

217/782-2113

CONSTRUCTION PERMIT -- NESHAP SOURCE

PERMITTEE

Congress Development Company - Hillside Landfill
Attn: Brian Holcomb
4415 West Harrison Street, Suite 224
Hillside, Illinois 60162

Application No.: 07090039

I.D. No.: 031123ABP

Applicant's Designation:

Date Received: September 12, 2007

Subject: New Enclosed Flare

Date Issued: April 20, 2008

Location: Hillside Landfill, 4100 West Frontage Road, Hillside, Cook County

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

- 1a. This permit authorizes construction of a new enclosed flare (affected flare), with a design capacity of 4,000 scfm of landfill gas (LFG), which the Permittee plans to use as replacement for one of the two existing open flares, each with a design capacity of 2,000 scfm of LFG. This affected flare serves to control LFG from this landfill, so as to reduce nonmethane organic compounds (NMOC) emissions from the landfill and comply with requirements of 35 IAC Part 220. After this project is complete, three flares will be present at the source to control LFG, i.e. two enclosed flares and an open flare, which the Permittee would plan to use as a backup device.
- b. This permit also authorizes changes to the permitted emissions of SO₂ and VOM for the open flare(s) to address recent data for the actual sulfur content and NMOC content of the LFG from this landfill. [See Condition 5(c)]
- 2a. Except for limits on SO₂ and VOM emissions for the open flare(s), this permit does not relax or otherwise revise any requirements and conditions that apply to the operation of existing LFG collection and control system, including applicable monitoring testing, recordkeeping, and reporting requirements pursuant to the Consent Agreements or Consent Orders for the source, Clean Air Act Permit Program (CAAPP) permit issued for the source and other applicable permits issued for units at the source..
- b. 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 gas collection system.

- 3a. This permit is issued based on the affected flare being subject to the requirements for National Emission Standards for Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills, 40 CFR 63 Subpart AAAA and General Provisions of 40 CFR 63 Subpart A, because the source has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters, has estimated uncontrolled emissions of nonmethane organic compounds equal to or greater than 50 megagrams per year (mg/year), and is subject to an EPA approved state plan. Pursuant to these regulations, source must meet the operation and maintenance, and startup, shutdown, and malfunction (SSM) plan requirements of the General Provisions of the NESHAP, 40 CFR 63 Subpart A.
- b. The affected flare is subject to the requirements of 35 IAC Part 220 Subpart B, for Municipal Solid Waste (MSW) Landfills.
 - i. For the purposes of 35 IAC Part 220, Subpart B, Municipal Solid Waste Landfills, the affected flare is considered to be a control system utilizing enclosed combustor type control devices, as defined under 35 IAC 220.110.
 - ii. The affected flare shall be designed, operated, and maintained to comply with the applicable requirements of 35 IAC 220.230(b), which requires to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3 percent oxygen.
 - iii. A. Once performance testing is conducted in accordance with Condition 8, the Permittee shall operate the affected flare to maintain a level of opacity, as measured in accordance with USEPA Method 9, that is consistent with the level of opacity observed during the most recent performance testing in which compliance with 35 IAC 220.230(b) is demonstrated. The Permittee shall also have observations for opacity from the affected flare conducted by a qualified observer in accordance with USEPA Test Method 9 on at least a semi-annual basis, during representative operating conditions.

B. Notwithstanding the above, as an alternative to Condition 3(b)(iii)(A), The affected flare shall be operated with no visible emissions as determined by USEPA Method 22 except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. If the Permittee elects to comply with this alternative, it shall notify the Illinois EPA within 90 days of submission of the report for the performance testing to the Illinois EPA. Observations for visible emissions shall be conducted on at least a quarterly basis.

- iv. The Permittee shall install, calibrate, maintain, and operate equipment to record flow to or the bypass of affected flare, in accordance with 35 IAC 220.270(b)(2).
- v. The Permittee shall install, calibrate, maintain, and operate a temperature monitoring device for the combustion chamber of affected flare, which device is equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater, in accordance with 35 IAC 220.270(b)(1).
- vi. The affected flare shall be operated in accordance with the applicable requirements of 35 IAC 220.250(e) and (f).
- c. The opacity of smoke or other particulate matter from the affected flare shall not exceed 30 percent pursuant to 35 IAC 212.123(a).
- 4. As the source is subject to the NESHAP requirements, at all times, the Permittee shall, to the extent practicable, maintain and operate the landfill, landfill gas collection system, and air pollution control systems in a manner consistent with good air pollution control practice for minimizing emissions, as required pursuant to 40 CFR 63.6(e)(1)(i).
- 5a.
 - i. The affected flare shall only be fired with LFG.
 - ii. Emissions from the affected flare shall not exceed the following limits:

Pollutant	Emissions	
	(Lbs/Hour)	(Tons/Year)
NO _x	7.20	31.5
CO	24.00	105.2
SO ₂	---	160.8
PM	1.88	8.2
VOM	1.20	5.1
HAP (total)	1.10	4.8

These limits are based on information provided in the application including maximum design capacity of the flare, manufacturer's emissions factors for NO_x and CO, standard AP-42 emissions factors for PM, site-specific emissions data for VOM and SO₂, and continuous operation.

- iii. Compliance with these annual limits and other annual limits in this permit shall be determined from a running total of 12 months of data.

- b. Emissions from the existing open flare(s) shall not exceed the following limits:

Pollutant	Emissions	
	(Lbs/Hour)	(Tons/Year)
NO _x	3.8	16.7
CO	8.2	35.8
SO ₂	---	80.0
PM	1.1	4.5
VOM	0.8	3.7
HAP (total)	0.1	0.44

Note: The above limits for SO₂ and VOM are revised from the limits established in Construction Permit 06050071 to address recent test results for sulfur and NMOC content of the LFG at this landfill. These limits supersede the previously established limits for remaining open flare.

- c. Total emissions of SO₂ from the source shall not exceed the following limits:

Pollutant	Emissions	
	(Tons/Month)	(Tons/Year)
SO ₂	45.0	242.0

- d. This permit is issued based on construction of the affected flare and revised emissions limits for the existing open flare(s) as addressed by this permit not constituting a major modification for the purpose of Prevention of Significant Deterioration (PSD), 40 CFR 52.21, or Major Stationary Source Construction and Modification (MSSCAM), 35 IAC Part 203. This is because, the total emissions of each PSD pollutant from the source is less than the applicability threshold of 250 tons/year.
6. The Permittee shall, in accordance with the manufacturer's and/or vendor's recommendations, perform periodic maintenance on the pollution control equipment covered under this permit such that the pollution control equipment be kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.
- 7a. In addition to the periodic monitoring for the active gas collection system required by 35 IAC 220.270(a), the Permittee shall conduct sampling for the composition of LFG in the headers serving the flare(s) at the source. The samples shall be analyzed for methane, sulfur, and NMOC content (percent by volume) and net heat content (Btu/cubic foot) of the LFG.
- b. Sampling and analysis of the LFG as above shall be conducted for all parameters on a quarterly basis for the fir year of operation of the affected flare and annually thereafter.

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

- 8a.
 - i. Within 90 days of the initial startup of the affected flare but no later than 180 days, the Permittee shall conduct performance testing for the affected flare in accordance with 35 IAC 220.210(d)(2) and 220.260(d) to demonstrate compliance with the requirement of 35 IAC 220.230(b).

 - ii. In conjunction with this testing, the Permittee shall have observation of the opacity from the affected flare conducted by a certified observer in accordance with USEPA Method 9.

- b. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these measurements. Notification of the expected date of the measurements shall be submitted to a minimum of 30 days prior to the expected date. Notification of the actual date and expected time of measurement shall be submitted a minimum of five working days prior to the actual date of the measurement. The Illinois EPA may, at its discretion, accept notification with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe the measurements.

- c. The Permittee shall submit the report for the emission testing required in Condition 8(a) to the Illinois EPA no later than 45 days after the testing is conducted.

- 9a. The Permittee shall comply with the applicable recordkeeping requirements of the NESHAP, 40 CFR 63 Subparts A and AAAA.

- b. The Permittee shall keep the following records for the affected flare:
 - i. A file containing the design specifications for the flare, including capacity in scfm and million Btu/hour, and a demonstration that the flare complies with the operating requirements of 35 IAC Part 220. If certain operating practices are needed to assure compliance with 35 IAC Part 220, this file shall also identify each such practice, with justification.

 - ii. The LFG flow (scf per month).

 - iii. Operating records, which shall include the following:
 - A. Adjustments of flare's operating parameters.

 - B. 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.

- iv. Inspection/maintenance records, which shall include the following:
 - A. Date of inspection of the flare by the Permittee and observed condition of the flare, including observations for visible emissions.
 - B. Date and description of maintenance performed.
- c. The Permittee shall keep the following records related to emissions of the affected flare:
 - i. Emission factors used for calculating the emissions with supporting documentation.
 - ii. Record of all opacity observations conducted by the Permittee for the flare, including periodic observations conducted pursuant to Condition 3(b)(iii) with the following information:
 - A. Date and time of observations.
 - B. Name of the qualified observer.
 - C. Description of observation condition, including recent weather.
 - D. Description of the operating conditions of the affected flare.
 - F. Raw data.
 - G. Opacity determinations.
 - H. Conclusions.
 - iii. Monthly and annual emissions of NO_x, CO, VOM, SO₂, PM, and HAPs from the affected flare, with supporting calculations (tons/month and tons/year).
- d. The Permittee shall keep the following records for the source:
 - i. The total LFG flow to the flare system (scf/month).
 - ii. Emissions of SO₂ from the source (tons/month and tons/year) with supporting documentation and calculations.
- 10. All 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.

- 11a. The Permittee shall comply with the applicable reporting requirements of the NESHAP, 40 CFR 63 Subparts A and AAAA.
 - 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, and a description of the deviation or violation and efforts/activities taken to reduce emissions and future occurrences.
12. In the event that the operation of the LFG collection and control systems results in an odor nuisance or any other nuisance due to the operation of the flare or through any other cause, the Permittee shall take all appropriate and necessary action, including but not limited to, changes in operating procedures or installation of air pollution control equipment, in order to eliminate the nuisance.
13. Two copies of required reports and notifications shall be sent to the Illinois EPA's compliance section at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one copy shall be sent to the Illinois EPA's regional office at the following address:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

14. The Permittee may operate the affected flare and the existing open flare(s) pursuant to this construction permit until the CAAPP permit for the source is revised to address the affected flare and the modification to the existing open flare(s) authorized in this permit.

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If you have any questions on this, please call Kunj Patel at 217/782-2113.

Edwin C. Bakowski, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

ECB:CPR:KMP:jws

cc: Region 1