

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1009-AOP-R27 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
5/24/2023	Renewal	<ul style="list-style-type: none">- Revise emissions at SN-24(A-E) to reflect 500 hr/yr of operation.- Revise emissions at SN-24E to reflect using EPA Tier II emission standards.-Revise annual throughput limits at SN-25 and revise emissions to reflect new throughput.-Separate (from SN-25) and permit as individual sources SN-53, 54, and 55-Remove SN-34.Remove SN-51.-correct rounding errors
8/8/2023	Minor Mod	--

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
11/8/2023	Modification	-Add emergency generator SN-24G

6. REVIEWER'S NOTES:

This permitting action is necessary to renew the Title V permit. In addition the following changes were made:

1. Revise annual throughput limits, vacuum truck loading and paved roads travel distance at SN-25, and revise emission limits to reflect these changes.
2. Separate Tank Transfer (SN-53), Drum Pumping (SN-54) and Railcar Loading (SN-55) operations previously included in "Fugitive Sources" (SN-25), and permit them as individual sources. Additionally revise annual throughput for Tank Transfer (SN-53) from 1,930 tankers pumped/yr to 2,400 tankers pumped/yr.
3. Revise Specific Condition #4; previously the condition allowed for a COMs and CPMS correlation curve to be established. The facility was not able to create this curve due to technical limitation, but was able to establish a CPMS limit (5 picoamps) to ensure compliance with Specific Condition #3.
4. Add Compliance Assurance Monitoring (CAM) citations at SN-01 and SN-44. SN-01 and SN-44 are subject to CAM for SO₂ and PM₁₀; the existing requirements in the permit satisfy the CAM requirements for SO₂ and PM₁₀.
5. Add scrubber monitoring parameters at SN-16 (Specific Condition #34).
6. Add CAM citations/conditions at SN-20, SN-46 and SN-48. These sources are Subject to CAM for PM₁₀; Specific Conditions #44, #166 and #171 were added to SN-20, SN-46 and SN-48, respectively, to include additional PM₁₀ CAM requirements for each source.
7. Add CAM conditions at SN-54, Drum Pumping. This source is Subject to CAM for VOC; Specific Condition #198 was added to SN-54 to include VOC CAM requirements for this source. Additionally, SN-21 CAM Conditions (Specific Condition #54) was revised to add weekly VOC concentration monitoring to be consistent with SN-54 CAM requirements.
8. Remove SN-34 (33.75 MMBtu/hr) No. 1 Package Boiler, and replace with permanent operation of SN-50 (18.0 MMBtu/hr) natural gas boiler. SN-50 was previously permitted as an alternate operating scenario to SN-34.
9. Remove the 200 hp, natural gas-fired boiler SN-SN-51 (9.0 MMBtu/hr). SN-51 was previously permitted as an alternate operating scenario to SN-34.
10. Remove CAM requirements for SN-25 (CAM requirements moved to SN-54, SC#198), SN-31, SN-37, SN-38, SN-39 and SN-40; these sources do not have pre-control emissions above 100 tpy, and are therefore not subject to CAM.
11. Incorporate a minor modification to revise the operational limits, established in accordance with 40 C.F.R. § Part 63 Subpart EEE, with newly developed values based on the latest Comprehensive Performance Test (CPT) performed on SN-01

in 2022. Plantwide Conditions #150, 153, 154, 159, 163, 175 were updated to include the most recent CPT results for: maximum pumpable hazardous waste feed rate (SN-01), maximum baghouse inlet temperature (SN-01), minimum secondary combustion chamber temperature (SN-01), minimum carbon feed rate limit (SN-01), maximum mercury feed rate limit (SN-01), maximum semi-volatile metal feed rate limit (SN-01) and maximum low-volatile metal pumpable system feedrate limit (SN-01).

12. Incorporate a modification to add a 62.6 HP, natural gas-fired, emergency generator (SN-24G)
13. Add permit shield.
14. Revise emissions at SN-24 (A-E) to reflect 500 hr/yr of operation, each; these engines were previously calculated and permitted at 100 hr/yr operation, each. Additionally, revise emissions at SN-24E to reflect using EPA Tier II emission standards for the certified engine.
15. Revise previous Specific Condition #58 (now SC #59) to limit emergency engines to 500 hr/yr to be consistent with revised calculations at SN-24 (A-E).
16. Correct rounding errors and Specific Condition numbering throughout the permit.
17. Add a 250 gallon diesel storage tank at residue building as an A-3 Insignificant Activity.

Permitted emission rates are increasing/decreasing by 0.4 tpy PM, -0.1 tpy PM₁₀, 0.2 tpy SO₂, -3.3 tpy VOC, -2.7 tpy CO, 0.7 tpy NO_x and -11.67 tpy Total Organic HAP.

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 September 19, 2023. Several areas of concern were noted:

1. During the inspection review period, the facility reported exceeding SN-01's opacity requirement in seven (7) upset reports.
2. The facility includes opacity observations on their weekly Preventative Maintenance (PM) logs but none were shown to have been performed in the January 2021 August 2023 weekly PM logs. Additionally, all engines except 24A operated in emergency events during the record review period with no records provided of opacity observations during these events.
3. For SN-24E, Unit 44 Generator (755 HP) (ID# 12OPMP200), the facility showed usage of 262.69 hours for calendar year 2022 in their General Provision Semi-Annual Monitoring report submitted June 29, 2023. This exceeded the 100 hour limit per calendar year for which the source's emissions limits in Specific Conditions 54 and 55 are based upon. The facility failed to report the exceedance per Rule 19.602.
4. During the inspection review period there were no records provided that showed the facility was changing the oil on SN-24A and SN-24B annually as required.

5. SN-24A's weekly PM logs during the review period indicated no hours logged, only time run, indicating the engine had no hour meter to read.
6. During the inspection review period there were no records provided that showed the facility had developed maintenance plan for SN-24D.
7. The hour meter at SN-24E, Unit 44 Generator (755 HP) (ID# 12OPMP200), was reported to not be working, with hours calculated from start and stop times. No indication at the time of inspection of when the hour meter ceased working.
8. For SN-24C and SN-24E, subject to NSPS IIII, there were no records provided that showed the facility was following the manufacturer's emission-related maintenance instructions, or had developed their own maintenance plan.
9. For SN-24F, subject to NSPS JJJJ, there were no records provided that showed the facility was following the manufacturer's emission-related maintenance instructions.
10. The facility reported in their Annual Compliance Certification received June 29, 2023 exceeding the yearly throughput limit for SN-25's Vacuum Truck Loading during three separate 12-month periods ending February 2023, March 2023, and April 2023 with, respectively, 772,662 gallons, 847,585 gallons, and 750,978 gallons of throughput.
11. The facility provided no records that showed conductivity vs. TDS curve was developed to show what conductivity value correlates with 13,600 ppm TDS. Without the conductivity vs. TDS curve value, records provided could not definitively show compliance with the TDS limit. No records provided indicated TDS was being tested directly every 3 months.
12. During the inspection review period, the facility reported exceeding SN-44's opacity requirement in three (3) upset reports
13. The facility failed to provide any notice of the CPT of SN-44 occurring on August 29-31 which had been approved an extension of the protocol dates of April 25-28, 2023.
14. Although the facility reports each operational divert as required, and resubmits them in their General Provision reports, the records are not kept in format to readily show compliance with the limits as required. The facility did submit line item list of the operational diverts on September 22, 2023, but with no 12-Month rolling totals or 30-Day rolling totals applied to the information. In an effort to determine the instances of exceeding the limits, added manual count to the information provided, showing exceedance of each 12-month period during the review period for the 12-month limit, and 25 initial exceedances of the 30-day period limit, with two-hundred (200) instances total of exceeding any 30-day period. The facility did later provide upon request 12-month rolling total and the count of the number of operational diverts during the last thirty days of each occurrence, but should account for any additional 30-day periods that are exceeding the limit after the initial occurrence that caused the exceedance.
15. The facility installed used natural gas fired emergency generator in the spring of 2023 at the new control room for SN-44; no exact start-up date known at the time of inspection.

This renewal application will permit SN-24E at 500 hr/yr (addressing Item #3) and permit the natural gas fired emergency generator (SN-24G) mentioned in item #15. Additionally, divert stack language in Plantwide Condition #11 was updated to include “per stack” language. The original condition was written when the facility only diverted one stack; they have added another one since, hence the update to the condition.

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.

Emission increases associated with this renewal are below PSD significant emission rate (SER) thresholds.

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
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	-	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? Y

(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any Rule 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? Y
If not, explain why.

For any requested inapplicable regulation in the permit shield, explain the reason why it is not applicable in the table below.

Source	Inapplicable Regulation	Reason
SN-21	40 CFR Part 60, Subpart VVa Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006	Since Organic liquid waste tanks (SN-21) were constructed prior to November 7, 2006, this subpart is not applicable.
SN-31	40 CFR Part 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	The largest tank for the solvent recovery system (SN-31) is 19,400 gallons. According to the subpart, the subject storage tank capacity is 75 m ³ (19,812 gallons) to 151 m ³ (39,889 gallons). Therefore, tanks for the solvent recovery system (SN-31) is not subject to this subpart.
Facility	40 CFR Part 60, Subpart Ce - Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators	As Clean Harbors has a permit issued under Section 3005 of the Solid Waste Disposal Act, in accordance with § 60.32 (d), this subpart is not applicable.
Facility	40 CFR Part 60, Subpart Ec - Standards of Performance for New Stationary	As Clean Harbors has a permit issued under Section 3005

Source	Inapplicable Regulation	Reason
	Sources: Hospital/Medical/Infectious Waste Incinerators	of the Solid Waste Disposal Act, in accordance with § 60.50 (d), this subpart is not applicable.

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/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Emergency equipment (SN-24A through SN-24G) is not included in lb/hr totals. All lb/hr totals below were updated with this revision; all pollutants listed below have decreased since the actual lb/hr rates were last totaled

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

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
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
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.

All listed pollutants have decreased since the actual lb/hr rates were last totaled; previous modeled concentrations are sufficient in demonstrating there is no condition of pollution. In addition SN-34 and SN-51 were removed with this revision; the only hourly HAP emission increases associated with this change are due to rounding and correcting emergency engine calculations (engines not included in evaluation).

Pollutant	PAIL (µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
Antimony	5.0	0.08226	Y
Arsenic	0.1	0.0757	Y
Beryllium *	0.0005	0.00212	N

Pollutant	PAIL ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
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
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 ($\mu\text{g}/\text{m}^3$)	OEHHA – Chronic REL ($\mu\text{g}/\text{m}^3$)	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) H₂S 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 H₂S Standards

N

If exempt, explain:

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H ₂ S	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

$$C_p = C_m (t_m/t_p)^{0.2} \text{ where}$$

C_p = 5-minute average concentration

C_m = 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	
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 °F
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

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
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	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
47					
20	Grain loading	15 gr/ft ³	Baghouse	99.9%	1,200 ft ³ /min
21	Tanks 4.0	N/A	2 Carbon Canisters (in series)	99%	6,000 gal/hr 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 NO _x /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 NO _x /MMBtu			
24E	AP-42 Table 3.4-1 & EPA Tier II	0.0505 lb SO _x /MMBtu 0.09 lb VOC/MMBtu	None	N/A	24E – 755 HP

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		0.15 g PM/PM ₁₀ /BHP-hr 2.6 g CO/BHP-hr 4.8 g NO _x /BHP-hr			
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 NO _x /HP-hr	None	N/A	149 HP 500 hrs
24G	AP-42 Table 3.2-2 Subpart JJJJ 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
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
25	Waste Repackaging	0.0037 lb/drum	N/A	N/A	56,000 drums/yr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
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%	Sulfur 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/PM ₁₀ – 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 321 of 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	Opacity	5%	Daily when operating	N
24 A through G	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

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
25	Tanker and Railcar Cleaning	1930 tank trucks/yr	Monthly	Y
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

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
39	Loadout to 55 gallon drums	879,000 gal/yr	Monthly	Y
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

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
52	Debris and waste processed	7,300 tons/yr	Monthly	Y
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	Monthly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
		to show 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		

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
01	Chlorine and Chloride Feedrate	Total: 2718 lb/hr	Continuously (Rolling 12-hr average)	Y ¹
		1,020 lb/hr (WFB)		
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	Y ¹

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
44	Condenser pressure drop	10.9 psi	(Hourly Rolling Average)	
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

¹. CMS performance report and summary report.

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

SN	Opacity	Justification for limit	Compliance Mechanism
09	5%	Dept. Guidance	Weekly
18	5%	Dept. Guidance	Weekly
20	5%	Dept. Guidance	Weekly
22	5%	Dept. Guidance	Weekly
24	20%	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
124 through 134	SN-34 has been removed from service.
144	SN-51 has been removed from service.
100 through 102	Moved to SN-53 and 54. Now SC#198, 203 and 204
112, 113	SN-31, 37, 38, 39, 40 are not subject to CAM.

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	A-3	0	0	0.03	0	0	0.03	0.03

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Tank and Dispenser Unit								
550 gal Diesel Storage Tank	A-3	0	0	0.000475	0	0	0.000475	0.000475
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)	A-13	0.0000078	0	0	0	0	0	0

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
(formally SN-22)								
Bulk Solid Mixing Process Backup Carbon Filter	A-13	0	0	0.91	0	0	0.91	0.91
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-R26

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-R27
 AFIN: 70-00098

\$/ton factor	28.14	Annual Chargeable Emissions (tpy)	1041.17
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	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	-4.51
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		91.7	92.1	0.4	0.4	92.1
PM ₁₀		66.8	66.7	-0.1		
PM _{2.5}		0	0	0		
SO ₂		94.9	95.1	0.2	0.2	95.1
VOC		59.4	56.1	-3.3	-3.3	56.1
CO		234.4	231.7	-2.7		
NO _x		535.7	536.4	0.7	0.7	536.4
Lead Compounds	<input type="checkbox"/>	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	<input type="checkbox"/>	0.01	0.01	0		
Acrolein	<input type="checkbox"/>	0.01	0.01	0		
Acrylic Acid	<input type="checkbox"/>	0.01	0.01	0		
Antimony Compounds	<input type="checkbox"/>	2.97	2.97	0		
Arsenic Compounds	<input type="checkbox"/>	0.14	0.14	0		
Beryllium Compounds	<input type="checkbox"/>	0.14	0.14	0		
Cadmium Compounds	<input type="checkbox"/>	0.26	0.26	0		
Calcium cyanimide	<input type="checkbox"/>	13.37	13.37	0		
Chlorine	<input checked="" type="checkbox"/>	67.58	67.6	0.02	0.02	67.6
Chromium Compounds	<input type="checkbox"/>	0.13	0.14	0.01		
Cobalt Compounds	<input type="checkbox"/>	4.69	4.71	0.02		
Cyanide Compounds	<input type="checkbox"/>	13.37	13.37	0		
Dioxins/Furans	<input type="checkbox"/>	4.69E-07	4.69E-07	0		
Fluorene	<input checked="" type="checkbox"/>	0.07	0.08	0.01	0.01	0.08
Formaldehyde	<input type="checkbox"/>	0.01	0.01	0		
Hydrazine	<input checked="" type="checkbox"/>	9.11	9.1	-0.01	-0.01	9.1
Hydrochloric acid	<input checked="" type="checkbox"/>	69.57	69.58	0.01	0.01	69.58
Hydrogen fluoride	<input checked="" type="checkbox"/>	30.1	30.1	0	0	30.1
Manganese Compounds	<input type="checkbox"/>	31.76	31.76	0		
Mercury Compounds	<input type="checkbox"/>	0.16	0.16	0		
Methyl chloroform	<input checked="" type="checkbox"/>	20.65	18.82	-1.83	-1.83	18.82
Methylene chloride	<input checked="" type="checkbox"/>	28.67	28.06	-0.61	-0.61	28.06
Nickel Compounds	<input type="checkbox"/>	11.26	11.27	0.01		
Phenanthrene	<input type="checkbox"/>	0.07	0.08	0.01		
Phosphine	<input checked="" type="checkbox"/>	13.52	13.52	0	0	13.52
Phosphorus	<input type="checkbox"/>	13.37	13.37	0		
Propionaldehyde	<input type="checkbox"/>	0.01	0.01	0		
Selenium Compounds	<input type="checkbox"/>	24.4	24.42	0.02		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Tetrachloroethylene	<input checked="" type="checkbox"/>	14.71	14.61	-0.1	-0.1	14.61
Titanium tetrachloride	<input type="checkbox"/>	13.52	13.49	-0.03		
Single Organic HAP	<input type="checkbox"/>	42.44	30.47	-11.97		
Total Organic HAP	<input type="checkbox"/>	46.11	34.44	-11.67		
H2S	<input checked="" type="checkbox"/>	0.1	0.1	0	0	0.1
Ammonia	<input checked="" type="checkbox"/>	9.8	9.8	0	0	9.8
Acetone	<input checked="" type="checkbox"/>	0.1	0.1	0	0	0.1