



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

**WASHINGTON STATE DEPARTMENT OF ECOLOGY  
CENTRAL REGIONAL OFFICE  
15 W YAKIMA AVE, SUITE 200  
YAKIMA, WASHINGTON 98902**

**STATEMENT OF BASIS  
FOR  
DRAFT AIR OPERATING PERMIT NO. 08AQ-C090 FIRST REVISION  
ROOSEVELT REGIONAL LANDFILL  
REGIONAL DISPOSAL COMPANY  
ROOSEVELT, WASHINGTON**

**PREPARED BY  
THE WASHINGTON STATE DEPARTMENT OF ECOLOGY  
CENTRAL REGIONAL AIR QUALITY SECTION  
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## 1.0 LIST OF ABBREVIATIONS

AOP	Air Operating Permit
BACT	Best Available Control Technology
CDL	Construction Demolition and Landclearing
CAA	Federal Clean Air Act
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DOE	Washington State Department of Ecology
dscfm	dry standard cubic feet per minute
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
GC	Gas chromatograph
GPU	General Process Unit
H <sub>2</sub> S	Hydrogen Sulfide
HAP	Hazardous Air Pollutant
hr	Hour
lb	pound
LFG	Landfill Gas
MACT	Maximum Achievable Control Technology
MMBtu	Millions of British Thermal Units
MRR	Monitoring, Recordkeeping, and Reporting
MS	Mass spectrometry
MSW	Municipal Solid Waste
NESHAP	National Emission Standard for Hazardous Air Pollutants
NOC	Notice of Construction
NO <sub>x</sub>	Oxides of Nitrogen
NSPS	New Source Performance Standard
O&M	Operations and Maintenance
PCHB	Pollution Control Hearings Board
PCS	Petroleum Contaminated Soil
PGE	Preston Gates & Ellis Attorneys
PM <sub>10</sub>	Particulate Matter with an Aerodynamic Diameter of 10 micrometers or less
PSD	Prevention of Significant Deterioration
RDC	Regional Disposal Company
SO <sub>2</sub>	Sulfur Dioxide
tpy	Tons per Year
TSP	Total Suspended Particulate
VOC	Volatile Organic Compound
WAC	Washington Administrative Code
yr	Year

## 2.0 GENERAL INFORMATION

Company Name: Regional Disposal Company

Source Name: Roosevelt Regional Landfill

Parent Company: Rabanco Ltd.

Unified Business Identification Number: 601357343

Standard Industrial Classification Code: 4950

Mailing Address: PO Box 338  
Roosevelt, Washington 99356

Source Address: 500 Roosevelt Grade Road  
Roosevelt, Washington 99356  
(800) 275-5641

Responsible Official: Matt Henry, General Manager  
Roosevelt Regional Landfill  
PO Box 338  
Roosevelt, Washington 99356  
(800) 275-5641

Site Contact: Matt Henry, General Manager  
Roosevelt Regional Landfill  
PO Box 338  
Roosevelt, Washington 99356  
(800) 275-5641

## 3.0 BACKGROUND

This document sets forth the legal and factual basis for the permit conditions in an Air Operating Permit issued by the State of Washington Department of Ecology for a Municipal Solid Waste Landfill located near Roosevelt, Washington. This document is called a “statement of basis” and is required by Washington State regulations [Chapter 173-401 WAC]. A statement of basis does not contain enforceable permit conditions. Enforceable permit conditions are contained in the AOP itself.

### 3.1 **Basis for Title V Applicability:**

This source has the potential-to-emit greater than 100 tpy of particulate matter, sulfur dioxide, carbon monoxide, and nitrogen oxides (individual criteria pollutants); and 25 tpy of total Hazardous Air Pollutants (total HAP).

Additionally, this source is subject to the Landfill NSPS (see section 7.1, below) and the Landfill NESHAP (see section 7.2, below).

### 3.2 **Attainment Classification:**

Roosevelt Regional Landfill is located in an area which is unclassified for all criteria pollutants.

### 3.3 **Timeline:**

June 29, 2007 – Ecology received Roosevelt Regional Landfill’s AOP renewal application.  
July 16, 2007 – Ecology deemed AOP renewal application incomplete.  
August 23, 2007 – Ecology received additional information from Roosevelt Regional Landfill.  
September 17, 2007 – Ecology received additional information from Roosevelt Regional Landfill.

September 28, 2007 – Ecology deemed AOP renewal application incomplete.  
October 22, 2007 – Ecology received additional information from Roosevelt Regional Landfill.  
December 21, 2007 – Ecology deemed AOP renewal application complete.  
November 24, 2008 – Ecology issued Draft AOP renewal.  
December 29, 2008 – End of Draft AOP renewal comment period.  
December 29, 2008 – Ecology issued Proposed AOP renewal.  
December 31, 2008 – Ecology received EPA notification that “The permit is now eligible for issuance”.  
December 23, 2009 – Ecology received a request for Significant Modification, to revised flare HCl emission limits & operation of specified monitoring wells at a higher temperature.

## 4.0 SOURCE DESCRIPTION

### 4.1 Physical Description

Roosevelt Regional Landfill is a 915-acre municipal solid waste landfill that began operation in December 1990. The landfill is located in an arid climate which typically receives less than ten (10) inches of annual precipitation. The site life for the landfill is through 2029 at a waste acceptance rate of five million tons per year for 40 years. Those lands not currently being used for fill are used for agriculture and open space. A plot plan of Roosevelt Regional Landfill is included as Figure 1.

### 4.2 Description of Processes

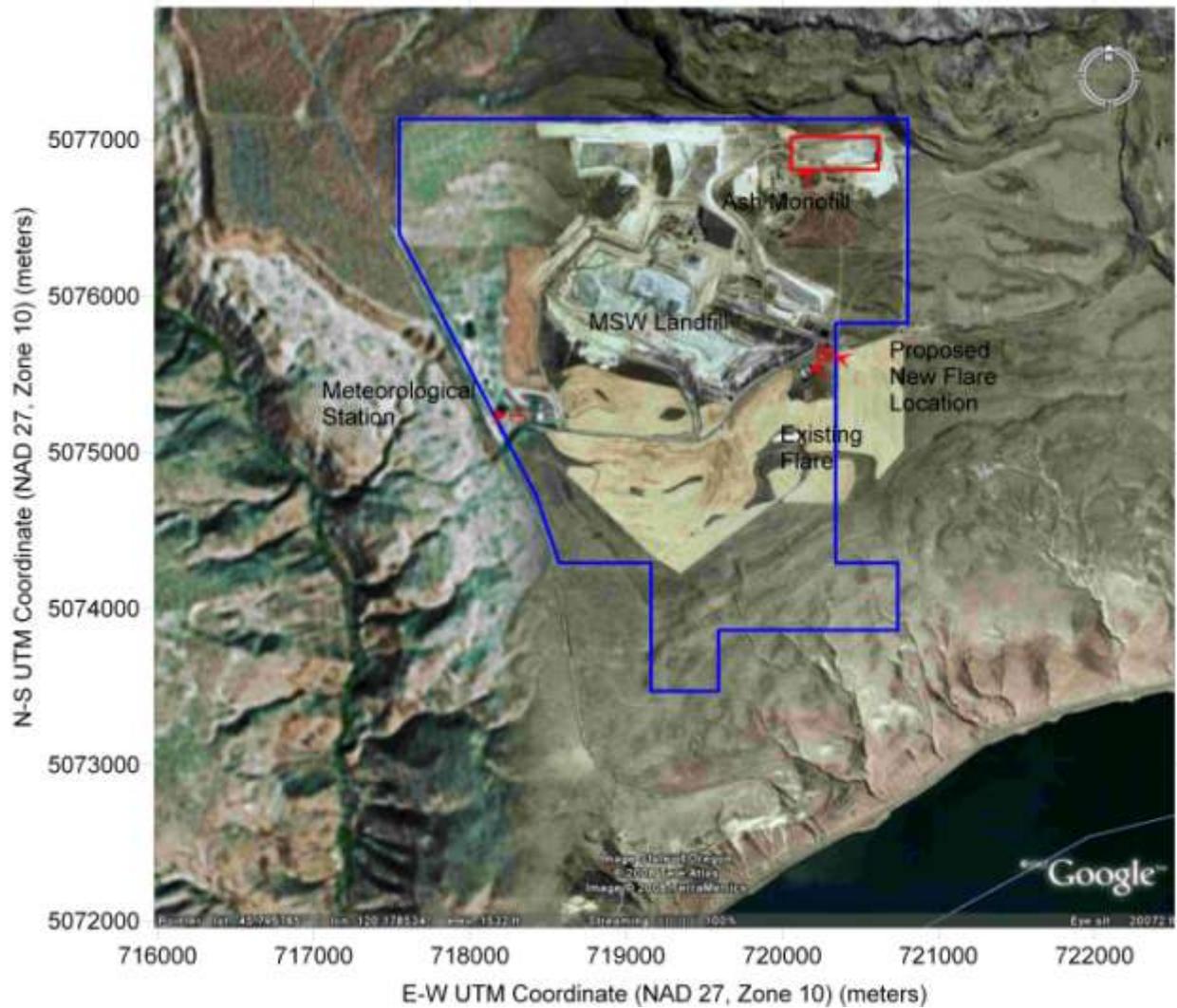
Municipal solid waste (MSW) is shipped from Alaska, California, Hawaii, Idaho, Montana, Oregon, and Washington for disposal. Besides MSW, the landfill also accepts asbestos, construction demolition and land clearing debris, industrial non-hazardous wastes, MSW incinerator ash, petroleum contaminated soil, sewage sludge, and wood wastes. Roosevelt Regional Landfill is prohibited from accepting hazardous wastes. Figure 2 displays a process flow diagram for Roosevelt Regional Landfill. Combined process and fugitive potential emissions are listed in Table 1.

#### 4.2.1 Process 1: Source-wide

Process #1 includes source-wide emissions, such as fugitive dust from motor vehicle operation, and emissions related to plant-wide support services such as the heater, the emergency generator, storage tanks, and other maintenance, housekeeping, and miscellaneous, insignificant emissions activities. Minor welding operations are performed on-site and 13 diesel-fired mobile light plants are used to provide light to the active face. Waste is placed at the landfill using large tippers. During periods when tipping is not possible, due to frozen MSW, one of two sets of nine propane-fired heaters are used to loosen the waste for disposal. Process #1 emission limits, work practice standards and Permit conditions also apply to all significant emission units located at the source.

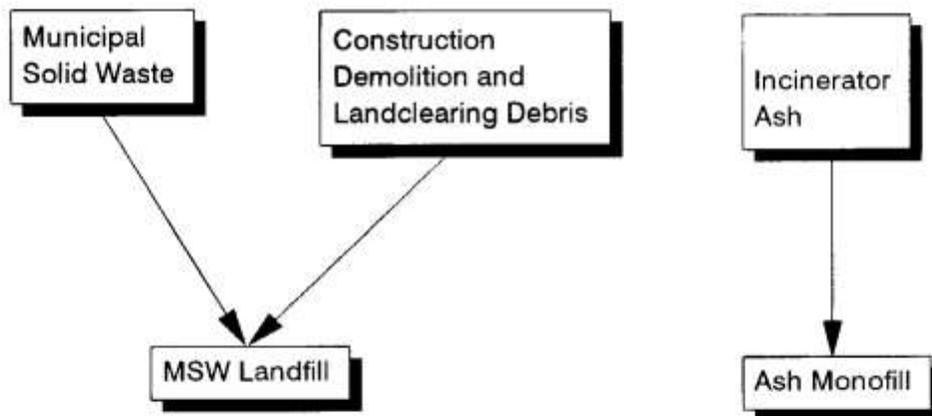
#### 4.2.2 Process 2: Solid Waste Landfill

Active cells of the MSW landfill currently cover 328 acres of bottom liner which are receiving waste. The permitted capacity of the MSW landfill is 120 million tons. The primary source of MSW landfill emissions is biodegradation of which the main products are methane, NMOC, and CO<sub>2</sub>. Volatilization of the petroleum from PCS used as daily cover also generates emissions. Soils from rock and clay quarry areas are also used as daily cover. Active waste cells have a minimum of six (6)-inches daily cover. Waste density is assumed to be 1,200 pounds per cubic yard. The rate of waste acceptance varies seasonally, with lower volume in the winter and higher volume in the summer. The landfill is permitted to accept up to 5,000,000 tons per year of solid waste.



**Figure 1.** Site map of Roosevelt Regional Landfill (Source: Kirk Wings, ENVIRON International Corporation).

### Process Flow Chart Roosevelt Regional Landfill



**Figure 2.** Roosevelt Regional Landfill source flow diagram (adapted from AOP application submitted 12/8/95 by McCulley, Frick & Gilman, Inc.).

**Table 1. Summary of potential emissions (tons per year) from Roosevelt Regional Landfill<sup>1</sup>**

Pollutant	Fugitive LFG	LFG Flare #1	LFG Flare #2	Rock Crushing	Fugitive Dust (landfill & ash monofill)	PCS	Other <sup>2</sup>
TSP		21.5	26.5	0.22	513.3		0.64
PM <sub>10</sub>		21.5	26.5	0.18	113.2		0.64
PM <sub>2.5</sub>		21.5	26.5	0.15	20.6		0.63
SO <sub>2</sub>		168.0	70.7	1.2			0.53
CO		72.4	70.7	6.9			0.61
NO <sub>x</sub>		57.9	53.0	29.9			3.42
VOC / NMOC	93.6	55.2	17.7	0.88		89	0.57
1,1,1-Trichloroethane <sup>hap</sup> (Methylchloroform)	0.02	0.0256	0.00305				0.00001
1,1,2 Trichloro-1,2,2-trifluoroethane	0.03		0.0043				
1,1,2,2-Tetrachloroethane	0.03		0.00385				
1,1,2-Trichloroethane	0.03		0.00305				
1,2 Dichloro-1,1,2,2-tetrafluoroethane	0.08		0.0039				
1,2 Dichloropropane	0.02		0.0026				
1,2,4 Trichlorobenzene	0.20		0.0083				
1,2-Dichloroethane	0.03		0.00455				
1,3 Butadiene	0.01		0.00125				
1,3-Dichlorobenzene	0.03		0.00335				
1,4 Dioxane	0.04		0.00405				
1,4-Dichlorobenzene <sup>hap</sup>	0.04		0.00335				0.0000362
2,2,4 Trimethylpentane	0.32		0.0026				
2-Hexanone	0.04		0.0046				
4-Ethyltoluene	0.24						
Acetaldehyde <sup>hap</sup>							0.0241
Acetone	2.11	1.995	0.00805				0.00386
Acetylene Dichloride (1,2-Dichloroethene)		0.0292					0.0000444
Acrylonitrile	0.01		0.0012				
Allyl Chloride	0.02		0.01785				
Antimony <sup>hap</sup>					0.00083		
Arsenic <sup>hap</sup>					0.000115		
Barium					0.00608		
Benzene <sup>hap</sup>	0.33	0.1228	0.0018	0.0024		0.93	
Benzyl Chloride	0.05		0.0058				
Beryllium <sup>hap</sup>					0.000005		
Bromoform	0.04		0.0058				
Bromomethane	0.02		0.0022				
Cadmium <sup>hap</sup>					0.00022		
Carbon Disulfide	0.04		0.0294				
Carbon Tetrachloride	0.03		0.00355				
Chlorobenzene	0.02		0.0026				

