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: 062016-015

Project Number: 2013-11-011
Installation Number:510-3001

Parent Company: Koch Agronomic Holdings, LLC

Parent Company Address: 4111 East 37th Street North, Wichita, Kansas 67220

Installation Name: Koch Agronomics Services, LLC

Installation Address: 39 Bremen Avenue, St. Louis, MO 63147

Location Information: St. Louis City County,

Application for Authority to Construct was made for:
Revision of construction permit #042007-018 to re-evaluate permitted equipment and the addition of batch processing equipment. 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 30 2016

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."

Koch Agronomics Services, LLC
St. Louis City County,

1. Superseding Condition
   A. The conditions of this permit supersede all special conditions found in the previously issued construction permit #042007-018 and any amendments, corrections, or permit matters[1] associated with those permits.

2. PM_{10} Emission Limitation
   A. Koch Agronomics Services, LLC shall emit less than 15.0 tons of PM_{10} in any consecutive 12-month period from the entire installation (see Table 1).

   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 2.A.

3. Control Device Requirement-Baghouses
   A. Koch Agronomics Services, LLC shall control emissions using baghouses as specified in the permit application and Table 1.

   B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouses shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.

   C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

[1] Permit Matter documents were issued by St. Louis City Air Program and are similar to permit amendments, however they are not titled as such.

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

D. Koch Agronomics Services, LLC shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours unless all sources controlled are not in operation for the entire 24 hour period. This non-operational period shall be indicated. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

E. Koch Agronomics Services, LLC shall maintain a copy of the baghouses manufacturer's performance warranty on site.

F. Koch Agronomics Services, LLC shall maintain an operating and maintenance log for the baghouses which shall include the following:
   1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
   2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

4. Control Device Requirement-Enclosed drop points
   A. The enclosed drop points identified in Table 1 shall be completely enclosed. The enclosure shall be constructed and maintained such that no visible emissions are allowed to occur from these sources.

   B. Koch Agronomics Services, LLC shall conduct a detailed visual inspection of the enclosure drop points listed in Table 1 once every six months to ensure compliance with Special Condition 4.A. The detailed visual inspection shall consist of a trained individual conducting a Method 22 visually observation on each drop point. A record shall be maintained acknowledging that the enclosures have been inspected.

5. Control Device Requirement-Scrubber
   A. Koch Agronomics Services, LLC shall control emissions using the scrubber as specified in Table 1.

   B. The scrubber shall be operated and maintained in accordance with the manufacturer's specifications. The scrubber shall be equipped with meters that indicate the scrubbing liquid flow, air pressure drop, and fluid temperature. These meters shall be located in such a way they may be easily observed by Department of Natural Resources' employees.

   C. Koch Agronomics Services, LLC shall monitor and record the scrubbing

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

liquid flow, air pressure drop, and fluid temperature across the scrubber at least once every 24 hours unless all sources controlled are not in operation for the entire 24 hour period. This non-operational period shall be indicated. The flow rate, pressure drop, and temperature shall be specified by the manufacturer's performance warranty. The manufacturer's warranty shall be kept on site.

D. Koch Agronomics Services, LLC shall maintain an operating and maintenance log for the scrubber which shall include the following:
   1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
   2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

6. Operational Limitations-Methylene Urea
   A. Koch Agronomics Services, LLC shall not use methylene urea in the melter (EP05-02) without prior approval from the Air Pollution Control Program.

7. Record Keeping and Reporting Requirements
   A. Koch Agronomics Services, 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.

   B. Koch Agronomics Services, LLC shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 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 (6) REVIEW
Project Number: 2013-11-011
Installation ID Number: 510-3001
Permit Number:

Koch Agronomics Services, LLC
39 Bremen Avenue
St. Louis, MO 63147

Complete: March 25, 2014

Parent Company:
Koch Ag & Energy Solutions, LLC
4111 East 37th Street North
Wichita, Kansas 67220

St. Louis City County

REVIEW SUMMARY

- Koch Agronomics Services, LLC has applied for authority to revise construction permit #042007-018 to reflect changes in equipment and to add an additional method of operation (batch processing) and associated equipment.

- HAP emissions are expected from the combustion of fuel in the boiler and the emergency generator. Potential HAP emissions are expected to be less than four ton per year combined.

- New Source Performance Standards (NSPS) Subpart JJJJ applies to the emergency generator. NSPS Subpart Dc applies to the boiler.

- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment. 40 CFR part 63 Subpart ZZZZ does not apply to the emergency generator based on the installation date.

- Baghouses, a scrubber, and enclosed conveyor drop points are being used to control the particulate emissions from the equipment in this permit.

- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM are greater than the threshold value of 25 tons/year. However, no modeling is required because there is no modeling standard for PM.

- This installation is located in St. Louis City County, a nonattainment area for the 8-hour ozone standard and the $PM_{2.5}$ standard and an attainment area for all other criteria pollutants.

- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2.

- Emission testing is not required for the equipment.

- A Basic Operating Permit is required for this installation. A Basic Operating Permit application was received on February 17, 2016 and is assigned project number 2016-02-038.

- Approval of this permit is recommended with special conditions.

INSTALLATION AND PROJECT DESCRIPTION

Koch Agronomic Services, LLC (KAS) operates the Stabilized Nitrogen Center (SNC) at 39 Bremen Avenue in St. Louis, Missouri. This installation was previously permitted to Lange-Stegmann (LSCO) under construction permit #042007-018. Both installations have requested to be considered separate installations for regulatory purposes. The definition of installation requires three criteria to be met: all source operations must belong to the same SIC code, source operations must be contiguous, and finally source operations must be under common control. KAS and LSCO do not have the same SIC code (2873 and 4991, respectively); nor are they under common control. They are contiguous, and their operations do interact on a daily basis. Because of this interaction, the concept of support facility was considered in the determination of one installation. Although the two installations interact on a daily basis, they have the capability to operate successfully independently of each other. Therefore they are considered separate installations. Construction permit #042007-018 is superseded by this construction permit

The original 2007 construction permit was issued to LSCO and authorized the addition of:

1. Modified and new unloading and loading equipment
2. New bulk urea fertilizer warehouse (new as of 2007).
3. New urea-based fertilizer granulation facility (the SNC) to produce coated urea fertilizer products in a continuous process (new as of 2007).

The equipment and processes for one and two are contained in the LSCO construction permit (PAMS # 2014-01-053). This construction permit will address the following issues for the KAS SNC facility only:

1. Revise the equipment and processes. Revisions will include accounting for units that were permitted but not constructed and units that were installed in 2007 but not specifically listed in that permit. Emission unit numbers are also being revised in this permit.
2. Addition of new equipment: a portable conveyor system (EP11 and EP12) and a crusher (EP03-11). (New in this project)
3. Addition of the batch processes to create other coated nitrogen based fertilizer products. (New in this project). The batch processes uses much of the same equipment as the continuous process, with the permitted addition of crusher EP03-11, as well as the small and large temporary conveyors (EP11 and EP12).

The installation creates coated urea granules in either a continuous process or a batch process, depending on the desired end product. The continuous process was permitted in 2007 and is used to produce coated urea granules. The batch process is a new change in operations, effective with this project, which will be used to produce other coated nitrogen based fertilizer products.

As stated in the Standard Conditions (see page 2), notification of anticipated start up is required. This requirement also was present in the 2007 permit. For the equipment that existed in the 2007 permit, the notification responsibility belonged to LSCO. For this permit, issued to KAS, there is a responsibility to notify for both the batch process and the three new pieces of equipment: the crusher (EP03-11), the small temporary conveyor (EP11) and the large temporary conveyor (EP12). The notification should also confirm the equipment that is still operational that was permitted in the 2007 permit.

