

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1884-AOP-R2 AFIN: 72-00144

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Eco-Vista, LLC
2210 Waste Management Drive
Springdale, Arkansas 72762

3. PERMIT WRITER:

Patty Campbell, PE

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Municipal Solid Waste Landfill
NAICS Code: 562212

5. SUBMITTALS:

June 16, July 20 and 27, August 4 and 26, September 24 and October 16 and 21, 2009

6. REVIEWER'S NOTES:

Waste Management of Arkansas, Inc. (WM) owns and operates a municipal solid waste landfill (NAICS 562212), Eco-Vista, LLC, (AFIN: 72-00144), located at 2210 Waste Management Drive, Springdale, Washington County, Arkansas 72762. This permitting action is necessary to:

1. Update SN-01 site-specific NMOC concentration, as 239 ppmv as hexane, equivalent to 33.16 Mg/yr NMOC (VOC), based on the most recent, February and March 2009, site-specific Tier 2 sampling results, Plantwide Condition (PWC) #10;
2. Add a reporting requirement to include SN-01 uncontrolled HAP calculations with the annual Tier 2 report, PWC #10;
3. Revise SN-01 uncontrolled HAP emissions by rounding up to the hundredth decimal place, Specific Condition (SC) #2;
4. Add a requirement to test the SN-01 site-specific individual HAP emissions using Method 320 or other methods, if the method has been approved in advance by the Department. An initial test to be performed within 180 days of permit issuance and thereafter to coincide with the SN-01 Tier 2 NMOC test, PWC #12;

5. Revise the dual Flares from a single emission source (SN-02) to two emission sources (SN-02A and SN-02B);
6. Visible labels shall be posted at Flare SN-02A and at Flare SN-02B that identifies each Flare as a distinct and separate emission source, SC #7;
7. Install five (5) new non-certified, landfill gas-fired, stationary spark ignition (SI) reciprocating internal combustion engines (RICE) (SN-04 through SN-08) to power electric generators, to be known as Landfill-Gas-To-Energy (LFGTE) Facility. The engines shall be subject to and comply with 40 CFR 60, Subpart JJJJ and 40 CFR 63, Subpart ZZZZ, as an area source of HAPs, SC #15 through #24. The engine manufacture date has not been established as of the issue date of this permit;
8. Permit six (6) Operating Scenarios (OS) of SN-02A, 02B (Flares) and SN-04 through SN-08 (engines) with each scenario limited to a maximum scfm, SC #12;
9. Add condition for each engine, SN-04 through SN-08, to be equipped with a non-resettable hour meter, SC #14;
10. Permit the stationary RICE (SN-04 through SN-08) SIP emission limits for NO_x, CO and VOC at 1.50, 2.70 and 1.0 grams/bhp-hr, respectively, SC #16, and require performance tests to confirm, SC #19;
11. Permit the stationary RICE (SN-04 through SN-08) NSPS Subpart JJJJ emission limits for NO_x, CO and VOC at 2.0, 5.0 and 1.0 grams/bhp-hr for engines manufactured after 01/01/2008 and at 2.0, 5.0 and 1.0 grams/bhp-hr for engines manufactured after 07/01/2010, respectively, SC #17, and require performance tests to confirm, SC #19;
12. Update the Flares' (SN-02A and SN-02B) emission factors for SO₂, VOC and HCl to 400 ppmv sulfur, 595 ppmv NMOC (VOC), and 53.52 ppmv chlorine (Cl) concentrations, respectively. The calculations show an increase in SO₂, VOC and HCl at EVLF but these emission increases are due to updates in emission factors and calculation methods, not physical or operational changes at EVLF;
13. Revise and permit the Flares and engines LFG methane concentration levels for PM, CO and NO_x to 50% annual average and 55% maximum hourly emissions; however, the permit does not list the methane content as a limiting factor, but instead limits the total emissions of CO to 240.4 tpy;
14. Add a requirement to perform and report results of an initial test on one engine for formaldehyde emissions, SC #21;
15. Eliminate weekly SN-03 Traffic Emissions opacity observations and recordkeeping of same (formerly SC #14);
16. Add a dust suppression activities condition for SN-03, SC #28;
17. Add the following seven (7) new Insignificant Activities (IA): Subaru Pump 18 Hp, John Deere Pump 84 Hp; Deutzag Pump 32 Hp; Honda Pump 5.5 Hp; Honda Pump 11.0 Hp; Subaru Emergency Generator 11.0 Hp; and 350 Gallon Hydraulic Oil Tank #2 (300 gal/mo);
18. Revise the monthly usage of these four (4) existing IAs: 350 Gallon Hydraulic Oil Tank #1 (300 gal/mo); 550 Gallon Diesel Fuel Truck Tank (2,200 gal/week);

2,000 Gallon Diesel Fuel Tank (2,200 gal/wk); and 550 Gallon Gasoline Fuel Tank (55 gal/wk); and

19. Revise the capacity of this existing IA: 500 Gallon Used Oil Tank (600 gal/mo). Total permitted annual emission increases associated with these modifications are: 4.3 tpy PM/PM₁₀, 59.1 tpy SO₂, 16.6 tpy VOC, 19.0 tpy CO, 59.6 tpy NO_x, 4.929 tpy HCl, 0.009 tpy 1,1-Dichloroethane, 0.002 tpy 1,1-Dichloroethylene, 0.007 tpy Dichlorobenzene, 0.004 tpy Ethyl benzene and 0.006 tpy Vinyl Chloride.

7. COMPLIANCE STATUS:

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

There is a pending air enforcement action for two violations: 1. In Permit #1884-AOP-R1, SC #5 –An initial performance test failed to be completed for each new open flare (SN-02A and SN-02B) in accordance with Plantwide Condition #3. Specifically, the ADEQ Inspector was not notified, as required, about the test. 2. In Permit #1884-AOP-R1, PWC #11 – The every five year Tier 2 test failed to be reported by the due date.

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 not PSD?
 Uncontrolled PM Traffic Emissions (SN-03) are not counted towards 250 tpy applicability for PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	VOC (NMOC)	NSPS Subpart WWW
04 through 08	VOC, CO, NO _x	NSPS Subpart JJJJ
04 through 08	CO or Formaldehyde	NESHAP Subpart ZZZZ

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu\text{g}/\text{m}^3$)	Averaging Time	Highest Concentration ($\mu\text{g}/\text{m}^3$)	% of NAAQS
PM ₁₀	32.5 [OS #2]	50	Annual	39.32	78.7%
		150	24-Hour	131.98	88.0%
SO ₂	18.0 [OS #1]	80	Annual	2.95	3.7%
		1300	3-Hour	74.76	5.8%
		365	24-Hour	41.54	11.4%
CO	57.3 [OS #2]	10,000	8-Hour	182.26	1.8%
		40,000	1-Hour	321.92	0.8%
NO _x	23.2 [OS #2]	100	Annual	4.02	4.02%

04. Includes SN-02,04-08 Flares/Engines @3.7 lb/hr & SN-03 Traffic @28.8 lb/hr = 32.5 lb/hr PM₁₀

** ANNUAL PM₁₀ ($\mu\text{g}/\text{m}^3$) – SN-02,04-08/ SN-03/Backgrd – 0.55 + 7.77 + 31.0 = 39.32 $\mu\text{g}/\text{m}^3$

PM₁₀

*** 24-Hour PM₁₀ ($\mu\text{g}/\text{m}^3$) – SN-02,04-08/ SN-03/Backgrd – 5.11 + 77.65 + 48.0 = 131.98 $\mu\text{g}/\text{m}^3$

PM₁₀

Non-Criteria Pollutants:

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-Dichloroethane (Ethylidene dichloride, CAS 75-34-3)	404.8	44.528	0.08	PASS
1,1-Dichloroethylene (Vinylidene chloride, CAS 75-35-4)	19.82	2.1802	0.01	PASS

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Dichlorobenzene (CAS 106-46-7)	60.13	6.614	0.21	PASS
Ethyl benzene	434.2	47.762	0.70	PASS
Toluene	75.36	8.2896	2.27	PASS
Vinyl Chloride	2.56	0.2816	0.05	PASS
Xylene	434.2	47.762	1.71	PASS
Hydrochloric Acid (HCl)	2.984	0.328	1.34	FAIL

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?
HCl	29.84	3.09	PASS

Other Modeling: None.

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 – criteria WIAC* for HAPs * Trade Organization	Varies	None	n/a	Operating scenario: 100% of LFG is emitted uncontrolled over the landfill surface. Concentration of NMOC based on site specific Tier 2 test values of 239 ppmv as hexane (Mar 2009)

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01 – PCS**	Data provided by WM ** Petroleum Contaminated Soil	50 ppm organic content	None	n/a	100% fuel evaporation highly conservative, assumed all organics would be emitted into air
02A/B Flares	<u>PM</u> – AP-42 2.4 Table 2.4-5 footnote a (11/98) <u>SO₂</u> – 4/2009 Test data 77 ppmv <u>NMOC</u> – AP-42 2.4 Table 2.4-2 (11/98) <u>CO & NO_x</u> – Vendor/Flare Guarantee HAPs – WIAC	<u>PM</u> = 17 lb/10-6 dscf Methane (0.00102 lb/hr/dscfm) <u>SO₂</u> = 400 ppmv Reduced S <u>NMOC</u> = 595 ppmv default <u>CO</u> = 0.370 lb/MMBtu <u>NO_x</u> = 0.068 lb/MMBtu Varies , see Table 2.4-1	Flares	NMOC – 98% HAPs - 98.0%	6 Op Scenarios Open candlestick, dual Flares , variable each 225 to 2250 scfm = combined 450 to 4500 scfm max @8760 hr/yr @1012 BTU/scf Methane @55% Methane Concentration for PM, SO ₂ & NO _x NMOC = 100% VOC

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
04-08 IC Engines	<p>PM – AP-42, Table 2.4-5 (11/98)</p> <p>SO₂ – 4/2009 Test data 77 ppmv</p> <p>AP-42 2.4 Eq #3, 4, & 7</p> <p>VOC = NMOC =</p> <p>CO & NO_x – based on Two Pine LF, Cat 3516 engines perf stack test dated 04/15/2008</p>	<p>PM = 48 lb/10⁶ dscfm</p> <p>SO₂ = 400 ppmv</p> <p>VOC =</p> <p>CO = 2.7 g/bhp-hr</p> <p>NO_x = 1.5 g/bhp-hr</p> <p>@max 313 scfm</p>	<p>5 Cat Engines Lean Burn</p> <p>After cooled</p> <p>Filter treatment to remove PM10 prior to gas entering engines</p>	n/a	New Engines to be installed in 2010 for LFGTE
03	<p>PM – AP-42 Section 13.2.2 Tables 13.2.1.3, 13.2.2-1,-2,-3 (11/06)</p>	<p>formula PM = 5.38 lb/ VMT*</p> <p>PM10 = 1.45 lb/VMT*</p>	<p>Water suppression, speed limits, etc., as necessary</p>	None	Other means to suppress dust are allowed, speed limits, plastic cover instead of soil, etc.

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01	NMOC (VOC Surface emissions)	Tier 2	If NMOC is ≤ 50 Mg/yr (54.1 tpy), test every 5 years, next test due before Feb 17, 2014	NSPS Subpart WWW

SN	Pollutants	Test Method	Test Interval	Justification
01	Individual HAPs	Method 320 or other approved method	Within 180 days of permit issuance and after the initial test, retests shall coincide with the Tier 2 test	§18.1002 and A.C.A.
02	CO	EPA Method 10	Every 3 years	§19.702
04-08	CO NO _x	EPA Methods 7E and 10	Within 180 Days of initial startup plus every 8760 op hours or 3 years whichever comes first	PWC #3 & Subpart JJJ, §60.4243(b)(2)(ii) & Reg 19, §19.501
04-08	VOC	EPA Methods 25A & 18	Within 180 Days of initial startup plus every 8760 op hours or 3 years whichever comes first	NSPS – 40 CFR Part 60, Subpart JJJ & Reg 19, §19.501
04-08 (One only)	Formaldehyde	EPA Method 320 or otherwise approved	One engine, initial test within 180 days of startup	Reg 18, §18.1004 & A.C.A.

14. MONITORING OR CEMS

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

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)
Facility	Total in-place Municipal Solid Waste	11,086,000 CY design capacity (Tons accepted converted to CY)	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
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
02A, 02B, 04 thru 08	Maintenance Log	Maintain Good Operating Practices Maintain records	Monthly	N
40 CFR Part 60 Subpart JJJJ engines	Notification, documentation (tests) of meeting emissions	Maintain Good Operating Practices	On-going	Y
Facility (04 thru 08)	List of Engines w/model date and purchase date	Keep for life of engine	Within 30 days of installation	N
04 thru 08	Operating Hours	<u>Non</u> -resettable Hourly Operating Meter	On-going	No
02A & 02B	scfm	Varies with OSs	Every 15 minutes	Yes
02A, 02B, 04 thru 08	Number of Engines Operating and combined max rate gas flow (SCFM) of flares and engines	313 scfm max per engine & nte OSs #1-6	On-going and whenever a change occurs	Yes
01	NMOC SN-01	50 Mg/yr	Annually	Yes

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
02A, 02B, 04 thru 08	Performance Tests	Varies	Varies	Yes

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
02A and 02B	0%	§18.501, §60.18(f)(1) and A.C.A.	Weekly Observation
Off-site	5%	Reg. #18.501 & A.C.A.	Observation & Dust Suppression methods, NPDES permit required.
04 through 08	5%	Reg. #18.501 & A.C.A.	Landfill gas as the only fuel

17. DELETED CONDITIONS:

Specific Condition #14, weekly opacity observation of SN-03 was eliminated.

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	IA	Emissions (tpy)						
		PM/ PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Ingersoll-Rand 30 HP, 185 Diesel Air Compressor	A-1	0.217	0.202	0.243	0.658	3.055	---	0.00261
Kubota 18 HP, D905-E Diesel Light Plant	A-1	0.130	0.121	0.146	0.395	1.833	---	0.00247
Honda 5.5 HP Gasoline Motor	A-1	1.30E-02	0.0107	0.271	7.932	0.199	---	---
Two (2) Diesel Powered Shop Heaters	A-1	0.08	0.06	0.08	0.22	1.04	---	---
34 HP, 220 V Diesel Generator	A-1	0.01	0.01	0.01	0.01	0.03	--	---
Subaru Pump 18 Hp	A-1	0.01	0.01	0.01	0.02	0.09	---	---

Source Name	IA	Emissions (tpy)						
		PM/ PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
John Deere Pump 84 Hp	A-1	0.03	0.03	0.04	0.10	0.48	---	---
Deutzag Pump 32 Hp	A-1	0.01	0.01	0.01	0.04	0.18	---	---
Honda Pump 5.5 Hp	A-1	0.01	0.01	0.01	0.01	0.01	---	---
Honda Pump 11.0 Hp	A-1	0.01	0.01	0.01	0.01	0.01	---	---
Subaru Emg Generator	A-1	0.01	0.01	0.01	0.01	0.01	---	---
Summary of above	A-1	<10	<10	<10	<10	<10	<5	<5
Emission Summary using TANKS 4.0.9d for each of the seven (7) tanks.								
500 Gal Used Oil Tank	A-3	---	---	0.019	---	---	---	---
350 Gal Engine Oil Tank	A-3	---	---	0.013	---	---	---	---
350 Gal Transmission Oil Tank	A-3	---	---	0.009	---	---	---	---
Two (2) 300 Gallon Hydraulic Oil Tank	A-3	---	---	0.011	---	---	---	---
550 Gal Diesel Fuel Truck Tank	A-3	---	---	0.311	---	---	---	---
2,000 Gallon Diesel Fuel Tank	A-3	---	---	0.837	---	---	---	---
6 Tanks Summary of above	A-3	---	---	<5.0	---	---	---	---
550 Gallon Gasoline Fuel Tank	A-13	---	---	0.074	---	---	---	---
Leachate Collection System	A-13	Air emissions are water vapor. Leachate goes to sewer system for treatment.						

Permit #: 1884-AOP-R2

AFIN: 72-00144

Page 12 of 12

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1884-AOP-R1

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.



Paula Parker, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 07-27-09

Facility Name: Eco-Vista Landfill
 Permit Number: 1884-AOP-R2
 AFIN: 72-00144

\$/ton factor	22.07	Annual Chargeable Emissions (tpy)	531.12
Permit Type	Modification	Permit Fee \$	3189.75503
Minor Modification Fee \$	500		
Minimum Modification Fee \$	1000		
Renewal with Minor Modification \$	500		
Check if Facility Holds an Active Minor Source Permit	<input type="checkbox"/>		
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$		0	
Total Permit Fee Chargeable Emissions (tpy)	144.529		
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	<input checked="" type="checkbox"/>	271	275.3	4.3	4.3	275.3
PM ₁₀	<input type="checkbox"/>	67.2	71.5	4.3		
SO ₂	<input checked="" type="checkbox"/>	19.7	78.8	59.1	59.1	78.8
VOC	<input checked="" type="checkbox"/>	54.3	70.9	16.6	16.6	70.9
CO	<input type="checkbox"/>	221.4	240.4	19		
NO _x	<input checked="" type="checkbox"/>	40.7	100.3	59.6	59.6	100.3
Hydrochloric Acid	<input checked="" type="checkbox"/>	0.891	5.82	4.929	4.929	5.82
1,1-Dichloroethane	<input type="checkbox"/>	0.311	0.32	0.009		
1,1-Dichloroethylene	<input type="checkbox"/>	0.038	0.04	0.002		
Dichlorobenzene	<input type="checkbox"/>	0.903	0.91	0.007		
Ethyl Benzene	<input type="checkbox"/>	3.056	3.06	0.004		
Toluene	<input type="checkbox"/>	9.93	9.93	0		
Vinyl Chloride	<input type="checkbox"/>	0.184	0.19	0.006		
Xylenes	<input type="checkbox"/>	7.465	7.47	0.005		
pc 11/12/09	<input type="checkbox"/>	0	0	0		

