

STATE OF MISSOURI



PERMIT BOOK

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 2015 - 010

Project Number: 2015-05-033

Installation Number: 019-0053

Parent Company: The Kraft Heinz Company

Parent Company Address: Three Lakes Drive, Northfield, IL 60093-2753

Installation Name: Kraft Heinz Foods Company

Installation Address: 4600 Waco Road, Columbia, MO 65202-9335

Location Information: Boone County, S21, T49N, R12W

Application for Authority to Construct was made for:

The installation of a 32.7 million British thermal units per hour (mmBtu/hr) boiler (EP-15) and a 15.0 mmBtu/hr hot water heater (EP-16), both powered by natural gas, and new hot dog processing line (EP-17). This review was conducted in accordance with Section (5), 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.

*Daronn A. Williams*

Prepared by  
Daronn A. Williams  
New Source Review Unit

*Kyra L Moore*

Director or Designee  
Department of Natural Resources

NOV 30 2015

Effective Date

## 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.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2015-05-033  
Installation ID Number: 019-0053  
Permit Number:

Installation Address:  
Kraft Heinz Foods Company  
4600 Waco Road  
Columbia, MO 65202-9335

Parent Company:  
The Kraft Heinz Company  
Three Lakes Drive  
Northfield, IL 60093-2753

Boone County, S21, T49N, R12W

REVIEW SUMMARY

- Kraft Heinz Foods Company has applied for authority to install a 32.7 million British thermal units per hour (mmBtu/hr) boiler (EP-15) and a 15.0 mmBtu/hr hot water heater (EP-16), both powered by natural gas, and new hot dog processing line (EP-17).
- The application was deemed complete on May 12, 2015.
- HAP emissions are expected from the proposed equipment. HAPs emitted from this project are from natural gas combustion.
- None of the NESHAPs or currently promulgated MACT regulations apply to the proposed equipment.
- New Source Performance Regulations, 40 CFR Part 60 Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* applies to the boiler and hot water heater (EP-15 and EP-16).
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all criteria pollutants are below de minimis levels.
- 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 below de minimis levels.
- Emissions testing is not required for the equipment.

- A modification to your facility’s Basic Operating Permit is not required because this construction permit does not contain special conditions.
- Approval of this permit is recommended without special conditions.

### INSTALLATION DESCRIPTION

Kraft Heinz Foods Company (Kraft) is an existing installation that makes processed meats in Columbia, Missouri. Kraft is a minor source that operates under a basic operating permit (Project 2011-07-002).

The following New Source Review permits have been issued to Kraft Heinz Foods Company from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0785-012 through 0785-016	Installation of two boilers, one fuel storage tank, and two continuous wiener processors
1190-011	Installation of a Kohler Model 50OROZD diesel electric generator, a 350 gallon diesel storage tank, a 30,000 gallon propane storage tank and associated vaporization system.
0191-006	Installation of two Alkar continuous meat processing ovens
0793-022	Installation of a 600 horsepower natural gas-fired boiler
1097-024	Installation of a continuous smokehouse

### PROJECT DESCRIPTION

Kraft has applied for authority to install a 32.7 mmBtu/hr boiler (EP-15) and a 15.0 mmBtu/hr hot water heater (EP-16), both powered by natural gas, and new hot dog processing line (EP-17). The boiler and hot water heater will be used to support the increase in utility demands of the new hot dog processing line.

The new hot dog processing line uses a drenching method to infuse a smoke flavor into the hot dogs. A proprietary condensed natural smoke (CNS) material is mixed with water and used during the drenching method. During this method, only VOCs are emitted due to the acetic acid that’s in the CNS material.

According to information provided during the review of this project, the boiling point of the acetic acid is 118 degrees Celsius (° C). The boiling point of water is 100° C. Acetic acid is soluble (miscible) in water. Therefore, the acetic acid in the product will follow the water. The only time water vapor is emitted from the process is during the cooking process, which is the only step where heat is introduced to the process. During the drenching process, up to 0.5% by weight of the solution permeates into the hot dogs and the excess solution is reclaimed and reused for subsequent batches. The hot dog product then goes to the cooking process. During cooking, approximately 5% of the overall solution used will be volatilized based on the boiling point of water. The wastewater treatment process is at ambient temperature, therefore, no acetic acid is emitted during the wastewater treatment process. Because the retention rate may vary slightly, this process will have a conservative overall retention and recovery rate of 95% of the CNS material.

A stack test, dated July 29, 2003, was conducted on a similar process prepared by Badger Laboratories & Engineering. These tested emissions are lower than the expected emissions from the proposed hot dog line. Even though Kraft expects the retention and recovery rate to exceed 95%, based on their internal research and research done by the CNS vendor, the 95% retention and recovery rate is being used to be conservative.

The maximum usage of the CNS material is 0.7 gallons per 1,000 pounds of hot dog product. The maximum hot dog product Kraft will be able to produce is 20,000 pounds per hour. Based on these maximum usage rates, the maximum usage rate of the CNS material is 14 gallons per hour.

Because this installation has received a construction permit from the Missouri Air Pollution Control Program, the potential emissions of this project were compared to the insignificant emission exemption levels of 10 CSR 10-6.061(3)(A)3.A. A construction permit is required for this project because the NO<sub>x</sub> emissions of this project exceed 2.75 pounds per hour. Combined HAP potential emissions exceed 0.05 pounds per hour, but individual HAP SMALs are not exceeded.

### EMISSIONS/CONTROLS EVALUATION

The emission factors used in the emissions analysis of the hot water heater and boiler were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4, "Natural Gas Combustion."

Emissions from the hot dog processing line were calculated using a mass balance approach, using Kraft's retention and recovery rate of 95% by weight.

The following tables provide an emissions summary for this project. Existing potential emissions were taken from Construction Permit 1097-024. Existing actual emissions were taken from the installation's 2014 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

Table 2: Summary of Hourly Potential Emissions (pounds per hour)

Pollutant	Potential Emissions of the Application	Insignificant Levels
PM	0.09	N/D
PM <sub>10</sub>	0.35	1.00
PM <sub>2.5</sub>	0.35	N/D
SO <sub>x</sub>	0.03	2.75
NO <sub>x</sub>	4.67	2.75
VOC	1.02	2.75
CO	3.92	6.88
HAPs	0.09	0.05 or SMAL

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/D	N/D	0.39	N/A
PM <sub>10</sub>	15.0	21.85	3.92	1.55	N/A
PM <sub>2.5</sub>	10.0	N/D	3.38	1.55	N/A
SO <sub>x</sub>	40.0	19.84	0.37	0.12	N/A
NO <sub>x</sub>	40.0	37.37	16.06	20.44	N/A
VOC	40.0	26.41	10.76	4.47	N/A
CO	100.0	28.71	32.77	17.17	N/A
GHG (CO <sub>2</sub> e)	N/A	N/D	N/D	24,673.76	N/A
GHG (mass)	N/A	N/D	N/D	24,528.92	N/A
Total HAPs	25.0	0.46	N/D	0.39	N/A

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 all criteria pollutants are below de minimis levels.

### APPLICABLE REQUIREMENTS

Kraft Heinz Foods Company 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
  - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *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
- *New Source Performance Regulations*, 10 CSR 10-6.070
  - *Standards of Performance for Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Dc

#### 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*, it is recommended that this permit be granted without special conditions.

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 7, 2015, received May 12, 2015, designating The Kraft Heinz Company as the owner and operator of the installation.
- The following e-mails received from Heather Wattenbach, Kraft's consultant engineer from Forth Infrastructure & Environment, LLC, dated: October 20, 2015, September 10, 2015, and July 29, 2015

## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....	percent	<b>MHDR</b> .....	maximum hourly design rate
<b>°F</b> .....	degrees Fahrenheit	<b>MMBtu</b> .....	Million British thermal units
<b>acfm</b> .....	actual cubic feet per minute	<b>MMCF</b> .....	million cubic feet
<b>BACT</b> .....	Best Available Control Technology	<b>MSDS</b> .....	Material Safety Data Sheet
<b>BMPs</b> .....	Best Management Practices	<b>NAAQS</b> .....	National Ambient Air Quality Standards
<b>Btu</b> .....	British thermal unit	<b>NESHAPs</b> .....	National Emissions Standards for Hazardous Air Pollutants
<b>CAM</b> .....	Compliance Assurance Monitoring	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CAS</b> .....	Chemical Abstracts Service	<b>NSPS</b> .....	New Source Performance Standards
<b>CEMS</b> .....	Continuous Emission Monitor System	<b>NSR</b> .....	New Source Review
<b>CFR</b> .....	Code of Federal Regulations	<b>PM</b> .....	particulate matter
<b>CO</b> .....	carbon monoxide	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>ppm</b> .....	parts per million
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>CSR</b> .....	Code of State Regulations	<b>PTE</b> .....	potential to emit
<b>dscf</b> .....	dry standard cubic feet	<b>RACT</b> .....	Reasonable Available Control Technology
<b>EQ</b> .....	Emission Inventory Questionnaire	<b>RAL</b> .....	Risk Assessment Level
<b>EP</b> .....	Emission Point	<b>SCC</b> .....	Source Classification Code
<b>EPA</b> .....	Environmental Protection Agency	<b>scfm</b> .....	standard cubic feet per minute
<b>EU</b> .....	Emission Unit	<b>SDS</b> .....	Safety Data Sheet
<b>fps</b> .....	feet per second	<b>SIC</b> .....	Standard Industrial Classification
<b>ft</b> .....	feet	<b>SIP</b> .....	State Implementation Plan
<b>GACT</b> .....	Generally Available Control Technology	<b>SMAL</b> .....	Screening Model Action Levels
<b>GHG</b> .....	Greenhouse Gas	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>gpm</b> .....	gallons per minute	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>gr</b> .....	grains	<b>tph</b> .....	tons per hour
<b>GWP</b> .....	Global Warming Potential	<b>tpy</b> .....	tons per year
<b>HAP</b> .....	Hazardous Air Pollutant	<b>VMT</b> .....	vehicle miles traveled
<b>hr</b> .....	hour	<b>VOC</b> .....	Volatile Organic Compound
<b>hp</b> .....	horsepower		
<b>lb</b> .....	pound		
<b>lbs/hr</b> .....	pounds per hour		
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		
<b>m/s</b> .....	meters per second		
<b>Mgal</b> .....	1,000 gallons		
<b>MW</b> .....	megawatt		

Mr. Eric Stanek  
SSE Manager  
Kraft Heinz Foods Company  
4600 Waco Road  
Columbia, MO 65202-9335

RE: New Source Review Permit - Project Number: 2015-05-033

Dear Mr. Stanek:

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. 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 were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: [www.oa.mo.gov/ahc](http://www.oa.mo.gov/ahc).

If you have any questions regarding this permit, please do not hesitate to contact Daronn A. Williams, 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:dwl

Enclosures

c: Northeast Regional Office  
PAMS File: 2015-05-033

Permit Number: