

DEQ AQ INSPECTION REPORT

Facility Name and Address: Riverbend Landfill Company, Inc. 13469 SW Highway 18 McMinnville, OR 97128	Permit Number: 36-0011 County: Yamhill
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Facility contact and phone number	George Duvendack, District Manager 503/472-8788
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Inspection Date/Time: 8/30/10	Reason for Inspection: (check one)	Regularly scheduled inspection	X
		Complaint follow-up	
		Other (specify)	

Permit Type: (check one)	ACDP	X	Inspection Type: (check two)	FCE	X
	Title V			PCE	
				Announced	X
				Unannounced	

Is source designated a Synthetic Minor according to CMS? (Y/N?)	N
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Inspector(s): (Name, Title and Agency)	Gary Andes, NRS4, WR Salem AQ, DEQ
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Facility Representative(s): (Name, Title and Phone #)	George Duvendack, District Manager 503/472-8788 Dave Wilson Jeff O'Leary Curtis Kunkle
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Overview of Facility

The facility is a regional municipal solid waste landfill although minor quantities of industrial, commercial, and special wastes are also landfilled. The landfill maintains a gas collection system with six LFGTE IC engines and an enclosed flare for destruction of the landfill gas. The design capacity of the landfill is about 13,500,000 cubic yards of waste. The facility is subject to the NSPS for municipal solid waste landfills of 40 CFR Part 60 Subpart WWW and the MACT requirements of 40 CFR Part 63 Subpart AAAAA. The IC engines are also subject to 40 CFR Part 60 Subpart JJJJ and the MACT requirements of 40 CFR Part 63 Subpart ZZZZ.

Pre-inspection File Review

Annual reports have been submitted in a timely and complete manner. Prior inspections have shown the facility to be in compliance with the permit conditions. No formal enforcement actions have been taken against the facility.

The Title V permit was renewed on 3/5/10 simultaneously with issuance of a Standard ACDP for construction of the six new landfill gas to energy IC engines and a new enclosed flare. Considerable public comment was received and a public hearing held on 10/20/09. Based on the public comment and concerns some permit conditions were changed and other new conditions added. The renewal permit now requires

the company to conduct an odor survey around the landfill, submit monthly operating reports, and hold semi-annual community meetings.

The pre-inspection file review report concerning information since the last inspection on 7/14/08 is attached.

Walk-through of Facility

Existing emission units observed during the inspection included the following:

1. Unpaved (EU UPR) were being watered and have been coated with lignin sulfate dust suppressant and receives supplemental water applications. No fugitive dust was noted.
2. Paved roads (EU PIR) receive water application. No fugitive dust was noted. A 25,000 gallon water storage tank is used to provide sufficient capacity for watering roads with the water truck. A sweeper may also be used on the paved section of road.
3. Fugitive landfill gas (EU LFG) odors were not noted along Highway 18 despite a SW wind and only slightly noted on the landfill site. The operating landfill face was relatively small and daily cover is well maintained. A tipper is used for large load vehicles to dump onto the working face. The company is in the process of final closure activities on the east end of the landfill and has also applied dirt cover to half of the west end of the landfill. Eleven new vertical gas collection wells were drilled within the last two weeks in the east end of the landfill but have not yet been connected to the overall collection system.
4. The smaller compartment of the new enclosed flare (EU FLRN) was operating with 0% opacity pulling 565 cfm of landfill gas with the small blower drawing 17 amps. The flare temperature was 1436 degrees F. The new enclosed flare began operations on April 28, 2010.
5. All six of the IC engines (EU ENG) were operating with the following operational parameters. The new engines were placed on-line on June 29, 2010.

System vacuum --- -65 inches
Engine kW---810 to 820 except engine #4 running at reduced rate of 700
Operating temperature---around 1144 degrees F
LFG flow---total of 1882 cfm
Opacity---0% from all engines
LFG analysis---Methane +49%, CO₂ 36.5%, O₂ 0.9%, Nitrogen 13.1%, heating value 501 Btu/ft³
Crankcase exhaust---0% opacity from all engines; condensed oil from the exhaust filters is recycled back to the engines
6. No odors were noted downwind from the leachate collection pond. Some leachate is being trucked to the Hillsboro wastewater treatment system for disposal. Most leachate is still being used to water the poplar tree fields by drip irrigation.
7. The fields of poplar trees have grown considerably and provide a good visual buffer of the landfill from Highway 18. The original poplar tree field east of the landfill entrance was cut down in 2008 to allow space for more waste. No odors were noted adjacent to the poplar tree fields from the leachate water along Highway 18.

Permit Conditions Reviewed During Inspection

Facility Wide

	Condition No.	REQUIREMENT	FINDING
Limit/Standard	4	Minimize fugitive dust	In compliance
Monitoring & Recordkeeping	5	Monthly VE survey	No fugitive emissions noted
Limit/Standard	6	No nuisance odors	In compliance
Monitoring & Recordkeeping	8	Complaint log	Numerous complaints received since 2008 concerning odors
	8.a	Monthly Odor Survey Log	Completed each month and submitted with monthly report
	8.b	Analysis of landfill gas	Done on 3/16/10
Limit/Standard	7	No particulate >250 microns	In compliance
Monitoring & Recordkeeping	8	Complaint log	No complaints received concerning dust

Landfill

	Condition No.	REQUIREMENT	FINDING
Limit/Standard	9.7	Maintain active gas collection system	In compliance
Monitoring & Recordkeeping	9.7	Maintain plot plan of collection system	Map being maintained and updated
Limit/Standard	9.8	Negative wellhead pressure	In compliance
Monitoring & Recordkeeping	9.8	Measure wellhead pressures monthly	Pressures measured at least monthly & adjusted
Limit/Standard	9.9	Wellhead temperature <131 degrees F and O ₂ <5%	In compliance
Monitoring & Recordkeeping	9.9	Measure wellhead temperature and oxygen monthly	Parameters measured at least monthly and adjusted; elevated temperature wells have received variances
Limit/Standard	9.10	Surface methane <500 ppm	In compliance
Monitoring & Recordkeeping	9.10	Monitor cover integrity	Visual inspections of cover done monthly
Monitoring & Recordkeeping	9.10	Quarterly surface methane sampling	Being conducted quarterly; some exceedances usually found and are quickly corrected
Limit/Standard	9.11	Route landfill gases to control system	In compliance

Monitoring & Recordkeeping	9.11	Operating log of control system downtime	Operating records being kept
Limit/Standard	9.12	Route landfill gas to enclosed flare and IC engines	In compliance
Monitoring & Recordkeeping	9.12	Record gas flow rates to enclosed flare and IC engines	Flow records being kept
Limit/Standard	9.19	Route excess landfill gas to open flare if necessary	Open flare was removed from the site in April
Monitoring & Recordkeeping	9.19	Record gas flow rate to the open flare	Flow records were being kept when flare was operated
Limit/Standard	9.20	Develop and maintain an SSM Plan	SSM Plan developed and implemented
	9.20	Record and maintain records of each SSM event	SSM event records being maintained and submitted with semi-annual report

EUs UPR and PIR, Unpaved and Paved Roads

	Condition No.	REQUIREMENT	FINDING
Limit/Standard	10	20% opacity, 3 min. in 60 min.	In compliance
Monitoring & Recordkeeping	11	Weekly VE survey	VE records usually show 0% opacity; when opacity is detected, corrective actions (sweeping, watering) are taken

EU FLRO and FLRN, Old Enclosed Flare and New Enclosed Flare

	Condition No.	REQUIREMENT	FINDING
Limit/Standard	12	20% opacity, 3 min. in 60 min.	In compliance
Monitoring & Recordkeeping	14	Monthly VE survey	VE records show 0% opacity
Limit/Standard	13	0.1 gr/dscf	In compliance
Monitoring & Recordkeeping	14	Monthly VE survey	VE records show 0% opacity
Limit/Standard	15	NMOC reduced 98% or <20 ppm	Assumed in compliance until source test
Monitoring & Recordkeeping	16.a.	Continuous temperature recorder and gas flow; Monthly bypass valve inspection	Temperature and gas flow being recorded; no bypass valve exists; pipe to FLRO to be capped off
Monitoring & Recordkeeping	16.b & c.	Emission Action Level for temperature on FLRO	EAL established on 10/15/01; FLRO no longer used

Monitoring & Recordkeeping	16.d & e.	Emission Action Level for temperature on FLRN	EAL to be established in initial source test
Testing	16.g.	Perform NMOC destruction test on FLRN within 180 days of startup	Tests not yet completed—scheduled for Sept 27-Oct 1

