

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: 102012-012

Project Number: 2012-06-005  
Installation Number: 135-0004

Parent Company: Cargill Meat Solutions Headquarters

Parent Company Address: PO Box 2519, Wichita, KS 67202

Installation Name: Cargill Turkey Productions, LLC

Installation Address: 1001 East Smith Street, California, MO 65018

Location Information: Moniteau County, S27, T45N, R15W

Application for Authority to Construct was made for:  
Installation of a new liquid feed additive called Sal CURB ASF liquid. 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.

OCT 23 2012

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.

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Permit No.	
Project No.	2012-06-005

**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."*

Cargill Turkey Productions, LLC  
Moniteau County, S27, T45N, R15W

1. Methanol Emission Limitations
  - A. Cargill Turkey Productions, LLC shall emit less than 10.0 tons of methanol in any consecutive 12-month period from their product transfer silo (EP-08) and storage tanks (EP-12).
  - B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.
2. Record Keeping and Reporting Requirements
  - A. Cargill Turkey Productions, LLC 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. Cargill Turkey Productions, LLC 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: 2012-06-005  
Installation ID Number: 135-0004  
Permit Number:

Cargill Turkey Productions, LLC  
1001 East Smith Street  
California, MO 65018

Complete: June 4th, 2012

Parent Company:  
Cargill Meat Solutions Headquarters  
PO Box 2519  
Wichita, KS 67202

Moniteau County, S27, T45N, R15W

REVIEW SUMMARY

- Cargill Turkey Productions, LLC has applied for authority to install a new liquid feed additive called Sal CURB ASF liquid.
- HAP emissions are expected from the proposed equipment. HAPs of concern from SalCURB are methanol (CAS 67-56-1) and formaldehyde (CAS 50-00-0).
- None of the NSPS regulations apply to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- 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 VOC are conditioned below the de minimis level. Potential emissions of methanol are indirectly limited to the individual HAP level of 10 tons per year.
- This installation is located in Moniteau 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.

- Emissions testing is not required for the equipment.
- A modification to your Basic Operating Permit is required for this installation within 90 days of equipment startup.
- Approval of this permit is recommended with special conditions.

### INSTALLATION/PROJECT DESCRIPTION

Cargill owns and operates a feed mill in California, Missouri to produce feed for their turkey operations. Cargill has applied for authority to modify their product transfer silo (EP-08) and storage tanks (EP-12) by adding a new liquid feed additive called Sal CURB ASF liquid. Herein, Sal CURB ASF liquid will be referred to as SalCURB. SalCURB will reduce salmonella as well as inhibit mold and will be stored in a tank on-site (EP-12). SalCURB includes an aqueous formaldehyde solution, methanol, water, propionic acid, benzoic acid, and ammonium hydroxide. Cargill is a minor source for construction permits and has a basic operating permit. The following New Source Review permits have been issued to Cargill Turkey Productions, LLC from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
1186-001	Installation Permit
1186-001B	Record-Keeping
1196-017	Replace grinder, dual fuel boiler
082000-025	Storage Bins & Conveyor

### EMISSIONS/CONTROLS EVALUATION

The emissions from the product transfer to storage silo (EP-08) were calculated using the maximum SalCURB usage and MSDS supplied by Cargill Turkey Production, LLC. All available VOCs and volatile HAPs were considered to be emitted. Per manufacturer's instructions, 6.5 pounds of SalCURB is used per ton of finished feed. The MHDR at EP-08 is 50 tons per hour, therefore, giving SalCURB an MHDR of 325 pounds per hour or 1423.5 tons per year. The emissions for each of the VOCs and HAPs were then calculated by multiplying the MHDR of SalCURB and each of the respected weight percents.

The weight percent of formaldehyde on the MSDS states 30 percent. Testing submitted by Cargill Turkey Production, LLC done by the manufacturer of SalCURB, Kemin AgriFoods North America, Inc. resulted in formaldehyde emissions of 1.75 percent when SalCURB is applied in a system to feed ingredients such as meat and bone meal and/or feeds. Since Cargill Turkey Production, LLC runs that type of system 1.75 percent was used for emission calculations. Similar testing was performed for methanol emissions. Kemin AgriFoods North America, Inc. submitted a weight percent for methanol of 11.48 percent. Testing resulted in retention of 20 percent of the applied methanol therefore, giving methanol a weight percent of 9.18 percent. The VOC weight percent was derived

by adding together the weight percent of the three VOCs present, formaldehyde at 1.75 percent, propionic acid at 10 percent, and methanol at 9.18 percent, resulting in 20.93 weight percent of VOCs.

Emissions from the storage tanks (EP-12) were derived by using the EPA Tanks 4.0.9d program.

Existing potential emissions are taken from permit number 082000-025. Existing actual emissions were taken from the installation's 2011 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). New installation conditioned potential emissions were derived from a ratio of the limiting factor, methanol, to the pollutant to determine the pollutant's new installation conditioned potential. 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 (2011 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/A	N/A	N/A	N/A
PM <sub>10</sub>	15.0	114.9	45.59	N/A	N/A
PM <sub>2.5</sub>	10.0	N/A	N/A	N/A	N/A
SO <sub>x</sub>	40.0	N/A	0.01	N/A	N/A
NO <sub>x</sub>	40.0	N/A	2.45	N/A	N/A
VOC	40.0	N/A	0.13	298	22.80
CO	100.0	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	N/A	156	11.91
Formaldehyde <sup>1</sup>	2.0	N/A	N/A	24.9	1.91
Methanol <sup>1</sup>	10.0	N/A	N/A	131	<10

<sup>1</sup>Represents the SMAL (ton/yr)

## 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 VOC are conditioned below de minimis levels.

## APPLICABLE REQUIREMENTS

Cargill Turkey Productions, 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
- *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

## 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. Potential emissions of methanol have been indirectly limited to 10 tons per year.

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Janelle Lewis  
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 June 4th, 2012, received June 4th, 2012, designating Cargill Meat Solutions Headquarters as the owner and operator of the installation.
- Kemin AgriFoods North America, Inc. follow up letter, dated October 4th, 2011 received June 4th, 2012.



## APPENDIX A

### Abbreviations and Acronyms

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

Mr. Jon Roberts  
Feed Mill Manager  
Cargill Turkey Productions, LLC  
1001 East Smith Street  
California, MO 65018

RE: New Source Review Permit - Project Number: 2012-06-005

Dear Mr. Roberts:

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 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 Janelle Lewis 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:jl

Enclosures

c: Northeast Regional Office  
PAMS File: 2012-06-005

Permit Number: