			
	Unit Number in UA-2 Unit Number in Modeling File						
2		tes in the Tables 2-E and 2 not, explain why below.	-F should match the	ones in the modeling file	es. Do Y	es⊠	No□
3	Have the minor been modeled?	NSR exempt sources or Tr	itle V Insignificant A	Activities" (Table 2-B) so	ources Y	es□	No⊠
4	Which units consume increment for which pollutants? All units consume increment. SO ₂ modeling shows site-wide concentrations for all averaging periods below the SIL; therefore, no PSD Increments analysis is required for SO ₂ . Site-wide and unit specific PM _{2.5} and PM ₁₀ do not increase with this permitting action. Total PM _{2.5} and PM ₁₀ emission rates decrease; therefore, no PSD Increments analysis for PM _{2.5} and PM ₁₀ is required.						
4	Tates util tast,	therefore, no PSD Increa	ments analysis for l	PM _{2.5} and PM ₁₀ is requi	red.		PM ₁₀ emission
	Unit ID	therefore, no PSD Increa	ments analysis for 1 SO ₂	PM _{2.5} and PM ₁₀ is requi PM10	red.	PM2.5	PM10 emission
					red.	PM2.5	PM ₁₀ emission
5	Unit ID PSD increment (for unusual cas after baseline da	NO ₂ description for sources. es, i.e., baseline unit expar tte).	SO ₂	PM10		PM2.5	PM ₁₀ emission
5	Unit ID PSD increment (for unusual cas after baseline da Are all the actua This is necessar	NO ₂ description for sources. es, i.e., baseline unit expar	SO ₂ nded emissions ed in Table 2A of the PSD increment mod	PM10 N/A e application form, as req leling. If not please expla	uired? iin Y	PM2.5	

16-P: Flare Modeling							
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)	
	EP-1		23.2 g/mol		6.87*10^8 cal/s	22.98 m	
	2/3-EP-1		23.2 g/mol		1.37*10^9 cal/s	32.50 m	
	4-EP-1		23.2 g/mol		6.87*10^8 cal/s	22.98 m	

16-	-Q: Volume and Related Sources							
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⊠					
	Describe the determination of sigma-Y and sigma-Z for fugitive sources.							
2	Actual road width was measured at 28.3 ft (8.62 m).							
3	Describe how the volume sources are related to unit numbers. Or say they are the same.							
	The total haul road emission rates are under ID "HAUL". In the model, the haul road was modeled with seven (7) volume sources with ID's "Haul1 through Haul7".							
	Describe any open pits.							
4	N/A							
5	Describe emission units included in each open pit.							
5	N/A							

16-	16-R: Background Concentrations						
	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□				
1	CO: N/A						
	NO ₂ : Outside Carlsbad (350151005)						
	PM2.5: Hobbs-Jefferson (350450019)						
	PM10: Hobbs-Jefferson (350250008)						

	SO ₂ : N/A							
	Other:	Other:						
	Comments:	Note, CO and SO ₂ sitewide modeling showed concentrations below the Significative averaging periods.	int Impact Level	ls for all				
2	Were background concentrations refined to monthly or hourly values? If so describe below. $Yes \Box$ No \boxtimes							

16-	16-S: Meteorological Data					
	Was NMED provided meteorological data used? If so select the station used.					
1	Carlsbad Dataset used: OS_CARLSBAD2014_2018	Yes⊠	No□			
2	If NMED provided meteorological data was not used describe the data set(s) used below. Discu handled, how stability class was determined, and how the data were processed.	ss how missing	data were			

16-	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?						
_	http://nationalmap.gov/viewer.html						

Describe the modeling files:						
Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)					
NO2, SO2, H2S, CO, PM2.5, PM10	SIL/ROI, cumulative					
NO2, SO	SIL/ROI					
PM2.5, PM10	cumulative					
NO2	PSD Increment					
	NO2, SO2, H2S, CO, PM2.5, PM10 NO2, SO PM2.5, PM10					

16-	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	2If not, did AQB approve an exemption from preconstruction monitoring?YesNo							
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□					

1		Ing Results 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 as nece		oncentrations	from the modeli	ng analysis. Row	vs may be mo	odified, adde	ed and remove	ed from the tabl	e below
Pollutant, Time Period	Mode Facil	ity	Modeled Concentration with	Secondary PM	Background Concentration	Cumulative Concentration	Value of	Percent		Location	
and Standard	Concentration (µg/m3)		Surrounding Sources (µg/m3)	(µg/m3)	(µg/m3)	Standard (µg/m3)	of Standard	UTM E (m)	UTM N (m)	Elevation (m)	
CO 1-hr	2,375.95	5	N/A	N/A	2,203	4,578.95	14,997.5	30.5	583,968.9	3,570226.4	951.86
CO 8-hr	397.67		N/A	N/A	N/A	N/A	<sil< td=""><td>N/A</td><td>583,968.9</td><td>3,570226.4</td><td>951.86</td></sil<>	N/A	583,968.9	3,570226.4	951.86
H ₂ S 1-hr	1.17		N/A	N/A	N/A	N/A	<sil< td=""><td>N/A</td><td>583,848.3</td><td>3,570,528.6</td><td>948.75</td></sil<>	N/A	583,848.3	3,570,528.6	948.75
SO ₂ 1-hr	7.04		N/A	N/A	N/A	N/A	<sil< td=""><td>N/A</td><td>583,700.0</td><td>3,570,200.0</td><td>957.12</td></sil<>	N/A	583,700.0	3,570,200.0	957.12
SO ₂ 3-hr	5.59		N/A	N/A	N/A	N/A	<sil< td=""><td>N/A</td><td>583,800.0</td><td>3,570,100.0</td><td>952.58</td></sil<>	N/A	583,800.0	3,570,100.0	952.58
SO ₂ 24-hr	2.53		N/A	N/A	N/A	N/A	<sil< td=""><td>N/A</td><td>583,800.0</td><td>3,570,000.0</td><td>949.55</td></sil<>	N/A	583,800.0	3,570,000.0	949.55
SO ₂ Annual	0.18		N/A	N/A	N/A	N/A	<sil< td=""><td>N/A</td><td>583,943.9</td><td>3,570,534.3</td><td>948.40</td></sil<>	N/A	583,943.9	3,570,534.3	948.40
NO_2 1-hr	75.50		N/A	N/A	38.70	84.23	188	44.8	583,968.9	3,570226.4	951.86
NO ₂ Annual	3.95		N/A	N/A	5	8.95	94	9.5	583,617.3	3,570,532.7	949.28
$PM_{2.5}$ 24-hr	2.13		16.71	0.25	13.40	30.36	35	86.7	583,868.3	3,570,225.8	952.81
PM _{2.5} Annual	0.37		3.60	0.01	5.90	9.51	12	79.2	584,269.7	3,570,439.1	947.19
PM ₁₀ 24-hr	20.53		27.97	N/A	37.30	65.27	150	43.5	583,826.1	3,570,235.1	953.31

Please see attached modeling results table for detailed results and NO₂ PSD Increment results.

16-X: Summary/conclusions

A statement that modeling requirements have been satisfied and that the permit can be issued.

Lucid Energy Delaware, LLC has demonstrated through this air dispersion modeling analysis that the proposed revisions to the existing facility neither cause nor contribute to an exceedance of the applicable standards.

Units	Criteria Pollutant	Averaging Period	Significance Level (ug/m ³)	NAAQS (ug/m ³)	GLC _{max} (ug/m ³)	GLC _{max} < Significance Level? If Yes, NAAQS is met (ug/m ³)	ROI (m)
Site-wide	NO ₂	1-hour	7.5	188.03	75.50	No	15,250
Site-wide	NO ₂	Annual	1.0	94.02	3.95	No	679.2
Site-wide	PM _{2.5}	24-hour	1.2	35	2.13	No	484.4
Site-wide	PM _{2.5}	Annual	0.2	12	0.37	No	172.0
Site-wide	PM ₁₀	24-hour	5.0	150	20.53	No	288.5
Site-wide	CO	1-hour	2000	14,998	2,375.95	No	182.1
Site-wide	со	8-hour	500	9,960	397.67	Yes, no further analysis required	0.0
Site-wide	SO ₂	1-hour	7.8	196.4	7.04	Yes, no further analysis required	0.0
Site-wide	SO ₂	3-hour	25.0	1,309.3	5.59	Yes, no further analysis required	0.0
Site-wide	SO ₂	24-hour	5.0	261.9	2.53	Yes, no further analysis required	0.0
Site-wide	SO ₂	Annual	1.0	52.4	0.18	Yes, no further analysis required	0.0
Site-wide	H ₂ S	1-hour	5.0	139.3	1.17	Yes, no further analysis required	0.0
Project	PM _e c	24-bour	1.2	35	1 10	Yes, no further	0.0

Table 16-1: Significant Impacts Level Analyses and ROI's

Project Increases	PM _{2.5}	24-hour	1.2	35	1.19	Yes, no further analysis required	0.0
Project Increases	PM _{2.5}	Annual	0.2	12	0.12	Yes, no further analysis required	0.0

Table 16-2: N/NMAAQS Analyses

Units	Criteria Pollutant	Averaging Period	NAAQS	GLC _{max}	Background Concentration	Secondary PM _{2.5}	GLC _{max} incl. Background conc.	GLC _{max} incl. Background conc. < NAAQS?	ROI (m)	Percent of Standard
			(ug/m ³)	(ug/m ³)	(ug/m³)	(ug/m ³)	(ug/m ³)			(%)
Site-wide	NO ₂	1-hour	188.03	45.53	38.70		84.23	Yes	15,250	44.8
Site-wide	NO ₂	Annual	94.02	3.95	5.00		8.95	Yes	679	9.5
Site-wide	PM _{2.5}	24-hour	35	16.71	13.40	0.25	30.36	Yes	484	86.7
Site-wide	PM _{2.5}	Annual	12	3.60	5.90	0.01	9.51	Yes	172	79.2
Site-wide	PM ₁₀	24-hour	150	27.97	37.30		65.27	Yes	289	43.5
Site-wide	CO	1-hour	14997.5	2,375.95	2203		4578.95	Yes	182	30.5

Note:

1-hour NO₂ GLC_{max} is the high $8^{\text{th}}_{\text{rt}}$ high.

Annual NO_2 GLC_{max} is the high 1st high.

 $\text{PM}_{2.5}\!\!:$ 24-hour modeled concentrations is the high 8^{th} high.

 $\text{PM}_{2.5}\!\!:$ Annual modeled concentrations is the high 1^{st} high.

 PM_{10} : 24-hour modeled concentrations is the high 2^{nd} high.

CO: 1-hour modeled concentratio is high 1st high.

Background Concentrations:

1-hour and annual NO₂ background concentration added from ID: 5ZR, 350151005 Outside Carlsbad: Holland St., SE of Water Tank, Carlsbad, NM 24-hour and annual PM_{2.5} background concentration added from ID: 5ZS, 350250008: Hobbs-Jefferson: 2320 N. Jefferson St., Hobbs, NM 24-hour PM₁₀ background concentration added from ID: 5ZS, 350250008: Hobbs-Jefferson: 2320 N. Jefferson St., Hobbs, NM 1-hour CO background concentration added from ID: 350010023, Del Norte High School, 4700a San Mateo NE, Albuquerque, NM.

Surrounding Sources:

Surrouding Sources, in addition to background concentrations, for PM₁₀ and PM_{2.5} were added within 10km of the Road Runner Gas Processing Plant.. Surrounding source data was provided by NMED.

PM2 5 Secondary Formation:

24-hr = ((NO _x emission rate (tpy) / 1155) + (SO ₂ emission rate (tpy) / 229)) x 1.2 ug/m ³	
= ((130.81 tpy NO _x / 1155) + (22.72 tpy SO ₂ / 229) x 1.2 ug/m ³ = 0.25	ug/m³
Annual = $((NO_x \text{ emission rate (tpy) / 3184}) + (SO_2 \text{ emission rate (tpy) / 2289})) \times 0.2 \text{ ug/}$	m ³
= ((130.81 tpy NO _x / 3184) + (22.72 tpy SO ₂ / 2289) x 0.2 ug/m ³ = 0.01	ug/m°

Table 16-3: PSD Increments Analysis

Units	Criteria Pollutant	Averaging Period	Class I PSD Significance Level	Class I PSD Increment Level	GLC _{Class I}	GLC _{Class I} < Significance Level? If Yes, NAAQS is met	Class II PSD Increment	GLC _{max}	Secondary PM _{2.5}	GLC _{Class I} < PSD Class I Increment?	GLC _{max} < PSD Class II Increment?
			(ug/m ³)	(ug/m ³)	(ug/m ³)		(ug/m ³)	(ug/m ³)	(ug/m ³)	(ug/m ³)	(ug/m ³)
Site-wide	NO ₂	Annual	0.1	2.5	0.002	Yes	25.00	3.95		Yes	Yes

Note:

Modeled site-wide SO₂ concentrations are below the SIL for each averaging period; therefore, PSD Increments are not cosumed and a PSD Increment analysis is not required.

Site-wide and emission unit specific emission rates for PM_{2.5} and PM₁₀ decrease with this permitting action; therefore, a PSD Increment analysis is not required. Project increases only (new sources), are below the SILs for PM.

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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

The Facility does not have a compliance test history at this point.

Addendum for Streamline Applications

Do not print this section unless this is a streamline application.

Streamline Applications do not require a complete application. Submit Sections 1-A, 1-B, 1-D, 1-F, 1-G, 2-A, 2-C thru L, Sections 3 thru 8, Section 13, Section 18, Section 22, and Section 23 (Certification). Other sections may be required at the discretion of the Department. 20.2.72.202 NMAC Exemptions do not apply to Streamline sources. 20.2.72.219 NMAC revisions and modifications do not apply to Streamline sources, thus 20.2.72.219 type actions require a complete new application submittal. Please do not print sections of a streamline application that are not required.

Not Applicable

Requirements for Title V Program

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

Who Must Use this Attachment:

* Any major source as defined in 20.2.70 NMAC.

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

Not Applicable

Other Relevant Information

<u>Other relevant information</u>. 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.

No other relevant information is being submitted with this application.

Addendum for Landfill Applications

Do not print this section unless this is a landfill application.

Not Applicable

4/17/2020 Revision #0

Section 22: Certification

Company Name: Lucid Energy Delaware, LLC

I, Matthew Eales, 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 <u>17</u> day of <u>April</u>, <u>2020</u>, upon my oath or affirmation, before a notary of the State of

*Signature

Matthew Eales	
Printed Name	

Scribed and sworn before me on this 13	$\frac{7}{2}$ day of \underline{A}	pril.	2020

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

12th day of une, 2022.

Notary's Signature

Harmor Juma $\langle \gamma \rangle$ Notary's Printed Name

WILMA M. HARMON NOTARY PUBLIC, STATE OF NEW MEXICO MY COMMISSION EXPIRES 6-12-2022

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

Vice President EHSR Title

April 17, 2022 Date

OFFICIAL SEAL

LUCID ENERGY DELAWARE, LLC

		-, == -				010500
			VENDOR	CHECK DATE		
NEW MEXICO I	ENVIRONMENT INVOICE	DEPT	652662	03/31/2	DISCOUNT	AMOUNT
INVOICE NUMBER					TAKEN	PAID
500-033120	DATE 03/31/20	159756			\$0.00	\$500.00
000 000120	00/01/20	100/00		Total:	\$0.00	\$500.00
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LUCID ENERGY DELAWARE, LLC 3100 MCKINNON STREET, STE 800 DALLAS TX 75201-6951 214-420-4950

WELLS FARGO BANK, N.A. PO Box 63020 San Francisco, CA 94163

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PAY **********500 Dollars and 00 Cents

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**** NOT NEGOTIABLE ****

NEW MEXICO ENVIRONMENT DEPT

то THE ORDER OF

AIR QUALITY BUREAU 525 CAMINO DE LOS MARQUEZ SANTA FE,NM 87507