

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1791-AOP-R3 AFIN: 66-00226

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

City of Fort Smith Sanitary Landfill
5900 Commerce Road
Fort Smith, Arkansas 72916

3. PERMIT WRITER:

Thamoda Crossen

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Executive Offices
NAICS Code: 921110

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
4/11/2025	Renewal	-

6. REVIEWER'S NOTES:

This facility has submitted an application to renew the existing Title V permit and update applicable regulation from Landfill from NSPS Subpart WWW to APC&EC 8 CAR § 41-101, Subpart 16. Also, added one underground leachate tank, added a fueling station, added NESHAP Subpart AAAA requirements and added Subpart XXX requirements.

Permitted emission rates are increasing/decreasing by -37.8 tpy PM, -115.1 tpy PM₁₀, -0.1 tpy of SO₂, -52 tpy VOC, -2.2 tpy CO, 0.4 tpy Single HAP, -13.24 tpy Total HAPs and -0.04 tpy of HCL, -0.12 tpy of Hydrogen Sulfide (H₂S). Large decrease in emissions is due to the addition of new gas collection system.

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 active or pending enforcement actions.

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? N

- *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.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	VOC (NMOC), HAPs	APC&EC 8 CAR § 41-101, Chapter 17, NESHAP Subpart AAAA and NESHAP Subpart XXX
SN-04	VOC	NESHAP Subpart CCCCCC

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 8 CAR pt. 40 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N
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
N/A		

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:
This facility has no CEMS or other monitoring equipment for air emissions.

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 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) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Benzene	0.063	0.00693	0.024	No
Dichlorobenzene	60.2	6.62	0.002	Yes
Hydrogen Fluoride	2.45	0.27	0.09	Yes
Trichloroethane	45.0	4.95	0.004	Yes
Ethylene dichloride	4.0	0.44	0.01	Yes

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Toluene	75.4	8.30	0.882	Yes
Vinyl chloride	2.56	0.2816	0.112	Yes
Mercury	0.025	0.00275	0.00001206	Yes

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?
Benzene	0.693	0.5362	Yes

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*)	9.76 ppm 1 hr = 8.2875 µg/m ³	Y
	80 parts per billion (8-hour average) residential area	3.02 ppb 8 hr = 4.20602 µg/m ³	Y
	100 parts per billion (8-hour average) nonresidential area	3.02 ppb 8 hr = 4.20602 µg/m ³	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	LandGEM 3.02	NMOC 54.68 Mg/yr (2025) Projected NMOC 60.20 Mg/yr (2030)	None	N/A	100% of LFG is emitted uncontrolled over the landfill surface. Concentration of NMOC based on site specific Tier II test values of 200 ppmv as hexane (July 2019) User Specified input in LandGEM of 3.90 ppmv concentration of Toluene based on 2104 test data.
02 Flare	<u>PM</u> : AP-42 Table 2.4-5 footnote a (11/98) <u>SO₂</u> : AP-42 2.4.4.2 <u>NMOC</u> : Tier II testing <u>CO</u> & <u>NO_x</u> : AP-42 13.5-1 <u>HCl</u> : AP-42 2.4.2.2 <u>HAPs</u> : AP-42 2.4.3	<u>PM</u> = 17 lb/10-6 dscf Methane (0.0010 lb/hr/dscfm) <u>SO₂</u> = 46.9 ppm Reduced <u>NMOC</u> = 200 ppmv <u>CO</u> = 0.310 lb/MMBtu <u>NO_x</u> = 0.068 lb/MMBtu <u>C_{Cl}</u> = 42.0 ppmv Varies, see Table 2.4-1	Flares	NMOC – 98% HAPs - 98.0%	Open candlestick flare 2200 scfm @8760 hr/yr @1012 BTU/scf Methane @59% Methane Concentration for PM, SO ₂ & NO _x NMOC = 100% VOC
03	Unpaved Roads: AP-42, 13.2.2 Tables 13.2.2-1,-2,-3	Silt content s = 6.4% 1 (20 ton) truck, 5 miles, PM = 4.66 lb/VMT	Water suppression as necessary	None	Silt Content for Arkansas – AP 42 Section 13.2.2 Related Information
	Paved Roads: AP-42, 13.2.1 Tables 13.2-1.1, 13.2.1-2,-4	Silt loading sL = 7.4 250 (20 ton) truck, 2.1 miles, P=100 PM = 1.79 lb/VMT			Silt loading for dirty paved roads – Air Pollution Engineering Manual-2000

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	Aggregate Handling – AP-42	0.00017 lb PM ₁₀ /ton			
04	Liquid Storage Tanks – AP-42, 7.1	Vapor density = 0.0734 lb/ft ³ Vapor space expansion factor = 0.1326 Vented Vapor Saturation Factor = 0.4918 VOC = 0.1 lb/hr			Emissions estimated using EPA Tanks 4.09 1,000 gallon gasoline tank Gasoline usage: 24,000 gallons per consecutive 12-month period

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
Facility	Methane	Section 8.3.1 of EPA Method 21 of Appendix A-7 of 40 C.F.R Part 60 *5-10 cm from ground*	Quarterly and Retest exceedances (See PWC 21)	40 C.F.R. §§63.1958, 63.1960

17. MONITORING OR CEMS:

This facility has no CEMS or other monitoring equipment for air emissions.

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)
Facility	Total in-place Municipal Solid Waste	73,260,463 CY design capacity (Tons accepted converted to CY)	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	Solid Waste accepted	381,825 tons/12-months PWCs 8	Monthly	Y
	Weigh Each Truck Load and Record Monthly & 12-month rolling Acceptance Rate	None	Monthly	N
	Plot Map of collector system	None	On-going	N
	Asbestos-containing or non-degradable waste: nature, date, quantity received & location	PWC 54	On-going	N
	Methane Surface Testing	Less than 500 ppm (PWC 17)	Quarterly	Y
	Periods when collection system or control device is not operating;	See PWCs 16	Upon on each instance	Y
	Failure records	Date, time, and duration of each failure and the cause of such events	Upon on each instance	Y
2	Maintenance Log	Maintain Good Operating Practices Maintain records	Monthly	N
1	Operating Hours		On-going	No
2	scfm	Varies with OSs	Every 15 minutes	Yes
04	Gasoline Throughput	24,000 gal/yr	Monthly	No
Facility & Landfill GCCS	Plot map showing each existing and planned collector in the system, providing a unique identification location label for each collector. Installation date and location of all newly installed collectors; documentation of the nature, date of deposition, amount, and location of asbestos-containing or	See PWC 36, 46, Submit design plans to permits for review 90 days prior to changing per PWCs 8 & 42.	When updated, Keep for the life of the system	Y, initially and as updated

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	nondegradable waste excluded from collection; any nonproductive areas excluded from collection as provided			
Facility & Landfill GCCS Cont'd	All GCCS exceedances of the operational standards in § 63.1958, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. wellhead temperature monitoring exceedances, wellhead nitrogen level or oxygen level exceedances, all enhanced monitoring activities. If 24-hour high temperature report is required, keep a record of the email transmission. Root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed, for action(s) not already completed - a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the Administrator.	See PWCs 16, 17, 23, 24, 26, 29 & 42	Upon on each instance	Y
	GCCS monitoring data for all parameters measured	See PWCs 43 to 46.	Continuous (15 min)	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
02	0%	8 CAR § 40-401, §60.18(f)(1) and A.C.A.	Weekly Observation
03 and Off-site	5%	8 CAR § 40-401 & A.C.A.	Observation & Dust Suppression methods, NPDES permit required.

20. DELETED CONDITIONS:

Former SC	Justification for removal
10-12	Out dated condition and no longer required.

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 Gallon Diesel Storage Tank #1	A-3	-	-	0.0033	-	-	-	0.0033
3,000 Gallon Diesel Storage Tank #2	A-3	-	-	0.001275	-	-	-	0.001275
16,000 Gallon Leachate underground Storage Tank	A-3			0.11288				0.05068
CNG Fueling Station	A-13			0.38				7.61

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 #
1791-AOP-R2

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: City of Fort Smith Sanitary Landfill
 Permit Number: 1791-AOP-R3
 AFIN: 66-00226

\$/ton factor	28.14	Annual Chargeable Emissions (tpy)	150.9
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) -103.3

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		144.5	106.7	-37.8	-37.8	106.7
PM ₁₀		144.5	29.4	-115.1		
PM _{2.5}		0	0	0		
SO ₂		4.6	4.5	-0.1	-0.1	4.5
VOC		56.1	4.1	-52	-52	4.1
CO		118.3	116.1	-2.2		
NO _x		23.5	23.5	0	0	23.5
Single HAP	☐	3.73	4.13	0.4		

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