

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2069-AOP-R2 AFIN: 25-00028

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

IESI - AR Landfill Corp. - Cherokee Sanitary Landfill
300 Landfill Road
Cherokee Village, Arkansas 72529

3. PERMIT WRITER:

Jeremy Antipolo

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Solid Waste Landfill
NAICS Code: 562212

5. ALL SUBMITTALS:

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
3/15/2017	Deminimis	Addition of three (3) passive vent flares

6. REVIEWER'S NOTES:

Cherokee Sanitary Landfill (CLF) is currently owned and operated by IESI – AR Landfill Corp. The Class I/Class IV Municipal Solid Waste Landfill (MSWLF) is located in Cherokee Village, Arkansas. The site consists of a Class I permitted area of approximately 126.78 acres and a Class IV permitted area of approximately 20 acres. In this permitting action three (3) Passive Vent Flares are being added. Each flare has a design capacity of 140 scfm (4.25 MMBtu/hr) resulting in a total LFG combustion capacity of 420 scfm (12.75 MMBTU/hr). The change will result in the following emission rate increases: 1.2 tpy PM/PM₁₀, 0.6 tpy SO₂, 0.3 tpy VOC, 9.6 tpy CO, 2.4 tpy NO_x, 0.48 tpy Total HAP and 0.18 Total Other Pollutants.

7. COMPLIANCE STATUS:

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

There are no current/pending enforcement issues for this facility.

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? N

- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

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

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	VOC (NMOC)	40 C.F.R. § 60 Subpart WWW
Facility	Asbestos	40 C.F.R. § 61 Subpart M

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Department 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 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?
1,1,1-Trichloroethane	0.442086	0.0486295	0.00009	Y
Mercury	0.01	0.0011	0.00002	Y

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 (µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
N/A			

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*)	0.27 ppm	Y
	80 parts per billion (8-hour average) residential area	25.3 ppb	Y
	100 parts per billion (8-hour average) nonresidential area	25.3 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

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	AP-42 Table 2.4-5	PM/PM ₁₀ : 17 lb/10 ⁶ dscf methane	Flare	N/A	2,000 ft ³ /min 8,760 hrs/yr 50% Methane
	AP-42 Section 2.4.4 Equations 3, 4, 8 and Table 2.4-1	SO ₂ : 46.9 ppmv			
	AP-42 Section 2.4.4 Equations 3 and 4 and Table 2.4-1	VOC is the sum of the VOC pollutants in Table 2.4-1		98%	
	AP-42 Table 13.5-2	CO: 0.31 lb/MMBtu		N/A	
	AP-42 Table 13.5-1	NO _x : 0.068 lb/MMBtu			
	AP-42 Section 2.4.4 Equations 3, 4, and 10	HCl: 42 ppmv Cl			
	AP-42 Section 2.4.4 Equations 3 and 4 and Table 2.4-1	HAPs: See Table 2.4-1		98%	
02	AP-42 Section 2.4.4 Equations 3 and 4 and Table 2.4-1	VOC is the sum of the VOC pollutants in Table 2.4-1	N/A	N/A	1,866 ft ³ /min 8,760 hrs/yr
	AP-42 Section 2.4.4 Equations 3 and 4 and Table 2.4-1	HAPs: See Table 2.4-1			
03	AP-42 Section 13.2.2 Equations 1a and 2 and Tables 13.2.2-1 and 13.2.2-2	Hourly Emission Factors: PM: 8.935 lb/VMT PM ₁₀ : 2.412 lb/VMT Annual Emission Factors: PM: 6.242 lb/VMT PM ₁₀ : 1.685 lb/VMT	Water Truck	75%	Silt = 6.4% Vehicle Weight = 30.306 tons 270,696 VMT/yr assuming 24 hr/day operation Number of Days

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
					with Rain = 110
04, 05, 06	AP-42 Table 2.4-5	PM/PM ₁₀ : 17 lb/10 ⁶ dscf methane	Flare		140 ft ³ /min each 420 ft ³ /min total 8,760 hrs/yr 50% Methane
	AP-42 Section 2.4.4 Equations 3	SO ₂ : 46.9 ppmv			
	Manufacturer Specified factor and formula	VOC: 4.6 ppmv		98%	
		CO: 0.168 lb/MMBtu			
	AP-42 Table 2.4-5	NO _x : 40 lb/MMdscf CH ₄			
	AP-42 Section 2.4.4 Equations 3, 4, and 10	HCl: 42 ppmv Cl			
	AP-42 Section 2.4.4 Equations 3 and 4 and Table 2.4-1	HAPs: See Table 2.4-1		98%	

