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NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

September 1, 2020

Paul Gomes
Director of Safety and Environmental Affairs
Triumph Foods, LLC
5302 Stockyards Expressway
St. Joseph, MO 64502

RE: New Source Review Permit Amendment - Permit Number: 032013-008B
Project Number: 2020-04-024; Installation Number: 021-0126

Dear Paul Gomes:

On April 14, 2020, the Missouri Air Pollution Control Program received your request to add two new scrubbers and to modify the existing scrubber air flow at your existing installation in Buchanan County (S30, T57N, R35W). Attached with this letter is your amendment. The attached special conditions replace Special Conditions 1 and 2 in Permit No. 032013-008.

Triumph Foods, LLC owns and operates a hog processing and rendering facility. In 2010, it was issued Permit No. 032013-008 for the construction of the facility. At that time, the facility controlled the particulate emissions using a variety of control devices including baghouses, cyclones, Venturi scrubbers, and packed bed scrubbers. The scrubber design in Permit No. 032013-008 allowed for approximately 12 room changes per hour in the rendering plant. The installation is looking to increase the amount of scrubber capacity in the rendering plant to at least 20 room changes per hour. For that purpose, the plant will install two additional scrubbers: An 85,000 cfm packed bed scrubber (S3) and a 12,000 cfm Venturi scrubber (V3). The existing 36,000 cfm packed bed scrubber (S1) will now flow into the new packed bed scrubber (S3) instead of the 100,000 cfm packed bed scrubber (S2). The new Venturi scrubber (V3) will be added to the Bone Meal Milling Room (EU7) to provide more room changes to the room. There will now be two pollutant streams exiting from the Bone Meal Milling Room (EU7) that converges back into the same control device. One stream will be controlled via a Venturi scrubber (V2) followed by two (2) packed bed scrubbers (S1 and S3). The second stream will be controlled by a Venturi scrubber (V3) followed by a packed bed scrubber (S3).

Table 1 below lists the equipment with their control devices before and after the modification. All of the equipment in Table 1 are located in the rendering plant. Equipment without controls are not listed in the table. Venturi scrubber V2 is not in the table because it will be connected to the rendering plant for room changes and will not be used to control specific equipment.



Table 1: Current and Proposed Control Devices

Emission Unit ID	Description	Current Control Devices	New Control Devices
EU3	Blood Drier (Process Emissions and Combustion Emissions)	Venturi Scrubber (V1) Packed Bed Scrubber (S1) Packed Bed Scrubber (S2)	Venturi Scrubber (V1) Packed Bed Scrubber (S1) Packed Bed Scrubber (S3)
EU4	Blood Meal Milling	Cyclone (C1) Cyclone (C2) Venturi Scrubber (V1) Packed Bed Scrubber (S1) Packed Bed Scrubber (S2)	Cyclone (C1) Cyclone (C2) Venturi Scrubber (V1) Packed Bed Scrubber (S1) Packed Bed Scrubber (S3)
EU5	Blood Meal Pneumatic Transfer to Silo	Baghouse (B1)	Baghouse (B1)
EU6	Blood Meal Load-Out	Liquid Fat Application (G1)	Liquid Fat Application (G1)
EU7	Bone Meal Milling	Venturi Scrubber (V2) Packed Bed Scrubber (S1) Packed Bed Scrubber (S2)	Line 1: Venturi Scrubber (V2), Packed Bed Scrubber (S1), Packed Bed Scrubber (S3) Line 2: Venturi Scrubber (V3), Packed Bed Scrubber (S3)
EU8	Bone Meal Auger/Transfer	Venturi Scrubber (V2) Packed Bed Scrubber (S1) Packed Bed Scrubber (S2)	Venturi Scrubber (V2) Packed Bed Scrubber (S1) Packed Bed Scrubber (S3)

The new process flow for the installation is also given below.

Figure 1: New Process Flow Diagram

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new Venturi scrubber (V3) has a rated efficiency at 90% for PM₁₀. Using a 90% control efficiency for the packed bed scrubber (S3) from AP-42, Appendix B.2., the total control efficiency for the new system should be at least 99%. There would not be a difference between calculated emissions from the new system versus that of the old system. For PM_{2.5}, no efficiency (0%) was assumed for the calculations in Permit No. 032013-008. Therefore, the PM_{2.5} emissions calculated for the new system should be lower than that of the emissions calculated in permit 032013-008.

Since there wouldn't be an emissions increase beyond what is permitted in Permit No. 032013-008, this project only requires an amendment to change the special conditions in Permit No. 032013-008 for the control devices to match the new configuration. The modifications is not expected to increase the maximum design rates of any of the equipment. It is solely to increase the amount of air exchanges in the rendering plant. Packed bed scrubber (S2) was removed from the special conditions because it will now be used to exchange the air in the rendering plant and will no longer be controlling particulate emissions from a specific emission unit.

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, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.ao.mo.gov/ahc. If you have any questions regarding this amendment, please do not hesitate to contact Chia-Wei Young, at the department's 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



Kendall B. Hale
Permits Section Chief

KBH:cya
Enclosures

c: Kansas City Regional Office
PAMS File: 2020-04-024

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Permit No.	032013-008B032013-008
Project No.	2020-04-024

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 (3)(E). "Conditions required by permitting authority."

Triumph Foods, LLC
Buchanan County, S3, T57N, R35W

1. **Superseding Condition**
The conditions of this permit supersede Special Conditions 1 and 2 found in the previously issued construction permit 032013-008 issued by the Air Pollution Control Program.
2. **Control Device Configuration Requirements**
 - A. Triumph Foods shall control emissions from the Blood Drier (EU03) and Blood Meal Milling/Screening (EU04) using a Venturi scrubber (V1) and two packed bed scrubbers (S1 and S3) in series as specified in the permit application.
 - B. Triumph Foods shall control emissions from Bone Meal Milling/Screening (EU07) using either a Venturi scrubber (V2) followed by two packed bed scrubbers (S1 and S3) in series or a Venturi scrubber (S3) followed by a packed bed scrubber (S3) as specified in the permit application.
 - C. Triumph Foods shall control emissions from Bone Meal Auger Transfer (EU08) using a Venturi scrubber (V2) followed by two packed bed scrubbers (S1 and S3) as specified in the permit application.
 - D. Triumph Foods shall control emissions from Blood Meal Pneumatic transfer operations (EU05) using a baghouse (B1) as specified in the permit application.
 - E. Triumph Foods shall control emissions from the Blood Meal Load-Out (EU06) using a liquid fat spray application (G1) as specified in the permit application.

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Permit No.	032013-008B032013-008
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SPECIAL CONDITIONS:

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

3. Control Device Operating Requirements – Venturi Scrubbers (V1, V2, and V3) and Packed Bed Scrubbers (S1 and S3).

A. Triumph Foods shall monitor and record the operating pressure drop across the scrubbers at least once every 24 hours, while the emission units are in operation. The pressure drop across the scrubbers shall be maintained within the ranges specified in the table below.

Table 1: Scrubber Pressure Drop Range

Control Device	Pressure Drop (inches of water)
12,000 cfm Venturi Scrubber (V1)	-2 to -5
24,000 Venturi Scrubber (V2)	-2 to -5
12,000 cfm Venturi Scrubber (V3)	-3 to -6
36,000 cfm Packed Bed Scrubber (S1)	-3 to -5
85,000 Packed Bed Scrubber (S3)	-3 to -6

B. Triumph Foods shall monitor and record the liquid flow rate for each scrubber at least once every 24 hours while the emission units are in operation. The scrubbers shall have the following minimum liquid flow rates.

Table 2: Scrubber Minimum Flow Rate

Control Device	Minimum Liquid Flow Rate (gal/min)
12,000 cfm Venturi Scrubber (V1)	30
24,000 Venturi Scrubber (V2)	75
12,000 cfm Venturi Scrubber (V3)	45
36,000 cfm Packed Bed Scrubber (S1)	200
85,000 Packed Bed Scrubber (S3)	765

C. Triumph Foods shall operate all scrubbers in accordance with the manufacturer's specifications.

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Permit No.	032013- 008B032013- 008
Project No.	2020-04-024

SPECIAL CONDITIONS:

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

- D. Triumph Foods shall maintain operating and maintenance logs for the scrubbers which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of events, probable cause, and corrective actions;
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.; and
 - 3) The pressure drop and liquid flow rate required to be monitored and recorded in Special Conditions 3.A. and 3.B.