STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1009-AOP-R28 AFIN: 70-00098

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Clean Harbors El Dorado, LLC
309 American Circle
El Dorado, Arkansas 71730

3. PERMIT WRITER:

Elliott Marshall

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Hazardous Waste Treatment and Disposal
NAICS Code: 562211

5. ALL SUBMITTALS:

The following is a list of ALL permit applications included in this permit revision.

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
12/18/2024	Modification	Add SN-24H and SN-24I
1/3/2025	Minor Mod	N/A

6. REVIEWER'S NOTES:

This permitting action is necessary to:

1. Incorporate a minor modification to revise the operational limits, established in accordance with 40 C.F.R. § Part 63 Subpart EEE, specified in the current permit with newly developed values based on the latest Comprehensive Performance Test (CPT) performed on SN-01 in October 2022 and SN-44 in March/May of 2024. Plantwide Conditions #150.a., 150.c. 154, 155, 156, 159, 163, 165, 170, 172, 175, 180 and 182 will be revised as a result of this change.

2. Revise operational limits in Plantwide condition #177 (SN-01 & SN-44) in line with changes described in the approved minor modification. This condition was erroneously not included in the initial minor modification application, but is being revised to remain consistent and to include newly developed operational limits based on CPT's at SN-01 and SN-44.
3. Add SN-24H a 155 HP emergency natural gas generator at the Crown Building.
4. Add SN-24I a 275 HP emergency diesel fire pump engine at the 10-day yard.
5. Revise emission totals in the emission summary table to correct historical rounding and typographical errors.

Permitted emission rates are increasing by 0.2 tpy PM/PM_{10}/SO_2/VOC, 0.8 tpy CO, 1.0 tpy NO_x, 0.02 tpy Acetaldehyde/Acrolein, 0.01 tpy Florene/Methylene Chloride/Phenanthrene, 0.05 tpy Formaldehyde, 0.06 tpy Tetrachloroethylene, 0.03 tpy Titanium Tetrachloride and 0.07 tpy Total Organic HAP. Emission increases of Tetrachloroethylene and Titanium Tetrachloride are solely due to correcting emissions totals in the emission summary table.

7. COMPLIANCE STATUS:

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

Engines SN-24H and SN-24I were found to be unpermitted sources operating at the facility. In a response to department correspondence, Clean Harbors submitted a compliance plan and schedule addressing this issue. This permitting action serves to add sources SN-24H/I and associated conditions to the permit.

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N
If yes, were GHG emission increases significant? 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*

If yes for 8(b), explain why this permit modification is not PSD.
No emission increases in excess of PSD significant emission rates.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-34, SN-50	SO_2, opacity	40 CFR 60, Subpart Dc
SN-21	VOC	40 CFR 60, Subpart Kb
Equipment Leaks	VOC	40 CFR 60, Subpart VVa

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	VOC	40 CFR 61, Subpart C
Facility	VOC	40 CFR 61, Subpart E
Equipment Leaks	HAP	40 CFR 61, Subpart V
Facility	VOC	40 CFR 61, Subpart FF
SN-31, 37, 38, 39, 40, 41	HAP	40 CFR 63, Subpart DD
Tanks	HAP	40 CFR 63, Subpart OO
Containers	HAP	40 CFR 63, Subpart PP
Facility	ALL	40 CFR 63, Subpart EEE
SN-24A, 24B, 24D	HAP	40 CFR 63, Subpart ZZZZ
SN-24C, 24E	-	40 CFR 60, Subpart IIII
SN-50	HAP	40 CFR 63, Subpart DDDDD
SN-24F, 24G, 24H	-	40 CFR 63, Subpart JJJJ
01, 07, 20, 21, 44, 46, 48, 54	PM/PM_{10}/SO_2/VOC	40 C.F.R. 64
Plantwide	Class I or Class II substances-ozone depleting substances	40 C.F.R. 82, Subpart F

10. UNCONSTRUCTED SOURCES:

Unconstructed Source	Permit Approval Date	Extension Requested Date	Extension Approval Date	If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit
N/A				

11. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? N
(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any Rule 18 requirement.)

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
01, 44	PM_{10} & SO_2	COMS and limit sulfur feed rate. Daily inspection of cyclone and pressure drop readings across cyclone
07, 20	PM	Daily opacity observations, pressure differential reading, and document daily inspections of bag filters
46, 48	PM	Daily opacity observations, pressure differential reading, and document daily inspections of bag filters
21, 54	VOC	Monitor organic liquid throughput, weekly VOC concentration and document daily inspections of the carbon canisters.

13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

14. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

a) NAAQS

A NAAQS evaluation is not required under the Arkansas State Implementation Plan, National Ambient Air Quality Standards, Infrastructure SIPs and NAAQS SIP per Ark. Code Ann. § 8-4-318, dated March 2017 and the DEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Division of Environmental Quality procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Division of Environmental Quality 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).

Emergency equipment (SN-24A through SN-24I) is not included in lb/hr totals. Since emergency equipment is the only source(s) being added with this revision, lb/hr totals, used to compare against the PAER, remained unchanged.

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acrolein	0.22	0.0242	3.29E-03	Y
Antimony	0.5	0.055	6.80E-01	N
Arsenic	0.01	0.0011	2.42E-02	N
Beryllium	0.00005	5.50E-06	2.42E-02	N
Cadmium Compounds	0.002	0.00022	5.32E-02	N
Calcium Cyanamide	0.5	0.055	3.061	N
Chlorine	0.29	0.0319	15.425	N
Chromium	0.5	0.055	2.43E-02	Y
Cobalt	0.02	0.0022	1.07	N
Dioxins/Furans [1]	0.001	0.00011	8.99E-08	Y
Hydrazine	0.013	0.00143	2.07	N
Hydrochloric Acid	2.98	0.3278	15.9	N
Hydrogen Fluoride	0.409	0.045	6.85	N
Lead	0.05	0.0055	5.319E-02	N
Manganese	0.1	0.0022	7.247	N
Mercury	0.01	0.0011	3.028E-02	N
Methyl Chloroform	210.47	23.1517	13.51	Y
Methylene Chloride	173.68	19.1048	25.39	N
Nickel	1.5	0.165	2.567	N
Phosphine	0.05	0.0055	3.08	N
Phosphorus	0.1	0.011	3.05	N
Selenium	0.2	0.022	5.570	N
Titanium Tetrachloride	0.54	0.0594	3.08	N

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Formaldehyde	1.5	0.165	3.27E-02	Y
POM/PAH [3]	0.2	0.022	3.45E-03	Y
Naphthalene	52.42	5.766	0.142	Y

[1] Hypothetical value. The reviewing engineer screened these pollutants based on a hypothetical TLV of 0.001 mg/m3. The emission rates for dioxins and furans were based on the requirements of 40 CFR Part 63, Subpart EEE.
[2] No TLV found. Used AEGL-1 (8-h).
[3] Excludes Naphthalene.

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 Division of Environmental Quality to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

No modeling was performed with this revision.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Antimony	5.0	0.08226	Y
Arsenic	0.1	0.0757	Y
Beryllium *	0.0005	0.00212	N
Cadmium	0.02	0.00786	Y
Calcium Cyanamide	5.0	0.29893	Y
Chlorine	2.9	1.291	Y
Cobalt	0.2	0.1145	Y
Hydrazine *	0.13	0.507	N
Hydrochloric Acid	29.8	1.326	Y
Hydrogen Fluoride	4.09	0.641	Y
Lead	0.5	0.0757	Y
Manganese	1.0	0.6627	Y

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Mercury	0.1	0.0757	Y
Methylene Chloride	1,736.8	595.402	Y
Nickel	15.0	0.2311	Y
Phosphine	0.5	0.612	Y
Phosphorus	1.0	0.29893	Y
Selenium	2.0	0.5071	Y
Titanium Tetrachloride	5.4	0.612	Y

*Alternate modeling was performed for beryllium.
**The vapor pressure of Hydrazine is 0.31 psi which is very low. In addition, the facility receives Hydrazine as a mixture of waste. Therefore, in the past permit application/renewal (R17), it is assumed that negligible amounts of fugitive emissions occur during material handling and modeled for incinerator emissions only using very conservative assumptions. The highest amount of Hydrazine received in the past (51,000 lb/yr = 1.02 lb/hr) which includes fugitives which also should account for SN-49 and SN-52 emissions. Highest Hydrazine product received in the past remains 51,000 lb/yr for this revision, R27.

Alternate modeling was performed for beryllium for R22 and Hydrazine for R17. The results are summarized in the following table:

Pollutant	Highest Modeling Result ($\mu g/m^3$)	OEHHA – Chronic REL ($\mu g/m^3$)	Averaging Period	Pass?
Beryllium	0.00034	0.007	Annual	Pass
Hydrazine	0.086*	0.2	Annual	Pass

* Based on highest product received in past (51,000 lb/yr = 1.02 lb/hr); includes fugitives

REL = Reference Exposure Level
OEHHA = California Office of Environmental Health Hazard Assessment

Air quality standards established by the California Office of Environmental Health Hazard Assessment (OEHHA) were used to evaluate the modeling results. Said agency has promulgated a Chronic REL for the target pollutant.

ADEQ has accepted the use of OEHHA values as alternate air quality criteria in previous permitting actions for other Arkansas industrial facilities. The Air Division has determined that if the ambient air concentrations of a given HAP are less than 100% of the Chronic REL, then the emissions are acceptable from an air quality standpoint.

c) 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*)	6.73 ppb (0.0067 ppm)	Y
	80 parts per billion (8-hour average) residential area	0.87 ppb	Y
	100 parts per billion (8-hour average) nonresidential area	0.87 ppb	Y

*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

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	PM/PM_{10}: NESHAP limit	0.013 gr/dscf at 7% oxygen	Baghouse	Unknown	
01	SO_2: Sulfur feed rate	2045 lb/hr	Scrubber	98.9%	Sulfur content of fuel tested before burning
01	VOC: Testing and Material Balance	55,837 micrograms/L (groundwater) 1.1 lb/hr (combustion)	Incineration – Secondary Combustor	99.998%	125 gal groundwater/hr 1,095,000 gal groundwater/yr
01	CO: NESHAP limit	100 ppm	N/A	N/A	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	NO_X: 2011 Stack Test	110.17 lb/hr, Standard Deviation = 24.01 lb/hr	N/A	N/A	2 standard deviation safety factor
01	Organic HAPs: Material Balance	Assumed 100% of waste is organic HAP	Incineration – Secondary Combustor	99.998%	61,025 lb feed/hr
01	HCl and Cl_2: NESHAP limit	32 ppmv	Scrubber	95%	
01	Mercury: NESHAP limit	130 µg/dscm	Activated Carbon	Unknown	
01	Lead and Cadmium (SVM): NESHAP limit	230 µg/dscm	Baghouse	Unknown	
01	Arsenic, Beryllium, Chromium (LVM): NESHAP limit	92 µg/dscm	Baghouse	Unknown	
01	Sb Co Mn Ni Se	489 µg/dscm 2224 µg/dscm 29719 µg/dscm 8898 µg/dscm 22245 µg/dscm			Conservative estimates
01	Dioxins/Furans: NESHAP limit	0.40 ng TEQ/dscm	Activated Carbon	Unknown	Combustion gas temp < 400 ^oF
07	Grain loading	25 gr/scf	Baghouse	99.9%	8,500 ft^3/min
08	AP-42	Boiler factors Natural gas	N/A	N/A	8760 hr/yr
09 A&B	AP-42 Table 11.12-2	0.73 lb PM/ton 0.47 lb PM_{10}/ton	Baghouse	95%	20 tons/truck 2 trucks/hr 1,794 trucks/yr
11	Tanks 4.0	N/A	N/A	N/A	55,496 gal/yr
16	Estimate	0.1 lb/hr	Scrubber	Unknown	
18 47	AP-42 Table 11.12-2	0.73 lb PM/ton 0.47 lb PM_{10}/ton	Baghouse	95%	20 tons/truck 1 truck/hr 600 trucks/yr
20	Grain loading	15 gr/ft^3	Baghouse	99.9%	1,200 ft^3/min
21	Tanks 4.0	N/A	2 Carbon Canisters	99%	6,000 gal/hr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
			(in series)		18,000,000 gal/yr
24A, B, C	AP-42 Table 3.3-1	0.31 lb PM/PM_{10} /MMBtu 0.29 lb SO_x /MMBtu 0.36 lb VOC/MMBtu 0.95 lb CO/MMBtu 4.41 lb NOx/MMBtu	None	N/A	24A – 44.25 HP 24B – 196 HP 24C – 275 HP
24D	AP-42 Table 3.4-1	0.10 lb PM/PM_{10} /MMBtu 0.0505 lb SO_x /MMBtu 0.09 lb VOC/MMBtu 0.85 lb CO/MMBtu 3.2 lb NOx/MMBtu			
24E	AP-42 Table 3.4-1 & EPA Tier II	0.0505 lb SO_x /MMBtu 0.09 lb VOC/MMBtu 0.15 g PM/PM_{10} /BHP-hr 2.6 g CO/BHP-hr 4.8 g NO_x/BHP-hr	None	N/A	24E – 755 HP
24F	AP-42 Table 3.2-3 Subpart JJJJ Table 1	1.94E-2 lb PM/PM_{10} /MMBtu 5.88E-4 lb SO_x /MMBtu 1.0 g VOC/HP-hr 4.0 g CO/HP-hr 2.0 g NOx/HP-hr	None	N/A	149 HP 500 hrs

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
24G	AP-42 Table 3.2-2 Subpart JJJ Table 1	9.99E-03 lb PM/MMBtu 7.71E-05 lb PM_{10} /MMBtu 5.88E-04 lb SO_2/MMBtu 1.18E-01 lb VOC/MMBtu 27.39 g CO/BHP-hr 3.85 g NO_x/BHP-hr	None	N/A	62.6 HP 500 hrs
24H	AP-42 Table 3.2-2 Subpart JJJ Table 1	9.91E-03 lb PM/PM_{10}/MMBtu 5.88E-04 lb SO_2/MMBtu 1.0 g VOC/HP-hr 4.0 g CO/HP-hr 2.0 g NO_x/HP-hr	None	N/A	155 HP 500 hrs
24I	AP-42 Chp. 3.3 C.F.R. 1039 Appendix I, Tier 2	0.36 lb VOC/MMBtu 0.29 lb SO_2/MMBtu 0.2 g PM/PM_{10} /kW-hr 3.5 g CO/kW-hr 6.40 g NO_x/kW-hr	None	N/A	275 HP 500 hrs
25	Drum Sampling Air Emission Models for Waste and Wastewater	6.191 lb VOC/1000 gallons S=1.45 (splash loading)	N/A	N/A	825,000 samples/yr 95 samples /hr
25	Drum Filling and Rinsing: Air Emission Models for Waste and Wastewater	L_L =6.179 lb VOC/1000 gallons M=102.6 lb/lb-mol P=1.75 psia T= 524 °R S=1.45 (splash loading)	N/A	N/A	2,400,000 gal/yr for filling and rinsing combined 2000 hr/yr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
25	Waste Repackaging	0.0037 lb/drum	N/A	N/A	56,000 drums/yr
25	Pumps, Flanges, Valves: EPA's Protocol for Equipment Leak Emission Estimates dated November 1995	Varied. See permit application for emission factors	N/A	N/A	
25	Tanker and Railcar Cleaning: AP-42 Tables 4.8-1 and 4.8-2	5.1808 lb/car 0.686 lb/truck	N/A	N/A	152 rail cars/yr 1930 tank trucks/yr
25	Vacuum Truck Loading: Air Emission Models for Waste and Wastewater	0.184 lb/1000 gallons S=1.45	N/A	N/A	3,000 gal/hr 2,000,000 gal/yr
25	Equipment and Truck Wash Decontamination: Tanks 4.0	N/A	N/A	N/A	1,260,000 gal washwater/yr
25	Barrel Crushing	0.26 lb VOC(HAP)/hr	N/A	N/A	
25	Paved Roads: AP-42 13.2.1	<u>18-Wheeler</u> PM: 0.9599 lb/VMT PM_{10}: 0.19198 lb/VMT <u>CH Vehicles</u> PM: 0.1108 lb/VMT PM_{10}: 0.0222 lb/VMT	N/A	N/A	Annual Miles 18 Wheeler: 3,800 CH Vehicles: 133,360

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
25	Railcar Loading	18.01 lb/1000 gallons	Two carbon canisters in series	99%	4,800 gal/hr 1,380,000 gal/yr
25	Some pollutants emission rates are based on previous permit values	0.109% lb/hr; 0.60% tpy Chlorine, Hydrazine, Hydrochloric acid, Hydrogen fluoride, Methyl Chloroform, Phosphine, Titanium tetrachloride 2.89% lb/hr; 23.0% tpy Methylene chloride 0.272% lb/hr; 2.2% tpy Tetrachloroethylene	N/A	N/A	HAPS based on VOC ratio method – previous testing
31	Waste Solvent Tanks: Tanks 4.0	N/A	Carbon Canisters in series when SCC unavailable	95%	15,000 gal/hr 11,720,000 gal/yr 15% annually sent to carbon canisters
31	Intermediate and Final Product Tanks: Tanks 4.0	N/A	Carbon Canisters in series when SCC unavailable	95%	1,831.25 gal/hr 8,790,000 gal/yr 15% annually sent to carbon canisters
32	Stack Testing	Average of stack test: 0.002 lb/hr PM/PM_{10} 7.5E-6 lb/hr mercury Plus a safety factor	Baghouse and Carbon Adsorber	N/A	2,542 bulbs/hr * 0.63 lb/bulb * 24 hr/day = 38,435 lb/day
35, 36	AP-42 Section 13.4	PM/PM_{10}=Water Circulation Rate x Drift Rate x TDS	N/A	N/A	Drift Rate = 0.005% TDS = 13,600 ppm Water flow rate = 825 gal/min, each
37	AP-42 Table 4.7-1 (Highest of Range)	8.34 lb/ton	Carbon Canisters in series when	95%	14.1 ton/hr 67,373 ton/yr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
			SCC unavailable		
38	AP-42 Section 5.2 Equation 1	18.04 lb/1000 gallons HAPs estimated based on molecular weight and vapor pressure	Carbon Canisters in series	99%	4,800 gal/hr 1,771,000 gal/yr
39	AP-42 Section 5.2 Equation 1	18.04 lb/1000 gallons HAPs estimated based on molecular weight and vapor pressure	Carbon Canister	95%	4,400 gal/hr 879,000 gal/yr
40	AP-42 Section 5.2 Equation 1	18.04 lb/1000 gallons HAPs estimated based on molecular weight and vapor pressure	Vapor Balance System (emissions sent back to tanks)	90%	1 tanker/hr 6,000 gal/tanker 6,153,000 gal/yr
41	Pumps, Flanges, Valves: EPA's Protocol for Equipment Leak Emission Estimates dated November 1995	Varied. See permit application for emission factors	N/A	N/A	28 pumps 749 valves 597 connectors
42	AP-42 Section 13.4	PM=Water Circulation Rate x Drift Rate x TDS PM_{10} = 15%PM	N/A	N/A	Drift Rate = 0.008% TDS = 13,600 ppm Water flow rate = 6,200 gal/min

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
43					Drift Rate = 0.0006% TDS = 13,600 ppm Water flow rate = 6,500 gal/min
44	PM/PM_{10}, Sb, Co, Mn, Ni, Se : NESHAP limit	0.0016 gr/dscf at 7% oxygen	Baghouse	Unknown	41,272.9 DSCFM
	SO_2: Sulfur feed rate	2045 lb/hr	Scrubber	98.9%	Sulfer content of fuel tested before burning
	VOC: 2011 CPT Testing	Feed Rate x removal efficiency	Incineration – Secondary Combustor	99.997%	61,025 lb/hr
	CO: NESHAP limit	100 ppm	N/A	N/A	
	NO_X: 2015 Emission Data (SN-01)	42.8 lb/hr, Standard Deviation = 6.7 lb/hr	N/A	De-NO_x 55% (hourly)	SN-01 (190 MMBtu/hr) SN-44 (155 MMBtu/hr) 2 standard deviation safety factor
	Organic HAPs: Material Balance	Assumed 100% of waste is organic HAP	Incineration – Secondary Combustor	99.997%	61,025 lb feed/hr
	Hydrazine	51,000 lb/hr	Incineration – Secondary Combustor	99.998%	
	Hydrogen Fluoride	0.60 lb/hr	Incineration – Secondary Combustor	99.4%	
	HCl and Cl_2: NESHAP limit	21 ppmv	Scrubber		
	Mercury: NESHAP limit	8.1 µg/dscm	Activated Carbon	Unknown	
	Lead and Cadmium (SVM): NESHAP limit	10 µg/dscm	Baghouse	Unknown	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	Arsenic, Beryllium, Chromium (LVM): NESHAP limit	23 μg/dscm	Baghouse	Unknown	
	Dioxins/Furans: NESHAP limit	0.11 ng TEQ/dscm	Activated Carbon	Unknown	
	Ammonia Emission test	20ppm			Deer Park, TX 5ppm x 4 safety factor
45	Tanks 4.0.9d	N/A	SCC/Carbon Tank	99%	399,360 gallons/yr
46	AP-42 Table 11.17-7	0.01 PM grains/DSCF 55% of PM is PM_{10}	Baghouse	99%	1,800,000 cubic feet/hr blower capacity
48	Grain loading	0.01 PM grains/DSCF	Baghouse	99%	20,000 cubic feet/min blower capacity
49A	Shredding AP-42 Table 11.19.2-2 Tertiary Crushing of Stone	PM - 0.0054 lb/ton	N/A	N/A	55 gal drum – 20 lb/drum 110 drums/hr
49A	VOC/HAP Clement's Equation for drum residues HAPs based on VOC ratio - established on historical permitted values and testing	W=2.35E-04 lb/sec 0.13% lb/hr Chlorine, Hydrazine, Hydrochloric acid, Hydrogen fluoride, Phosphine, Titanium tetrachloride 1.46% lb/hr Methyl chloroform 2.96% lb/hr Methylene chloride 0.31% lb/hr Tetrachloroethylene	N/A	N/A	MW for MC 84.9 g/gmol A=Area of spill 3.14 ft^2 U=0.1 mph enclosed building D=0.26 cm^2/sec
49B	Injection Molding Michigan Air Emissions Reporting System MAERS – Molding Machine	PM - 0.1302 lb/ton VOC - 6.14E-02 FORMALDEHYDE - 1.20E-04 ACROLEIN - 4.00E-05 ACETALDEHYDE - 1.00E-04	N/A	N/A	55 gal drum – 20 lb/drum 110 drums/hr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		ACRYLIC ACID - 4.00E-05 PROPIONALDEHYDE - 4.00E-05 ACETONE - 6.00E-05			Pelletizing PM accounted for in shredding calcs
50	AP-42 Tables 1.4-1 through 4 Natural Gas	lb/MMscf PM/PM10 – 7.6 SO_x – 0.6 VOC – 5.5 CO – 84 NO_x - 100	Controlled Flue Gas recirculation	N/A	400HP - 18 MMBTU/hr 200HP – 9 MMBTU/hr
52	Shredding and Mixing: AP-42 Table 11.19.2-2 Tertiary Crushing of Stone	0.0054 lb/ton each activity	N/A	N/A	25 ton/hr 7,300 ton/yr
	Waste Unloading and Waste Transfer: AP-42 13.2.4 Equation 1	0.00022 lb/ton each activity			
	VOC/HAP Mass balance	0.13% lb/hr Chlorine, Hydrazine, Hydrochloric acid, Hydrogen fluoride, Phosphine, Titanium tetrachloride 1.46% lb/hr Methyl chloroform 2.96% lb/hr Methylene chloride 0.31% lb/hr Tetrachloroethylene			40,000 lb/day Non-haz liquid – 37% Non-haz VOC contents = 3,453 mg/L (VOC) Paint = 0.3% Paint VOC = 5% wt (propylene glycol)
53	AP-42 Table 7.1-3 and Eq. 1 from 5.2.2.1.1	LL = (12.46*S*M*P)/T S = 1.45 M = 84.94 Mol. Wt. P = 6.159 psia T = 524 R	Carbon Canister	95%	100 tanker/yr 6,000 gal/tanker
54	AP-42	LL = (12.46*S*M*P)/T S = 1.45 M = 84.94 Mol. Wt.	Carbon Canister	99%	2,400 tanker/yr 6,000 gall/tanker

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	Table 7.1-3 and Eq. 1 from 5.2.2.1.1	P = 6.159 psia T = 524 R			55 gal/drum
55	AP-42 Table 7.1-3 and Eq. 1 from 5.2.2.1.1	LL=(12.46*S*M*P)/T S = 1.45 M = 84.94 Mol. Wt. P = 6.159 psia T = 524 R	Carbon Canister	99%	60 railcar/yr 23,000 gal/railcar

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01, 44	SO_2 Removal Efficiency	6C	Every Five Years	To ensure compliance with SO_2 limits
01, 44	Condensable PM	202	Every Five Years	To ensure compliance with PM limits
01, 44 (Comprehensive Performance Test)	D/F	0023A or 23 of Part 60 Appendix A (approval required)	Every 61 months and after a change in the design, operation, or maintenance practices of the source	NESHAP EEE
	Mercury	29		
	Lead and cadmium	29		
	Arsenic, beryllium, and chromium	29		
	Carbon monoxide and hydrocarbons	CO or Hydrocarbon CEMS		
	HCl and chlorine gas	26/26A of Part 60 Appendix A, 320 or 321of Part 63 Appendix A, or		

SN	Pollutants	Test Method	Test Interval	Justification
		ASTM D 6735-01 and 26/26A with additional requirements		
	PM	5 or 5I of Part 60 Appendix A		
	Hydrocarbons (Destruction and Removal Efficiency Test)	Refer to NESHAP EEE	Once unless source is modified	
01, 44 (Confirmatory Performance Test)	D/F	0023A or 23 of Part 60 Appendix A (approval required)	31 months after the previous comprehensive performance test	NESHAP EEE
21	VOC concentration	21	See permit	To determine breakthrough. See CAM plan.
34	Opacity	9	See NSPS Dc	Per NSPS Dc
41	VOC	21	Varied. See 60, VVa	60, VVa
Carbon Canisters for Subpart DD Sources (unless use design analysis)	VOC	18	63, DD	63, DD
Incinerator for Subpart DD (unless use design analysis)	VOC	18	63, DD	63, DD
Leak Interface	VOC	21	63, DD	63, DD
35, 36, 42, 43	PM/PM_{10}(TDS)	Conductivity and TDS	Weekly conductivity testing, with quarterly direct TDS testing	To ensure proper maintenance and operation
50	Opacity	9	See NSPS Dc	Per NSPS Dc

17. 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)
01, 44	Mercury Emissions	Monitors	Daily – ONLY if requirements of Plantwide Condition 24 are not met.	Y
01, 44	CO	CEM	Continuously	Y
01, 44	O_2	CEM	Continuously	Y
01, 44	NO_X	CEM	Continuously	Y
01, 44	Opacity	COM or CPM	Continuously	Y
01, 44	PM	CEM	Not required until Agency promulgates all performance specifications and operational requirements	N/A
01, 44	Feedrates: Hazardous Waste; Ash; Chlorine and chloride; Mercury; Semivolatile Metals; Low Volatility Metals; Activated Carbon	CMS	Continuously	Y
01, 44	Temperature: Secondary combustion chamber; waste fired boiler	CMS	Continuously	Y
01, 44	Flue gas flowrate	CMS	Continuously	Y
01, 44	Scrubber Pressure Drop	CMS	Continuously	Y
01	Scrubber Liquid Flowrate	CMS	Continuously	Y
44	Condenser Liquid Flowrate			
01	Scrubber Inlet Liquid pH	CMS	Continuously	Y
44	Condenser Inlet Liquid pH			
01, 44	Activated Carbon Carrier Fluid Flowrate	CMS	Continuously	Y

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
01, 44	Baghouse pressure drop, per cell	CMS	Continuously	Y
01, 44	Combustion Chamber pressure: Kiln; Secondary Combustion Chamber; Waste Fired Boiler	CMS	Continuously	Y
41	Equipment Leaks	See 60, VVa	See 60, VVa	
41	Equipment Leaks of Pumps	60.485a(b)	Monthly	Y
41	Equipment Leaks of Valves in Gas/Vapor/Light Liquid Service	60.485a(b)	Monthly	Y
41	Equipment Leaks of Connectors in Gas/Vapor/Light Liquid Service	60.485a(b)	See 60, VVa	Y
01, 44 SCC	Vent Stream Flow	CMS	Hourly	Y
Subpart DD Carbon Canisters	Concentration of Organic Compounds	CMS	Continuously	Y
Subpart DD Carbon Canisters	Concentration of Organic Compounds	CMS	Daily or no greater than 20% of the time required to consume the total carbon working capacity	Y
01, 44 SCC	Concentration of Organic Compounds	CMS	Continuously	Y
07, 20, 46, 48	Pressure Drop	CMS	Continuously	Y
21, 54	VOC Concentration	Portable Analyzer	Weekly	Y

18. 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)
01, 44	Opacity	20%	Continuously	N
01, 44	Cyclone Inspection and pressure drop	1-14 in. water column	Daily/Continuous	Y
01	Sulfur Feed Rate	2045 lb/hr 2681.8 tpy	Monthly	Y
44		2045 lb/hr 1590 tpy		
01, 44	Scrubber efficiency for SO_2 from test	98.9%	5 yrs	Y
01, 44	PM, cyanide compounds, hydrazine, hydrogen fluoride, phosphine, and titanium tetrachloride Testing results	See Permit Limits	5 yrs	Y
01	NO_X Emissions	158.2 lb/hr 451.0 tpy	Continuously	Y
44		56.2 lb/hr 38.0 tpy		
01	Utilization Rate of Recovered Energy from liquid waste	74% Maximum	Monthly	Y
07	Opacity	5%	Daily	Y
07	Bag Filter Inspections	N/A	Daily	Y
07	Pressure Drop	Manufacturer spec.	Continuously	Y
08	Natural Gas	15,840,000 scf/yr	Monthly	Y
09A&B	Opacity	5%	Weekly	N
09A&B	Number of trucks containing lime	1794 trucks/yr combined	Monthly	Y
11	Gasoline	55,496 gal/yr	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
11	Vapor Pressure of Gasoline	6.2 psia at 70°F	As Needed	N
18 & 47	Opacity	5%	Weekly	N
18 & 47	Number of trucks of flyash and/or lime	520 trucks/yr	Monthly	Y
20	Opacity	5%	Daily	N
20	Bag Filter Inspections	N/A	Daily	Y
20	Pressure Drop	Manufacturer spec.	Continuously	Y
21	Operating plan for carbon canisters and maintenance performed	N/A	N/A	N/A
21	Vessel Analysis	Size	N/A	N
21	Organic liquids	18,000,000 gal/yr	Monthly	Y
21	Vapor Pressure of tank contents	6.159 psia at 65°F	As Needed	N
21	VOC Concentration between carbon canisters	500 ppmv or greater requires replacement of one or both carbon canisters	Weekly	Y
21	Inspection Documentation for carbon canisters	N/A	Daily	Y
24 A through I	Hours of Operation	500 hrs each	Monthly when operating	N
25	Drum Filling	2,400,000 gal/yr	Monthly	Y
25	Waste Repackaging	56,000 drums/yr	Monthly	Y
25	Tanker and Railcar Cleaning	152 rail tank cars/yr	Monthly	Y
25	Tanker and Railcar Cleaning	1930 tank trucks/yr	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
25	Vacuum Truck Loading	2,000,000 gal rain water collection/yr	Monthly	Y
25	Equipment and Truck Wash/Decontamination	1,260,000 gal wash water/yr	Monthly	Y
25	Paved roads	3,800 vehicle miles traveled via 18-wheel traffic/yr	Monthly	Y
25	Paved roads	133,360 vehicle miles traveled via Clean Harbors vehicles/yr	Monthly	Y
25	Road Maintenance Plan Recordkeeping	N/A	N/A	N
31	Throughput of Waste Solvent	11,720,000 gal/yr	Monthly	Y
31	Throughput of Intermediate and Final Products	8,790,000 gal/yr	Monthly	Y
31	Throughput of waste solvent while venting to carbon canister	1,758,000 gal/yr	Monthly	Y
31	Throughput of intermediate and final products while venting to carbon canister	1,318,500 gal/yr	Monthly	Y
31	Vapor Pressure of Tank Contents	6.159 psia at 65°F	As Needed	N
32	Amount of bulbs processed per day	38,435 lbs of bulbs/day	Daily	N
32	Opacity	5%	Weekly	N
37	Throughput of Solvent	67,373 tons/yr	Monthly	Y
37	Throughput of solvent while venting to carbon canister	10,106 tons/yr	Monthly	Y
38	Loadout to Railcar	1,771,000 gal/yr	Monthly	Y
39	Loadout to 55 gallon drums	879,000 gal/yr	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
40	Loadout to Tanker Trucks	6,153,000 gal/yr 1 tanker/hr	Monthly As needed	Y N
41	Items specified in 60.486a(a)(3)	See 60, VVa	Varied. See 60, VVa	N
41	Leak detected log (items specified in 60.486a(c))	See 60, VVa	As Needed when each leak detected	N
41	Log for 60.486a(e)	See 60, VVa	As Needed	N
41	Log for 60.486a(j)	N/A	As Needed	N
41	See 60.487a(b)	N/A	Semiannual	Y
41	See 60.487a(c)	N/A	Semiannual	Y
45	Diesel fuel throughput	399,360 gallons per year	Monthly	N
46	Opacity	5%	Daily	N
46	Bag Filter Inspections	N/A	Daily	Y
46	Pressure Drop	Manufacturer spec.	Continuously	Y
48	Opacity	5%	Daily	N
48	Bag Filter Inspections	N/A	Daily	Y
48	Pressure Drop	Manufacturer spec.	Continuously	Y
49	Opacity	5%	Weekly	N
49	Drums Processed	963,600 drums/yr	Monthly	Y
49	Drum Bill of Lading	El Dorado RCRA waste codes	Monthly	N
52	Facility Database			
50	Amount of fuel combusted	N/A	Monthly	N
50	Records required by NSPS	See NSPS	See NSPS	Y
52	Opacity	5%	Weekly	N
52	Debris and waste processed	7,300 tons/yr	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
53	Tankers	100 tankers/yr	Monthly	Y
54	Organic liquids	14,400,000 gal/yr 2,400 tankers	Monthly	Y
54	VOC Concentration between carbon canisters	500 ppmv or greater requires replacement of one or both carbon canisters	Weekly	Y
54	Inspection Documentation for carbon canisters	N/A	Daily	Y
55	Railcars and Gallons of material	60 railcars/yr 1,380,000 gal/yr	Monthly	Y
01, 44 SCC	Vent stream flow	Must be established	Continuous	Y
63, Subpart DD sources	63.696(g)(1) and (g)(2)	N/A	Semiannual	N
Tanks (Level 2)	Inspections	N/A	Annual	N
Closed vent systems	Inspections and Monitoring	N/A	63, DD 63.695(c)	N
Closed vent complying with 63.693(c)(1)(ii)	Inspections	N/A	63.695(c)(2)	N
Closed vent systems	Defect repair	N/A	As Needed	N
63, Subpart DD control device systems	Malfunctions 63.696(h)(1) to (h)(3)	N/A	As Needed	Y
Plantwide	Divert Stack Procedures	See Plantwide Conditions 10, 11, 13, and 15	As needed	Y
Plantwide	Monthly Fuel Use	No limit specified, used to show	Monthly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
		compliance with NSPS Dc		
01, 44	Operating Record Requirements	See NESHAP EEE	As needed	N
01	Total Hazardous Waste Feedrate	13,383 lb/hr Kiln 1 30,168 lb/hr Kiln 2	Continuously (Hourly Rolling Average)	Y[1]
		13,601 lb/hr (secondary combustion chamber)		
		3,873 lb/hr (waste fired boiler)		
44		28,035 lb/hr Kiln		
		12,602 lb/hr SCC		
01	Pumpable Hazardous Waste Feedrate	5,005 lb/hr Kiln 1 6,656 lb/hr Kiln 2	Continuously (Hourly Rolling Average)	Y[1]
		13,601 lb/hr SCC		
		3,873 lb/hr (waste fired boiler)		
44		6,827 lb/hr Kiln		
		12,602 lb/hr SCC		
01	Ash Feedrate	15,695 lb/hr	Continuously (Rolling 12-hr average)	Y[1]
		164.2 lb/hr (WFB)		
44		10,252 lb/hr		
01	Chlorine and Chloride Feedrate	Total: 2718 lb/hr	Continuously	Y[1]

