

STATEMENT OF BASIS

for the issuance of Draft Air Permit # 1884-AR-2

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913

2. APPLICANT:

Waste Management Tontitown Landfill LLC
18200 Stutts Road
Springdale, Arkansas 72765

3. PERMIT WRITER:

Paul Osmon

4. PROCESS DESCRIPTION AND SIC CODE:

SIC Description: Class I and IV Municipal Landfill
SIC Code: 4853

5. SUBMITTALS: July 23, 2002

6. REVIEWER'S NOTES:

The previous minor source air permit for this facility had emission limits based on an empirical formula which modeled the solid waste in place and the length of time it has been encapsulated in the landfill. Measured volumes being gathered by the landfill gas gathering system indicate that the modeled understated the gases emitted by the landfill. This modification will have emission limits based on a new model which has been adjusted to agree with actual measured volumes gathered from the landfill.

Speciation of hazardous air pollutants in land fill gases and corresponding emission limits for hazardous air pollutants in in this permit modification are based on *Waste Industry Air Coalition Comparison of Recent Landfill Gas Analyses* data.

7. COMPLIANCE STATUS: The following summarizes the current compliance status of the facility including active/pending enforcement actions and recent compliance activities and issues

The facility is not the subject of any known active/pending enforcement actions concerning their air permit. The issuance of a solid waste permit to expand the facility has been the source of an ongoing controversy between local citizen groups and ADEQ.

8. APPLICABLE REGULATIONS:

A. Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera) (Y/N)

N

Has this facility underwent PSD review in the past (Y/N) N Permit #

Is this facility categorized as a major source for PSD? (Y/N) N

\$ 100 tpy and on the list of 28 (100 tpy)? (Y/N)

\$ 250 tpy all other (Y/N)

B. Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD <u>only</u>]
Facility	NMOC	40 CFR 60 Subpart WWW

9. EMISSION CHANGES:

The following table summarizes plantwide emission changes associated with this permitting action.

Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1884-AR-1	Air Permit 1884-AR-2	Change
PM/PM ₁₀	2.2	4.4	2.2
SO ₂	0.1	0.1	0
VOC	10.7	18.4	7.7
CO	46.7	97.3	50.6

Permit #: 1884-AR-2

CSN #: 72-0144

Page 3 of 8

Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1884-AR-1	Air Permit 1884-AR-2	Change
NO _x	9.0	17.9	8.9
1,1 - Dichloroethane	0	0.1335	0.1335
Benzene	0	1.4751	1.4751
Ethylbenzene	0	1.3117	1.3117
Methyl Ethyl Ketone	0	1.6660	1.666
Toluene	3.64	6.2806	2.6406
Vinyl Chloride	0	0.1225	0.1225
Xylene	1.86	3.0239	1.1639
Hydrochloric Acid	1.05	2.0894	1.0394

10. MODELING:

A. Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

11. 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 PAER was deemed by the Department 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).

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
1,1 - Dichloroethane	40	4.4	0.0305	Y

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Benzene	1.6	0.176	0.3368	N
Ethylbenzene	434	47.74	0.2995	Y
Methyl Ethyl Ketone	590	64.9	0.3804	N
Toluene	188	20.68	1.4339	Y
Vinyl Chloride	13	0.143	0.0280	Y
Xylene	434	47.74	0.7315	Y
Hydrochloric Acid	-	-	-	-

2nd Tier Screening (PAIL)

ISCST3 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 was 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	16.0	16.0*	Y

* - the model predicts concentrations of 1.077 ppmv vinyl chloride in the landfill gas. Utilizing a gram molecular weight of 62.5 grams for vinyl chloride, this converts to 67 µg/m³. If we assume the landfill gas is all venting non-point source (flare is down) and the vented land fill gas is diluted by 5:1 at any property border then the facility passes.

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
----	---	--	--	------------------------------------	--

Permit #: 1884-AR-2

CSN #: 72-0144

Page 5 of 8

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
01	NMOC - Testing	NMOC is 298.1 ppmv based on test			The emissions from this source assume that the landfill gas gathering system is not in operation - 39% of NMOC is listed as VOC from AP-42 - Table 2.4-2
01	HAPs - *				
01	AP-42	HCl			Based on AP-42 Section 2.4.4
02	AP-42	PM -0.001 lb/hr/dscm methane	none	NA	It is assumed that 65% of landfill gases are gathered and flared with 98% destruction efficiency while the rest are emitted as non-point source
02	AP-42	SO ₂			Based on AP-42 Section 2.4-8
02	testing of prototype flare	CO - 0.37 lb/MMBTu	None	NA	
02	Testing of prototype flare	NO _x - 0.068 lb/MMBTu	None	NA	

* - The HAP content of the landfill gases is based on data from the *Waste Industry Air Coalition Comparison of Recent Landfill Gas Analyses* values except for HCl

13. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
Flare Intake	HAPS	To be Established	Initial Only	Necessary to determine if any HAPS concentrations around the facility exceed the Non-Criteria Pollutant Strategy
				There is a site specific NMOC concentration in the land fill gases test required every 5 years.

14. MONITORING OR CEMS

The following are parameters that must be monitored with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Parameter or Pollutant to be Monitored	Method of Monitoring (CEM, Pressure Gauge, etc)	Frequency*	Report (Y/N)**
02	Flame Presence	Ultra-Violet Sensor	Continuously	N

* Indicate frequency of recording required for the parameter (Continuously, hourly, daily, etc.)

** Indicates whether the parameter needs to be included in reports.

15. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
Facility	refuse received after 1/1/2000	5.336 million tons	monthly	N
Facility	projected annual and 5 year NMOC emissions	No limit but at 50 tpy control equipment (landfill gas gathering	Yearly	Y

SN	Recorded Item	Limit (as established in permit)	Frequency *	Report (Y/N)**
		system and flare) becomes subject to the NSPS		

* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)
 ** Indicates whether the item needs to be included in reports

16. OPACITY

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
02	0 except for 5 minutes every 2 hours	Future NSPS potential limit if emissions exceed 50 tpy NMOC	not necessary

17. DELETED CONDITIONS:

The following Specific Conditions were included in the previous permit, but deleted for the current permitting action.

Former SC	Justification for removal
	No deleted conditions

18. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

List all active permits for this facility which are voided/superseded/subsumed by issuance of this permit.

--

Permit #: 1884-AR-2

CSN #: 72-0144

Page 8 of 8

Permit #
1884-AR-1

Permit #: 1884-AR-2
CSN #: 72-0144
Page 9 of 8

19. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

Thomas Rheaume, P.E.