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
02	NMOC	25 or 25C	Every 5 Years	40 C.F.R. § 60 Subpart WWW

14. 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	Flame Presence	Thermocouple, UV Sensor, or Equivalent	Continuously	N

15. 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	Opacity Records	0%	Weekly	N
01	Heating Value of Landfill Gas Calculations	≥ 200 Btu/scf	As Needed	N
01	Exit Velocity Calculations	<60 ft/sec	As Needed	N
03	Dust Control Plan Recordkeeping	N/A	N/A	N
04, 05, 06	Opacity Records	0%	Weekly	N
Facility	Landfill Emissions	1,866 scfm and <50 Mg/yr	Annually	Y
Facility	Records of Modifications	N/A	As Needed	N
Facility	NMOC Emission Rate Report: Total In-place Waste and Estimated Waste Acceptance Rate	8,578,341 cubic yards	Annually	Y
Facility	Design Capacity Report	N/A	As Needed	N
Facility	Plot Map of Collector System When Emission Rate ≥ 50 Mg/yr	N/A	As Needed	N
Facility	Nature, Date of Deposition, Amount, and Location of Asbestos-containing Waste, Non-Degradable Waste, and Nonproductive Areas Excluded From Collection When Emission	N/A	As Needed	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	Rate \geq 50 Mg/yr			
Facility	Waste Shipment Record	N/A	As Needed	Y to generator
Facility	Location, Depth and Area, and Quantity of Asbestos-containing Waste Material	N/A	As Needed	Y upon closure of facility

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01	0%	Reg.18.501, 40 C.F.R. § 60.18(f)(1), and Ark. Code Ann.	Weekly Observations
03	5% Off-site	Reg.18.501 and Ark. Code Ann.	Inspector Observation
04, 05, 06	0%	Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311	Weekly Observations

17. DELETED CONDITIONS:

Former SC	Justification for removal
	N/A

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
500 Gallon Diesel Tank	A-13			0.000805			0.000805	0.000805
3,000 Gallon Diesel Tank	A-13			0.00273			0.00273	0.00273
5,000 Gallon	A-13			0.00439			0.00439	0.00439

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Diesel Tank								
150 Gallon Used Oil Tank	A-13			0.000005			0.000005	0.000005
1,000 Gallon Used Oil Tank	A-13			0.000001			0.000001	0.000001
125 Gallon Drive Train Oil Tanks	A-13			0.000005			0.000005	0.000005
125 Gallon Drive Train Oil Tanks	A-13			0.000005			0.000005	0.000005
125 Gallon Engine Oil Tank	A-13			0.000005			0.000005	0.000005
150 Gallon Engine Oil Tank	A-13			0.000005			0.000005	0.000005
250 Gallon Engine Oil Tank	A-13			0.000005			0.000005	0.000005
125 Gallon Hydraulic Oil Tank	A-13			0.000005			0.000005	0.000005
150 Gallon Hydraulic Oil Tank	A-13			0.000005			0.000005	0.000005
250 Gallon Hydraulic Oil Tank	A-13			0.000005			0.000005	0.000005
120 Gallon Transmission Oil Tank	A-13			0.000005			0.000005	0.000005
150 Gallon Gear Oil Tank	A-13			0.000005			0.000005	0.000005
25,000 Gallon Leachate	A-13			2.59			0.1	1.31

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Tank								
Solidification Emissions	A-13	0.1						
100,000 Gallon Leachate Tank				0.0586			0.0586	0.0586
Totals for A-13		0.1		2.65659			0.16659	1.37659

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
2069-AOP-R1

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: IESI - AR Landfill Corp. - Cherokee
 Sanitary Landfill
 Permit Number: 2069-AOP-R2
 AFIN: 25-00028

\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	273.1
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	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	4.53
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 condensable 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		215.8	217	1.2	1.2	217
PM ₁₀		61.6	62.8	1.2		
PM _{2.5}		0	0	0		
SO ₂		4.1	4.7	0.6	0.6	4.7
VOC		21.2	21.5	0.3	0.3	21.5
CO		82.5	92.1	9.6		
NO _x		18.1	20.5	2.4	2.4	20.5
Single HAP	<input type="checkbox"/>	4.79	4.79	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Total HAPs	<input type="checkbox"/>	15.47	15.95	0.48		
Total Other Pollutants	<input type="checkbox"/>	4.8	4.98	0.18		
Total Chargeable Non-Criteria Pollutants	<input checked="" type="checkbox"/>	9.37	9.4	0.03	0.03	9.4