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
		1,020 lb hr (WFB)	(Rolling 12-hr average)	
44		2,035 lb/hr		
01	Mercury Feedrate	0.509 lb/hr	Continuously (Rolling 12-hr average)	Y[1]
		0.187 lb/hr (WFB)		
44		0.38 lb/hr		
01	Semi volatile metals feedrate	134 lb/hr	Continuously (Rolling 12-hr average)	Y[1]
44		73 lb/hr (kiln)		
01		3.12 lb/hr (WFB)		
01	Low volatile metals feedrate	44 lb/hr	Continuously (Rolling 12-hr average)	Y[1]
44		46 lb/hr (kiln)		
01		2.87 lb/MMBtu And 30 lb/hr (WFB)		
01	Activated carbon feedrate	22.4 lb/hr	Continuously (Hourly Rolling Average)	Y[1]
44		24.9 lb/hr		
01	Secondary combustion chamber temperature	1,858°F	Continuously (Hourly Rolling Average)	Y[1]
44		1,855°F		
01	Waste fired boiler temperature	1,856°F	Continuously (Hourly Rolling Average)	Y[1]
01	Flue gas flowrate	100,568 acfm	Continuously (Hourly Rolling Average)	Y[1]
44		86,967 acfm		
01	WFB Max combustion air flow rate	8,630 acfm	Continuously (Hourly Rolling Average)	Y[1]
01	Scrubber pressure drop	33.8 in. w.c.	Continuously (Hourly Rolling Average)	Y[1]
44	Condenser pressure drop	10.9 psi		

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
01	Scrubber liquid flowrate	664 gpm	Continuously (Hourly Rolling Average)	Y[1]
44	Condenser liquid flowrate	3635 gpm		
01	Scrubber liquid pH	3.4	Continuously (Hourly Rolling Average)	Y[1]
44	Condenser liquid pH	4.1		
01	Activated carbon carrier fluid flowrate	30 scfm	Continuously (Hourly Rolling Average)	Y[1]
44		60.1 scfm		
01, 44	Baghouse pressure drop, per cell	1 in. w.c. (minimum) 16 in. w.c. (maximum)	Continuously (Hourly Rolling Average)	Y[1]
01, 44	Combustion chamber pressure: kiln, secondary combustion chamber	Below atmospheric	Instantaneous	Y[1]
01	waste fired boiler			
01, 44	CO Emissions	100 ppmv	Continuously	Y[1]
16	Flow rate & Pressure Drop	Manufacturer Spec	Daily	N
	Caustic concentration	Replaced when below 5% strength	Once per 12-hour shift	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 44	20%	Dept. Guidance	COMS
04	5%	Dept. Guidance	Natural Gas as Fuel
07	5%	Dept. Guidance	Weekly
08	5%	Dept. Guidance	Natural Gas as Fuel
09	5%	Dept. Guidance	Weekly
18	5%	Dept. Guidance	Weekly

SN	Opacity	Justification for limit	Compliance Mechanism
20	5%	Dept. Guidance	Weekly
22	5%	Dept. Guidance	Weekly
24A-E, 24I	20%	Dept. Guidance	Annual
24F-H	5%	Dept. Guidance	Annual
25	Off-site 5%	Dept. Guidance	Inspections
32	5%	Dept. Guidance	Weekly
42, 43	20%	Dept. Guidance	Conductivity & TDS sampling
46	5%	Dept. Guidance	Daily
48	5%	Dept. Guidance	Daily
49A, 49B	5%	Dept. Guidance	Weekly
50	5%	Dept. Guidance	Natural Gas as Fuel
52	5%	Dept. Guidance	Weekly

20. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

21. GROUP A INSIGNIFICANT ACTIVITIES:

The following is a list of Insignificant Activities including revisions by this permit.

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
10,000 gal Diesel Storage Tank and Dispenser Unit	A-3	0	0	0.03	0	0	0.03	0.03
550 gal Diesel	A-3	0	0	0.000475	0	0	0.000475	0.000475

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
Storage Tank								
1,000 gal Diesel Storage Tank (formally SN-12)	A-3	0	0	0.00082	0	0	0.00082	0.00082
500 gal Diesel Storage Tank (formally SN-12)	A-3	0	0	0.00082	0	0	0.00082	0.00082
250 gal Diesel Storage Tank	A-3	0	0	0.00041	0	0	0.00041	0.00041
Nine (9) Solar Sipper Recovery Systems	A-13	0	0	0.0014	0	0	0	0
Surface Water Treatment	A-13	0	0	0.00014	0	0	0.00003	0.00014
SN-22 Brine Plant Sources (other than listed)	A-13	0	0	0	0	0	0	0
Filter Aid Loading Operation (at Tank 597) (formally SN-22)	A-13	0.0000078	0	0	0	0	0	0
Bulk Solid Mixing Process	A-13	0	0	0.91	0	0	0.91	0.91

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
Backup Carbon Filter								
Railcar Unloading Emergency Scrubber	A-13	0	0	0	0	0	0	0
Electric Heater and Fan at Pellet Silo #1	A-13	0	0	0	0	0	0	0
Electric Heater and Fan at Pellet Silo #2	A-13	0	0	0	0	0	0	0

22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1009-AOP-R27

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Clean Harbors El Dorado, LLC
Permit Number: 1009-AOP-R28
AFIN: 70-00098

$/ton factor	28.14	Annual Chargeable Emissions (tpy)	1042.85
Permit Type	Modification	Permit Fee $	1000

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)	1.68
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		92.1	92.3	0.2	0.2	92.3
PM_{10}		66.7	66.9	0.2		
$PM_{2.5}$		0	0	0		
SO_2		95.1	95.3	0.2	0.2	95.3
VOC		56.1	56.3	0.2	0.2	56.3
CO		231.7	232.5	0.8		
NO_X		536.4	537.4	1	1	537.4
Lead Compounds	☐	0.26	0.26	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Acetaldehyde	☐	0.01	0.03	0.02		
Acrolein	☐	0.01	0.03	0.02		
Acrylic Acid	☐	0.01	0.01	0		
Antimony Compounds	☐	2.97	2.97	0		
Arsenic Compounds	☐	0.14	0.14	0		
Beryllium Compounds	☐	0.14	0.14	0		
Cadmium Compounds	☐	0.26	0.26	0		
Calcium cyanimide	☐	13.37	13.37	0		
Chlorine	☑	67.6	67.6	0	0	67.6
Chromium Compounds	☐	0.14	0.14	0		
Cobalt Compounds	☐	4.71	4.71	0		
Cyanide Compounds	☐	13.37	13.37	0		
Dioxins/Furans	☐	0.000000469	0.000000469	0		
Fluorene	☑	0.08	0.09	0.01	0.01	0.09
Formaldehyde	☐	0.01	0.06	0.05		
Hydrazine	☑	9.1	9.1	0	0	9.1
Hydrochloric acid	☑	69.58	69.58	0	0	69.58
Hydrogen fluoride	☑	30.1	30.1	0	0	30.1
Manganese Compounds	☐	31.76	31.76	0		
Mercury Compounds	☐	0.16	0.16	0		
Methyl chloroform	☑	18.82	18.82	0	0	18.82
Methylene chloride	☑	28.06	28.07	0.01	0.01	28.07
Nickel Compounds	☐	11.27	11.27	0		
Phenanthrene	☐	0.08	0.09	0.01		
Phosphine	☑	13.52	13.52	0	0	13.52
Phosphorus	☐	13.37	13.37	0		
Propionaldehyde	☐	0.01	0.01	0		
Selenium Compounds	☐	24.42	24.42	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Tetrachloroethylene	☑	14.61	14.67	0.06	0.06	14.67
Titanium tetrachloride	☐	13.49	13.52	0.03		
Single Organic HAP	☐	30.47	30.52	0.05		
Total Organic HAP	☐	34.44	34.51	0.07		
H2S	☑	0.1	0.1	0	0	0.1
Ammonia	☑	9.8	9.8	0	0	9.8
Acetone	☑	0.1	0.1	0	0	0.1