

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection

B539336074

FACILITY: PURINA MILLS INC		SRN / ID: B5393
LOCATION: 5620 MILLETT HWY, LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: EATON
CONTACT: Craig Feher , Maintenance Manager		ACTIVITY DATE: 06/30/2016
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled, unannounced inspection of Purina Mills to determine compliance with PTI No's 409-84, 883-89, 747-92, and 446-88B.		
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow

Personnel Present: Craig Feher, Maintenance Manager (CLFeher@LandOLakes.com)

Other Relevant Personnel:

**Purpose:** Conduct an unannounced, scheduled compliance inspection by determining compliance with Purina Mills' Permits to Install (PTI) Nos. 409-84 (6.69 MMBtu/hr boiler), 883-89 (fabric filter control for feed bagging process), 747-92 (grinding system), and 446-88B (Pellet Cooler w/ cyclones). The facility was last inspected in 2011.

**Facility Background/Regulatory Overview:** C. Feher said that Purina Mills manufactures animal feed in bulk and loads out its product via truck to farms or co-ops. They process grain (soy, wheat, and minerals such as calcium and sodium carbonate) and grain byproducts. Grain is received via truck or rail unloading, both of which were installed in the 1970's. Purina Mills no longer packages feed in bags. Purina Mills is a division of Land O' Lakes.

C. Feher said that they have not installed any equipment since the last inspection in 2011.

**Inspection:** This was an unannounced scheduled compliance inspection. At approximately 8:20 a.m. on June 30, 2016 I met with Craig Feher, Maintenance Manager. I provided C. Feher with a DEQ "Environmental Inspections: Rights and Responsibilities" brochure and a Permit to Install Exemption Handbook, as well as a Boiler MACT outreach brochure, as Purina Mills has a permitted boiler.

**PTI No. 409-84: 6.69 MMBtu/hr boiler**

This unit is a Cleaver Brooks boiler, Model CB200-200, Serial Number L-8034 and was installed March 20, 1984. They have removed the equipment from the boiler that allows them to burn fuel oil, therefore this unit is only run on natural-gas. C. Feher said it is used to heat the building, but the steam is also used for the pelleting process: corn is mixed with the steam to make animal food pellets. The boiler is exempt from the Boiler MACT JJJJJJ for area sources because it is a natural gas-fired boiler (as determined using the Boiler MACT online tool provided in the brochure: [www.deq.state.mi.us/eforms/BoilerTool/quiz.html](http://www.deq.state.mi.us/eforms/BoilerTool/quiz.html)).

C. Feher said the boiler is inspected by Dean Boiler, and yearly CSD tests are conducted (test is done on the exhaust emissions to ensure the boiler is burning clean).

The SO<sub>2</sub> emission rate from the boiler is limited to 1.11 lb/MMBtu heat input, based on a 24 hour period. This limit is based on the use of fuel oil, therefore this limit is no longer applicable. However, Purina Mills provided me with a calculations sheet for SO<sub>2</sub> emissions from the boiler in tons for calendar year 2015 (based on an AP-42 emission factor) which shows that the SO<sub>2</sub> emissions for the year from the boiler was 8 pounds.

The stack height on the boiler is required to be 61 feet above ground level. C. Feher and I both agreed that it did not look 61' high, but moreso around 40' high. This was not addressed in the 2011 inspection. I have requested that Purina Mills increase their boiler stack height to a minimum 61' and that when it is time for the next air inspection, the stack height will have been corrected to meet permit limits. The boiler was operating during the time of the inspection: there were no visible emissions.

PTI No. 883-89: Fabric filter for controlling Dust from Feed Bagging Process

The dust collector and feed bagging process have been removed. I will request this permit be voided.

PTI No. 747-92: Grinding System

This is a Hammermill grinder system which is controlled by a baghouse and a cyclone. The equipment was not operating during the inspection. All collected particulate from this process is reconstituted back into the system to produce a sellable product.

C. Feher said the filters in the baghouse are changed based on the product they are grinding. He said that if they see dust coming out of the exhaust, they repair the unit within a couple days, but don't operate the equipment until it's fixed within those few days.

PTI No. 446-88B: Pellet Cooler (EUPELLETCOOLER) with Cyclones & Feed Load Out (EULOADOUT)

Steam from the boiler is used in the grain/mixed meal to create animal feed pellets via extrusion. The pellets coming out of the process, C. Feher said, are at ~180°F. The pellet cooler cools the pellets to within 5-10°F of ambient air temperature. The pellet cooler is a fully automated system where C. Feher said that if there is a problem (if airflow through the cyclones is plugged), alarms sound. The system is equipped with 3 cyclones ("triple cyclone separators") that have a system in place that trips the alarm if the level of the dust at the bottom of the cyclone is too high.

C. Feher said they do daily, weekly and quarterly inspections on the cyclones to ensure they are operating properly.

This unit is subject to the area source MACT NESHAP Subpart DDDDDDD (7D) for Prepared Feeds Manufacturing. The State of Michigan currently does not have delegated authority for this MACT at this time.

C. Feher said that they operate 9 p.m. – 2 or 3 p.m. the following day. He said they used to operate 24 hours a day but they cut back a shift. C. Feher said product is not received between the hours of 5 a.m. and 2 p.m.

EULOADOUT has emission limits of 0.2 lb/hr and 0.9 tons/year. C. Feher provided me with an emissions calculation spreadsheet for January – December 2015. They keep records of the number of hours operated per year and calculate a pounds per hour based on yearly hours operated. PM emissions, according to this spreadsheet were 0.08 lb/hr and 0.08 tons/year. Closer look at these records in the future may involve verifying their PM emission factor used to calculate these emissions, as well as hours operated on a daily basis, rather than yearly for record-keeping purposes.

EULOADOUT is limited to processing 60 tons per hour of material. In the records, Purina Mills indicates that the maximum capacity for EULOADOUT is 50 tons/hour.

EUPELLETCOOLER has emission limits of 3.5 lb/hr and 15.6 tons/year. The same spreadsheet used to calculate EULOADOUT emissions is also used for EUPELLETCOOLER. According to the emission calculations they emitted 3.22 tons PM in 2015 and 1.67 lb/hr based on the operating hour average over the year.

EUPELLETCOOLER has a material limit of 20 tons/hr. Purina Mills indicated on their record sheet that the maximum capacity of EUPELLETCOOLER is 20 tons/hr. EUPELLETCOOLER was operated for 3848 hours during 2015. If EUPELLETCOOLER had been operated at maximum capacity they would have processed 76,960 tons of material for the year; however, they reported only producing 42,925 tons for the year.

I saw no visible emissions from EUPELLETCOOLER while it was operating during the inspection.

The permit also requires that the EUPELLETCOOLER stack exhaust at least 45' above ground level, unobstructed vertically upward. C. Feher and I verified that the stack is 50' high and is in compliance with the stack height requirement.

Other Equipment/Records

According to the 2015 records, total PM and PM10 for the year from all processes at the facility were 4.3 tons and 2.1 tons, respectively. If emissions reach 25 tons/year PM or 15 tons/year PM10, Purina Mills will have to report to the Michigan Air Emissions Reporting System (MAERS).

A micro-ingredient room is also located at the site, but was determined to be exempt per exemption Rule 285 (dd)(iii) after the 2011 inspection. The micro-ingredient room is used to handle vitamins, pharmaceuticals and

minerals to be included in the animal feed products. There is a Torit baghouse dust collector associated with the micro-ingredients.

At this time Purina Mills is in compliance with their permits at this time. I will make C. Feher aware of the stack height requirement on the boiler and request that the stack height be adjusted to meet permit requirements prior to the next inspection. Failure to do so could result in a violation notice.

Required PPE for inspecting Purina Mills: Safety vest, steel-toed shoes, safety glasses, hard hat.

NAME Michael M. Lopez DATE 8/26/16 SUPERVISOR B. M.

