STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0573-AOP-R15 AFIN: 70-00040

1. PERMITTING AUTHORITY:

   Arkansas Department of Environmental Quality
   5301 Northshore Drive
   North Little Rock, Arkansas 72118-5317

2. APPLICANT:

   El Dorado Chemical Company
   4500 North West Avenue
   El Dorado, Arkansas 71730

3. PERMIT WRITER:

   Joseph Hurt

4. PROCESS DESCRIPTION AND NAICS CODE:

   NAICS Description: Nitrogenous Fertilizer Manufacturing
   NAICS Code: 325311

5. SUBMITTALS:

   11/14/2012

6. REVIEWER'S NOTES:

   El Dorado Chemical Company (EDCC) owns and operates a chemical manufacturing facility located at 4500 North West Avenue in El Dorado, Arkansas. On May 14, 2012, a reactor at the Direct Strong Nitric Acid Plant (DSN Plant) exploded, causing irreparable damage to this process unit. With this modification the facility requested to install a Selective Catalytic Reduction (SCR) Unit and install a natural gas fired heater (Tail Gas Heater, SN-48) at the DM Weatherly Nitric Acid Plant (SN-13). The permitted emission increases include 0.7 tpy of $PM/PM_{10}/PM_{2.5}$, 0.1 tpy of SO_2, 0.5 tpy of VOC, 7.3 tpy of CO, 4.3 tpy of NO_x, and 6.2 tpy of NH_3. With this permitting action, the potential Green House Gas (GHG) emissions from SN-13 and SN-48 are being added to the permit. The potential GHG emissions from SN-13 and SN-48 include 292,384.3 tpy of CO_2e and 910.0 tpy of N_2O.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

The facility was last inspected on February 28, 2012. The facility was found to be operating out of compliance in regards to the NO_x CEMS associated with SN-22 quarterly excess emission report. The facility reported 13,348 minutes of monitor downtime, which equals 10.18% of the quarter. It was noted that 10,456 minutes of the reported downtime were due to emissions exceeding the span of the monitor during startup events of the plant.

8. PSD APPLICABILITY:

a. Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N

b. Is the facility categorized as a major source for PSD? Y
- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list, or*
- *CO_2e potential to emit ≥ 100,000 tpy and ≥100 tpy/≥250tpy of combined GHGs?*

If yes, explain why this permit modification is not PSD.

A significant emissions increase did not occur due to installing a SCR and a Tail Gas Heater at the DM Weatherly Nitric Acid Plant. The hybrid test for projects that involve multiple types of emissions units indicated that there would be the following increases:

Pollutant	Emission Increase (tpy)	PSD Significance Rates (tpy)	PSD Review Required? (Yes/No)
CO	7.3	100	No
NO_x	4.3	40	No
SO_2	0.1	40	No
PM	0.7	25	No
PM_{10}	0.7	15	No
$PM_{2.5}$	0.7	10	No
VOC	0.5	40	No
Lead	0.00005	0.6	No
CO_2e	58,922.7	75,000	No

9. GHG MAJOR SOURCE (TITLE V):

Indicate one:

☒ Facility is classified as a major source for GHG and the permit includes this designation

☐ Facility does not have the physical potential to be a major GHG source

☐ Facility has restrictions on GHG or throughput rates that limit facility to a minor GHG source. Describe these restrictions: _____

10. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-41	PM_{10}	PSD
SN-13	NO_x	40 CFR Part 60, Subpart G
SN-07	SO_2 and sulfuric acid mist	40 CFR Part 60, Subpart H
SN-25	There are no specific emission limits or pollutants identified, but the rules generally regulate HAPs	40 CFR Part 63, Subpart CCCCCC

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. MODELING:

Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
PM_{10}	172.2	150	24-Hour	136.49246[a, *]	91.00 %
SO_2	92.3	80	Annual	13.29965[a]	16.63 %
		1300	3-Hour	555.91071[a]	42.77 %
		365	24-Hour	129.21823[a]	35.41 %
CO	25.7	10,000	8-Hour	36.35510[a]	0.37 %
		40,000	1-Hour	89.98168[a]	0.23 %
NO_x	593.3	100	Annual	34.28864[a] (2011)	35 %

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
Pb		0.15	Rolling 3-month Period over 3 years (not to be exceeded in any 3 month period)	N/A	N/A

* - Includes background (27 $\mu g/m^3$ for annual average, 53 $\mu g/m^3$ for 24-hour average). Also includes modeling PM_{10} with startup and shutdown limits.
a. The increases in emissions with this modification were not modeled. The facility will undergo a PSD analysis with the expansion project that will be submitted in the first quarter of 2013. Therefore, no criteria pollutants were modeled with this minor modification application.

Non-Criteria Pollutants:

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Hexane	176.2	19.3	0.6	Yes
HNO_3	5.1	0.567	16.9	NO
H_2SO_4	0.2	0.022	2.90	NO
NH_3	17.4	1.9	159.2	NO
SO_3	1.0[1]	0.11	0.05	Yes

1. Obtained from Texas' Effects Screening Level (ESL) document.

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
HNO_3	51.0	23.17783	YES
H_2SO_4	2.0	0.46782	YES
NH_3	174	113.24319	YES

Other Modeling:

H_2S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H_2S Standards N
If exempt, explain:_____

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H_2S	20 parts per million (5-minute average*)	0.056 ppm (47.5$\mu g/m^3$)	YES
	80 parts per billion (8-hour average) residential area	12.18 (17 $\mu g/m^3$)	YES
	100 parts per billion (8-hour average) nonresidential area	12.18 (17 $\mu g/m^3$)	YES

*To determine the 5-minute average use the following equation

$Cp = Cm\ (t_m/t_p)^{0.2}$ where

Cp = 5-minute average concentration
Cm = 1-hour average concentration
t_m = 60 minutes
t_p = 5 minutes

13. CALCULATIONS:

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
05	Testing	PM_{10} – 13.0 lb/hr, 0.96 lb of PM_{10} per ton of ammonium nitrate produced. With SN-17's exhaust routed to SN-05 21.6 lb/hr x (1-0.95) =1.1 lb/hr PM	Brinks Scrubber	-	97% particulate control efficiency. 95% particulate control efficiency is used in calculations as Brinks scrubber control efficiencies for the exhaust from SN-17 passing thru Brinks scrubber.
	Engineering Estimate	3.5 +5.0 = 8.5 lb/hr NH_3	Brinks Scrubber	-	-
06	Testing	PM_{10} – 67.0 lb/hr, 0.96 lb of PM_{10} per ton of ammonium nitrate produced.	-	-	Uncontrolled. Maximum prill production rate is 54 tons/hour.
07	NSPS limit	SO_2 – 92.0 lb/hr	Brinks Mist Eliminator	-	Remain the previous permitted limit
	Testing	H_2SO_4 – 0.123 lb/ton	Brinks Mist Eliminator	-	-
08	Testing	NO_X - 200.1 lb/hr Ammonia – 40.0 lb/hr	Refrigeration SCR	~98.5%	11.5 lb/ton x 17.4 ton/hr = 200.1 lb/hr

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
09	Testing	NO_X - 200.1 lb/hr Ammonia – 40.0 lb/hr	Refrigeration SCR	~98.5%	11.5 lb/ton x 17.4 ton/hr = 200.1 lb/hr
10	AP-42	NO_X - 10.0 lb/ton	best operation	-	-
	Highest lb/hr from Stack Test results of 2001-2004	HNO_3 – 0.389 x 1.25 x 40/8.5 = 2.3 lb/hr +1.1 lb/hr from car barn NO_X - 3.3 x 1.25 x 40/8.5 = 19.5 lb/hr	-	-	Maximum nitric acid production rate is 8.5 tons/hr, and maximum nitric acid blend production is 40 tons/hr. Stack test + 25% safety factor.
13	NSPS	3.0 lb/ton of acid	refrigerated absorption	-	-
14	Testing	PM_{10} - 44.2 lb/hr	none	-	Hourly emission rate increase as a result of a fail stack testing. 44.2 lb/hr is based on March 2, 2004 stack test data. Average + Std. Deviation = 36.18 + 8.0 38.5 tph of AN production maximum
15	Testing	PM_{10} – 17.0 lb/hr	none	-	38.5 tph of AN production maximum
	Testing	NH_3 – 18.0 lb/hr	none	-	38.5 tph of AN production maximum

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
16A & 16B	AP-42	PM_{10} – 7.6 lb/MMSCF SO_2 – 0.6 lb/MMSCF VOC – 5.5 lb/MMSCF CO – 84 lb/MMSCF NO_X - 280 lb/MMSCF	none	-	-
17	Testing	PM_{10} – 21.6 lb/hr	Pease-Anthony Scrubber	-	Routed to SN-05
	Testing	NH_3 – 5.0 lb/hr	Pease-Anthony Scrubber	-	Routed to SN-05
18	Process Knowledge	PM_{10} – 0.033 lb/ton	Baghouse	-	38.5 tph of AN production maximum
19	PM – 50,556 scfm x 011677 lb/mmft^3 x 60 min/hr x 1.2 NH_3 - 50,556 scfm x 25 ppm x 17.1 lb/lb-mol x lb-mol/385.2 ft^3 60min/hr x 1.2	-	-	-	
21	Testing	PM_{10} – 0.1 lb/ton	Brinks Scrubber	-	38.5 tph of AN production maximum
	Testing	NH_3 – 1.0 lb/ton	Brinks Scrubber	-	38.5 tph of AN production maximum

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
22	CEM	NO_X - 3.0 lb/ton	cryogenic absorption	-	-
	Process Knowledge	HNO_3 – 10.0 lb/hr	cryogenic absorption	-	-
25	TANKS3	VOC	none	-	-
26	TANKS3	NH_3	none	-	-
27	AP-42	PM_{10} – 0.0001 lb/ton	none	-	-
28	AP-42	PM_{10} – 0.0001 lb/ton	none	-	-
29	AP-42	HNO_3 – 0.53 lb/1000 gallons	none	-	-
30	AP-42 Section 5.2	H_2SO_4 – 0.0281 lb/1000 gallons	none	-	L_L = 12.46 x SPM/T =12.46 x 1.45 x 0.01 x 98.06/630
31	SOCMI	NH_3 – 0.5 lb/hr	none	-	-
32	SOCMI	NH_3 – 1.3 lb/hr	none	-	-
33	Process Knowledge	NO_X – 1.9 lb/hr	none	-	-
	Process Knowledge	HNO_3 – 1.8 lb/hr	none	-	-
34	Process Knowledge	PM_{10} – 0.7 lb/ton x 1.16 ton/hr	none	-	-
35	Process Knowledge	PM_{10} – 2.0 lb/hr	baghouse	99%	-

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
38	EF_{PM} = Total liquid drift (lb/1000 gal) x TDS Fraction (ppm) = 1.7 lb/1000 gal x 1,560 ppm PM10 = EF_{PM} x flowrate = 9,000 gpm x EF_{PM}			0.17 lb/1000 gal is design drift loss percent provided by AP-42. Table 13.4-1	
39	EF_{PM} = Total liquid drift (lb/1000 gal) x TDS Fraction (ppm) = 1.7 lb/1000 gal x 1,560 ppm PM10 = EF_{PM} x flowrate = 14,000 gpm x EF_{PM}			1.7 lb/1000 gal is design drift loss percent provided by AP-42. Table 13.4-1	
40	Engineering estimate	NH_3 – 1.6 lb/hr during laoding			1.6 lb/hr per truck x 2 trucks per day
41	Stack testing	NH_3 – 10.0 lb/hr PM/PM10 – 3.3 lb/hr	Chemical steam scrubber	-	24-hr BACT limit is 13.7 lb/hr 30-day rolling BACT limit is 3.3 lb/hr

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
42	EF_{PM} = Total liquid drift (lb/1000 gal) x TDS Fraction (ppm) = 0.17 lb/1000 gal x 1,560 ppm PM10 = EF_{PM} x flowrate = 16,000 gpm x EF_{PM}	-	-	0.17 lb/1000 gal is design drift loss percent provided by manufacturer.	
43	EF_{PM} = Total liquid drift (lb/1000 gal) x TDS Fraction (ppm) = 1.7 lb/1000 gal x 1,560 ppm PM10 = EF_{PM} x flowrate = 2,000 gpm x EF_{PM}			1.7 lb/1000 gal is design drift loss percent provided by AP-42. Table 13.4-1	
44	Mass Balance for sulfur oxides and sulfuric acid. Stack test from similar plant plus a safety factor of 25%.	Scrubber	-	-	
46	3000 gpm x 0.000064 x 1,560 ppm = 0.2 lb/hr PM_{10}	-	-	0.0064% is design drift loss percent provided by manufacturer.	

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
13	NSPS EPA/DOJ Vendor Info	NO_2 (3-hr): 3.0 lb/ton NO_2 (3-hr): 1.0 lb/ton (excluding SSM) NO_2 (rolling 365-days): 0.6 lb/ton NH_3: 20 ppm	SCR	95%	After installation of SCR and Tail gas preheater
48	AP-42 Table 1.4-1 40 CFR Part 98 Subpart A Equation A-1	lb/MMscf: 84 CO 50 NO_x 7.6 PM 0.6 SO_2 5.5 VOC 0.0005 Lead kg/MMBtu: 53.2 CO_2 0.001 CH_4 0.0001 N_2O	--	--	20 MMBtu/hr natural gas fired preheater

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
10	NOx	7E	Every five years	Necessary for efficiency check on Venturi & Packed Tower Scrubber
10	HNO_3	Approved method	Every five years	Necessary for efficiency check on Venturi & Packed Tower Scrubber
07	SO_2	6C	Initial performance test	NSPS Requirement
05	PM_{10}	Approved method	Every five years to do an analysis. See Specific Condition 64.	Necessary to prove that PSD has not been triggered.
17	NH_3	Approved Method	Every five years or upon failure, pass two consecutive stack testings to go back to the five years cycle.	Necessary to prove that PSD has not been triggered.
14, 15, & 21	PM_{10}	Method 5 or 201A, and 202	Within 180 days of issuance of permit 0573-AOP-R12 and annually thereafter for SN-14 and SN-21. Annually for SN-15.	Necessary to prove that PSD has not been triggered.
15	NH_3	Approved method	Annually until 2 consecutive passes, then once every 5 years	Necessary to prove adherence to the non-criteria pollutant strategy.
21	NH_3	Approved method	Annually until 3 consecutive passes, then once every 3 years	Necessary to prove adherence to the non-criteria pollutant strategy.
44	SO_2 NO_x H_2SO_4 HNO_3	Approved method	Every five years	Necessary to prove adherence to the non-criteria pollutant strategy.
08 & 09	NH_3	CTM-027	Every five years	Verify emissions
13	N_2O	Method 320 or approved method	No later than March 28, 2013, and annually thereafter	Necessary to prove that PSD has not been triggered.

15. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
13 & 22	NOx emission rate	CEM	Continuously	Y
07	SO_2 emission rate	CEM	Continuously	Y
08 & 09	NOx emission rate	CEM	Continuously	Y
41	Ammonia and particulate emission rates	Daily sampling consisting of two 12-hour composite sample	Continuously	Y

16. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
08 & 09	weak nitric acid production	304,775 tons/12 months	Monthly	Y
13	weak nitric acid production	140,000 tons/12 months	Monthly	Y
22, 10, & Facility	concentrated nitric acid production	SN-22 - 118,260 tons/12 months;	Monthly	Y
10	Scrubber parameter	hydrogen peroxide concentration	Daily	N
29	nitric acid shipped	200,000 tons/12 months	Monthly	Y
07	Sulfuric acid production	200,750 ton/12 months	Monthly	Y
	Sulfuric acid production	550 tons of 100% sulfuric acid per day	Daily	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
07	Sulfuric acid emission limit	4.0 lb of SO_2 per ton of acid production, expressed as 100% H_2SO_4, and based on a 3-hr average.	Continuously and averaged every 3-hours	N
	Annual SO_2 Emissions (tpy on a calendar basis)	N/A	Annually	N
30	Sulfuric acid shipped	200,750 tons/12 months	Monthly	Y
All E2 Plant	Production	473,040 tons/12 months	Monthly	Y
05	Scrubber liquid flow rate for each scrubber Gas pressure drop across unit Scrubber liquid pH	225 gal/min (minimum) 2.5 in. H_2O (minimum) 0.5 – 4.5	Daily	N
15	Scrubber liquid flow rate pH Amperage	80 gal/min (minimum) 0.5 – 4.5 290 amp (minimum)	Daily	N
16A & 16B	Hours of Operation	Both boilers shall not operate at the same time for more than 240 hours per year	Monthly	Y
17	Scrubber liquid flow rate (dual scrubber) pH Amperage	120 gal/min (minimum) 0.5 – 6.0 100 amp (minimum)	Daily	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
18	Baghouse Pressure Drop	0.5 – 8.0 in H_2O	Daily	N
21	Liquid Gas Pressure to Top Spray Nozzles Gas Pressure Drop Across Unit pH	80 – 100 psi_g 2.5 in H_2O (minimum) 0.5 – 4.5	Daily	N
All KT plant	production	252,000 tons/12 months	Monthly	Y
25	usage of gasoline	40,000 gallons/12 months	Monthly	Y
37	minimum gas pressure	10 in. H_2O (minimum)	When scrubber in operation	N
38	Total Dissolve solid	1,560 ppm	Weekly	N
39	Total Dissolve solid	1,560 ppm	Weekly	N
40	Loading tonnage	no more than 468,660 tons	Monthly	N
41	BACT Limit	24-hour Average 0.223 lb/ton (13.7 lb/hr)	Daily	Y
		30-day Average 0.054 lb/ton (3.3 lb/hr)	Monthly	Y
42	Total Dissolve solid	1,560 ppm	Weekly	N
43	Total Dissolve solid	1,560 ppm	Weekly	N
46	Total Dissolve solid	1,560 ppm	Weekly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
44	Amount of Oleum offload into the storage tank Percent strength of the Oleum Amount of mixed acid produced.	394,000 tons 30% 219,000 tons	Monthly	N
	Scrubber liquid flow rate for each scrubber Gas pressure drop across unit Scrubber liquid pH	5.0 gal/min (minimum) 10 – 35 in. H_2O 0.5 – 4.5	Daily	N
05, 06, 14, 15, 16A, 16B, 18, 19, & 21	PM Emissions Inventory	281.0 tpy	Monthly	Y

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
12, 18, 35, & 48	5%	Department Guidance	Daily Observation
16A & 16B	5%	Department Guidance	Inspection
08 & 09	10%	Compliance assurance for SCR operation	Daily Observation
07 & 13	10%	NSPS limit	Daily Observation
21, 22, & 27	10%	Department Guidance	Daily Observation
14, 19, & 41	15%	Department Guidance	Daily Observation
05, 10, 11, 15, 34 & 44	20%	Previous permit	Daily Observation
06 & 28	25%	Previous permit	Daily Observation

18. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

19. GROUP A INSIGNIFICANT ACTIVITIES

Criteria Pollutants and HAPs:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
Diesel Storage Tank (500 gal)	A-3			0.001			0.001	0.001
Diesel Storage Tank (500 gal)	A-3			0.001			0.001	0.001
Diesel Storage Tank (2,000 gal)	A-3			0.002			0.002	0.002
Diesel Storage Tank (2,000 gal)	A-3			0.002			0.002	0.002
Emergency Fire Pump Engine (80 Hp)	A-13	0.04	0.04	0.05	0.13	0.62	0.05	0.05
Ammonia Flares	A-13	0.01		0.01	0.01	0.01	0.01	0.01
Sulfur Unloading/Storage	A-13							
Air Liquide Cooling Tower	A-13	1.0						
Ammonia Offloading	A-13							

Non-Criteria Pollutants:

Source Name	Group A Category	Emissions (tpy)						
		H_2S	NH_3	Reserved				
Ammonia Flares	A-13		0.1					
Sulfur Unloading/Storage	A-13	0.13						
Ammonia Offloading	A-13		0.44					

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
0573-AOP-R14

21. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Karen Cerney, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 08-20-12

Facility Name: El Dorado Chemical Company
Permit Number: 0573-AOP-R15
AFIN: 70-00040

$/ton factor	22.97	Annual Chargeable Emissions (tpy)	3668.8
Permit Type	Minor Mod	Permit Fee $	500

Minor Modification Fee $	500
Minimum Modification Fee $	1000
Renewal with Minor Modification $	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	☐
If Hold Active Permit, Amt of Last Annual Air Permit Invoice $	0
Total Permit Fee Chargeable Emissions (tpy)	11.8
Initial Title V Permit Fee Chargeable Emissions (tpy)	

HAPs not included in VOC or PM: *Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride*

Air Contaminants: *All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)*

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM	☑	334.1	334.8	0.7	0.7	334.8
PM_{10}	☐	334.1	334.8	0.7		
SO_2	☑	401.9	402.0	0.1	0.1	402
VOC	☑	4.9	5.4	0.5	0.5	5.4
CO	☐	52.3	59.6	7.3		
NO_X	☑	2410.3	2414.6	4.3	4.3	2414.6
$PM_{2.5}$	☐	0	0.7	0.7		
Hexane	☐	1.2	1.2	0		
HNO3	☑	67.7	67.7	0	0	67.7
H2SO4	☐	12.58	12.58	0		
NH3	☑	438.1	444.3	6.2	6.2	444.3
SO3	☐	0.18	0.18	0		
CO2e	☐	0	292384.3	292384.3		
N2O	☐	0	910	910		