Pollutant	Fugitive LFG	LFG Flare #1	LFG Flare #2	Rock Crushing	Fugitive Dust (landfill & ash monofill)	PCS	Other <sup>2</sup>
Chlorodifluoromethane	0.38		0.00395				
Chloroform <sup>hap</sup>	0.02	0.024	0.00275				
Chloromethane	0.01		0.00115				
Chromium <sup>hap</sup>					0.003265		
cis-1,3 Dichloropropene	0.02		0.00255				
Cresols <sup>hap</sup>						0.0008	
Cryofluorane (Freon 114)		0.0163		0.0019			
Cumene <sup>hap</sup> (Isopropyl Benzene)						0.018	
Cyclohexane	0.76	0.2125	0.00195				
Dichlorodifluoromethane (Freon 12)	0.94	0.2054	0.00275				
Dichlorofluoromethane	0.46		0.00235				
Dimethyl Sulfide	0.45						
Dioxin <sup>hap</sup>					2.2E-10		
Ethyl Acetate	0.85		0.002				
Ethyl Alcohol (Ethanol)	4.80	0.9857	0.0053				
Ethyl Benzene <sup>hap</sup>	1.58	0.5033	0.00245			0.071	0.00036
Ethyl Chloride <sup>hap</sup> (Chloroethane)	0.04	0.0208	0.0015				0.00198
Ethylene Dichloride <sup>hap</sup> (cis-1,2-Dichloroethene)	0.11	0.033	0.0022				0.00018
Ethylidene Chloride (1,1-Dichloroethane)	0.03	0.0589	0.0022				0.00326
Heptane	1.10	0.2398	0.0023				
Hexachlorobutadiene	0.09		0.0095				
Hexane <sup>hap</sup>	1.42	0.3095	0.0463			4.993	
Hydrogen Chloride		19.9	20.1				
Hydrogen Sulfide <sup>hap</sup>	0.55	0.88	0.0354				
Isooctane <sup>hap</sup> (2,2,4-Trimethylpentane)						1.075	
Isopropyl Alcohol (2-Propanol)	2.20	0.4458	0.00275				
Isopropyl Mercaptan	0.33						
Isopropylacetone (4-Methyl-2-pentanone)	0.48		0.0023				0.00356
Lead <sup>hap</sup>					0.08		
m,p-Xylene <sup>hap</sup>	4.53	1.124	0.00245	0.000241		0.0617	0.0000986
Mercury <sup>hap</sup>					0.00004		
Mesitylene (1,3,5-Trimethylbenzene)	0.19	0.148	0.00275				0.0000152
Methanethiol (Methyl Mercaptan)	0.19	0.0551					
Methanol	0.71		0.0294				
Methyl Ethyl Ketone <sup>hap</sup> (2-Butanone)	2.62	0.6584	0.0033				0.00267

<b>Pollutant</b>	<b>Fugitive LFG</b>	<b>LFG Flare #1</b>	<b>LFG Flare #2</b>	<b>Rock Crushing</b>	<b>Fugitive Dust (landfill &amp; ash monofill)</b>	<b>PCS</b>	<b>Other<sup>2</sup></b>
Methyl tert-butyl ether (MTBE)	0.02		0.002				
Methylene Chloride <sup>hap</sup>	0.97	0.999	0.0039				0.00099
Naphthalene <sup>hap</sup>						0.001	0.0549
Nickel <sup>hap</sup>					0.004325		
Nitric Oxide			34.6				
o-Xylene <sup>hap</sup>	1.08	0.3636	0.00245	0.000241		0.0617	0.0000986
Phenol <sup>hap</sup>						0.00013	
Pseudocumene (1,2,4-Trimethylbenzene)	0.22	0.2929	0.00275				0.00019
Reduced Sulfur Compounds as H <sub>2</sub> S	28.64						
Selenium <sup>hap</sup>					0.00011		
Silver					0.000205		
Styrene <sup>hap</sup>	0.15	0.0431	0.0024			0.1	
Tetrachloroethylene (Tetrachloroethene)	0.33	0.0888	0.0038				
Tetrahydrofuran	1.13	1.995	0.00165				
Toluene <sup>hap</sup>	5.10	1.246	0.005	0.0009		0.949	0.0000095
trans-1,2-Dichloroethene	0.02		0.0022				
Trans-1,3-Dichloropropene	0.02		0.00255				
Trichloroethylene <sup>hap</sup> (Trichloroethene)	0.13	0.0403	0.006				0.00011
Trichlorofluoromethane (Freon 11)	0.07	0.0326	0.00315				
Vinyl Acetate	0.02		0.00195				
Vinyl Bromide	0.02		0.00245				
Vinyl Chloride <sup>hap</sup>	0.07	0.0267	0.00145				0.000455

<sup>1</sup>Source: Roosevelt Regional Landfill Emission Inventory Summary, received September 17, 2007, and NOC Orders No. 08AQ-C087, 10/22/08, & DE 90-C153 Fifth Revision, 12/23/08.

<sup>2</sup>Includes space heaters, Quonset huts, leachate storage ponds, and light pole generators.

<sup>hap</sup> Hazardous Air Pollutant listed in or pursuant to section 112(b) of the FCAA.

4.2.3 **Process 3: Ash Monofill**

Municipal solid waste incinerator ash is shipped to Roosevelt Regional Landfill where it is placed in the ash monofill. The ash monofill will cover approximately 33 acres and will be constructed in stages over a projected 25-year life. No more than one cell may be in operation at any one time and the size of each cell is limited to 10 acres.

4.2.4 **Process 4: LFG Flare #1**

The landfill gas collection system consists of vertical extraction wells and horizontal trenches, a gas condensate knockout, motor blowers, and a flare system. The landfill gas control system provides active collection and destruction of methane. Gas extraction must be controlled to prevent pulling so much air into the landfill that it becomes aerobic and catches fire. Active gas collection uses a vacuum pump and a large number of well points to extract landfill gas from the fill. The landfill gas is controlled by routing the gas collection system to a 5500 scfm enclosed flare or the Public Utility District No. 1 of Klickitat County's Roosevelt Biogas Project. LFG Flare #1 is the existing flare approved by NOC Order No. DE 98AQ-C131 First Revision.

4.2.5 **Process 5: LFG Flare #2**

The new LFG Flare #2 will be similar in design and operation to the existing LFG Flare #1, except that the new system can process up to 6,000 scfm of LFG. LFG Flare #2 will typically be used when the amount of LFG generated by the landfill is so large that LFG Flare #1 and the Public Utility District No. 1 of Klickitat County's Roosevelt Biogas Project are unable to process all of the LFG.

4.2.6 **Process 6: Rock Crushing**

Crushing of rock to be used on-site is allowed within the boundary of the source.

## 5.0 **NEW SOURCE REVIEW HISTORY**

In Washington State, new sources of air pollutant are potentially subject to four types of new source review (air quality permitting). Federal new source review includes Prevention of Significant Deterioration (Title 40 Code of Federal Regulations Part 52.21) and Nonattainment New Source Review (Title 40 Code of Federal Regulations Part 52.24). These Federal programs apply to large sources with potential emissions equal or greater than specified thresholds. Additionally, State new source review, referred to as Notice of Construction permitting, applies to smaller sources, and the lesser emissions at the larger sources. Notice of Construction permitting may be required for criteria pollutants (WAC 173-400-110) and/or toxic air pollutants (WAC 173-460-030).

### 5.1 **Municipal Solid Waste Landfill**

Installation and operation of the municipal solid waste landfill was originally approved under Notice of Construction Order No. DE 90-C153, issued April 5, 1990. Under this Order, waste acceptance was contingent upon prior approval of landfill gas collection and treatment and leachate treatment systems. Notice of Construction applications for these systems were received, by Ecology, on August 29, 1990.

The permittee then requested approval to accept waste prior to approval of the landfill gas collection and treatment and leachate treatment systems. This approval was temporarily granted on November 20, 1990, by Notice of Construction Order No. DE 90-C153, First Amendment.

As the temporary approval expired on March 1, 1991, it was extended through September 1, 1991, by Notice of Construction Order No. DE 90-C153, Second Amendment, issued February 15, 1991.

While drafting the initial Air Operating Permit, the permittee requested revisions to this Order, for the purpose of clarifying the permit language and assuring that original assumptions were achievable. While reviewing the requested revisions, a review of the solid waste disposal rate

revealed that more waste was being disposed of than had been reviewed for compliance with air quality permitting requirements. In response to this finding, Ecology issued Notice of Violation No. DE 97AQ-C178, for accepting more waste per year than was permitted. On April 27, 1998, Notice of Construction Order No. DE 90-C153, Third Revision, was issued, incorporating a higher waste acceptance rate and some of the revisions requested by the permittee.

Pursuant to Settlement Agreement and Agreed Order No. 1467 (see 16.4), the permittee requested that Notice of Construction Order No. DE 90-C153, Third Revision, be revised to allow a PM<sub>10</sub> monitor data capture rate of 75%, consistent with 40 Code of Federal Regulations Part 50 Appendix K section 2.3. Ecology granted this request in Notice of Construction Order No. DE 90-C153, Fourth Revision, on November 16, 2005.

On July 22, 2008, the permittee requested revisions to Order No. DE 90-C153, Fourth Revision, to increase the annual tonnage acceptance rate from three to five million tons per year. Ecology has proposed to grant this request through Notice of Construction Order No. DE 90-C153, Fifth Revision, issued December 23, 2008.

## 5.2 **Ash Monofill**

Installation and operation of the ash monofill was originally approved under Notice of Construction Order No. DE 93AQ-C163, issued March 17, 1993. While drafting the initial Air Operating Permit, the permittee requested revisions to this order, for the purpose of clarifying the permit language and assuring that original assumptions were achievable. The result was the issuance of Notice of Construction Order No. DE 93AQ-C163, First Revision, issued April 27, 1998.

At the end of 1998, Ecology realized that the quantity of ash being disposed of, at the ash monofill, was greater than the quantity that had been reviewed for compliance with air quality permitting requirements. A review of the ash disposal rate revealed that while more ash was being disposed of, the resulting air quality emissions were below the estimated emissions that had been reviewed for compliance with air quality permitting requirements. On June 22, 1999, Ecology issued Notice of Construction Order No. DE 93AQ-C163, First Revision, which clarified state ash disposal limits.

Pursuant to Settlement Agreement and Agreed Order No. 1467 (see 16.4), the permittee requested that Notice of Construction Order No. DE 93AQ-C163, Second Revision, be revised to allow a PM<sub>10</sub> monitor data capture rate of 75%, consistent with 40 Code of Federal Regulations Part 50 Appendix K section 2.3. Additionally, the permittee requested a revision to the “E-factor,” relating to ash particulate matter emissions. Ecology granted these requests in Notice of Construction Order No. DE 93AQ-C163, Third Revision, on November 16, 2005.

**(NOTE:** Previously, incinerator ash, mainly from the Spokane Waste-to-Energy Facility, was disposed of in the ash monofill (Process #3). In 2008, the Spokane Facility reclassified their ash so that it no longer requires a special monofill. The Spokane Facility ash can now be disposed of in the MSW portion of the landfill. In anticipation of this, Ecology has imposed restrictions on the minimum moisture content of ash placed in the landfill. Specifically, NOC Order No. DE 90-C153, Fifth Revision, Approval Condition 3.1.8, requires that incinerator ash, for disposal in the Landfill, shall contain at least 10% moisture.

The ash monofill may still accept special incinerator ash. However, there is not currently a regular source of such ash. As such, time between ash monofill deliveries may exceed 18 months. The permittee has notified Ecology of their desire to retain permission to operate the ash monofill even if time between deliveries exceeds 18 months. Ecology grants an extension of the 18 months period, cited in Condition 5.3.9, contingent upon the permittee’s continuing record keeping of the dates of installation. All monitoring, during a non operational period, is subject to the operational flexibility of section 14.0. This extension is valid through December 30, 2013.)

5.3 **Landfill Gas Flares**

Installation and operation of a landfill gas collection and a 1850 dscfm enclosed flare system was originally approved under Notice of Construction Order No. DE 93AQ-C417, issued August 13, 1993.

In 1997, the permittee requested that Order No. DE 93AQ-C417 be revised to allow use of a 2500 cfm open flare. Ecology found that an open flare would not constitute Best Available Control Technology. During the time that this request was being processed, the permittee employed the use of an open flare, approved by a *Temporary Air Quality Permit* for operation from June 18, 1997, through January 30, 1998. Ultimately, the permittee proposed the use of a 5500 scfm enclosed flare system. The 5500 scfm enclosed flare (LFG Flare #1) was approved for installation and operation under Notice of Construction Order No. DE 98AQ-C131, issued September 15, 1998, which superseded Notice of Construction Order No. DE 93AQ-C417.

Order No. DE 98AQ-C131 required 99% destruction efficiency of nonmethane organic compounds, by the flare. Flare source tests on February 6, 2003 and June 26, 2003, demonstrated that the flare was not meeting the required destruction efficiency. On November 3, 2003, Ecology received a request to revise the Ordered requirement. Additional information was received on January 20, 2004. The revision request was completed on February 4, 2004. The requested revisions included 1) changing the non methane organic compound control efficiency to 98 percent, from 99 percent, and addition of an alternate concentration limit, 2) removal of the specified end product of converted hydrogen sulfide, 3) clarification of the organic toxic air pollutant control efficiency, and update the test method and emission estimates, and 4) revision of source test timing. As requested by the permittee, the Notice of Construction revision request and the AOP significant permit modification review processes were integrated. Ecology granted the requested revisions in Order No. DE 98AQ-C131 First Revision, on April 13, 2004.

On June 26, 2008, the permittee submitted a Notice of Construction application to install and operate a second landfill gas collection and destruction system (LFG Flare #2) in anticipation of increased LFG generation resulting from an anticipated increase in the waste acceptance rate. The 6,000 scfm enclosed flare (LFG Flare #2) was approved for installation and operation under Notice of Construction Order No. 08AQ-C087, issued October 22, 2008.

A June 30, 2009, source test of the installed John Zinc flare, revealed that hydrogen chloride emissions are emitted at a higher rate than originally permitted. Ecology proposed to increase the hydrogen chloride emission limit under Notice of Construction No. 08AQ-C087 First Revision. The higher emission limit is equivalent to the limit on the older flare and is below the Acceptable Source Impact Level.

5.4 **Leachate Evaporator**

Installation and operation of a leachate evaporator was originally approved under Notice of Construction Order No. DE 93AQ-C416, issued August 13, 1993. This approval was contingent upon construction of the project commencing within 18 months after issuance of the Order and not discontinuing for a period of 18 months. Ecology found that construction of the leachate evaporator ceased for a period of longer than 18-months, therefore this Order is void. The permittee does not currently have approval to install or operate a leachate evaporator.

5.5 **Prevention of Significant Deterioration (PSD)**

PSD permitting is required for all sources that have the potential-to-emit in excess of PSD thresholds. For landfills, the PSD thresholds are 250 non-fugitive tons per year of a criteria pollutant. The applicability of PSD at the Landfill has been a longstanding debate. A majority of the non-fugitive emissions are emitted from the flares, and a majority of these emissions are products of the flares' combustion. While the permittee has long had approval to dispose of waste in total quality to eventually trigger PSD requirements, only a portion of the waste has been placed, and the landfill gas generation has been less than originally estimated.

In response to comments received on the original draft of the initial Air Operating Permit, Ecology took another look at whether the Landfill was subject to PSD permitting. At that time, Ecology was carrying out the Federal PSD program, under EPA's review. EPA's position, at the time, as expressed by Ray Nye, EPA Region 10, was, "that even though the facility increased the waste rate, they have limited the capacity of the flare [LFG Flare #1] to be considered a minor source. This facility is not in violation of PSD requirements." (Ref.: 11/25/97 letter from Denise M. Baker, EPA Region 10, to Lynnette Haller, Ecology, regarding Regional Disposal Company's Roosevelt Regional Landfill's draft Title V Air Operating Permit, issued 9/10/97.)

Ecology's position is that when the approved flaring capacity results in total emissions at or above PSD thresholds, PSD permitting will be required for all Landfill operations. This is based upon the fact that the Landfill has had the capacity to receive waste in quantities sufficient to eventually produce the landfill gas, necessitating additional flaring capacity. However, the permittee has limited their flaring capacity.

In anticipation of receiving approval for additional flaring capacity, the permittee submitted a PSD application to the Department of Ecology, on November 6, 1997, for the operation of the landfill. The PSD application was never deemed complete. On October 6, 2006, the permittee submitted a complete request for a PSD applicability determination, in anticipation of receiving approval for an increase in the annual waste acceptance rate from three million to five million tons per year, and an additional 6,000 scfm of flaring capacity. On November 8, 2006, Ecology determined that the project was not subject to PSD permitting. Ecology will continue to analyze emissions as additional project approvals are sought.

## **6.0 AIR OPERATING PERMIT HISTORY**

Title V of the 1990 Federal Clean Air Act Amendments required all states to develop a renewable operating permit program for industrial and commercial source of air pollution. Congress structured the air operating permit system as an administrative tool for applying existing regulations to individual sources. The goal is to enhance accountability and compliance by clarifying in a single document which requirements apply to a given business or industry.

The Washington State Clean Air Act (Chapter 70.94 Revised Code of Washington) was amended in 1991 and 1993 to provide the Department of Ecology and local air agencies with the necessary authority to implement a state-wide operating permit program. The law requires all sources emitting one hundred tons or more per year of a criteria pollutant, or ten tons of a hazardous air pollutant, or twenty-five tons in the cumulative of hazardous air pollutants, to obtain an operating permit. Criteria pollutants include sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, and volatile organic compounds.

Ecology authored Chapter 173-401 of the Washington Administrative Code (WAC), which specified the requirements of Washington State's Operating Permit Regulation. This regulation became effective on November 4, 1993. On November 1, 1993, this regulation was submitted to the United States Environmental Protection Agency (EPA), for program approval. On December 9, 1994, EPA granted interim approval of Chapter 173-401 WAC. This interim approval was extended until EPA granted final approval on August 13, 2001. The current version of this regulation was filed on September 16, 2002.

On January 28, 1994, Ecology notified the permittee that records indicated that the Landfill would be required to obtain an Air Operating Permit. On December 9, 1994, Ecology notified the permittee of their obligation to submit an Air Operating Permit application. The permittee submitted a complete application on December 8, 1995. On December 30, 1998, Ecology issued Air Operating Permit No. DE 98AOP-C242 (valid 12/30/98 thru 11/14/99). A third party appealed this Permit to the Pollution Control Hearings Board and petitioned to EPA on February 4, 1999, and February 26, 1999, respectively. On May 4, 1999, EPA denied the petition and the appeal was dismissed by the Pollution Control Hearings Board, on September 16, 1999. The Permit then went through a significant modification, to incorporate Notice of Construction

Order No. DE 98AQ-C131. The resulting Air Operating Permit, Order No. DE 98AOP-C242, First Revision, was issued November 15, 1999 (valid 11/15/99 thru 12/30/03).

The permittee submitted a complete renewal application on December 20, 2002. On December 3, 2003, Ecology issued Air Operating Permit No. 03AQ-C005 issued (valid 12/31/03 thru 4/12/04). The permittee appealed AOP No. 03AQ-C005, to the Pollution Control Hearings Board, on January 2, 2004. The appeal addressed a monitoring requirement, which previously existed as Condition 5.4.15, in Air Operating Permit No. 03AQ-C005. The underlying requirement for Condition 5.4.15 was Notice of Construction No. DE 98AQ-C131 (see 5.3, above). When the permittee requested the revisions to NOC No. DE 98AQ-C131, they requested that the NOC revision review be integrated with the necessary AOP revision review, as allowed by WAC 173-401-500(10)(a). The integrated review allowed for the two applications to be processed in parallel, and for the consolidation of all required public hearings, comment periods and EPA review periods. The conclusion of this revision, which includes revision of Air Operating Permit No. 03AQ-C005 Condition 5.4.15, resolved the issue under appeal. Final Air Operating Permit No. 03AQ-C005 First Revision (valid 4/13/04 thru 11/15/05), was issued on April 13, 2004.

Pursuant to Settlement Agreement and Agreed Order No. 1467 (see 16.4), the permittee requested that Notice of Construction Orders Nos. DE 90-C153, Third Revision (see 5.1) and DE 93AQ-C163, Second Revision (see 5.2), be revised to allow PM<sub>10</sub> monitor data capture rates of 75%, consistent with 40 Code of Federal Regulations Part 50 Appendix K section 2.3. Additionally, the permittee requested a revision to the “E-factor,” relating to ash particulate matter emissions and allowance of elevated landfill gas wellhead temperatures, as allowed by the Standards of Performance for Municipal Solid Waste Landfills (see 7.1). Ecology approved these requests, on November 16, 2005, in the integrated review of Notice of Construction Order No. DE 90-C153, Fourth Revision; Notice of Construction Order No. DE 93AQ-C163, Third Revision; and, Air Operating Permit No. 03AQ-C005 Second Revision (valid 11/16/05 thru 12/30/08).

See also “Timeline” in section 2.0.

## 7.0 FEDERAL LANDFILL REGULATIONS

### 7.1 New Source Performance Standard (NSPS)

On March 12, 1996, EPA promulgated the Standards of Performance for Municipal Solid Waste Landfills (Title 40 Code of Federal Regulations Part 60 Subpart WWW). The NSPS applies to each municipal solid waste landfill that commenced construction, reconstruction, or modification, or began accepting waste, on or after May 30, 1991. The NSPS requires landfills with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters to submit Non-Methane Organic Compound (NMOC) emission reports. When the precontrolled NMOC emissions are calculated at or above 50 megagrams per year additional requirements are triggered. Ecology received the permittee’s initial *Design Capacity Report* and *NMOC Report* on June 13, 1996. Ecology received the permittee’s *Collection and Control System Design Plan*, on February 1, 1999. The permittee’s design capacity is 120,000,000 tons (109 million megagrams). Their 2007 VOC emissions were reported as 58.8 tons per year fugitive from the landfill and 2.0 ton per year from the flare. The collection system is estimated to collect 79% of the landfill gas generated. From this information, precontrolled NMOC emissions are estimated at 280 tons per year (58.8/(1-0.79)).

The NSPS requires that enclosed combustion devices reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. A majority of the time, the landfill gas is not combusted in the landfill’s flares, instead an on-site separate source, the Public Utility District (PUD) No. 1 of Klickitat County’s H.W. Hill Landfill Gas Power Plant combusts the landfill gas in one of five internal combustion (IC) engines, to generate green power. [**Note:** The PUD biogas project has recently received approval to install and operate two new landfill gas fired combustion turbines.]

The NSPS does not apply to the PUD, however, the above mentioned NMOC emission standards must be met by the IC engines. The permittee is responsible for demonstrating that the NMOC emission standards are being met, regardless of the combustion device(s) used. (Ref.: 8/15/00 letter from Douglas Hardesty, EPA Region 10, to Ali Nikukar, ODEQ, regarding Valley Landfill NSPS Subpart WWW Applicability.)

Pursuant to Settlement Agreement and Agreed Order No. 1467 (see 16.4), the permittee requested the allowance of elevated landfill gas wellhead temperatures, as allowed 40 CFR 60.753(c). Specifically, the permittee requested to establish a higher operating temperature (ie., 65°C = 149°F) at sixteen existing interior wellheads (ie., T1EC1, T1EC2, T1EC3, T1EC4, T1EC5, T1WC5, T1WC6, T4NC2, T4NC3, T4NC4, T4NC5, T4NC6, T4SC4, T4SC6, T5B1, and T5A1). The historic wellhead temperature and methane data indicate that the higher temperatures experienced at the wells are not due to any subsurface fire. Ecology approved these requests in Air Operating Permit No. 03AQ-C005 Second Revision, on November 16, 2005.

Ecology proposes to grant approval to operate additional interior wellhead at a higher operating temperature (ie., T5A3, T5A4, T5B2, T5B4, T6A4, T7A1, T7A3, T7A5, T7A7, T7B1, and T7B2), in Draft Air Operating Permit No. 08AQ-C090 First Revision. The historic wellhead temperature and methane data indicate that the higher temperatures experienced at the wells are not due to any subsurface fire.

#### 7.2 **National Emission Standard for Hazardous Air Pollutants (NESHAP)**

On January 16, 2003, EPA promulgated the National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills (Title 40 Code of Federal Regulations Part 63 Subpart AAAA). The NESHAP applies to municipal solid waste landfills that have accepted waste since November 8, 1987, or has additional capacity for waste deposition, and may include a bioreactor, and meets any one of three other criteria. One of these criteria defines a subject landfill as one that is a major source as defined in 40 CFR 63.2 of subpart A. Specifically, major source is defined as, “a stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants....”

As indicated in Table 1, the Landfill has the potential to emit greater than 25 tons per year in combination of hazardous air pollutants. Based upon this information, the Landfill is subject to the Landfill NESHAP. Existing landfills were required to comply with the NESHAP requirements by January 16, 2004. **Note:** Applicable requirements were identified based upon the current Landfill operations (i.e., no added liquids: not a bioreactor).

## 8.0 **COMPLIANCE ASSURANCE MONITORING (CAM)**

### 8.1 **Criteria**

On October 22, 1997, EPA promulgated the Compliance Assurance Monitoring rule (Title 40 Code of Federal Regulations Part 64). This Rule requires specialized pollutant-specific monitoring for those emission units which meet the following criteria:

- 8.1.1 The unit is located at a Title V Air Operating Permit source;
- 8.1.2 The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof), other than an emission limitation or standard that is exempt;
- 8.1.3 The unit uses a control device to achieve compliance with any such emission limitation or standard; and

- 8.1.4 The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as an Air Operating Permit source.

8.2 **Applicability,**

The emission unit considered for CAM applicability was the landfill itself. Following is a summary of how the landfill matches up with the above listed criteria:

- 8.2.1 Roosevelt Regional Landfill is a Title V Air Operating source (see Basis for Title V Applicability on page 5).
- 8.2.2 CAM exempts post November 15, 1990, New Source Performance Standard emission limitations/standards from triggering CAM. While the Landfill is subject to the Landfill NSPS, Subpart WWW, the NSPS was promulgated in 1996, and thus it cannot trigger CAM. However, Notice of Construction Order No. DE 98AQ-C131 First Revision and Order No. 08AQ-C087 require a non methane organic compound (NMOC) control efficiency of 98% or an outlet concentration of 20 ppm<sub>v</sub>. The NMOC standard is specified as an alternative to a volatile organic compound (VOC) emission limitation or standard. VOC is a surrogate for ozone. Therefore, the Landfill is subject to an emission standard for an applicable regulated surrogate air pollutant.

Notice of Construction Order No. DE 98AQ-C131 First Revision, and Order No. 08AQ-C087 require 99% destruction or removal of hydrogen sulfide (H<sub>2</sub>S) and other sulfur compounds, and set H<sub>2</sub>S emission limits of 0.20 and 0.0081 pounds per hour, respectively. This is both an emission standard and emission limit for H<sub>2</sub>S, which is a regulated Hazardous Air Pollutant.

Finally, Notice of Construction Order No. DE 98AQ-C131 First Revision and Order No. 08AQ-C087 set a toluene emission limit of 2,493 and 10 pounds per year, respectively. Toluene is a regulated Hazardous Air Pollutant.

- 8.2.3 The Landfill has a landfill gas collection system which must be routed to a control device. The control device tied to the emission standard discussed above is an enclosed flare.
- 8.2.4 While landfills can produce a significant quantity of NMOC emissions, only a portion of the NMOC emissions are collected and made available for control. This Landfill estimates that they collect 79% of the landfill gas produced. Based upon previous source tests, and the associated NMOC content in the landfill gas, when aLFG Flare #1 is operated at full capacity (5500 scfm), potential collected precontrol NMOC emissions are approximately 115 to 328 tons per year. (Note: The 115 tpy estimate is based upon a maximum flow of 5500 scfm and the results of a February 26, 2003, source test which displayed an inlet concentration of 12.9 lbs NMOC/hr, at an inlet flow of 2,704 dscfm. Ref.: 2/26/03 Landfill Gas Flare Emission Test Report, received 4/29/03. A February 26-27, 1998, source test displayed an inlet concentration of 16.0 tons NMOC/yr, at an inlet flow of 1,776 dscfm, which extrapolates to potential collected pre-control NMOC emissions of approximately 328 tons per year at a maximum flow of 5500 scfm. Ref.: 2/26-27/98 Landfill Flare Air Emissions Compliance Test Report, received 4/27/98.) While VOC emissions will be less than NMOC emissions, the variability of NMOC concentration in the landfill gas and the relationship between VOC and NMOC are uncertain enough that a conservative estimate would indicate that potential collected pre-control VOC emissions are likely greater than 100 tons per year.

Additionally, based upon previous sources tests, and the associated H<sub>2</sub>S content in the landfill gas, when LFG Flare #1 is operated at full capacity (5500 scfm), potential collected pre-control H<sub>2</sub>S emissions are approximately 29.4 to 51.8 tons per year. (Note:

The 29.4 tpy estimate is based upon a maximum flow of 5500 scfm and the results of a February 26, 2003, source test which displayed an inlet concentration of 14.47 tons H<sub>2</sub>S/yr, at an inlet flow of 2,704 dscfm. Ref.: 2/26/03 Landfill Gas Flare Emission Test Report, received 4/29/03. A February 26-27, 1998, source test displayed an inlet concentration of 3.82 lbs H<sub>2</sub>S/hr, at an inlet flow of 1,776 dscfm, which extrapolates to potential collected pre-control NMOC emissions of approximately 51.8 tons per year at a maximum flow of 5500 scfm. Ref.: 2/26-27/98 Landfill Flare Air Emissions Compliance Test Report, received 4/27/98.) 10 tons per year of a Hazardous Air Pollutant (i.e., H<sub>2</sub>S) classifies a source as an Air Operating Permit source.

CAM has been identified as an applicable requirement for the Landfill, due to NMOC, H<sub>2</sub>S, and toluene emission standards/limits on the flares. However, it should be noted that there is uncertainty surrounding both the qualification and quantification of the VOC emissions. While CAM has been identified as the regulatory authority for the monitoring, recordkeeping, and reporting, for the NMOC emission standard of Conditions 5.4.20 and 5.5.20, it should be noted that the required monitoring, recordkeeping, and reporting, mirror that which is required for a similar standard under the Landfill NSPS, which is presumed to be designed with monitoring that provides a reasonable assurance of compliance. Those parameters linked to controlling NMOC (ex., combustion temperature, retention time, and flow) are the same as the parameters linked to controlling H<sub>2</sub>S. Therefore, the monitoring required by the Landfill NSPS is also presumed to provide a reasonable assurance of compliance with the H<sub>2</sub>S standard and limit and the toluene limit. Therefore, while CAM has been identified as an applicable requirement, this determination does not result in any new monitoring, recordkeeping, or reporting for either the landfill or its controlling flare(s).

## **9.0 INSIGNIFICANT EMISSION UNITS AND ACTIVITIES**

Emissions from a 35,300 gallon diesel storage tank, 13-diesel-powered light towers, leachate collection ponds, and equipment degreasing are insignificant on the basis that these activities generate actual emissions less than or equal to insignificant emission thresholds of WAC 173-401-530(4) and/or thresholds for hazardous air pollutants of WAC 173-401-531(1). [WAC 173-401-530(4)(a-e), 9/16/02; WAC 173-401-531(1), 9/16/02]

There are two 2,700 gallons fuel storage tanks that are insignificant on the basis of size. [WAC 173-401-533(2)(c), 9/16/02] There are also a 10,000 gallon propane storage tank, thirty-nine 350,000 Btu/hr propane heaters, and two 500,000 Btu/hr propane heaters, that are insignificant on the basis of size. [WAC 173-401-533(2)(d), 9/16/02; WAC 173-401-533(2)(e), 9/16/02] Also, insignificant on the basis of size, are a 500,000 Btu/hr Diesel heater and two 850,000 Btu/hr Diesel emergency generators. [WAC 173-401-533(g), 9/16/02; WAC 173-401-533(h), 9/16/02]

## **10.0 GAPFILLING**

Section 5 of the air operating permit identifies requirements that are applicable to existing emission units at the source. The air operating permit must contain emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance. Where the applicable requirement does not require periodic testing or monitoring, periodic monitoring sufficient to yield reliable data has been identified and included in the permit. This action is termed gapfilling.

The last column of the tables in section 5, contain the monitoring, recordkeeping, and reporting to be performed by the permittee (MRR). This column identifies the periodic action that must be taken to demonstrate compliance with the applicable requirement. It should be noted that in addition to the MRR a source must consider all other credible evidence when certifying to their compliance status.

For some applicable requirements no action is warranted and instead the permittee will annually certify their compliance status. These requirements are identified with, "no additional monitoring required," stated in the MRR column.

Many applicable requirements specified periodic MRR while gapfilling was used for the remainder. The source of the MRR is identified in brackets for each MRR requirement. Those that reference WAC 173-401-615(1) were gapfilled. Below is a brief explanation of the basis for each instance of gapfilling.

**Table 2. Identification and basis of “gapfilled” items**

Applicable Requirement(s)	Gapfilling basis
5.1.5, 5.1.6, 5.1.11, 5.2.14, 5.2.30, 5.3.10, 5.4.1, 5.4.3, 5.4.17, 5.4.18, 5.4.19, 5.4.20, 5.4.21, 5.4.22, 5.4.23, 5.4.24, 5.4.26, 5.5.1, 5.5.3, 5.5.17, 5.5.18, 5.5.19, 5.5.20, 5.5.21, 5.5.22, 5.5.23, 5.5.24, 5.5.26	MRR required for other similar applicable requirement(s) should sufficiently demonstrate compliance with the specified applicable requirement.
5.1.7, 5.1.8, 5.2.28	This source has not had a history of violating these "nuisance" requirements. Since these could be subjective, we determined it is appropriate to consider complaints in MRR.
5.1.2,5, .2.13, 5.2.26, 5.2.29, 5.3.1, 5.3.3, 5.3.9, 5.3.12, 5.3.13, 5.4.12, 5.4.29, 5.5.12, 5.5.29, 5.5.32, 5.6.1, 5.6.4	Simple records, generally already kept, will be helpful in proving such operations.
5.1.4, 5.2.25, 5.3.6, 5.3.7, 5.4.25, 5.5.25	This source has not had a history of visible emissions and is not expected to have problems complying with established visible emission standards. Monthly MRR is determined to be appropriate. Additionally, action is required when visible emissions are observed at times other than the monthly survey.
5.2.23, 5.3.2, 5.3.4, 5.3.5, 5.4.27, 5.5.27	Development and implementation of these documents fulfill the applicable requirement. Periodic review/inspections will aid in assuring that the documents contents are being followed.

Those requirements that specify “no additional monitoring required” as the MRR, have been determined to require no specific monitoring. However, the responsible official will be required to certify the source’s compliance status, with these requirements, at least annually.

**11.0 STREAMLINING**

The reporting frequency for the Landfill NSPS is annual. The Landfill NESHAP specifies that the Landfill NSPS be complied with, except that compliance reports be submitted ever 6 months. As the NESHAP requirement is obviously more stringent than the NSPS requirement, the semi-annual NESHAP frequency has been specified in the MRR for Conditions 5.2.5, 5.2.7, 5.2.9, 5.2.10, and 5.2.12.

**12.0 COMPLIANCE CERTIFICATION**

By virtue of the Air Operating Permit application and the issuance of this permit, the reporting frequency for compliance certification for this source shall be annual.

### **13.0 ENFORCEABILITY**

Unless specifically designated otherwise, all terms and conditions of the Air Operating Permit, including any provisions designed to limit the source's potential to emit, are enforceable by EPA, and citizens, under the Federal Clean Air Act. Those terms and conditions which are designated as state-only enforceable, by (S), are enforceable only by Ecology. It should be noted that state-only terms and conditions will become federally enforceable upon approval of the requirement in the State Implementation Plan. However, the enforceability of the terms and conditions of this Air Operating Permit are not expected to change during the Permit term. All terms and conditions of the Air Operating Permit are enforceable by Ecology.

Following is an example of how to identify a state-only enforceable condition. At the end of Condition 2.7.2 the following notation occurred: "[WAC 173-400-107, 8/20/93, 9/6/07 (S)]." If a version of the regulation is cited with no reference to enforceability, it is federally enforceable. Thus, this notation means that the authority for this permit condition is contained in the 8/20/93 version of WAC 173-400-107 (this is the version of WAC 173-400-107 that is in the SIP and is federally enforceable) and in the 9/6/07 version of WAC 173-400-107. The (S) after 9/6/07 means that the 9/6/07 version of WAC 173-400-107 is State-only enforceable.

### **14.0 OPERATIONAL FLEXIBILITY**

The permittee did not request or specify any alternative operating scenarios.

In the event that an emission unit is not operated during a period equal to or greater than the monitoring period designated, no monitoring is required. (ex. A monthly visible emission survey is not required if the emission unit is not operated during the month that the survey covers. A monthly visible emission survey is required if the emission unit is operated for any portion of the month that the survey covers.) Recordkeeping and reporting must note the reason why, and length of time, the emission unit was not operated.

### **15.0 OTHER PERMITTING ISSUES**

#### **15.1 General Process Units**

A "general process unit" is defined as, "an emissions unit using a procedure or a combination of procedures for the purpose of causing a change in material by either chemical or physical means, excluding combustion." Previously, there was confusion over whether any general process units exist, at this source. The rock crusher is a general process unit due to the physical change which occurs and the fact that the emissions are not fugitive. Note: Fugitive emissions are "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening."

#### **15.2 Flare TAPs**

Applicable requirements 5.4.20 and 5.5.20 cite emission limits for a large number of toxic compounds. The quantities cited for many of these pollutants are very small. Confirming compliance with these limits via source testing may be difficult or impossible. Likewise, confirming the 99% destruction efficiency cited in applicable requirements 5.4.20 and 5.5.20 is in some cases not possible with current test methods because the emission quantities are so small. Those organic TAPs which are measured in quantities less than the detection limit, may be considered negligible for the purposes of source testing and assuring compliance with the applicable requirement.

#### **15.3 Petroleum Contaminated Soil**

PCS is received at the landfill in containers. Upon receipt at the landfill, the containers are unloaded adjacent to the working face and used for as daily cover within 48 hours of being unloaded. PCS is used as daily cover only on the interior working faces of the landfill. The

permittee's solid waste permit specifically allows for the disposal of PCS and for the use of PCS as daily cover. It does not allow for the treatment of PCS at the Landfill.

The permittee is currently allowed to "dispose" of PCS; the permittee does not have approval to treat (i.e. aerate, landfarm) PCS. Ecology's Solid Waste Program considers PCS to be a solid waste being disposed of in the landfill. Washington State's Municipal Solid Waste Landfill Regulation (Chapter 173-351 WAC) states that daily cover is to control disease vectors, fires, odors, blowing litter, and scavenging; PCS is found to meet these criteria and is currently allowed use as daily cover.

Ecology received guidance from EPA which clarifies that volatilized VOCs from a landfill constitute MSW Landfill emissions. The volatilization of PCS meets the definition of MSW landfill emissions and is regulated by the Standards of Performance for Municipal Solid Waste Landfills (NSPS); PCS emissions are not, as a whole, considered fugitive.

#### 15.4 **Landfill Emissions as Fugitive**

Ecology has received guidance from EPA on the topic of fugitive emissions at landfills. EPA has stated that a "well designed collection system," as required by the Standards of Performance for Municipal Solid Waste Landfills (NSPS), is capable of collecting approximately 75% of the MSW landfill emissions. That means that approximately 75% of MSW landfill emissions could reasonably pass through a stack, chimney, vent, or other functionally equivalent opening so are non-fugitive; approximately 25% of MSW landfill emissions are fugitive. However, at landfills which have not increased their permitted capacity since October 21, 1994, and where no collection system has been installed, all MSW landfill emissions are fugitive.

#### 15.5 **State Ambient Air Quality Standards**

The following regulations are ambient air quality standards that apply generally to all areas of the state. There are no on-going monitoring, recordkeeping, or reporting requirements specific to the source to prove compliance with the ambient air quality standards. Compliance with the ambient air quality standards is required, and the following regulations are triggered for any source when undergoing New Source Review for Notice of Construction or Prevention of Significant Deterioration permitting and are generally reported in the permits as findings as required, or when an actual or suspected violation of an ambient air quality standard is found locally.

WAC 173-470-010, -020, -030, -100, -160, 1/3/89

WAC 173-470-110, -150, 1/3/89 (S)

WAC 173-474, 9/30/87 (S)

WAC 173-475, 2/29/80 (S)

(S) means state only requirement

## 16.0 **COMPLIANCE SUMMARY**

- 16.1 **Compliance Status.** A Full Compliance Evaluation (FCE)<sup>1</sup> was completed for Roosevelt Regional Landfill on November 4, 2007. The FCE showed that as of August 16, 2008<sup>2</sup>, Roosevelt Regional Landfill was *in compliance*<sup>3</sup>. Documents related to this and other FCEs completed for

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<sup>1</sup> An FCE is a comprehensive evaluation of the compliance status of a source. It evaluates all regulated pollutants at all regulated emission units, and it addresses the compliance status of each unit, as well as the source's continuing ability to maintain compliance at each emission unit.

<sup>2</sup> This is the most recent date (i.e., end of time period covered) of a document used in making the compliance status determination.

<sup>3</sup> Defined per HPV criteria from "The Time and Appropriate (T&A) Enforcement Response to High Priority Violations (HPVs)", EPA, December 22, 1998.

Roosevelt Regional Landfill are available for public viewing from the Department of Ecology, Central Regional Office.

16.2 **PM<sub>10</sub> Sampling**

Conditions 5.2.26 and 5.3.1, require particulate matter sampling downwind of the landfill and monofill, respectively. Condition 5.2.26 was violated on June 5, 2000, October 16, 2001, and May 2, 2002. Condition 5.3.1 was violated on August 23, 2001, September 4, 2001, and October 16, 2001. In response to these intermittent violations Ecology issued Notice of Violation No. 02AQCR-5060, on November 26, 2002. Notice of Violation No. 1122, issued April 15, 2004, cited an additional violation of Condition 5.2.26 which occurred on September 29, 2002. The permittee contributed the violations to temporary construction activities (i.e., cell construction), high wind speed, and drought conditions. To reduce particulate matter emissions, the permittee hydroseeded areas with the highest potential to generate particulate matter and has reduced soil excavation, for use in constructing the bottom liner system, by receiving approval to use a manufactured geosynthetic clay liner. Both Notices of Violation were resolved by Settlement Agreement and Agreed Order No. 1467, effective June 24, 2004.

16.3 **Waste Disposal Rate**

See section 5.1.

16.4 **NMOC Destruction Efficiency**

A February 6, 2003, source test showed a violation of the condition which previously existed as Condition 5.4.21, in AOP No. 03AQ-C005, 99% control of NMOC by the flare. The test showed NMOC control around 95%. A June 26, 2003, test also showed a NMOC control efficiency of 95%. The tests did show compliance with a similar requirement, from the Landfill New Source Performance Standard, Condition 5.4.1, which allows for less than 20 parts per million NMOC from LFG Flare #1. This violation was resolved upon revision of the Notice of Construction permit to mimic the Landfill New Source Performance Standard (see 5.3).

16.5 **Other Reported Violations**

While required to certify compliance annually, the permittee has certified their compliance status semi-annually. These certifications have been combined with their semi-annual monitoring reports. In addition to the violations discussed in 15.1 through 15.3, the permittee has reported additional violations. These additional violations have not been categorized as "high priority." Violations occurring in 2002 and 2003 were cited in Notice of Violation No. 1122, issued April 15, 2004, and resolved by Settlement Agreement and Agreed Order No. 1467, effective June 24, 2004. Additional "minor" (ie., not "high priority") violations have not resulted in formal enforcement action. These compliance certifications are available for review at the Department of Ecology's Central Regional Office, located in Yakima, Washington. Interested persons may make an appointment to view these documents by calling (509) 575-2490 and asking for the public records disclosure coordinator.