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NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

APR 03 2019

Mr. Jeremy Javers
Director of Technology Development – St. Joseph
ICM, Inc.
P.O. Box 397
Colwich, KS 67030

RE: New Source Review Temporary Permit Request – Project Number: 2018-10-043
Installation ID Number: 021-0125
Expiration Date: January 1, 2020
Temporary Permit Number: **042019-003**

Dear Mr. Javers:

The Missouri Department of Natural Resources' Air Pollution Control Program has completed a review of your request to temporarily operate a compression dryer to trial the production of a new dried product at ICM, Inc., located at LifeLine Foods in St. Joseph, Missouri. The Air Pollution Control Program is hereby granting your request to conduct this temporary operation at this location in accordance with Missouri State Rule 10 CSR 10-6.060(3).

ICM, Inc. operates a research and development facility (ICM Technology Development) located in St. Joseph, Missouri, at an ethanol plant being leased from LifeLine Foods, Inc. ICM Technology Development is proposing to run trials for the production of a variation of dried product called sedicanter cake. The sedicanter cake comes from the suspended solids removed from the ethanol centrate currently being produced at the installation and will be offered in pilot feeding trials. The trials will utilize a new compression dryer that will essentially act as an extrusion line, which dries the solids as they are pushed through the barrel by heated screws. Additional heat is generated by the mechanical shearing of the raw material and the force of compression as the product moves through the line, allowing for moisture removal. Exhaust from the compression dryer will be condensed through a distillation system, and any non-condensable gases will be sent to an existing wet scrubber for VOC/HAP control. The dry product will be pneumatically conveyed to the loading area, where particulate emissions will be controlled by two existing baghouses.

Currently, the two baghouses are inactive. ICM Technology Development will use the baghouses for the trial period until the project has been demonstrated as feasible, but not longer than 12 months. These baghouses have previously been utilized for research and development activities; however, they were never incorporated into any construction permit for permanent use. The



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existing wet scrubber will have sufficient capacity to accommodate the additional exhaust from the project. Any additional emissions passing through the scrubber are expected to be minimal since the flash point of the compression dryer process is much less than other drying methods currently in use. Although the baghouses and scrubber will be used in this project, the control devices are not required and, therefore, not practically enforceable by the Air Pollution Control Program. Any reduction in emissions due to use of the control devices was not accounted for.

Potential emissions were not specifically evaluated for this project because only small amounts of sedicanter cake will be generated (~1 ton of solids per day), and also because the emission factors for the processes in this project would be similar to or the same as those used for ethanol production processes currently performed at the facility, as described in confidential Construction Permit No. 062010-009. In order to keep the requisite information confidential, potential emissions of the project were only compared to the emission thresholds listed in 10 CSR 10-6.060(3). By approximating project emissions using similar calculation methodologies outlined in the confidential permit, the potential emissions are estimated to be far below 100 tons per year for each pollutant.

The ethanol centrate contains suspended particulates and volatile organic liquids, including trace HAPs such as acetaldehyde. The compression dryer is not expected to produce significant amounts of particulate emissions, as it removes moisture from the solids by heat and compression. Pneumatic transfer of the dried solids is also not expected to produce significant emissions, since the process is enclosed and controlled by baghouses. Even without baghouse control, potential particulate emissions are expected to be below de minimis levels.

The main volatile component of the centrate is ethanol, which is one of the installation's main products; therefore, potential VOC emissions are expected to be minimal. HAPs are not expected to be emitted in significant amounts due to their small composition percentage in the effluent. The liquid components that are evaporated and removed from the solids will be captured and controlled by a wet scrubber. Even without scrubber control, potential VOC/HAP emissions are expected to be below the de minimis level and Screening Model Action Levels.

You are still obligated to meet all applicable air pollution control rules, Department of Natural Resources' rules, or any other applicable federal, state, or local agency regulations. Specifically, you should avoid violating 10 CSR 10-6.165 *Restriction of Emission of Odors*, 10 CSR 10-6.170 *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, and 10 CSR 10-6.220 *Restriction of Emission of Visible Air Contaminants*.

Mr. Jeremy Javers
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A copy of this letter should be kept onsite and be made available to Department of Natural Resources' personnel upon request. If you have any questions regarding this determination, please contact Ryan Schott at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,
AIR POLLUTION CONTROL PROGRAM



Darcy A. Bybee
Director

DAB:rsj

c: PAMS File: 2018-10-043
Kansas City Regional Office