DRAFT

217/782-2113

CONSTRUCTION PERMIT – REVISED
NSPS/NESHAP SOURCE

PERMITTEE

Veolia ES Orchard Hills Landfill, Inc.
Attn: Chris Peters, General Manager
8290 Highway 251 South
Davis Junction, Illinois 61020

Application No.: 05020039 I.D. No.: 141017AAC
Applicant's Designation: Date Received: June 25, 2009
Subject: Landfill Expansion
Date Issued:
Location: Orchard Hills Landfill, 8290 Highway 251 South, Davis Junction

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of an expansion of a municipal solid waste landfill, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1.0 Municipal Solid Waste Landfill Expansion

1.1 Description

Construction permit to allow the lateral and vertical expansion of the existing landfill to provide additional waste disposal capacity and to revise the permitted level of landfill gas (LFG) flow for the existing flare to its maximum capacity (4500 scfm). The LFG generated by the expanded landfill (the affected landfill), i.e., the combination of existing landfill and the expansion, would be collected and sent to a control system.

This revised permit addresses a new sulfur removal system and an enclosed flare that will be added to LFG control system for the affected landfill pursuant to Construction Permit 09060048. This revised permit also increases the permitted emissions of sulfur dioxide (SO_2) and volatile organic material (VOM) to address recent data for the actual composition of the LFG generated by the affected landfill. Other than revising emission limits for the existing flare and the source, this revised permit does not relax or otherwise revise any requirements and conditions that apply to the operation of the landfill, including applicable monitoring, testing, recordkeeping, and reporting requirements pursuant to the Clean Air Act Permit Program (CAAPP) permit issued for the source, CAAPP Permit 02020048.

1.2 List of Emission Units and Emission Control Equipment

Emission Unit	Description	Emission Control Equipment
Landfill Expansion	Municipal Solid Waste Landfill	Sulfur Removal System (new) and Flares (existing and new)

1.3 Applicable Emission Standards

a. i. The affected landfill, including the associated control systems, shall be operated to comply with applicable emission standards and other requirements of New Source Performance Standard (NSPS) 40 CFR 60, Subpart WWW and National Emission Standards for Hazardous Air Pollutant (NESHAP) 40 CFR 63, Subpart AAAA for Municipal Solid Waste Landfills, as further set forth in Condition 7.1 in Clean Air Act Permit Program (CAAPP) permit for the source, Permit 02020048.

ii. As the affected landfill is subject to NSPS and NESHAP requirements, the Permittee shall also at all times, to the extent practicable, maintain and operate the landfill and associated control systems in a manner consistent with good air pollution control practice for minimizing emissions, as required pursuant to 40 CFR 60.11(d) and 40 CFR 63.6(e)(1).

b. The flares and other emission units at the affected landfill are subject to 35 IAC 212.123(a), which provides that no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from an emission unit, except as allowed by 35 IAC 212.123(b) and 212.124.

c. The flares and other process emission units at the affected landfill are subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of SO2 into the atmosphere from any process emission unit to exceed 2000 ppm.

1.4 Non-Applicability Provisions

a. The affected landfill is not subject to the requirements of 35 IAC 212.321, Emissions of Particulate Matter from Process Emission Units, because due to the nature of a landfill this rule cannot reasonably be applied.

b. This permit is issued based on the landfill expansion not constituting a major project for the purposes of federal rules for Prevention of Significant Deterioration (PSD) 40 CFR 52.21. This is because the source, i.e., the existing landfill, was not a major source under the PSD program prior to the expansion. (See Condition 1.6(b)(i).) In addition, the expansion of the landfill would not

constitute a major source when considered by itself. (See Condition 1.6(b)(ii).)

Note: With the expansion, the source, i.e., the combination of the existing landfill and the expansion, would become a major source, with potential emissions of CO and SO_2 over 250 tons per year. As a major source for purposes of PSD, future projects at the affected landfill would be subject to PSD if they result in a significant net increase in emissions of a PSD pollutant.

1.5 Operational and Production Limits and Work Practices

a. i. The Permittee shall route all collected LFG to a control device that complies with the NSPS requirements in either 40 CFR 60.752(b)(2)(iii) (A), (B), or (C).

ii. The affected landfill and the associated control system shall be operated in accordance with the applicable requirements of 40 CFR 60.753, 60.755, and 60.756, as required by 40 CFR 60.752(b)(2)(ii).

b. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the control systems covered under this permit such that each system be kept in proper working condition and shall not cause a violation of the Environmental Protection Act or regulations promulgated under.

c. The Permittee shall follow good air pollution control practices to minimize nuisance fugitive dust from plant roads, parking areas, and other open areas of the landfill. These practices may provide for pavement on all regularly traveled entrances and exits to the landfill and treatment (sweeping, application of water, use of dust suppressant, etc., when necessary) of paved and unpaved roads and areas that are routinely subject to vehicle traffic.

d. i. The Permittee shall carry out control measures for fugitive dust in accordance with a written control program maintained by the Permittee. This program shall set forth the measures being implemented to demonstrate compliance with Conditions 1.5(c), to control fugitive dust at each area of the landfill with the potential to generate significant quantities of fugitive dust. This program shall include: (i) a map or diagram showing the location of all fugitive emission units controlled, including the location, identification, length, and width of roadways, and volume and nature of expected traffic or other activity; (ii) estimated dust emissions control technique (e.g., water spray surfactant spray, water flushing, or sweeping); (iii) triggers for additional

control, e.g., observation of extended dust plumes following passage of vehicles.

ii. The Permittee shall submit a copy of a revised fugitive dust control program to the Illinois EPA for review within 90 days of a request from the Illinois EPA for a revision to the program to address observed deficiencies in the control program.

iii. The Permittee shall perform compliance inspections to verify implementation of fugitive dust control program at least on quarterly basis.

1.6 Operational and Emission Limits

a. Emissions and operation of the existing open flare shall comply with the following limits:

i. The maximum gas flow capacity of the flare shall not exceed 4,500 scfm.

ii. The emissions of the flare shall not exceed the following limits:

Pollutant	Limits	
	Pounds/Hour	Tons/Year
NOx	9.5	41.4
CO	67.1	See Condition 1.6(b)
SO_2	67.1	See Condition 1.6(b)
PM	2.3	10.1
VOM	0.75	3.2

Note: Limits on emissions and operation of the new enclosed flare are set in Construction Permit 09060048.

b. i. The total emissions of SO_2 and CO from the existing landfill shall each not exceed 24.5 tons/month and 245 tons/year.

ii. The total emissions of SO_2 and CO from the landfill expansion shall each not exceed 24.5 tons/month and 245 tons/year.

c. The total emissions from the source shall not exceed the following limits:

Pollutant	Limits	
	Tons/Month	Tons/Year
NOx	20	200
CO	49.0	490

SO_2	49.0	490
PM	9.5	95
VOM/NMOC	3.7	37.0
Individual HAP	1.0	8.0
Total HAPs	2.75	22.0

Note: The limits in Conditions 1.6(a), (b) and (c) are based on information provided in the application, including the amount of LFG generated by the source, the design capacity of the flares and site-specific data for the composition of the LFG.

d. i. Compliance with annual limits shall be determined from a running total of 12 months of data.

ii. Compliance with the limits in Conditions 1.6(a), (b) and (c) shall be determined using appropriate emission factors which in order of preference shall be factors from on-site emission testing, fators form the manufacturer, and factors from USEPA's *Compilation of Air Pollutant Emission* Factors, AP-42.

1.7 Monitoring Requirements

a. For the affected landfill and associated LFG control system, the Permittee shall comply with the applicable monitoring requirements of NSPS, 40 CFR 60 Subpart WWW.

b. i. In addition to the monitoring requirements of the NSPS, the Permittee shall conduct sampling and analysis of the LFG combusted in the flares. The samples shall be analyzed for sulfur and NMOC content (ppm) and heat content (Btu/cubic foot) of the LFG. If USEPA Method 18 is used to determine NMOC content, the minimum list of compounds to be tested shall be those published in the most recent version of USEPA's *Compilation of Air Pollutant Emission Factors* (AP-42). These analyses may be performed by the Permittee or an independent company. Written notification of testing or submittal of a formal testing protocol is not required for these tests.

ii. Sampling and analysis for NMOC content and heat content shall be conducted on at least an annual basis.

iii. Sampling and analysis for sulfur content shall be conducted on at least the following schedule, with the calculations for the sulfur content of collected LFG be made using representative hourly values for the volumes of different streams of collected LFG.

A. Samples shall be taken at least on a monthly

basis, until five required samples in a row indicate the sulfur content of the LFG collected and combusted at the landfill on an hourly basis is no more than 38.6 pounds (equivalent to SO_2 emissions of 77.2 pounds per hour), at which time sampling and analysis shall be conducted on at least quarterly basis.

B. Thereafter, samples shall be taken at least on a quarterly basis, until either: (1) five required samples in a row indicate the sulfur content of the LFG collected and combusted at the source on an hourly basis is no more than 30.6 pounds (equivalent to SO_2 emissions of 61.2 pounds per hour), at which time sampling and analysis shall be conducted on at least an annual basis; or (2) Sampling indicates that the sulfur content of collected LFG is more than 30.6 pounds per hour, in which case sampling and analysis on a monthly basis shall be resumed.

C. If annual sampling shows that the sulfur content of the LFG collected and combusted at the source on an hourly basis is more than 30.6 or 38.6 pounds, sampling and analysis shall be resumed on a quarterly or monthly basis in accordance with the requirements of Condition 1.7(b)(ii)(A) or (B), respectively.

iv. The Permittee shall keep records for this sampling and analysis activity, including both collected data and documentation for the sampling and analysis activities.

1.8-1 General Recordkeeping Requirements

a. For the landfill and associated LFG control system, the Permittee shall comply with the applicable recordkeeping requirements of the NSPS, 40 CFR 60 Subpart WWW.

b. The Permittee shall keep a record for the design capacity of the affected landfill, with supporting documentation.

1.8-2 Recordkeeping Requirements Related to the Sulfur Removal System

a. The Permittee shall keep records for total amount of sulfur removed from collected LFG (tons/month and tons/year), with supporting documentation.

1.8-3 Recordkeeping Requirements Related to the Flares

a. The Permittee shall keep records for total consumption of LFG by the flares, on a daily basis.

b. The Permittee shall keep the following operating records for the affected open flare:

i. A file containing the design specifications for the flare including capacity, scfm, and a demonstration that the open flare complies with applicable operating requirements of 40 CFR 60.18 (e.g., gas heat content and exit velocity) and the enclosed flare complies with the applicable requirements of 40 CFR 60 Subpart WWW.

ii. An operating log that shall include the following:

A. Status of the flare.

B. Adjustments of flare's operating parameters.

C. Identification of any period when the flare was to be in service but was out of service with a detailed explanation of the cause and an explanation of actions taken to prevent or reduce the likelihood of future occurrences.

iii. An inspection/maintenance log that shall include the following:

A. Date of inspection and observed condition of the flare.

B. Date and description of maintenance performed.

iv. The Permittee shall keep the following records related to emissions of the flare:

A. A file identifying the maximum level(s) of sulfur in LFG at which compliance with 35 IAC 214.301 is maintained, with supporting documentation and analysis.

B. A file containing: 1) The emission factors used by the Permittee for calculating emissions of NOx, CO, PM, and VOM with supporting documentation; and 2) Engineering calculations for the maximum hourly emissions of NOx, CO, PM, NMOC and VOM from the flare.

C. Emissions of NOx, CO, and PM from each flare (tons/month and tons/year), with supporting calculations.

Note: The requirements for operating records for the new enclosed flare, as well as for the new sulfur removal system, are established in Construction Permit 09060048.

1.8-4 Records Related to Landfill Operations and Fugitive Dust

a. The Permittee shall maintain a file documenting assumptions about the quantity and nature of vehicle traffic at the landfill as related to the landfill operation.

b. The Permittee shall maintain records documenting implementation of the fugitive dust control program, including.

i. Records documenting implementation of dust control measures;

ii. Records of the quarterly dust inspections pursuant to Condition 1.5(d)(iii).

iii. Records for incidents when control measures were not carried out as scheduled or were not fully implemented and incidents when additional control measures were carried out, with description of each such incident and explanation. This log shall address any adjustments to the scheduling of control measures made by the Permittee due to weather conditions that either acted to reduce or increase the level of potential dust, such as precipitation or extended periods of dry weather.

c. The Permittee shall maintain a file containing the maximum daily (lbs/day) and annual (tons/year) emissions of particulate matter (PM) from landfill operations other than flares, based on engineering calculation with supporting documentation. This information shall be updated if there is a significant change in the operation of the landfill or control measures for fugitive dust that would act to increase emissions.

1.8-5 Records Related to Overall Operation and Emissions of the Landfill

a. The Permittee shall keep records for the amount of waste deposited in the original landfill and in the expansion, on a yearly basis, further categorized by type of waste if differences in waste type are considered in determining the amount of LFG generated by the original landfill and the expansion.

b. The Permittee shall keep the following records related to overall emissions of the affected landfill:

i. Calculations, on at least an annual basis, for the total amount of LFG generated by the affected landfill during the preceding year and the percentage of the LFG that is attributable to the original landfill and to the expansion.

ii. A file containing the emission factors used by the Permittee for calculating the landfill’s emissions of NOx, CO, VOM, NMOC, PM* and HAPs, with supporting

documentation.

iii. Records for emissions of NOx, CO, VOM, PM*, and HAPs from the landfill, (tons/month and tons/year), with supporting calculations.

iv. Records for the total amount of sulfur in collected LFG (tons/month and tons/year), with supporting calculations.

v. Records for the emissions of SO_2 from the landfill (tons/month and tons/year), determined as the difference between the possible SO2 emissions based on the actual amount of sulfur contained in collected LFG and the amount of SO_2 emissions that were prevented by collection of sulfur by the sulfur removal system, with supporting calculations.

vi. Records for emissions of CO and SO_2 from the affected landfill attributable to the original landfill and to the expansion, with supporting calculations.

*Not including fugitive emissions of PM, as addressed by Condition 1.8-3(c).

1.8-5 Retention of Records

a. Unless a longer retention period is specified by the NSPS or NESHAP for particular records, records and logs required by this permit shall be retained at a readily accessible location at the source for at least five years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.

1.9 Reporting Requirements

a. For the landfill, the Permittee shall comply with all applicable reporting requirements of the NSPS, 40 CFR 60 Subpart WWW.

b. If there is any deviation from the requirements of this permit, the Permittee shall submit a report to the Illinois EPA, within 30 days after the deviation or such other time period specified in the source's CAAPP permit. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, a description of the deviation, the probable cause, the corrective actions that were taken, and any actions that were taken to prevent future occurrences.

c. Two copies of the required reports and notification shall be sent to the Illinois EPA at the following address:

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276
217/782-5811

And one copy shall be sent to the Regional Office:

Illinois Environmental Protection Agency
Division of Air Pollution Control/ Regional Office
5415 North University
Peoria, Illinois 61614

Telephone: 309/693-5461 Facsimile: 309/693-54675

1.10 Other Requirements

This permit does not relieve the Permittee of the responsibility to comply with all Local, State and Federal Regulations which are part of the applicable Illinois State Implementation Plan, as well as all other applicable Federal, State and Local requirements. In particular, this permit does not excuse the Permittee from the obligation to undertake further actions at the source as may be needed to eliminate air pollution, including nuisance due to odors, such as implementation of additional work practices for handling of waste or enhancements to the landfill gas collection and control system.

1.11 Authorization for Construction and Operation

a. The Permittee may expand and adapt the system for collection of gas from the landfill, as currently permitted, installing additional gas wells and piping during the life of the landfill as different areas become ready for collection of LFG.

b. i. The Permittee may operate the landfill with the expansion pursuant to this construction permit until the CAAPP permit for the source is revised to address the revised emissions limitations for the expansion in this construction permit.

ii. The Permittee may also operate the existing flare and the landfill with the revised emissions limits pursuant to this construction permit until the CAAPP permit for the source is revised to address these limits.

c. These conditions supersede Standard Conditions 1 and 6.

Please note that this permit has been revised at the request of the Permittee to increase permitted emissions of the existing landfill and the expansion, to address recent data for the composition of the LFG generated from this landfill, as compared to data provided in the original application. This revised permit also reflects a reevaluation of PSD applicability for the

landfill expansion project, which addresses it as a modification of the existing landfill. The revised permit also includes additional monitoring requirements for LFG composition (See Condition 1.7(b)). Finally, this permit clarifies applicable regulatory requirements.

If you have any questions regarding this permit, please contact Kunj Patel at 217/782-2113.

Edwin C. Bakowski, P.E. Date Signed: _____
Manager, Permit Section
Division of Air Pollution Control

ECB:CPR:KMP:

cc: Region 2