EU ENG, Engines

	Condition No.	REQUIREMENT	FINDING
Limit/Standard	17	20% opacity, 3 min. in 60 min.	In compliance
Limit/Standard	18	0.1 gr/dscf	In compliance
Monitoring & Recordkeeping	19	Keep records of maintenance	Records being maintained
Limit/Standard	20	Collect at least 75% of LFG generated (equals 2171 cfm for 2010)	In compliance through July at 2744 cfm
Monitoring & Recordkeeping	21.a.	Continuous recorder for gas flow; Monthly bypass valve inspection	Gas flow being recorded; bypass valve does not exist
Limit/Standard	22	Limits for NO _x , CO, and VOC	Assumed in compliance until source test
Monitoring & Recordkeeping	23	Use certified engines or source test	Non-certified engines are being used; source test required annually
Testing	24	Perform source test on engines for PM, SO ₂ , NO _x , CO, VOC, and NMOC within 180 days of startup	Tests not yet completed—scheduled for Sept 27-Oct 1

EU TIP, Tipper

	Condition No.	REQUIREMENT	FINDING
Limit/Standard	25	20% opacity, 3 min. in 60 min.	In compliance
Limit/Standard	26	0.1 gr/dscf	In compliance
Monitoring & Recordkeeping	27	Weekly VE survey	VE records show 0% opacity

PSEL

	Condition No.	REQUIREMENT	FINDING
Limit/Standard	29	Tons/year limits	In compliance
Monitoring & Recordkeeping	30 & 31	Maintain process records and calculate emissions	Records being kept and calculations done

REPORTS

	Condition No.	REQUIREMENT	FINDING
Limit/Standard	49	Excess emission reporting	No excess emissions have occurred
Limit/Standard	50	Deviation reporting	Three deviations

			reported in last semi-annual report
Limit/Standard	53 & 54	Annual and semi-annual reports	Most recent semi-annual report submitted 8/13/10
Limit/Standard	55	Submit monthly operating reports	Reports submitted timely and complete
Limit/Standard	56	Hold semiannual public meeting	First meeting held April 29
Limit/Standard	57	Startup notification for IC engines and new flare	Notifications sent on 5/4/10 and 7/2/10
Limit/Standard	58	Non-certified engine installation notification	Notification sent on 6/3/10 and updated 7/2/10

Other Discussions

The facility has around 145 active landfill gas collection wells, with 11 new vertical wells drilled within the last two weeks.

Landfill expansion approval is still in the legal system with the company and the County appealing the recent LUBA decision. A hearing has been set for October 6 in the appeals court.

Other waste reduction measures such as composting and conversion of some waste to gasoline are still being investigated. The plasma arc waste reduction technology is going to be tested at the Columbia Ridge Landfill with construction of the project possibly complete by the end of the year.

No odors were noted offsite during the inspection time and only minimal odors noted onsite. However, odor complaints still are being received by the Department and the landfill and are being investigated by the landfill as they are called in. The number of complaints seems to have subsided slightly.

New mufflers were installed on engines 5 and 6 on 8/20/10 and has reduced the noise from the exhausts considerably. The company performed a noise survey prior to the new mufflers and will follow up soon with an additional survey. The engine/exhaust noise was not discernable at the east end of the landfill during the inspection. Noise from operating equipment on the landfill (trucks, backup signals, etc.) was more apparent than the engines. Engine/exhaust noise was not discernable on Highway 18 due to the normal traffic noise on the highway.

The company is considering the possibility of more engines or larger engines because the landfill gas collection continues to expand. The timing and extent of any new engines is still unknown but would require a significant permit modification and modeling at a minimum. In the interim, the enclosed flare handles any excess landfill gas the engines cannot take and the flare has considerable capacity available.

The facility is subject to DEQ and EPA reporting of greenhouse gas emissions for 2010. 2009 greenhouse gas emissions did not have to be reported. The company is collecting the appropriate data for reporting purposes.

The Department will have to add PM_{2.5} and greenhouse gas PSELs to the permit during the next major permitting action after January 2011 due to upcoming DEQ rule changes. Baseline emission rates (probably using 2007 as the baseline period) for PM_{2.5} and greenhouse gases will have to be calculated as well as the PSEL values.

Upcoming DEQ rule changes will change the grain loading standards from 0.2 and 0.1 to 0.20 and 0.10 gr/dscf. All equipment at the facility should be able to meet the new standards without any changes.

Compliance Status of Facility

X	Facility is in compliance with the permit conditions described above.
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Attachments:

- Visible emission survey results
- Gas well temperature, pressure, and oxygen monthly log
- Cover integrity log
- Landfill gas flow volume data sheet
- PSEL calculation sheets