



## DEPARTMENT OF NATURAL RESOURCES

## MISSOURI AIR CONSERVATION COMMISSION

## PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 11 2008 - 005 Project Number: 2008-08-030

Parent Company: Waste Corporation of Missouri, Inc.

Parent Company Address: 2120 W. Bennett St., Springfield, MO 65807

Installation Name: Black Oak Recycling & Disposal Facility

Installation Address: P.O. Box 277, Hartville, MO 65667

Location Information: Wright County, S3, T29N, R14W

Application for Authority to Construct was made for:

The construction of a 3,000 standard cubic feet per minute (SCFM) flare manufactured by Landfill Gas Specialties and a Houston Services Industries blower rated at 2,000 SCFM to extract landfill gas (LFG) from the site and route it to the flare. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.



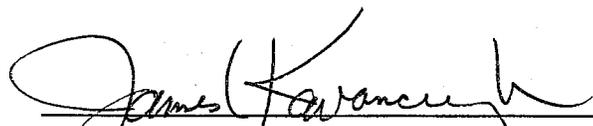
Standard Conditions (on reverse) are applicable to this permit.



Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

NOV 12 2008

EFFECTIVE DATE

  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

**You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review.** In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (6) REVIEW

Project Number: 2008-08-030  
Installation ID Number: 229-0022  
Permit Number:

Black Oak Recycling & Disposal Facility  
P.O. Box 277  
Hartville, MO 65667

Complete: August 22, 2008

Parent Company:  
Waste Corporation of Missouri, Inc.  
2120 W. Bennett St.  
Springfield, MO 65807

Wright County, S3, T29N, R14W

REVIEW SUMMARY

- Black Oak Recycling & Disposal Facility has applied for authority to construct a 3,000 SCFM flare manufactured by Landfill Gas Specialties and a Houston Services Industries blower rated at 2,000 SCFM to extract LFG from the site and route it to the flare.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment.
- Subpart WWW of the New Source Performance Standards (NSPS) *Standards of Performance for Municipal Solid Waste Landfills*, applies to the landfill. Subpart A, Section 60.18, General Control Device Requirements, applies to the flare.
- The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart AAAA, National Emission Standards for Hazardous Air Pollutants: *Municipal Solid Waste Landfills*, applies to the installation. None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) applies.
- A gas collection system and flare are being installed to control landfill emissions.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of CO are above de minimis.
- This installation is located in Wright County, an attainment area for all criteria air pollutants.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].

- Ambient air quality modeling was performed to determine the ambient impact of Carbon Monoxide (CO).
- Emissions testing is required as outlined in NSPS, Subpart WWW, *Standards of Performance for Municipal Solid Waste Landfills*. Other testing may be required per other applicable NSPS or MACT requirements.
- A revision to your Part 70 Operating Permit is required for this installation within one year of equipment startup.
- Approval of this permit is recommended without special conditions.

### INSTALLATION DESCRIPTION

The typical operation of the landfill is to place municipal solid waste (MSW) hauled usually by truck in a quarter-acre active area and compact it with heavy equipment to reduce the volume of the waste. The compacted waste is then covered on a routine basis with soil obtained from onsite. Decomposing waste encapsulated within the landfill produces landfill gas that is primarily composed of methane, carbon dioxide, and other non-methane organic compounds (NMOCs). Landfill gas also contains small amounts of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). Particulate matter (PM) emissions also occur while the landfill is in operation due to vehicular travel on paved and unpaved roads on installation property, as well as from wind erosion on storage piles and earth-moving activities onsite.

Black Oak Recycling & Disposal Facility is a MSW landfill that opened in 1995. Waste Corporation of Missouri, Inc. operates Black Oak Recycling & Disposal Facility, a MSW landfill facility consisting of a combined 9.16 million cubic meter (m<sup>3</sup>) capacity located near Hartville, Missouri.

The Hartville landfill opened in 1988 and closed in 1996. The original landfill had a capacity of 0.3 million m<sup>3</sup> with three (3) phases, which were closed September 1996. There are three (3) passive odor control candlestick flares with solar igniters on Phase I and two (2) flares each on Phase II and Phase III. Tier 2 testing has been done on the closed sections. The 1998 site specific non-methane organic compounds (NMOC) emissions were less than 50 Mg/yr.

The Black Oak lateral expansion (8.86 million m<sup>3</sup>) opened in 1995, with ten phases. The active landfill section (Black Oak) has five passive odor control flares. Tier II testing has been performed on the expansion sections. Black Oak reported NMOC emissions in excess of 50 Mg/yr in May of 2006.

At maximum design capacity, Black Oak Recycling & Disposal Facility will be a major source of municipal solid waste landfill emissions (measured as NMOCs) and HAPs and is subject to 40 CFR 60 Subpart WWW – *Standards of Performance for Municipal Solid Waste Landfills* and 40 CFR 63 Subpart AAAA- National Emission Standards for Hazardous Air Pollutants: *Municipal Solid Waste Landfills*.

The following permits have been issued to Black Oak Recycling & Disposal Facility from the Air Pollution Control Program.

Table 1: Permits Issued to Black Oak Recycling & Disposal Facility 229-0022.

Permit Number	Description
OP1999-099	Operating Permit Sanitary Landfill
Project 1998-02-0224	Portable crushing plant Temp Permit Section 3
OP1999-099A	New Responsible Official 9/24/1999
OP	New Responsible Official 4/11/2002
OP 2006-098	Operating Permit Sanitary Landfill renewal
042006-013	Increase design capacity section 3

The Air Pollution Control Program issued a temporary installation permit under Section 3 to Freesen Inc. to operate a rock crushing operation on the site. A Part 70 Operating Permit (Permit Number OP 1999-099) was issued for the installation on July 21, 1999. In addition, a Part 70 Operating Permit Renewal application was received on April 2, 2004. This permit was completed on December 29, 2006 and expires on December 28, 2011.

### PROJECT DESCRIPTION

A newly installed gas collection and control system (GCCS) will route LFG generated by waste through a piping system to the flare for combustion. The flare and blower will be located at the southeast corner of the landfill property. The new flare is a 3,000 SCFM while the blower is 2,000 SCFM. The blower unit effectively limits the flow rate to the flaring system.

### EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 2.4, 1998. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year.) The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2007 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM <sub>10</sub>	15.0	N/D	29.64	4.47	N/A
SO <sub>x</sub>	40.0	N/D	0.63	4.34	N/A
NO <sub>x</sub>	40.0	N/D	1.80	10.51	N/A
VOC	40.0	N/D	13.34	5.53	N/A
CO	100.0	N/D	36.95	197.10	N/A
HAPs	10.0/25.0	N/D	2.00	0.14	N/A

N/A = Not Applicable; N/D = Not Determined.

## PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of Carbon Monoxide (CO) are above de minimis levels.

## APPLICABLE REQUIREMENTS

Black Oak Recycling & Disposal Facility shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information, 10 CSR 10-6.110*  
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *Operating Permits, 10 CSR 10-6.065*
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin, 10 CSR 10-6.170*
- *Restriction of Emission of Visible Air Contaminants, 10 CSR 10-6.220*
- *Restriction of Emission of Odors, 10 CSR 10-3.090*

### SPECIFIC REQUIREMENTS

- *New Source Performance Regulations, 10 CSR 10-6.070 – New Source Performance Standards (NSPS) for Municipal Solid Waste Landfills, 40 CFR Part 60, Subpart WWW*
- *New Source Performance Regulations, 10 CSR 10-6.070 –General Provisions, 40 CFR Part 60, Subpart A, Section 60.18, General Control Device Requirements*
- *Maximum Achievable Control Technology (MACT) Regulations, 10 CSR 10-6.075, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills, 40 CFR Part 63, Subpart AAAA*

## AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling was performed to determine the ambient impact of Carbon Monoxide (CO) because the potential emissions are greater than de minimis levels.

Table 3: Ambient Impact

Pollutant	Modeled Impact $\mu\text{g}/\text{m}^3$	NAAQS $\mu\text{g}/\text{m}^3$	Time Period
CO	18.26	40,000	1 - Hour Average
CO	12.78	10,000	8 - Hour Average

The modeling indicates compliance of National Ambient Air Quality Standards. The analysis was conducted utilizing the U.S. EPA Screen 3 model assuming simple, flat terrain with full meteorology and no building down wash.

### STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted without special conditions.

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Timothy Paul Hines  
Environmental Engineer

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Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated 08/11/2008, received 08/15/2008 designating Waste Corporation of Missouri, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southwest Regional Office Regional Office Site Survey, dated August 25, 2008.

Mr. Chris Landoll  
Regional Engineer  
Black Oak Recycling & Disposal Facility  
P.O. Box 277  
Hartville, MO 65667

RE: New Source Review Permit - Project Number: 2008-08-030

Dear Mr. Landoll:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.

Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance.

The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Timothy Paul Hines at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:tphk

Enclosures

c: Southwest Regional Office  
PAMS File: 2008-08-030

Permit Number: