STATE OF MISSOURI

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: 062014-009 Project Number: 2014-02-061
Installation Number: 229-0022

Parent Company: Black Oak Power Producers, LLC
Parent Company Address: 10600 Nations Ford Road Suite 150, Charlotte, NC 28273
Installation Name: Black Oak Power Producers, LLC
Installation Address: 5054 Highway HH, Hartville, MO 65667
Location Information: Wright County, S3, T29N, R14W

Application for Authority to Construct was made for:

The installation of two reciprocating internal combustion engines (EU-01 and EU-02) fueled exclusively by landfill gas (LFG). 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.

JUN 25 2014
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 Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. 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 these air contaminant sources.

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 sources(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.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. “Conditions required by permitting authority.”

Black Oak Power Producers, LLC
Wright County, S3, T29N, R14W

1. Performance Testing Requirements
   A. Black Oak Power Producers, LLC shall perform initial and subsequent performance tests on both engines (EU-01 and EU-02) to ensure that the NO\textsubscript{X}, VOC and CO emissions do not exceed the levels given below in Table 1.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Limit (in g/bhp-hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\textsubscript{X}</td>
<td>0.75</td>
</tr>
<tr>
<td>VOC</td>
<td>1.0</td>
</tr>
<tr>
<td>CO</td>
<td>3.0</td>
</tr>
</tbody>
</table>

1) Black Oak Power Producers, LLC shall perform stack tests to ensure that the emission rates in Table 1 are not exceeded.
   a) One 3-run test set shall be conducted for each engine with the emission units operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate given below in Table 2.
   b) If it is impractical to test at the permitted capacity, the tests can be performed at less than the maximum permitted capacity, but subsequent engine operation shall be limited to 110 percent of the tested rate until new tests are performed. Once the engine is so limited, operation at higher capacities is allowed for no more than 15 total days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

<table>
<thead>
<tr>
<th>Engine Power (in bhp)</th>
<th>Generator Power (in eKW)</th>
<th>LFG Firing Rate (scfm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,741</td>
<td>1966</td>
<td>607</td>
</tr>
</tbody>
</table>
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

2) The tests shall be completed in accordance with the procedures outlined in Special Condition 1 and 40 CFR 60 Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

B. The initial tests shall be performed within 60 days after achieving the maximum production rate of the engines, but not later than 180 days after initial start-up. The subsequent tests shall be performed for each engine after every 8,760 hours of operation or every three years from the date of the previous test, whichever comes first, thereafter.

C. A completed proposed test plan form (enclosed) shall be submitted to the Air Pollution Control Program 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The proposed test plan may serve the purpose of notification and shall be approved by the Director prior to conducting the required performance tests.

D. Two Copies of a written report of the performance test results shall be submitted to the Air Pollution Control Program within 60 days after completion of the tests. The report must include legible copies of the raw data sheet, analytical instrument laboratory data, and complete sample calculations from the required EPA method for at least one sample run.

E. The test report is to fully account for all operational and emission parameters addressed in the permit conditions as well as in any other applicable state or federal rules or regulations.

F. If the performance tests indicate that the emissions of NOx, VOC or CO are greater than the limit in Special Condition 1.A., Black Oak Power Producers, LLC shall evaluate what effects the differences would have on the permit applicability of this project. Black Oak Power Producers, LLC shall submit the results of any such evaluation to the Air Pollution Control Program within 30 days of submitting the report required in Special Condition 1.D. of this permit.
REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW
Project Number: 2014-02-061
Installation ID Number: 229-0022
Permit Number:

Black Oak Power Producers, LLC Complete: February 25, 2014
5054 Highway HH
Hartville, MO 65667

Parent Company:
Black Oak Power Producers, LLC
10600 Nations Ford road Suite 150
Charlotte, NC 28273

Wright County, S3, T29N, R14W

REVIEW SUMMARY

- Black Oak Power Producers, LLC has applied for authority to construct two reciprocating
  internal combustion engines (EU-01 and EU-02) fueled exclusively by LFG from the Black
  Oak Landfill.

- HAP emissions are expected from the incomplete combustion of LFG. Also, HAP
  emissions are generated by the landfill and reduced by varying efficiencies by the engines.

- 40 CFR 60 Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal
  Combustion Engines, of the NSPS applies to the LFG engines.

- None of the NESHAPs apply to this installation.

- 40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for
  Stationary Reciprocating Internal Combustion Engines, of the MACT applies to the LFG
  engines.

- The engines reduce VOC, NMOC, HAPs, and CH₄ collected from the landfill, but generate
  PM₂.₅, PM₁₀, PM₂.₅, SOₓ, NOₓ, VOC, CO, CO₂, HAPs and other products of combustion.

- 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
  the de minimis level but below the major source level.

- This installation is located in Wright County, an attainment area for all criteria pollutants.

- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B),
  Table 2. The installation's major source level is 250 tons per year and fugitive emissions
  are not counted toward major source applicability.
• Ambient air quality modeling was performed to determine the ambient impact of CO.

• Emissions testing is required for the equipment.

• The Air Pollution Control Program allows different operations within a single source to obtain separate operating permits, as long as the operating permits are the same type (e.g. basic, intermediate, or Part 70). Therefore, the Air Pollution Control Program will issue a separate Part 70 Operating Permit, apart from the Part 70 Operating Permit already issued to the Black Oak Landfill (OP2013-018), to the LFG generators, if requested by Black Oak Power Producers, LLC. The Part 70 Operating Permit application must be submitted within one year of equipment startup.

• Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

The Waste Corporation of Missouri, Inc. (WCM) owns and operates the Black Oak Landfill in Hartville. A separate company, The Black Oak Power Producers, LLC (BOPP), will be constructing the two generators that use the LFG from the landfill as fuel. Although the generators will be built, owned, and operated, by a separate company, the two operations are considered part of the same installation.

In order to determine whether the BOPP and WCM should be considered the same installation, the relevant PSD regulations identify three criteria that must be met.

1. Whether the facilities are located on one or more contiguous or adjacent properties;
2. Whether the facilities are under common control; and
3. Whether the facilities share the same two-digit (major group) standard industrial classification code (SIC), or if one facility can be considered a support facility to the other.

Since BOPP will be located at the landfill, it is considered to be located on a contiguous property. Both operations are also under the same two-digit SIC code of 40, pertaining to electric, gas, and sanitary services. This leaves the remaining issue of common control. In assessing common control, the definition goes beyond whether the operations are owned by the same company. Common control can also be established if an entity has the power to direct or cause the direction of the management and policies of another entity. This direction can be the results of things such as ownership of stock, voting rights, by the existence of a contract, lease or other types of agreement between the facilities, or through other means. Your application states that BOPP has a long term Gas Rights Agreement, as well as Site License Agreement from WCM. Based on these agreements, as well as the dependency of BOPP on WCM for fuel, BOPP is considered to be under common control with WCM.

In its last Part 70 Operating Permit review, the installation-wide potential emissions were calculated and the Air Pollution Control Program determined that the potential emissions of CO
are greater than the major source level of 250 tpy (at 307.5 tpy). However, the emissions were calculated assuming that all of the flares at the landfill are in operation and using the capacity of the flare as the LFG flow rate. During the review for this project, it was determined that when the landfill added a 3,000 scfm flare, permitted in 2008 through permit no. 112008-005, it shut off all other flares and diverted all the LFG to the 3,000 scfm flare. Furthermore, the 3,000 scfm has a 2,000 scfm blower that limits the amount of flow through the flare. Potential emissions from the landfill were re-calculated using the design rate of 2,000 scfm and all emissions were calculated to be less than major source levels, except for GHG-Mass and GHG-CO\textsubscript{2e}. The GHG-mass emissions are greater than 250 tpy and the GHG-CO\textsubscript{2e} emissions are greater than 100,000 tpy.

The following New Source Review permits have been issued to the Black Oak Landfill.

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-02-0224</td>
<td>Temporary permit for rock crushing plant</td>
</tr>
<tr>
<td>042006-013</td>
<td>Landfill Expansion</td>
</tr>
<tr>
<td>112008-005</td>
<td>Installation of a 3,000 scfm flare with a 2,000 scfm blower</td>
</tr>
</tbody>
</table>

**PROJECT DESCRIPTION**

BOPP proposes to construct two reciprocating internal combustion engines (EU-01 and EU-02) that uses LFG from the Black Oak Landfill as fuel. The electricity generated by BOPP will be sold to a local electric utility. The engines are identical, 2,741 horsepower engines.

BOPP plans to install a landfill gas treatment system that meets the requirements of the standards of performance for municipal solid waste landfills, 40 CFR 60.752(b)(s)(iii)(c), to treat the collected LFG prior to combustion in the engine generators. The treatment system is considered an inherent step within the waste to energy process and does not emit any air pollutants. Therefore, it is not required by a permit special condition.

**EMISSIONS/CONTROLS EVALUATION**

Emissions expected from the combustion of the LFG include PM\textsubscript{2.5}, PM\textsubscript{10}, PM, SO\textsubscript{X}, NO\textsubscript{X}, VOC, CO, HAPs, N\textsubscript{2}O and CO\textsubscript{2}. There will also be CO\textsubscript{2} from the LFG, residual CH\textsubscript{4} emissions from the fuel carbon that were not converted to CO\textsubscript{2}, and NMOC emissions from the LFG that were reduced by the engines. PM\textsubscript{2.5}, PM\textsubscript{10} and PM emissions were calculated using the emission factors from WebFIRE, SCC Code 50100421, *Waste Gas Recovery: Internal Combustion Device*. SO\textsubscript{X} emissions were calculated using mass balance assuming a 150 ppmv SO\textsubscript{X} concentration from the LFG. The default value for SO\textsubscript{X} concentration in EPA document AP-42, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition, Chapter 2.4, *Municipal Solid Waste Landfills*, (11/98) is 46.9 ppmv. To be conservative, the company suggested using a value of 150 ppmv.

VOC emissions were calculated using the emissions limit in NSPS Subpart JJJJ (1.0 g/bhp-hr). CO and NO\textsubscript{X} emissions were calculated using the emission factor of 3.0 g/bhp-hr and 0.75 g/bhp-hr, respectively, which was suggested by the company. These emission factors are
lower than the limits in NSPS Subpart JJJJ. The facility suggested these values to avoid being a major source for CO and to avoid modeling requirements for NOX. BOPP shall perform stack testing, as required in Special Condition 1 of this permit, to ensure that the NOX, VOC and CO emissions do not exceed these values. The tests shall be performed at the permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate given in Table 2. No other loading is required to be tested. The emission factors, on a per horsepower basis (e.g. g/bhp-hr), may be greater at lower loadings. However, at lower loadings, the horsepower would be lower, and the overall calculated emissions would not be greater than operating at full loading. NMOC emissions were calculated assuming that 85% of the VOC were NMOC, in accordance with AP-42 value. HAPs emissions were calculated using emission factors from AP-42, Chapter 2.4.

CO2 emissions include the portion from the combustion of the LFG and the portion already contained in the LFG. The portion already in the LFG were calculated assuming a 45% CO2 content in the LFG. AP-42, Chapter 2.4, assumes a 55% CH4 content in the LFG. It was assumed that the remainder would be CO2. CO2 emissions from the combustion of the LFG were calculated using both mass balance and the emission factor given in 40 CFR 98, Table C-1, and the higher value was used for this permit evaluation. CH4 and N2O emissions were calculated using the emission factor in 40 CFR 98, Table C-1. GHG-mass emissions were calculated by summing the CO2, CH4, and N2O emissions. GHG-CO2 emissions were calculated by multiplying the CO2, CH4, and N2O emissions by their respective Global Warming Potential and summing the results.

The CO emissions were calculated to be greater than their respective de minimis levels and therefore, ambient impact analysis was performed for each pollutant. More information regarding the ambient impact analysis is included in the “Ambient Air Quality Impact Analysis” portion of this permit.

Table 4 below provides an emissions summary for this project. Existing potential emissions were recalculated as part of this permit review and includes equipment at the landfill. The haul roads were not included in this calculation. The Air Pollution control Program does not have any information on the haul roads at the landfill. However, since this is not a named installation, fugitive emissions are not counted toward major source applicability. Therefore, haul road emissions will not have an effect on this review. Existing actual emissions were taken from the landfill’s 2013 EIQ, and do include actual emissions from the haul roads, leading to a higher existing actual emissions for PM10 than potential emissions. Potential emissions of the application represent the potential of the two LFG engines, assuming continuous operation (8760 hours per year).
Table 4: Emissions Summary (tons per year)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>1.22</td>
<td>N/D</td>
<td>8.42</td>
<td>N/A</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>15.0</td>
<td>4.91</td>
<td>13.98</td>
<td>8.42</td>
<td>N/A</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>10.0</td>
<td>4.91</td>
<td>4.10</td>
<td>8.42</td>
<td>N/A</td>
</tr>
<tr>
<td>SOx</td>
<td>40.0</td>
<td>12.92</td>
<td>2.47</td>
<td>7.84</td>
<td>N/A</td>
</tr>
<tr>
<td>NOx</td>
<td>40.0</td>
<td>11.56</td>
<td>7.07</td>
<td>39.7</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>60.86</td>
<td>21.76</td>
<td>52.94</td>
<td>N/A</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>&quot;216.81</td>
<td>132.64</td>
<td>158.81</td>
<td>N/A</td>
</tr>
<tr>
<td>GHG (CO$_2$e)</td>
<td>75,000</td>
<td>&quot;166,704.7</td>
<td>N/D</td>
<td>36,833.45</td>
<td>N/A</td>
</tr>
<tr>
<td>GHG (mass)</td>
<td>0</td>
<td>&quot;105,516.6</td>
<td>N/D</td>
<td>36,527.96</td>
<td>N/A</td>
</tr>
<tr>
<td>HAPs</td>
<td>10.0/25.0</td>
<td>10.16</td>
<td>N/D</td>
<td>2.5</td>
<td>N/A</td>
</tr>
<tr>
<td>NMOC</td>
<td>50.0</td>
<td>71.6</td>
<td>N/D</td>
<td>62.28</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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

Note 1: To trigger PDS for GHG, both GHG-CO$_2$ and GHG-mass must be greater than the regulatory significance levels. For this project, only the GHG-mass emissions are greater than the significance level.

Note 2: The existing PTE for CO and GHG were calculated based on the design rate of the blower for the flare and not the maximum LFG generation rate.

The existing potential emissions for CO, GHG-Mass, and GHG-CO$_2$e were calculated using the maximum design rate of the blower for the flare (i.e. 2,000 scfm). The fugitive portion of the GHG-Mass and GHG-CO$_2$e were also back-calculated from the 2,000 scfm, assuming a 75% capture efficiency, which is the recommended value used by the EPA. This method was used because the Air Pollution Control Program does not have information regarding the amount of waste hauled to the landfill and therefore, was not able to estimate emissions based on the maximum LFG generation rate. This was also the method recommended for use by the landfill when it permitted the flare (Permit No. 112008-005). With this calculation method, adding emissions from this project would cause the CO emissions to be greater than 250 tpy, making this installation a major source. The installation would also be a major source for GHG. However, this method overestimates emissions as it assumes that all of the 2,000 scfm are LFG, instead of using the maximum LFG generation rate based on the amount of waste placed at the landfill. This does not affect the type of permit that should be issued with this project and therefore, the facility’s major source status was not investigated further. In future projects, the installation may request a re-evaluation of its existing potential emissions for major source applicability.

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 CO are above its de minimis level but below the major source level.
APPLICABLE REQUIREMENTS

Black Oak Power Producers, LLC 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. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- **Submission of Emission Data, Emission Fees and Process Information,** 10 CSR 10-6.110
- **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 10-6.165

SPECIFIC REQUIREMENTS

- **Restriction of Emission of Particulate Matter From Industrial Processes,** 10 CSR 10-6.400, does not apply to the engines because they are fueled exclusively by a gaseous fuel and air introduced for purpose of combustion, and therefore, do not meet the definition of process weight according to 10 CSR 10-6.020(2)(P).

- **New Source Performance Regulations,** 10 CSR 10-6.070
  - **Standards of Performance for Stationary Spark Ignition Internal Combustion Engines,** 40 CFR Part 60, Subpart JJJJ

- **MACT Regulations,** 10 CSR 10-6.075
  - **National Emission Standards for Hazardous Air Pollutants for stationary Reciprocating Internal Combustion Engines,** 40 CFR Part 63, Subpart ZZZZ.

- **Restriction of Emission of Sulfur Compounds,** 10 CSR 10-6.260

AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient Air Quality Impact Analysis (AAQIA) was performed for CO because its emissions are greater than the *de minimis* level of 100 tpy. When modeling is performed, if the ambient impact from the stacks related to the project show compliance with the significance levels, then no further modeling is required. If the ambient impact from the stacks related to the project are modeled to be higher than the significance levels, then modeling must be performed for the
entire installation. Results from the modeling analysis show that the ambient impacts of CO from the engines are less than the significance levels.

The AAQIA was performed using EPA program AERSCREEN. The distance from the engine to the nearest property boundary will be greater than 500 feet. Table 5 below gives a summary of the stack parameter entered into AERSCREEN while Table 6 gives a summary of the modeling results.

### Table 5: Stack Parameters

<table>
<thead>
<tr>
<th>Stack Height (ft)</th>
<th>Stack Diameter (ft)</th>
<th>Temperature (°F)</th>
<th>Exit Velocity (ft/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.42</td>
<td>1.5</td>
<td>933</td>
<td>153.46</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flare Height (ft)</th>
<th>Heat Release Rate (cal/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>4.643 x 10^6</td>
</tr>
</tbody>
</table>

### Table 6: AAQIA Results for CO

<table>
<thead>
<tr>
<th>Modeled Impact</th>
<th>Insignificant Level (µg/m³)</th>
<th>NAAQS (µg/m³)</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>263.5</td>
<td>2,000</td>
<td>40,000</td>
<td>1-hour</td>
</tr>
<tr>
<td>237.2</td>
<td>500</td>
<td>10,000</td>
<td>8-hour</td>
</tr>
</tbody>
</table>

**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 with special conditions.

_______________________________   ________________________________
Chia-Wei Young Date
New Source Review Unit

**PERMIT DOCUMENTS**

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 14, 2014, received February 25, 2014, designating Black Oak Power Producers, LLC as the owner and operator of the installation.

%............. percent
°F .......... degrees Fahrenheit
acfm........ actual cubic feet per minute
BACT...... Best Available Control Technology
BMPs...... Best Management Practices
Btu......... British thermal unit
CAM....... Compliance Assurance Monitoring
CAS........ Chemical Abstracts Service
CEMS..... Continuous Emission Monitor System
CFR.......... Code of Federal Regulations
CO......... carbon monoxide
CO₂......... carbon dioxide
CO₂e....... carbon dioxide equivalent
COMS..... Continuous Opacity Monitoring System
CSR........ Code of State Regulations
dscf........ dry standard cubic feet
EIQ.......... Emission Inventory Questionnaire
EP .......... Emission Point
EPA......... Environmental Protection Agency
EU......... Emission Unit
fps......... feet per second
ft .......... feet
GACT...... Generally Available Control Technology
GHG....... Greenhouse Gas
gpm........ gallons per minute
gr .......... grains
GWP ...... Global Warming Potential
HAP....... Hazardous Air Pollutant
hr ........... hour
hp......... horsepower
lb.......... pound
lbs/hr...... pounds per hour
MACT..... Maximum Achievable Control Technology
µg/m³....... micrograms per cubic meter
m/s ........ meters per second
Mgal ...... 1,000 gallons
MW ........ megawatt
MHDR..... maximum hourly design rate
MMBtu.... Million British thermal units
MMCF...... million cubic feet
MSDS ...... Material Safety Data Sheet
NAAQS... National Ambient Air Quality Standards
NESHAPs........ National Emissions Standards for Hazardous Air Pollutants
NOₓ........ nitrogen oxides
NSPS ...... New Source Performance Standards
NSR....... New Source Review
PM .......... particulate matter
PM₂.₅ ...... particulate matter less than 2.5
           microns in aerodynamic diameter
PM₁₀ ...... particulate matter less than 10
           microns in aerodynamic diameter
ppm ...... parts per million
PSD........ Prevention of Significant Deterioration
PTE....... potential to emit
RACT...... Reasonable Available Control Technology
RAL....... Risk Assessment Level
SCC........ Source Classification Code
scfm....... standard cubic feet per minute
SIC......... Standard Industrial Classification
SIP......... State Implementation Plan
SMAL .... Screening Model Action Levels
SOₓ........ sulfur oxides
SO₂....... sulfur dioxide
tph........ tons per hour
ty........... tons per year
VMT....... vehicle miles traveled
VOC....... Volatile Organic Compound
Mr. William Brinker  
Manager of LLC  
Black Oak Power Producers, LLC  
10600 Nations Ford Road Suite 150  
Charlotte, NC 28273  

RE: New Source Review Permit - Project Number: 2014-02-061  

Dear Mr. Brinker:  

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. 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 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 Chia-Wei Young, at the Department of Natural Resources’ Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.  

Sincerely,  

AIR POLLUTION CONTROL PROGRAM  

Susan Heckenkamp  
New Source Review Unit Chief  

SH:cyl  

Enclosures  

PAMS File: 2014-02-061  

Permit Number:

Celebrating 40 years of taking care of Missouri’s natural resources.  
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