



**STATEMENT OF BASIS**

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BAQ Engineering Services Division  
 2600 Bull Street, Columbia, SC 29201  
 Phone: 803-898-4123 Fax: 803-898-4079

<b>Company Name:</b>	Palmetto Landfill and Recycling Center	<b>Permit Writer:</b>	Alyson Hayes
<b>Permit Number:</b>	TV-2060-0221	<b>Date:</b>	Draft

**DATE APPLICATION RECEIVED:** September 18, 2006 (revision January 21, 2009)  
**DATE OF LAST INSPECTION:** April 19, 2009 (no violations)

**FACILITY DESCRIPTION**

Landfill that also operates a landfill gas collection system, which routes collected LFG offsite via pipeline to the BMW manufacturing plant for combustion. The landfill operates four flares as secondary control devices.

**PROJECT DESCRIPTION**

Renew existing Title V Operating Permit that was issued March 29, 2002 and expired April 30, 2007. The only changes to the permit was voiding ID 02 and moving it to the insignificant sources list and adding 40CFR63 Subpart AAAA requirements. Also a new flare was installed at the facility and a synthetic minor limit was placed on CO restricting the annual landfill gas flow to the flares.

Flare UF2 was decommissioned and removed from the site in 2003.

**PUBLIC NOTICE**

The permit will require a 30 day public notice.

**EMISSIONS**

(1) Based on restricting UF1, UF3, UF4, and UF5 to 1500 scfm, 3000 scfm, 3000 scfm, and 3000 scfm respectively. This is not the true PTE for the facility because flares UF1 and UF5's design capacity is higher. These are limits that have been establish and are being used as the PTE. Should the facility wish to model at the design capacity the PTE would need to be updated to reflect the higher rates.

(2) Based on restricting UF1, UF3, UF4, and UF5 to 1500 scfm, 1000 scfm, 1000 scfm, and 3000 scfm respectively

ID	Pollutant	CONTROLLED EMISSIONS		
		lb/hr <sup>(1)</sup>	TPY <sup>(1)</sup>	TPY <sup>(2)</sup>
UF1	NO <sub>x</sub>	4.05	17.74	17.74
	CO	12.15	53.22	53.22
	PM	0.76	3.34	3.34
	NMOC	0.24	1.03	1.03
	VOC	0.09	0.40	0.40
	SO <sub>2</sub>	2.16	9.45	9.45
	1,1,1-trichlorethane	0.000	0.0013	0.0013
	1,1,2,2 – tetrachloroethane	0.001	0.0037	0.0037
	1,1 – dichloroethane	0.001	0.0047	0.0047
	1,1 – dichloroethene	0.000	0.0004	0.0004
	1,2 – dichloroethane	0.000	0.0008	0.0008
	1,2 - dichloropropane	0.000	0.0004	0.0004
	Acrylonitrile	0.000	0.0010	0.0010
	Benzene	0.000	0.0004	0.0004
	Carbon Disulfide	0.000	0.0001	0.0001
	Carbon Tetrachloride	0.000	0.0000	0.0000
	Carbonyl Sulfide	0.000	0.0001	0.0001
	Chlorobenzene	0.000	0.0006	0.0006
	Chloroethane	0.000	0.0016	0.0016
	Chloroform	0.000	0.0001	0.0001
	Chloromethane	0.000	0.0012	0.0012
	Dichlorobenzene	0.000	0.0006	0.0006
	Dichloromethane	0.006	0.0244	0.0244
Ethyl Mercaptan	0.000	0.0004	0.0004	
Ethyl benzene	0.000	0.0015	0.0015	
Ethylene Dibromide	0.000	0.0000	0.0000	
Hexane	0.000	0.0017	0.0017	



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ID	Pollutant	CONTROLLED EMISSIONS		
		lb/hr <sup>(1)</sup>	TPY <sup>(1)</sup>	TPY <sup>(2)</sup>
	Hydrochloric acid	0.352	1.5402	1.5402
	Hydrogen sulfide	0.004	0.0154	0.0154
	Mercury and Compounds	0.000	0.0001	0.0001
	Methyl Ethyl Ketone	0.000	0.0015	0.0015
	Methyl isobutyl ketone	0.000	0.0006	0.0006
	Methyl Mercapan	0.000	0.0004	0.0004
	Perchloroethylene	0.003	0.0124	0.0124
	Toluene	0.002	0.0109	0.0109
	Trichloroethylene	0.002	0.0074	0.0074
	Vinyl chloride	0.002	0.0092	0.0092
	Xylenes	0.001	0.0039	0.0039
UF3	NO <sub>x</sub>	5.40	23.65	7.88
	CO	13.50	59.13	19.71
	PM	1.53	6.69	2.23
	NMOC	0.47	2.06	0.69
	VOC	0.18	0.80	0.27
	SO <sub>2</sub>	4.31	18.90	6.30
	1,1,1-trichlorethane	5.87E-04	2.57E-03	8.57E-04
	1,1,2,2 – tetrachloroethane	1.71E-03	7.49E-03	2.49E-03
	1,1 – dichloroethane	2.13E-03	9.33E-03	3.11E-03
	1,1 – dichloroethene	1.78E-04	7.80E-04	2.60E-04
	1,2 – dichloroethane	3.72E-04	1.63E-03	5.43E-04
	1,2 – dichloropropane	1.87E-04	8.19E-04	2.72E-04
	Acrylonitrile	4.62E-04	2.02E-03	6.75E-04
	Benzene	2.05E-04	8.98E-04	3.00E-04
	Carbon Disulfide	6.07E-05	2.66E-04	8.87E-05
	Carbon Tetrachloride	5.64E-06	2.47E-05	8.24E-06
	Carbonyl Sulfide	4.05E-05	1.77E-04	5.91E-05
	Chlorobenzene	2.58E-04	1.13E-03	3.77E-04
	Chloroethane	7.40E-04	3.24E-03	1.08E-03
	Chloroform	3.28E-05	1.44E-04	4.80E-05
	Chloromethane	5.60E-04	2.45E-03	8.18E-04
	Dichlorobenzene	2.83E-04	1.24E-03	4.13E-04
	Dichloromethane	1.11E-02	4.86E-02	1.63E-02
	Ethyl mercaptan	1.95E-04	8.54E-04	2.85E-04
	Ethyl benzene	6.73E-04	2.95E-03	9.83E-04
	Ethylene Dibromide	1.72E-06	7.53E-06	2.52E-06
	Hexane	7.79E-04	3.41E-03	1.14E-03
	Hydrochloric acid	7.03E-01	3.08	1.03
	Hydrogen sulfide	7.03E-03	3.08E-02	1.03E-02
	Mercury and Compounds	2.69E-05	1.18E-04	3.92E-05
	Methyl Ethyl Ketone	7.03E-04	3.08E-03	1.03E-03
	Methyl Isobutyl Ketone	2.58E-04	1.13E-03	3.76E-04
	Methyl Mercaptan	1.65E-04	7.23E-04	2.41E-04
Perchloroethylene	5.67E-03	2.48E-02	8.28E-03	
Toluene	4.98E-03	2.18E-02	7.27E-03	
Trichloroethylene	3.40E-03	1.49E-02	4.96E-03	
Vinyl chloride	4.21E-03	1.84E-02	6.14E-03	
Xylenes	1.77E-03	7.75E-03	2.58E-03	



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<b>Permit Number:</b>	TV-2060-0221	<b>Date:</b>	Draft

ID	Pollutant	CONTROLLED EMISSIONS		
		lb/hr <sup>(1)</sup>	TPY <sup>(1)</sup>	TPY <sup>(2)</sup>
UF4	NO <sub>x</sub>	5.40	23.65	7.88
	CO	13.50	59.13	19.71
	PM	1.53	6.69	2.23
	NMOC	0.47	2.06	0.69
	VOC	0.18	0.80	0.27
	SO <sub>2</sub>	4.31	18.90	6.30
	1,1,1-trichlorethane	5.87E-04	2.57E-03	8.57E-04
	1,1,2,2 – tetrachloroethane	1.71E-03	7.49E-03	2.49E-03
	1,1 – dichloroethane	2.13E-03	9.33E-03	3.11E-03
	1,1 – dichloroethene	1.78E-04	7.80E-04	2.60E-04
	1,2 – dichloroethane	3.72E-04	1.63E-03	5.43E-04
	1,2 – dichloropropane	1.87E-04	8.19E-04	2.72E-04
	Acrylonitrile	4.62E-04	2.02E-03	6.75E-04
	Benzene	2.05E-04	8.98E-04	3.00E-04
	Carbon Disulfide	6.07E-05	2.66E-04	8.87E-05
	Carbon Tetrachloride	5.64E-06	2.47E-05	8.24E-06
	Carbonyl Sulfide	4.05E-05	1.77E-04	5.91E-05
	Chlorobenzene	2.58E-04	1.13E-03	3.77E-04
	Chloroethane	7.40E-04	3.24E-03	1.08E-03
	Chloroform	3.28E-05	1.44E-04	4.80E-05
	Chloromethane	5.60E-04	2.45E-03	8.18E-04
	Dichlorobenzene	2.83E-04	1.24E-03	4.13E-04
	Dichloromethane	1.11E-02	4.86E-02	1.63E-02
	Ethyl mercaptan	1.95E-04	8.54E-04	2.85E-04
	Ethyl benzene	6.73E-04	2.95E-03	9.83E-04
	Ethylene Dibromide	1.72E-06	7.53E-06	2.52E-06
	Hexane	7.79E-04	3.41E-03	1.14E-03
	Hydrochloric acid	7.03E-01	3.08	1.03
	Hydrogen sulfide	7.03E-03	3.08E-02	1.03E-02
	Mercury and Compounds	2.69E-05	1.18E-04	3.92E-05
	Methyl Ethyl Ketone	7.03E-04	3.08E-03	1.03E-03
	Methyl Isobutyl Ketone	2.58E-04	1.13E-03	3.76E-04
	Methyl Mercaptan	1.65E-04	7.23E-04	2.41E-04
Perchloroethylene	5.67E-03	2.48E-02	8.28E-03	
Toluene	4.98E-03	2.18E-02	7.27E-03	
Trichloroethylene	3.40E-03	1.49E-02	4.96E-03	
Vinyl chloride	4.21E-03	1.84E-02	6.14E-03	
Xylenes	1.77E-03	7.75E-03	2.58E-03	
UF5	NO <sub>x</sub>	6.12	26.81	26.81
	CO	33.30	145.85	145.85
	PM	1.53	6.69	6.69
	NMOC	0.47	2.06	2.06
	VOC	0.18	0.80	0.80
	SO <sub>2</sub>	4.31	18.90	18.90
	1,1,1-trichlorethane	0.001	0.0026	0.0026
	1,1,2,2 – tetrachloroethane	0.002	0.0075	0.0075
	1,1 – dichloroethane	0.002	0.0093	0.0093
	1,1 – dichloroethene	0.000	0.0008	0.0008
	1,2 – dichloroethane	0.000	0.0016	0.0016



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ID	Pollutant	CONTROLLED EMISSIONS		
		lb/hr <sup>(1)</sup>	TPY <sup>(1)</sup>	TPY <sup>(2)</sup>
	1,2 – dichloropropane	0.000	0.0008	0.0008
	Acrylonitrile	0.000	0.0020	0.0020
	Benzene	0.000	0.0009	0.0009
	Carbon Disulfide	0.000	0.0003	0.0003
	Carbon Tetrachloride	0.000	0.0000	0.0000
	Carbonyl Sulfide	0.000	0.0002	0.0002
	Chlorobenzene	0.000	0.0011	0.0011
	Chloroethane	0.001	0.0032	0.0032
	Chloroform	0.000	0.0001	0.0001
	Chloromethane	0.001	0.0025	0.0025
	Dichlorobenzene	0.000	0.0012	0.0012
	Dichloromethane	0.011	0.0488	0.0488
	Ethyl mercaptan	0.000	0.0009	0.0009
	Ethyl benzene	0.001	0.0029	0.0029
	Ethylene Dibromide	0.000	0.0000	0.0000
	Hexane	0.001	0.0034	0.0034
	Hydrochloric acid	0.703	3.0803	3.0803
	Hydrogen sulfide	0.007	0.0308	0.0308
	Mercury and Compounds	0.000	0.0001	0.0001
	Methyl Ethyl Ketone	0.001	0.0031	0.0031
	Methyl Isobutyl Ketone	0.000	0.0011	0.0011
	Methyl Mercaptan	0.000	0.0007	0.0007
	Perchloroethylene	0.006	0.0248	0.0248
	Toluene	0.005	0.0218	0.0218
	Trichloroethylene	0.003	0.0149	0.0149
	Vinyl chloride	0.004	0.0184	0.0184
	Xylenes	0.002	0.0077	0.0077

**Method of estimating emissions:**

NO<sub>x</sub>, CO, PM: AP-42, Section 2.4, Table 2.4-5

NMOC, VOC: AP-42, Section 2.4, Table 2.4-2

SO<sub>2</sub>: AP-42, Section 2.4, Equations (3), (4), (7)

HAP emissions: calculated in a manner consistent with NMOC, except that the concentration and molecular weight of the individual HAP was substituted into the equations.

HCL: AP-42, Section 2.4, Equations (3), (4), (10)

(1) Based on restricting UF1, UF3, UF4, and UF5 to 1500 scfm, 3000 scfm, 3000 scfm, and 3000 scfm respectively

(2) Based on restricting UF1, UF3, UF4, and UF5 to 1500 scfm, 1000 scfm, 1000 scfm, and 3000 scfm respectively

FACILITY WIDE EMISSIONS		
Pollutant	Controlled Emissions	
	TPY <sup>(1)</sup>	TPY <sup>(2)</sup>
NO <sub>x</sub>	91.85	60.31
CO	317.33	238.49
PM	23.41	14.49
NMOC	7.21	4.47
VOC	2.8	1.74
SO <sub>2</sub>	66.15	40.95
1,1,1-trichlorethane	0.009	5.61E-03
1,1,2,2 – tetrachloroethane	0.026	1.62E-02
1,1 – dichloroethane	0.033	2.02E-02
1,1 – dichloroethene	0.00276	1.72E-03



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FACILITY WIDE EMISSIONS		
Pollutant	Controlled Emissions	
	TPY <sup>(1)</sup>	TPY <sup>(2)</sup>
1,2 – dichloroethane	0.00566	3.49E-03
1,2 – dichloropropane	0.0028	1.74E-03
Acrylonitrile	0.007	4.35E-03
Benzene	0.003	1.90E-03
Chlorobenzene	0.00396	2.45E-03
Chloroethane	0.01128	6.96E-03
Chloromethane	0.0086	5.34E-03
Dichlorobenzene	0.0043	2.63E-03
Dichloromethane	0.1704	1.06E-01
Ethyl mercaptan	0.003	1.87E-03
Ethylbenzene	0.0103	6.37E-03
Hexane	0.01192	7.38E-03
Hydrochloric acid	10.78	6.68
Hydrogen sulfide	0.1078	6.68E-02
Methyl isobutyl ketone	0.00396	2.45E-03
Methyl mercaptan	0.003	1.58E-03
Perchloroethylene	0.0868	5.38E-02
Toluene	0.0763	4.72E-02
Trichloroethylene	0.0521	3.22E-02
Vinyl chloride	0.0644	3.99E-02
Xylenes	0.0271	1.68E-02
Carbon Disulfide	0.0009	5.77E-04
Carbon Tetrachloride	4.94E-05	1.65E-05
Carbonyl Sulfide	0.000654	4.18E-04
Chloroform	0.000488	2.96E-04
Ethylene Dibromide	1.51E-05	5.04E-06
Mercury Compounds	0.000436	2.78E-04
Methyl Ethyl Ketone	0.01076	6.66E-03
Total HAP	11.4	7.07

PROJECT REGULATORY APPLICABILITY REVIEW (PROJECT ONLY)			
Regulation	Applicable		Comments
	Yes	No	
<b>South Carolina Regulation 61-62.1 through 62.70: Air Pollution Regulations</b>			
<b>OPERATING PERMIT STATUS</b>			
Section II(G) - Conditional Major		X	The facility is major for CO emissions and has been issued a Title V permit
Regulation 61-62.70 - Title V	X		
<b>MODELING</b>			
Standard 2 - Ambient Air Quality Standards	X		See modeling summary dated 10/31/08. Limit on design ratings was established. UF1 limited to 1500 scfm, UF3, UF4, and UF5 limited to 3000 scfm each. The facility modeled at these higher rates than the synthetic minor restrictions to allow the flares to serve as emergency back up to the BMW plant and in the event the plant shuts down. UF3 and UF4 are allowed to operate at these higher scfm for short durations as long as the scf per yr is not exceeded.
Standard 7(c) - Ambient Air Increments	X		
Standard 8 - Toxic Air Pollutants (state only)	X		
<b>OTHERS</b>			



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**PROJECT REGULATORY APPLICABILITY REVIEW (PROJECT ONLY)**

Regulation	Applicable		Comments
	Yes	No	
Section II(E) - Synthetic Minor	X		A synthetic minor limit of less than 250 tons per year was established under construction permit CF to avoid PSD. The facility is limited to 3,416,400,000 standard cubic feet per year of landfill gas. This is based on restricting UF1, UF3, UF4, and UF5 to 1500 scfm, 1000 scfm, 1000 scfm, and 3000 scfm respectively.
Standard 1 - Fuel Burning Operations		X	No fuel burning sources on site
Standard 3 - Waste Combustion/Reduction (state only)	X		Flares are subject as industrial incinerators and as such are subject to opacity and PM limits. No waste analysis, operator training, or PM testing is required. In addition no additional monitoring is being required for Standard 3. The requirements established under NSPS and MACT will be used to demonstrate compliance with the Standard 3 limits.
Standard 3.1 - HMI Waste Incinerators		X	The facility does not burn any medical waste
Standard 4 - Emissions from Process Industries		X	No process emissions from facility.
Standard 5 - Volatile Organic Compounds		X	VOC emissions are under threshold.
Standard 5.1 - BACT/LAER For VOC (state only)		X	VOC emissions are under threshold.
Standard 5.2 - Control of Oxides of Nitrogen		X	Flares are control device and as such are not subject.
Standard 7 - Prevention of Significant Deterioration		X	The facility has synthetic minor limit to avoid PSD. The limit is on the annual landfill gas flow to the flares.
Standard 7.1 - Standards for Non Attainment Areas		X	Spartanburg County is in attainment
62.6 - Control of Fugitive Particulate Matter	X		Landfill should keep fugitive dust to a minimum
62.60 - SC Designated Facility Plan and NSPS	X		See below
62.61 - NESHAP		X	See below
62.63 - NESHAP For Source Categories	X		See below
62.68 - Chemical Accident Prevention		X	No chemicals are stored above thresholds.
<b>Federal Regulations</b>			
40CFR60 Subparts A and WWW	X		The landfill has been modified after 1991 and is subject.
40CFR61 Subpart		X	The facility does not accept any material containing asbestos.
40CFR63 Subparts A and AAAA	X		The facility is subject to Subpart AAAA because it has crossed the 50 Mg per year threshold not because it is a major source of HAP emissions. The restrictions to avoid PSD (limiting annual gas flow to the flares) also limit the HAP emissions below major source thresholds.
Area Source Standards (Part 63) Subpart		X	Not subject to any area sources
Compliance Assurance Monitoring (CAM) (Part 64)		X	No control device is being used to meet any limits.

**SUMMARY AND CONCLUSIONS**

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.