STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1855-AOP-R6 AFIN: 63-00155

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

BFI-Waste System of Arkansas, LLC
1851 West Sardis Road
Bauxite, Arkansas 72011

3. PERMIT WRITER:

Jesse Smith

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Solid Waste Landfill
NAICS Code: 562212

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
12/13/2019	Renewal	Addition of earthmoving emissions to the landfill emissions (SN-01) Updated SN-02 to planned truck traffic SN-03 updated emission factors Removal of SN-05

6. REVIEWER'S NOTES:

BFI Waste Systems of Arkansas operates a solid waste landfill located at 18511 West Sardis Road, Bauxite, AR. This permit is a renewal of their previous Title V permit. During this permitting action, emissions for SN-01 were updated to include earthmoving activities and to account for the collection of 75% of landfill gas by the collection and

control system. SN-02 was updated to account for the planned amount of truck traffic, SN-03's emissions were updated due to emission factor updates, and SN-05 was removed from the permit. After the landfills currently planned expansion, the facility will be subject to NSPS Subpart XXX and applicable conditions have been added to the permit. Emission changes as a result of this permitting action are as follows: Increase of 83.5 tpy PM, increase of 19.4 tpy PM_{10}, decrease of 46.5 tpy VOC, decrease of 8.6 tpy CO, decrease of 8.9 tpy NO_X, decrease of 6.74 tpy Single HAP, decrease of 21.9 tpy Total HAPs, increase of 4.85 tpy H_2S, and a decrease of 0.29 tpy Acetone.

7. COMPLIANCE STATUS:

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

The facility was last inspected on June 18, 2019 and no significant compliance issues were noted at this time.

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*

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Landfill	NMOC	NSPS Subpart WWW
Landfill (After Expansion)	NMOC	NSPS Subpart XXX

10. 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 Regulation 18 requirement.)

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

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. 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 ADEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

The non criteria pollutants reviewed have not increased as a result of this permitting modification, therefore the previous PAER screening results were used for this permitting action.

The non-criteria pollutant listed below was 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?
Mercury	0.1	0.011	0.01	Y

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*)	0.22 ppm	Y
	80 parts per billion (8-hour average) residential area	52.37 ppb	Y
	100 parts per billion (8-hour average) nonresidential area	52.37 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

13. 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 Section 2.4	Equation 3 and 4 of Ap-42 2.4 Hexane content of 6,437,635 m^3/yr	None	N/A	EPA Tier II testing was performed at the facility in 2017. Emissions calculated using LandGEM 3.02 using default of 600 ppm NMOC
	AP-42 Table 11.9-1 AP-42 13.2.4	<u>Bulldozing and Compacting</u> S = 6.9%; M = 12%; PM – 2.29 lb/hr PM10 – 0.42 lb/hr PM2.5 – 0.24 lb/hr <u>Loading and Unloading</u> k_{PM} – 0.74	Water suppression as necessary	None	Silt content from Table 11.9-3 Average moisture content from Table 13.2.4-1 Assumed 800,000 ton/yr of soil and 49,920 hours based on operating limits in

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		k_{PM10} – 0.35 $k_{PM2.5}$ – 0.053 U – 10 mph M – 3.2% <u>Grading (lb/ton soil)</u> PM – 0.00302 PM_{10} – 0.00143 $PM_{2.5}$ – 0.00022			permit.
02	Unpaved Roads AP-42, 13.2.2-, -2, -3	Silt(s) = 6.4%; 1 truck (25 ton) , 350 trucks/day, 3.0 miles, P = 100; PM = 5.95 lb/VMT; PM_{10}= 1.36 lb/VMT PM2.5 = 0.14 lb/VMT	Water suppression as necessary	None	Silt content for Arkansas, AP-42 Section 13.2.2
03 Flare	PM – AP-42 Table 2.4-5 footnote a (11/98) SO_2 – AP-42 2.4.4.2 CO & NOx – AP-42 13.5-1 HCl – AP-42 2.4.2.2 VOC and	PM = 17 lb/10^6 dscf Methane (0.0010 lb/hr/dscfm) SO_2 = 400 ppmv Assumed all sulfur to SO_2 CO = 0.370 lb/MMBtu NOx = 0.068 lb/MMBtu C_{Cl} = 42.0 ppmv Varies , see Table	Flare	VOC – 98% HAPs - 98.0%	Open candlestick flare 210-2200 scfm Gas composition 30%-50% methane. Minimum methane content of 30% required for 98% destruction efficiency

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	HAPs – AP-42 2.4.3	2.4-1			

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
Facility	NMOC	Tier 2	If NMOC is less than or equal to 50 Mg/yr (54.1 tpy), test every 5 years, next test due before August 22, 2022	NSPS Subpart WWW
Facility	NMOC	Tier 2	After landfill expansion. If NMOC is less than or equal to 34 Mg/yr (37.5 tpy), test every 5 years	NSPS Subpart XXX
03	Visible Emissions	Method 22	Within 180 days of startup	[Reg.19.304 and 40 C.F.R. 60.18(f) and A.C.A.]

15. MONITORING OR CEMS:

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

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
N/A				

16. RECORDKEEPING REQUIREMENTS:

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

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
Facility	Total in-place Municipal Solid Waste	14,444,615 CY design capacity (Tons accepted converted to CY)	Monthly	Y
Facility	Weigh Each Truck Load and Record Monthly & 12-month rolling Acceptance Rate	None	Monthly	N
Facility	Plot Map of collector system	None	On-going	N
Facility	Asbestos-containing or non-degradable waste: nature, date, quantity received & location	None	On-going	N
02	Maintenance Log	Maintain Good Operating Practices Maintain records	Monthly	N
01	Operating Hours		On-going	No
03	scfm	Varies with Oss	Monthly	No
Facility	NMOC	50 Mg/yr (NSPS WWW) 34 Mg/yr (NSPS XXX)	Annually or every 5 years	Yes

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02, & off-site	5%	[Regulation No. 18 §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]	Observation & dust suppression methods, NNPDES permit required

SN	Opacity	Justification for limit	Compliance Mechanism
03	0%	[Regulation No. 18 §18.501, §60.18(f)(1), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]	Weekly Observation

18. DELETED CONDITIONS:

Former SC	Justification for removal
PW #14	Facility is no longer a major source of HAPs
SC #16 and 16a	These requirements were not applicable to the facility.
SC # 17 and 18	SN-05 is no longer in the permit and so these conditions are no longer applicable.

19. 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
Tank 001—500 Gallon Diesel Storage Tank 001	A-3			0.002				
Tank 002—2000 Gallon Diesel Storage Tank	A-3			0.0009				
Diesel—1—10,000 gallon horizontal diesel	A-3			0.005				

storage tank								
50,000 gallon leachate storage tank	A-13			0.047			0.047	0.047
Torit Dust Collector Model 90-3	A-13	0.1						
225,000 Gallon Leachate Tank	A-13			0.0094			0.0094	0.0094
Total	A-13	0.1		0.0564			0.0564	0.0564

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1855-AOP-R5

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: BFI - Waste System of Arkansas, LLC
Permit Number: 1855-AOP-R6
AFIN: 63-00155

$/ton factor	23.93	Annual Chargeable Emissions (tpy)	311.774
Permit Type	Modification	Permit Fee $	1427.0416

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)	59.634
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		149.4	232.9	83.5	83.5	232.9
PM_{10}		39.9	59.3	19.4		
$PM_{2.5}$		0	0	0		
SO_2		4.7	37.8	33.1	33.1	37.8
VOC		56.3	9.8	-46.5	-46.5	9.8
CO		115.6	107	-8.6		
NO_X		28.6	19.7	-8.9	-8.9	19.7
Single HAP	☐	11.06	4.32	-6.74		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Total HAPs	☐	30.3	8.4	-21.9		
Perchloroethylene (tetracholoroethylene)	☑	1.53	0.377	-1.153	-1.153	0.377
Methyl Chloroform	☑	0.16	0.039	-0.121	-0.121	0.039
Dichloromethane (Methylene chloride)	☑	4.81	0.741	-4.069	-4.069	0.741
Hydrochloric Acid (HCl)	☑	3	2.217	-0.783	-0.783	2.217
Hydrogen Sulfide (H2S)	☑	3.1	7.95	4.85	4.85	7.95
Acetone	☑	0.54	0.25	-0.29	-0.29	0.25