For the continuous process:
Raw materials are received by LSCO using barges and conveyors and stored in the warehouse. These operations are covered in more detail in LSCO construction permit. The raw materials are transferred from the LSCO warehouse to the SNC using the raw material conveyor system (EP06). The conveyor system consists of four belts. Belt #1 is located inside the LSCO warehouse, and will be detailed in the LSCO construction permit since it is operated by LSCO. All emission sources that are located in the LSCO warehouse have been assigned to LSCO for permitting purposes, since the emissions are controlled by LSCO baghouses. All belts are owned by KAS, however, belt #1 and the internal warehouse equipment is operated by LSCO. The associated emissions are considered a part of LSCO's potential emissions. Belts 2 and 3 are located outside the LSCO warehouse, with belt 4 transitioning from outside to inside the SNC building and discharging into a hopper to transfers material to either the melt silo (EP03-02) or the seed silo (EP03-01). The associated emissions are considered part of KAS's potential emissions. All transfer points are enclosed with stainless steel chutes, all belts have stainless steel covers, and there are dust pickup points located at the drop points for belts 2 to 3 and belts 3 to 4. There is also a dust pickup point at the transition point of belt 4 to the diverter which feeds either the melt silo (EP03-02) or the seed silo (EP03-01). All dust from these points are routed to baghouse CD03, except the transfer point from belt #1 to belt #2 which is enclosed but does not have a baghouse pickup point.

From the melt silo (EP03-02), raw material passes through a hopper and onto a 2 belt conveyor system which transports it to the melter feed elevator. The melter feed elevator transports the material to a chute which takes the material to the melter where additives and dyes are incorporated; then the product proceeds to the granulation drum. From the seed silo raw material passes through a hopper and onto a conveyor which transports it to the drum feed elevator. The drum feed elevator takes the material to the deduster. The seed material is then fed to the granulation drum.

Inside the granulation drum, the spray nozzles direct the hot liquid urea/additive mixture onto a falling curtain of solid seed material granules to produce a properly sized and coated fertilizer granule. At the end of the drum, the granules go to the process cooler. The cooled granules then go to the process screen elevator and the process screen for sizing. Granules that do not meet process specifications go through either a recycle

elevator and surge bin, and are sent back to the granulation drum, or through two screw augers, and are sent to the melter to be reincorporated into the process.

Granules that meet size specifications proceed from the process screen to the product cooler. The finished product then proceeds to the final product elevator. The final product elevator transports the finished product to the final product conveyor system. The drop point from the elevator to the conveyor system is outdoors and is enclosed.

The final product conveyor system consists of two belts. Material is loaded onto belt 1 from the final product elevator through an enclosed stainless steel chute. There is a baghouse pickup point at the enclosed drop point. All dust from this point is routed to baghouse CD03. Belt 1 has a stainless steel cover and goes from the SNC building into the LSCO warehouse where there is an enclosed stainless steel chute at the transfer point from belt 1 to belt 2. The end of belt 2 is free fall to the indoor storage pile. The emissions from belt 2 are addressed in the LSCO project.

For the batch processes:
Seed materials are brought on site from either the LSCO warehouse or by truck (2,000 pound supersacks or loose bulk). Bulk loose fertilizer is unloaded into the SNC using the new portable conveyor system, which consists of one small and one large portable conveyor (EP11 and EP12, respectively) and loaded into the granulation drum using the seed bucket elevator pathway. This is the same portable conveyor system that was permitted to LSCO under project #2013-10-068. There will be no changes in operation with the melt urea, since this permit does not allow methylene urea to be used in the melter. If this were to occur, and increase in emission is expected that is not accounted for in this permit. During batch processing, a portion of the coated product may be routed to the crusher to form smaller seed material which will be routed to the granulation drum. The finished product will either be transferred to the LSCO warehouse using the final product conveyors (EP07), to truck (EU017b), or collected in super sacks. Super sacks will then be loaded onto trucks.

Emissions controls:
Emissions from the Raw Material Conveyor System, the Final Product Conveyor System, the drum feed elevator, all internal conveying equipment, intermediate bins, sizing screens, and the crusher are controlled by Baghouse CD03. Emissions from the deduster are routed through a cyclone for product recovery, with the cyclone outlet air passing through Baghouse CD04B. Emissions from the granulation drum and the urea melter pass through the granulation scrubber (CD05). The scrubber blow down is sent to tanks TK-108 and TK-113. Emissions from the process cooler are controlled by the process cooler baghouse (CD02), while emissions from the product cooler are controlled by the product cooler baghouse (CD01). All solid material is collected from the baghouses and recycled into the production system.

Other emission units consist of unpaved haul roads, one 10.71 MMBtu/hr natural gas fired boiler, and a 10 hp gasoline fired emergency generator. Table 1 and Attachment A contain all the equipment covered by this permit, as well as the new renumbering system.

Table 1: Equipment covered by this construction permit.[1]

New EP#	Previous EP#	Description	Manufacturer	Model	Year constructed	MHDR (ton/hr)	Control device
EP01	EP21	Product cooler SCC 30104010	ACT	1725-BH101	2007	12	CD01: Baghouse
EP02	EP22	Process cooler SCC 30104010	ACT	1725-BH100	2007	21.2	CD02: Baghouse
EP03-01	EP23-S7	Seed Material Silo SCC 30104007	Tank Connection	BN-118	2007	7.5 (2310 ft^3 capacity)	CD03: Baghouse
EP03-02	EP23-S8	Melt feed material silo SCC 30104007	Tank Connection	BN-117	2007	7.5 (2310 ft^3 capacity)	
EP03-03	EP23-S9	Feed Elevator SCC 30104007	ACT	1725-BE108	2007	5.75	
EP03-04	EP23-S10	Melt feed elevator SCC 30104007	ACT	1725-BE101	2007	7.5	
EP03-05	EP23-S11	Drum feed elevator SCC 30104007	ACT	1725-BE102	2007	7.5	
EP03-06	EP23-S12	Recycle Surge Bin SCC 30104007	Southern Metal	BN-102	2007	12.5	
EP03-07	EP23-S13	Internal recycle elevator SCC 30104007	ACT	1725-BE104	2007	12.5	
EP03-08	EP23-S14	Process screen SCC 30104007	Rotex	522	2007	27.5	
EP03-09	EP23-S15	Process screen elevator SCC 30104007	ACT	1725-BE103	2007	27.5	
EP03-10	EP23-S16	Product elevator SCC 30104007	ACT	1725-BE107	2007	15	
EP03-11	New unit	Crusher SCC 30503811	Williams	Unknown	2014	4	
EP04	EP24	Deduster SCC 30104010	ACT	1725-BH104	2007	6.05	CD04B:Baghouse
EP05-01	EP25-S1	Granulation Drum SCC 30104012	ACT	1725-DR100	2007	22	CD05: Scrubber
EP05-02	EP25-S2	Urea melter SCC 30104007	ACT	1725-M100	2007	6.5	CD05: Scrubber

New EP#	Previous EP#	Description	Manufacturer	Model	Year constructed	MHDR (ton/hr)	Control device
EP06	Part of 2007 project, not mentioned in permit	Raw Material Conveyor System SCC 30104007	Waconia		2007	200	Enclosed drop points (all four drop points) and CD-03 Baghouse (three drop points)
EP07	Part of 2007 project, not mentioned in permit	Final Product Conveyor SCC 30104007	Waconia		2007	20	Enclosed drop points (all)
EP08	Part of 2007 project, not mentioned in permit	Boiler; 10.71 MMBtu/hr, natural gas fired SCC 10100602	Hurst	Series 500	2007	10.71 MMBtu/hr	None
EP09	Part of 2007 project, not mentioned in permit	Emergency Generator with belly tank, gasoline fired, 10 hp, SCC 20200301	Brigs & Strat	Elite 500	2008	0.000161 1000 gal/hr (20300 BTU/hr)	
EP10	Part of 2007 project, not mentioned in permit	Unpaved Haul road; 0.13 miles one way					
EP11	New unit	Temporary portable conveyor SM (Indoor)-raw material and final product truck loading SCC 30104007	Yargus	Layco	2014	300	
EP12	New unit	Temporary portable conveyor LG (Indoor)- raw material and final product truck loading SCC 30104007	Yargus	Layco	2014	300	

[1]Material is moved through the production process via conveyors, bucket elevators, etc. They are not listed here, but are considered equipment covered by this permit.

Table 2 details the various tanks at the installation. All were installed as part of the 2007 project, but not mentioned in the permit. Table 3 details the units that were permitted in CP042007-018 for the SNC, but were never installed.

Table 2: Tanks

Tank ID	Description
TK-101	Dye/Additive Mix Tank
TK-103	Melt pump tank
TK-103	Melt surge tank
TK-103	Melt mix tank
TK-104	Air Receiver
TK-105	Boiler feed water surge tank
TK-106	Boiler Deareator
TK-108	Process water tank, contains scrubber blow down
TK-113	Process water tank, contains scrubber blow down

Table 3: Units that appear in CP042007-018 for the SNC, but were never installed

Emission Unit	Description
EP23-S1	Sizing feed silo
EP23-S2	Sizing feed elevator
EP23-S3	Sizing screen
EP23-S4	Sizing crusher
EP23-S5	Sized product silo
EP23-S6	Sized product truck loading

No permits have been issued to Koch Agronomics Services, LLC (KAS) from the Air Pollution Control Program. The permits listed in Table 4 have been issued to LSCO from the Air Pollution Control Program. Some of these permits contain the same equipment as this project, others will provide additional background information:

Table 4: Selected Permit History for LSCO for those projects which overlap with KAS

Permit Number	Description
042007-018	Initial permit to allow construction of the SNC facility
122013-005	Portable conveyor system (SM and LG conveyors)
Project #2014-01-053	This permit is the LSCO correlation to this project. This will separate the 042007-018 permit.

EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the webFIRE using the SCC codes detailed in Table 1. There are various controls used for the equipment contained in this permit: enclosed drop points/flow control gates, two baghouses, and a scrubber. The enclosed drop points and flow control gates were evaluated at 50% overall control efficiency. Each baghouse was evaluated at 99.5% control efficiency for PM and PM_{10}, with 99% control efficiency for $PM_{2.5}$; with differing

capture efficiencies determined by emission point. The small and large temporary portable conveyors were provided 0% control efficiency with both drop points assigned to each conveyor to allow for maximum operational flexibility. Haul road calculations were based upon AP-42 methodology for unpaved haul roads. KAS has proposed using LSCO haul roads, which are under the care and control of LSCO. Therefore, KAS has agreed to use the worst case scenario of unwatered, unpaved haul roads.

The following table provides an emissions summary for this project. Existing potential emissions were not determined for this project. The potential emissions from Construction Permit 042007-018 could not be used as the existing potential emissions because that permit has units that are now being separated into KAS and LSCO units. Using the lump sum values from that permit would not accurately reflect the existing potential emissions of the KAS installation-those values contain emissions for equipment that do not belong to KAS or that was never installed under the 2007 permit. Existing actual emissions do not appear in the table because KAS and LSCO have been reporting all emissions in the EIQ for LSCO. Those values do not accurately reflect equipment that only belongs to KAS.

The conditioned potential emissions of the application represent the potential of the equipment listed in Table 1, assuming continuous operation (8760 hours per year), except for the emergency generator which was considered at 500 hours of operation. The controlled potential emissions of the application reflect the operations using the control devices detailed in Table 1. The new installation conditioned potential reflects the new plant wide emission limitation provided in the special conditions of this permit. PM and $PM_{2.5}$ potentials were scaled to the PM_{10} limit.

Table 5: Emissions Summary (tons per year)

Pollutant	Regulatory *De Minimis* Levels	Existing Potential Emissions	Existing Actual Emissions	Controlled Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/D	N/D	190.65	27.28
PM_{10}	15.0	N/D	N/D	134.41	15.00
$PM_{2.5}$	10.0	N/D	N/D	35.78	4.14
SOx	40.0	N/D	N/D	0.03	0.03
NOx	40.0	N/D	N/D	4.61	4.61
VOC	40.0	N/D	N/D	1.89	1.89
CO	100.0	N/D	N/D	4.18	4.18
GHG (CO_2e)	75,000 / 100,000	N/D	N/D	5553.17	5553.17
GHG (mass)	0.0 / 100.0 / 250.0	N/D	N/D	5519.79	5519.79
HAPs	10.0/25.0	N/D	N/D	3.40	3.40

N/D = Not Determined

CONSTRUCTION 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 PM are greater than the threshold value of 25 tons/year. However, no modeling is required because there is no modeling standard for PM. Potential emissions of PM_{10} are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

Koch Agronomics Services, 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

- *Control of Emissions From Volatile Organic Liquid Storage,* 10 CSR 10-5.500
- *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
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- *Control of Sulfur Dioxide Emissions*, 10 CSR 10-6.261
- *Operating Permits*, 10 CSR 10-6.065

SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070
    - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, 40 CFR Part 60, Subpart JJJJ
    - *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 (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

_____ _____

Nicole Weidenbenner, P.E. Date
New Source Review Unit

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The complete Application for Authority to Construct application, dated March 25, 2014, initially received November 6, 2013, amended May 5, 2015, designating Koch Ag & Energy Solutions, LLC as the owner and operator of the installation.

Attachment A – PM_{10} Compliance Worksheet

Koch Agronomics Services, LLC
St. Louis City
Project Number: 2013-11-011
Installation ID Number: 510-3001
This sheet covers the month of _____ in the year _____

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
EP# and description	Amount of material throughput (tons)	PM_{10} Emission factors (lb/ton)	Control efficiencies per drop point (%)	# of drop points at specified control efficiency	Total emissions (tons)
EP06 raw material conveyor system	*20,000*	*0.02*	*50*	*1*	*0.1*
			98.5	*3*	*0.009*
3-way diverter bypass to floor		0.017	3	1	
Bag unloader		0.017	3	1	
EP01 product cooler		3.7	99.5	1	
EP02 process cooler		3.7	99.5		
EP03-01 seed material silo		0.017	99.5	1	
EP03-02 feed material silo		0.017	99.5	1	
EP03-03 feed elevator		0.017	99.5	1	
EP03-04 Melt feed elevator		0.017	98.5	1	
EP03-05 Drum feed elevator		0.017	98.5	1	
EP03-06 recycle surge bin		0.017	99.5	1	
EP03-07 internal recycle elevator		0.017	99.5	1	
EP03-08 Process screen		0.017	3	1	
EP03-09 process screen elevator		0.017	99.5	1	
EP03-10 Product elevator		0.017	99.5	1	
EP03-11 Crusher		6.78	98.5	1	
EP04 deduster		3.7	99.5	1	
EP05-01 granulation drum		5.4	99	1	

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
EP# and description	Amount of material throughput (tons)	PM_{10} Emission factors (lb/ton)	Control efficiencies per drop point (%)	# of drop points at specified control efficiency	Total emissions (tons)
EP05-02 Urea melter		0.017	99	1	
EP06 raw material conveyor system		0.017	50	1	
		0.017	98.5	3	
EP07 Final product conveyor		0.017	50	1	
EP08 Boiler	(MMCF)	7.6 lb/MMCF			
EP09 Emergency Generator	(1000gallons)	12.6 lb/1000 gallons			
EP10 Haul roads		0.14	0	N/A	
EP11 Temporary portable conveyor-Small		0.017	0	2	
EP12 Temporary portable conveyor-Large		0.017	0	2	
EU017b to truck loading		0.017	3	1	
Feed bin hopper		0.017	3	1	
Feed elevator hopper		0.017	99.5	1	
Feed hopper		0.017	50	1	
Feed hopper		0.017	50	1	
Feed transfer conveyor		0.017	98.5	1	
Feed transfer conveyor		0.017	98.5	1	
Grizzly		0.017	50	1	
Recycle belt feeder		0.017	50	1	
Recycle hopper		0.017	50	1	
Screw feeder		0.017	3	1	
Surge bin		0.017	99.5	1	
To final product conveyors		0.017	98.5	1	

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
EP# and description	Amount of material throughput (tons)	PM_{10} Emission factors (lb/ton)	Control efficiencies per drop point (%)	# of drop points at specified control efficiency	Total emissions (tons)
To process cooler		0.017	50	1	
Weigh belt feeder		0.017	50	1	
Weigh belt feeder		0.017	50	1	

Summation and calculation of consecutive 12-month total	
(b) Total PM_{10} emissions calculated for this month (tons):	
(c) 12-month PM_{10} emissions total from previous month's worksheet (tons):	
(d) Monthly PM_{10} emissions total from previous year's worksheet (tons):	
(e) New 12-month PM_{10} emissions total (tons):	

Instructions:

(a) Calculation methodology:

1. Enter monthly throughput of material for the specific emission unit in Column 2.
2. Multiply Column 2 by emission factor in Column 3. Multiply this value by (1-control efficiency) per drop point in Column 4, then multiply that value by number of drop points in Column 5. Enter this value in Column 6. Repeat this step for all drop points assigned to that emissions unit.
    a. Example: 2,000 tons of fertilizer passed through EP06 in the current month

$$20{,}000\ \frac{tons}{month} \times 0.02 \frac{lbs\ PM10}{ton} \times \frac{1\ ton}{2000\ lbs} \times (1 - .50\ control) \times 1\ drop\ point = 0.1\ tons\ (1\ drop\ point\ at\ 50\%\ control)$$

$$20{,}000\ \frac{tons}{month} \times 0.02 \frac{lbs\ PM10}{ton} \times \frac{1\ ton}{2000\ lbs} \times (1 - 0.985\ control) \times 3\ drop\ points = 0.009\ tons\ (3\ drop\ points\ at\ 98.5\%\ control)$$

(b) Summation of Column 6.

(c) 12-month PM_{10} emissions total from previous month's worksheet (tons).

(d) Monthly PM_{10} emissions total from previous year's worksheet (tons).

(e) Calculate the new 12 month PM_{10} emissions total. **A total of less than 15.0 indicates compliance.**

APPENDIX A

Abbreviations and Acronyms

% ..... percent

ºF ..... 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

CO_2..... carbon dioxide

CO_2e..... 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/m^3..... 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

NO_x..... nitrogen oxides

NSPS..... New Source Performance Standards

NSR..... New Source Review

PM ..... particulate matter

$PM_{2.5}$..... particulate matter less than 2.5 microns in aerodynamic diameter

PM_{10}..... 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

SO_x..... sulfur oxides

SO_2..... sulfur dioxide

tph..... tons per hour

tpy ..... tons per year

VMT..... vehicle miles traveled

VOC..... Volatile Organic Compound

Ms. Jennifer Cogswell
Environmental Compliance Manager
Koch Agronomics Services, LLC
4111 East 37th Street North
Wichita, Kansas 67220

RE: New Source Review Permit - Project Number: 2013-11-011

Dear Ms. Cogswell:

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 Nicole Weidenbenner, P.E., 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:nwj

Enclosures

c: St. Louis Regional Office
PAMS File: 2013-11-011

Permit Number: