



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: **102012-010**Project Number: 2012-06-038
Installation Number: 009-0051

Parent Company: Cargill Meat Solutions Headquarters

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

Installation Name: Cargill Turkey Productions, LLC

Installation Address: 8787 Farm Road 2115, Purdy, MO 65734

Location Information: Barry County, S25, T24N, R28W

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 19 2012

EFFECTIVE DATE

Kya L. Moore

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.	2012-06-038

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
Barry County, S25, T24N, R28W

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 pellet cooler exhaust #1 (EP-07), pellet cooler exhaust #2 (EP-08), and storage tank (Tank #5).
 - 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 Condition 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: 2012-06-038
Installation ID Number: 009-0051
Permit Number:

Cargill Turkey Productions, LLC
8787 Farm Road 2115
Purdy, MO 65734

Complete: June 12, 2012

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

Barry County, S25, T24N, R28W

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 New Source Performance Standards (NSPS) 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*. Methanol is conditioned to de minimis levels. Potential emissions of VOC are indirectly conditioned below the de minimis level. VOC is the only criteria pollutant emitted.
- This installation is located in Barry 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 formaldehyde for the application are conditioned below the SMAL. Ambient air quality modeling was not performed for VOC since PTE is less than de minimis and there is no model currently available which can accurately predict ambient ozone concentrations caused by this installations VOC emissions.
- Emissions testing are 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 Purdy, Missouri to produce feed for their turkey operations. Cargill has applied for authority to modify their Pellet Cooler Exhaust #1 (EP-07), Pellet Cooler Exhaust #2 (EP-08), and their Tank #5 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 (Tank #5). 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
1297-015	Replace existing boiler

EMISSIONS/CONTROLS EVALUATION

The emissions from the two Pellet Cooler Exhausts (EP-07 and 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-07 and EP-08 is 30 tons per hour each, therefore, giving SalCURB an MHDR of 390 pounds per hour or 1708.2 tons per year total. 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 emitted.

Emissions from the storage tank (Tank #5) were derived by using the EPA Tanks 4.0.9d program.

Existing potential emissions are taken from permit number 1297-015. 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 pollutants 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/D	N/A	N/A	N/A
PM ₁₀	15.0	102.52	4.82	N/A	N/A
PM _{2.5}	10.0	N/D	0.16	N/A	N/A
SOx	40.0	3.14	0.01	N/A	N/A
NOx	40.0	19.27	2.17	N/A	N/A
VOC	40.0	0.81	0.13	358	22.80
CO	100.0	4.82	1.82	N/A	N/A
HAPs	10.0/25.0	N/A	N/A	187	11.91
Formaldehyde	2.0 ¹	N/A	N/A	29.9	1.91
Methanol	10.0 ¹	N/A	N/A	157	<10

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

¹Represents 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*. Methanol is conditioned to de minimis levels. Potential emissions of VOC are indirectly conditioned below the de minimis level. VOC is the only criteria pollutant emitted.

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.

Janelle Lewis
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 June 12, 2012, received June 12, 2012, designating Cargill Meat Solutions Headquarters as the owner and operator of the installation.
- Kemin AgriFoods North America, Inc. follow up letter, dated October 4, 2011 received June 4, 2012.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheets
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	
CFR	Code of Federal Regulations	National Emissions Standards for Hazardous Air Pollutants
CO	carbon monoxide	NO_x	nitrogen oxides
CO₂	carbon dioxide	NSPS	New Source Performance Standards
CO_{2e}	carbon dioxide equivalent	NSR	New Source Review
COMS	Continuous Opacity Monitoring System	PM	particulate matter
CSR	Code of State Regulations	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
dscf	dry standard cubic feet	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
EQ	Emission Inventory Questionnaire	ppm	parts per million
EP	Emission Point	PSD	Prevention of Significant Deterioration
EPA	Environmental Protection Agency	PTE	potential to emit
EU	Emission Unit	RACT	Reasonable Available Control Technology
fps	feet per second	RAL	Risk Assessment Level
ft	feet	SCC	Source Classification Code
GACT	Generally Available Control Technology	scfm	standard cubic feet per minute
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tpy	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Ms. Heather Allen
Mill Manager
Cargill Turkey Productions, LLC
8787 Farm Road 2115
Purdy, MO 65734

RE: New Source Review Permit - Project Number: 2012-06-038

Dear Ms. Allen:

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: Southwest Regional Office
PAMS File: 2012-06-038

Permit Number: