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: 12 2012-010

Project Number: 2011-08-043

Installation Number: 037-0072

Parent Company: QuikTrip Corporation

Parent Company Address: 4705 S 129th E Ave, Tulsa, OK 74134

Installation Name: QuikTrip Kitchen and Distribution

Installation Address: 822 QuikTrip Way, Belton, MO 64012

Location Information: Cass County, S1 &S12, T46N, R33W

Application for Authority to Construct was made for:
Electric generators and bakery operations. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, Construction Permits Required.

[Box Ticked]
Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

DEC 24 2012

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.”_

QuikTrip Kitchen and Distribution  
Cass County, S1 &S12, T46N, R33W

1. NO\textsubscript{X} Emission Limitation  
   A. QuikTrip Kitchen and Distribution shall emit less than 40.0 tons of NO\textsubscript{X} in any consecutive 12-month period from the entire installation (Tables 1, 2, and 3).
   
   B. Attachments A and B or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 1.A.

2. Fuel Requirement  
   A. QuikTrip Kitchen and Distribution shall exclusively combust diesel fuel meeting the requirements of 40 CFR 80.510(b) for nonroad diesel (i.e. not exceeding 15 parts per million sulfur (ultra-low sulfur diesel fuel)) in Engines 1, 2, and 4 (EU-01, EU-02, and EU-04, respectively).
   
   B. QuikTrip Kitchen and Distribution shall demonstrate compliance with Special Condition 2.A. by obtaining the sulfur content of the diesel for each diesel delivery from the fuel vendor or conduct their own fuel analysis to evaluate the sulfur content weight percent of the diesel.

3. Control Device Requirement – Engines 1 and 2  
   QuikTrip Kitchen and Distribution shall control emissions from each Engine 1 (EU-01) and Engine 2 (EU-02) per 40 CFR 63 Subpart ZZZZ. As currently promulgated, the compliance date for these engines is May 3, 2013.

4. Control Device Requirement - Crankcase Ventilation  
   QuikTrip Kitchen and Distribution shall install and operate either a closed crankcase ventilation system or open crankcase filtration ventilation emission control system on each EU-01 and EU-02, per 40 CFR Part 63 Subpart ZZZZ.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

5. Operational Requirement – Engine 3 (EU-03)
   Engine 3 shall exclusively be operated under the definition of emergency, per the most recent 40 CFR 63 Subpart ZZZZ.

6. Operational Requirement – Table 2
   The emission units in Table 2 shall be fired exclusively with natural gas.

7. Performance Testing
   A. QuikTrip Kitchen and Distribution shall conduct initial and subsequent performance testing on each EU-01 and EU-02 for CO emissions.
   
   B. These tests shall be performed within timeframes and procedures established in 40 CFR Part 63 Subpart ZZZZ.
   
   C. QuikTrip Kitchen and Distribution shall submit a copy of the notification of intent to conduct a performance test and a copy of the notification of compliance status including test results to the Air Pollution Control Program when submitting these documents to EPA Region VII.

8. Record Keeping and Reporting Requirements
   A. QuikTrip Kitchen and Distribution shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include MSDS for all materials used.

   B. QuikTrip Kitchen and Distribution shall report to the Air Pollution Control Program’s Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.
REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW
Project Number: 2011-08-043
Installation ID Number: 037-0072
Permit Number:

QuikTrip Kitchen and Distribution Complete: August 22, 2011
822 QuikTrip Way
Belton, MO 64012

Parent Company:
QuikTrip Corporation
4705 S 129th E Ave
Tulsa, OK 74134

Cass County, S1 & S12, T46N, R33W

REVIEW SUMMARY

• QuikTrip Kitchen and Distribution has applied for authority to construct electric
generators and bakery operations.

• HAP emissions are expected from the combustion of diesel and natural gas.

• 40 CFR 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines applies to Engine 4.

• None of the NESHAPs under 40 CFR 61 applies to the project emission units.

• 40 CFR 63 Subpart ZZZZ, National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines applies to Engines 1, 2, 3, and 4.

• An oxidation catalyst will likely be used to control the CO emissions from Engine 1 and Engine 2 for compliance with MACT ZZZZ. However, the compliance date is May 3, 2013 and the engines are not required at the time of this permit’s issuance to meet MACT ZZZZ emission standards.

• This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of NOx are conditioned below the de minimis level. Potential emissions of PM\textsubscript{2.5} and CO are indirectly conditioned below respective de minimis levels.

• This installation is located in Cass 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 not performed since potential emissions of the application are conditioned below de minimis levels.

• Emission testing is required for Engine 1 and Engine 2 for MACT ZZZZ.

• No Operating Permit is required for this installation.

• Approval of this permit is recommended with special conditions.

**INSTALLATION DESCRIPTION**

QuikTrip Kitchen and Distribution is an industrial bakery and kitchen that prepares and distributes food to QuikTrip locations. The distribution portion commenced operation in 1987. The kitchen commenced operation in 2007. The installation includes four compression ignition (CI) reciprocating internal combustion engines (RICE) with electric generators, bakery operations, and haul roads. No permits have been issued to QuikTrip Kitchen and Distribution from the Air Pollution Control Program. The installation was inspected in 2011, where it was found that the engines were providing power under a peak shaving agreement.

**PROJECT DESCRIPTION**

No emission units are being installed under this permit. This permit is part of a corrective action to bring the installation into compliance with state and federal regulations. The project emission units are described in Tables 1, 2, and 3.

**Table 1: Project Emission Units – CI RICE**

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Description</th>
<th>'MHDR (MMBtu/ hr heat input)</th>
<th>MHDR (hp)</th>
<th>Commenced Construction</th>
<th>Subject to MACT ZZZZ?</th>
<th>Subject to NSPS III?</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU-01</td>
<td>Caterpillar 3508, model year 1988, 8 cylinder, total displacement 34.53 liters, generator set serial 1ZF00431</td>
<td>9.67</td>
<td>1,456</td>
<td>June 1988</td>
<td>Yes, existing</td>
<td>No</td>
</tr>
<tr>
<td>EU-02</td>
<td>Caterpillar 3412C, model year 1995, 12 cylinder, total displacement 27.0 liters, generator set serial 2W00477, 750 eKW</td>
<td>7.40</td>
<td>1,108</td>
<td>September 1995</td>
<td>Yes, existing</td>
<td>No</td>
</tr>
<tr>
<td>EU-03</td>
<td>Kohler generator set model 750ROZD4, Detroit engine model R123-7K36, engine model year 2001, 12 cylinders, total displacement 23.9 liters, nonroad Tier 1 certified, 750eKW</td>
<td>7.50</td>
<td>1,120</td>
<td>In service December 22, 2001</td>
<td>Yes, existing, emergency</td>
<td>No</td>
</tr>
<tr>
<td>EU-04</td>
<td>Caterpillar 3516C, model year 2006, 16 cylinders, total displacement 69.0 liters, nonroad Tier 2 certified, 2,500 eKW</td>
<td>23.54</td>
<td>3,633</td>
<td>November 2006</td>
<td>Yes, new</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Assumes ULSD higher heating value of 135,656 Btu/gal.
Engine 1 and Engine 2 will likely be retrofitted with oxidation catalysts to comply the MACT ZZZZ requirement to reduce CO emissions by at least 70%. However, their compliance date is May 3, 2013, and as of the date of this permit’s issuance the catalysts are not required. Engine 3 will remain for emergency use only, as defined in MACT ZZZZ. Engine 4 is subject to NSPS III, but is in compliance with the emission standards as it is certified under 40 CFR 89 for nonroad Tier 2. Engine 1 and Engine 2 are required by MACT ZZZZ §63.6604, which references 40 CFR 80.510(b), to combus nonroad diesel fuel. Nonroad diesel fuel is partially defined as not exceeding 15 parts per million sulfur. Engine 4 is required by NSPS III §60.4207(b), which also references 40 CFR 80.510(b), to combus nonroad diesel fuel. The engines draw fuel from common tanks, and as three of the four engines are required to combus fuel not exceeding 15 ppm sulfur, all four engines will likely combus fuel not exceeding 15 ppm sulfur. However, Engine 3 is not required to do so.

Table 2: Project Emission Units – Natural Gas Combustion

<table>
<thead>
<tr>
<th>Description</th>
<th>MHDR (MMBtu/hr heat input)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTU #1</td>
<td>0.78</td>
</tr>
<tr>
<td>RTU #2</td>
<td>0.78</td>
</tr>
<tr>
<td>RTU #3</td>
<td>0.78</td>
</tr>
<tr>
<td>RTU #4</td>
<td>0.54</td>
</tr>
<tr>
<td>RTU #5</td>
<td>0.54</td>
</tr>
<tr>
<td>RTU #6</td>
<td>0.069</td>
</tr>
<tr>
<td>RTU #7</td>
<td>0.069</td>
</tr>
<tr>
<td>RTU #8</td>
<td>0.18</td>
</tr>
<tr>
<td>Water Heater #1</td>
<td>0.399</td>
</tr>
<tr>
<td>Water Heater #2</td>
<td>0.399</td>
</tr>
<tr>
<td>Water Heater #3</td>
<td>0.399</td>
</tr>
<tr>
<td>Water Heater #4</td>
<td>0.199</td>
</tr>
<tr>
<td>Water Heater #5</td>
<td>0.199</td>
</tr>
<tr>
<td>Water Heater #6</td>
<td>0.199</td>
</tr>
<tr>
<td>Water Heater #7</td>
<td>0.199</td>
</tr>
<tr>
<td>Water Heater #8</td>
<td>0.075</td>
</tr>
<tr>
<td>Boiler #1</td>
<td>0.75</td>
</tr>
<tr>
<td>Oven #1</td>
<td>0.3</td>
</tr>
<tr>
<td>Oven #2</td>
<td>0.3</td>
</tr>
<tr>
<td>Oven #3</td>
<td>0.3</td>
</tr>
<tr>
<td>Oven #4</td>
<td>0.3</td>
</tr>
<tr>
<td>Oven #5</td>
<td>0.3</td>
</tr>
<tr>
<td>Oven #6</td>
<td>0.3</td>
</tr>
<tr>
<td>Fryer #1</td>
<td>0.36</td>
</tr>
<tr>
<td>Fryer #2</td>
<td>0.36</td>
</tr>
<tr>
<td>Fryer #3</td>
<td>0.36</td>
</tr>
<tr>
<td>Fryer #4</td>
<td>0.36</td>
</tr>
<tr>
<td>Tunnel Wash #1</td>
<td>0.62</td>
</tr>
<tr>
<td>Tunnel Wash #2</td>
<td>0.62</td>
</tr>
<tr>
<td>Tunnel Wash #3</td>
<td>0.62</td>
</tr>
<tr>
<td>Makeup Air Unit #1</td>
<td>0.73</td>
</tr>
<tr>
<td>Makeup Air Unit #2</td>
<td>0.73</td>
</tr>
<tr>
<td>Makeup Air Unit #3</td>
<td>0.73</td>
</tr>
<tr>
<td>Makeup Air Unit #4</td>
<td>0.55</td>
</tr>
<tr>
<td>Makeup Air Unit #5</td>
<td>0.55</td>
</tr>
<tr>
<td>Makeup Air Unit #6</td>
<td>0.55</td>
</tr>
<tr>
<td>Infrared Radiant Heater #1</td>
<td>0.06</td>
</tr>
<tr>
<td>Infrared Radiant Heater #2</td>
<td>0.03</td>
</tr>
<tr>
<td>Total</td>
<td>16.19</td>
</tr>
</tbody>
</table>
Baking ingredients are received in fifty pound bags and combined in batches. The ovens and fermentation emissions are not equipped with VOC control devices.

Table 3: Project Emission Units – Fermentation, Tanks, Haul Roads

<table>
<thead>
<tr>
<th>Description</th>
<th>MHDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baking</td>
<td>1,969.5 tons per year of bread products</td>
</tr>
<tr>
<td>Underground Diesel Tank 12,000 gallons capacity</td>
<td></td>
</tr>
<tr>
<td>Underground Diesel Tank 6,000 gallons capacity</td>
<td></td>
</tr>
<tr>
<td>Distribution Receiving Paved Haul Road</td>
<td>0.029 VMT/hr</td>
</tr>
<tr>
<td>Distribution Shipping Paved Haul Road</td>
<td>0.118 VMT/hr</td>
</tr>
<tr>
<td>Kitchen Receiving Paved Haul Road</td>
<td>0.010 VMT/hr</td>
</tr>
<tr>
<td>Kitchen Shipping Paved Haul Road</td>
<td>0.015 VMT/hr</td>
</tr>
</tbody>
</table>

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis for Engine 1 were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 3.4, *Large Stationary Diesel and All Stationary Dual-fuel Engines*, October 1996, except for CO and N\textsubscript{2}O. CO emissions were calculated using an emission rate supplied by the engine manufacturer, as it provided the most conservative rate.

The emission factors used in this analysis for Engine 2 were obtained from AP-42 Section 3.4, except for N\textsubscript{2}O.

The emission factors used in this analysis for Engine 3 were obtained from AP-42 Section 3.4 and 40 CFR 89 for Tier 1 (for PM, PM\textsubscript{10}, PM\textsubscript{2.5}, NO\textsubscript{x}, and CO). Where duplicate emission factors exist, 40 CFR 89 was used. The engine is to remain solely for emergency use as defined in MACT ZZZZ. An amendment to MACT ZZZZ to address emergency use has been proposed.

The emission factors used in this analysis for Engine 4 were obtained from AP-42 Section 3.4 and 40 CFR 89 for Tier 2 (for PM, PM\textsubscript{10}, PM\textsubscript{2.5}, NO\textsubscript{x}, and CO). Where duplicate emission factors exist, 40 CFR 89 was used.

Potential SO\textsubscript{x} emissions from engines 1, 2, and 4 were calculated using 15 ppm sulfur and AP-42 Section 3.4. SO\textsubscript{x} emissions from Engine 3 were calculated using 500 ppm sulfur. There is no sulfur content limit for Engine 3.

Each engine’s CO\textsubscript{2} and CH\textsubscript{4} emissions were calculated using emission factors in AP-42 instead of *Mandatory Reporting of Greenhouse Gases*, 40 CFR 98. The documents contain different GHG emission factors. According to the EPA document, *PSD and Title V Permitting for Greenhouse Gases*, March 2011, “AP-42 remains relevant for GHG emissions calculations and serves as the fundamental approach to estimating emissions for permitting applications, while the GHG reporting rule is focused on estimating and reporting actual emissions.” The AP-42 emission factors yield a more conservative emissions estimate and the purpose of this permit is to evaluate potential, not actual emissions. N\textsubscript{2}O emissions were calculated using 40 CFR 98, as factors don’t exist in AP-42.
The engines’ combined maximum hourly fuel consumption was used to determine the potential tank throughputs for input to EPA’s TANKS program, version 4.0.9d. The storage tanks are underground. Total potential VOC working losses are less than 0.01 tons per year.

Particulate matter emissions from ingredient mixing were considered negligible. The kitchen bakes bread products that undergo fermentation with yeast, thus emitting the VOC ethanol. It also bakes products that rise with baking soda, thus emitting negligible VOC emissions. Conservatively, VOC baking emissions were calculated assuming the total throughput as bread products requiring yeast.

Haul road PM, PM$_{10}$, and PM$_{2.5}$ potential emissions were calculated using AP-42 Section 13.2.1, *Paved Roads*, January 2011. Silt loading of 1.1 g/m$^2$ was selected. Silt loading testing is not required under this permit. Distribution road MHDR was calculated based upon applicant supplied weekly truck rates. Kitchen road MHDR was calculated based upon annual baking capacity.

The following table provides an emissions summary for this project. Existing potential emissions and actual emissions were not available as the installation has previously not been permitted nor submitted an emissions inventory questionnaire (EIQ).

Potential emissions of the application represent the potential of the all the emission units in Tables 1 through 3, assuming continuous operation (8,760 hours per year), except Engine 3 was calculated at 500 hours per year.

Since Tables 1 through 3 defines the entire installation, the potential emissions of the application are equal to the potential emissions of the installation. Conditioned potential emissions reflect a voluntary NO$_X$ limit to less than the de minimis level. Other emissions are indirectly reduced.

NO$_X$ limit compliance record keeping could be based upon hours of operation or fuel consumption. The engines have different NO$_X$ emission factors and emission rates. Since the engines draw fuel from common tanks, tracking total fuel consumption would cause inaccurate NO$_X$ actual emissions, especially if one engine was operated more than another. Fitting each engine with a fuel flow meter would correct this method, but requires capital investment. Diesel engines are typically fitted with hour meters. The peak shaving agreement is based upon hours of operation. Therefore, compliance record keeping is based upon individual hours of operation.
### Table 4: Emissions Summary (tons per year)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Regulatory De Minimis Levels</th>
<th>Existing Potential Emissions</th>
<th>Existing Actual Emissions (EIQ)</th>
<th>Potential Emissions of the Application</th>
<th>New Installation Conditioned Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>N/A</td>
<td>N/A</td>
<td>11.48</td>
<td>1.10</td>
</tr>
<tr>
<td>PM&lt;sub&gt;10&lt;/sub&gt;</td>
<td>15.0</td>
<td>N/A</td>
<td>N/A</td>
<td>10.37</td>
<td>0.99</td>
</tr>
<tr>
<td>PM&lt;sub&gt;2.5&lt;/sub&gt;</td>
<td>10.0</td>
<td>N/A</td>
<td>N/A</td>
<td>10.20</td>
<td>0.97</td>
</tr>
<tr>
<td>SO&lt;sub&gt;x&lt;/sub&gt;</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.41</td>
<td>0.04</td>
</tr>
<tr>
<td>NO&lt;sub&gt;x&lt;/sub&gt;</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>418.78</td>
<td>&lt; 40.0</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>11.52</td>
<td>1.10</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>N/A</td>
<td>N/A</td>
<td>173.48</td>
<td>16.57</td>
</tr>
<tr>
<td>HAPs</td>
<td>10.0/25.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.41</td>
<td>0.04</td>
</tr>
<tr>
<td>CO&lt;sub&gt;2&lt;/sub&gt;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>37,992.29</td>
<td>3,628.85</td>
</tr>
<tr>
<td>CH&lt;sub&gt;4&lt;/sub&gt;</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.62</td>
<td>0.15</td>
</tr>
<tr>
<td>N&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0.39</td>
<td>0.04</td>
</tr>
<tr>
<td>GHG (mass)</td>
<td>0/100/250</td>
<td>N/A</td>
<td>N/A</td>
<td>37,994.30</td>
<td>3,629.04</td>
</tr>
<tr>
<td>GHG (CO&lt;sub&gt;2&lt;/sub&gt;e)</td>
<td>75,000/100,000</td>
<td>N/A</td>
<td>N/A</td>
<td>38,147.31</td>
<td>3,643.65</td>
</tr>
</tbody>
</table>

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

**PERMIT RULE APPLICABILITY**

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of NO<sub>x</sub> are conditioned below the de minimis level. Potential emissions of PM<sub>2.5</sub> and CO are indirectly conditioned below respective de minimis levels.

**APPLICABLE REQUIREMENTS**

QuikTrip Kitchen and Distribution 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
- *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 applies to the engines. They are in compliance.

- *New Source Performance Regulations*, 10 CSR 10-6.070

- *MACT Regulations*, 10 CSR 10-6.075

- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260 applies to the engines. As engines 1, 2, and 4 combust diesel with sulfur content not exceeding 15 ppm they are in compliance. Engine 3 is not required to combust diesel limited to 15 ppm sulfur. Fuel sulfur content up to 5,000 ppm demonstrates compliance.

- *Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-6.405 applies to the water heaters and boiler in Table 2. As they combust exclusively natural gas, they are deemed in compliance.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

David Little
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 25, 2011, received August 15, 2011, designating QuikTrip Corporation as the owner and operator of the installation.


- Kansas City Regional Office Site Survey, dated September 7, 2011.
QuikTrip Kitchen and Distribution  
Cass County, S8, T60N, R14W  
Project Number: 2011-08-043  
Installation ID Number: 037-0072  
Permit Number: ________  

This sheet covers the period from ________ to _________. (Copy this sheet as needed.)

(month, year)  (month, year)

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month, Year</td>
<td>Emission Unit, Description</td>
<td>Operation (hr/month)</td>
<td>NO\textsubscript{X} Emission Rate (lb/hr)</td>
<td>NO\textsubscript{X} Emissions (lbs)</td>
</tr>
<tr>
<td>EU-01 CAT 3508</td>
<td>10</td>
<td>30.8744</td>
<td>308.74</td>
<td></td>
</tr>
<tr>
<td>EU-02 CAT 3412C</td>
<td>10</td>
<td>23.9112</td>
<td>239.11</td>
<td></td>
</tr>
<tr>
<td>EU-03 Kohler 750ROZD4</td>
<td>0</td>
<td>17.0373</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>EU-04 CAT 3516C</td>
<td>20</td>
<td>38.4451</td>
<td>768.90</td>
<td></td>
</tr>
</tbody>
</table>

SUM 1,316.76

| EU-01 CAT 3508 | 30.8744 |
| EU-02 CAT 3412C | 23.9112 |
| EU-03 Kohler 750ROZD4 | 17.0373 |
| EU-04 CAT 3516C | 38.4451 |

SUM

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| EU-02 CAT 3412C | 23.9112 |
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| EU-02 CAT 3412C | 23.9112 |
| EU-03 Kohler 750ROZD4 | 17.0373 |
| EU-04 CAT 3516C | 38.4451 |

SUM

A. Record the current month and year.
B. Engine and description.
C. Record each engine’s hours of operation for the current month.
D. NO\textsubscript{X} emission rate.
E. Calculate the engines’ NO\textsubscript{X} emissions. E = C x D. Sum the individual NO\textsubscript{X} emissions for the current month, for use in Attachment B.
## Attachment B – NOX Compliance Worksheet

QuikTrip Kitchen and Distribution  
Cass County, S8, T60N, R14W  
Project Number: 2011-08-043  
Installation ID Number: 037-0072  
Permit Number: ________

This sheet covers the period from ___________ to ___________. (Copy this sheet as needed.)

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month, Year</td>
<td>Natural Gas Consumption (MMCF)</td>
<td>Natural Gas NO(_X) Emission Factor (lbs/MMCF)</td>
<td>NO(_X) Emissions from Natural Gas (lbs)</td>
<td>NO(_X) Emissions from Attachment A (lbs)</td>
<td>Current Month NO(_X) Emissions (tons)</td>
<td>12-month NO(_X) Emissions (I) from Previous Month (tons)</td>
<td>1-month NO(_X) Emissions (F) from Previous 12-months (tons)</td>
<td>12-month NO(_X) Emissions (tons)</td>
</tr>
<tr>
<td>example</td>
<td>3.05</td>
<td>100.0</td>
<td>305.0</td>
<td>1,316.76</td>
<td>0.81</td>
<td>4.23</td>
<td>0.95</td>
<td>4.09</td>
</tr>
<tr>
<td>example</td>
<td>2.71</td>
<td>100.0</td>
<td>271.0</td>
<td>1,812.50</td>
<td>1.04</td>
<td>4.09</td>
<td>1.21</td>
<td>3.92</td>
</tr>
</tbody>
</table>

A. Record the current month and year.
B. Record the current month’s natural gas consumption.
C. Natural gas combustion NO\(_X\) emission factor.
D. Calculate the natural gas NO\(_X\) emissions. \(D = B \times C\).
E. Record the NO\(_X\) emissions from Attachment A.
F. Calculate the current month’s NO\(_X\) emissions. \(F = (D + E) / 2,000\).
G. Record the 12-month NO\(_X\) emissions (I) from the previous month.
H. Record the monthly NO\(_X\) emissions (F) from this month last year.
I. Calculate the current month’s NO\(_X\) emissions. \(I = F + G - H\). Total 12-month NO\(_X\) emissions less than 40.0 tons indicate compliance.
APPENDIX A

Abbreviations and Acronyms

% .......... 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
tpy ...... tons per year
VMT ...... vehicle miles traveled
VOC ...... Volatile Organic Compound
Mr. Jeremy Law  
Facility Support Team Leader  
QuikTrip Kitchen and Distribution  
822 QuikTrip Way  
Belton, MO 64012  

RE: New Source Review Permit - Project Number: 2011-08-043  

Dear Mr. Law:  

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 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 and your new source review permit application 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 David Little, 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:dl1  

Enclosures  

   c: Kansas City Regional Office  
      PAMS File: 2011-08-043  

Permit Number: