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

M391244761

FACILITY: ADM Grain Company - Grand Ledge		**SRN / ID:** M3912
LOCATION: 16994 S WRIGHT RD, GRAND LEDGE		**DISTRICT:** Lansing
CITY: GRAND LEDGE		**COUNTY:** CLINTON
CONTACT: Leo Muhlenkamp , Superintendent		**ACTIVITY DATE:** 04/26/2018
STAFF: Julie Brunner	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Compliance Inspection of ADM in Grand Ledge		
RESOLVED COMPLAINTS:		

On April 26, 2018, I conducted an unannounced, scheduled inspection of Archer Daniels Midland Company (ADM) located at 16994 Wright Rd, Grand Ledge. This facility was last inspected on June 26, 2014.

Arrived: 8:45 am
Departed: 10:20 am
Weather: 41°F, calm, UV Index 1 Low

No visible emissions (VEs) were observed from the facility upon arrival. No odors were identified surrounding the facility.

Contacts:
Mr. Leo Muhlenkamp, Superintendent, ADM, 517-627-3777, leo.muhlenkamp@adm.com
Mr. Jason Boyer, Operations Manager – ADM Agricultural Services, 419-324-0810, jason.boyer@adm.com
Mr. Scott Bergstreser, Project Manager – ADM Agricultural Services, 419-324-0822, scott.bergstreser@adm.com
Mr. Jameson Moore, Trainee, ADM

Facility Description:
ADM Grain Co is a grain terminal elevator that receives grain via truck, and ships out grain via truck and rail. The facility has two (2) natural gas-fired grain dryers for drying corn. Grains handled at the facility include corn, soybeans, and wheat for animals.

ADM Grain Co is located just north of the City of Grand Ledge. The area is rural, and the grain elevator is surrounded by farm land.

ADM Grain Co is a minor source with no active Permits to Install (PTIs). This facility operates under exemption Rule 285(2)(p); "Commercial equipment used for grain unloading, handling, cleaning, storing, loading, or drying in a column dryer that has a column plate perforation of not more than 0.094 inch or a rack dryer in which exhaust gases pass through a screen filter no coarser than 50 mesh."

In 2004, the potential to emit (PTE) for the facility was estimated at ~50 tons per year (tpy) of PM10. The facility is a minor source of hazardous air pollutants (HAPs) with only combustion of natural gas (grain dryers) and a diesel fuel-fired emergency engine in small amounts that could be a source of HAPs. The facility is not subject to the Title V Renewable Operating Permit (ROP) program because it is not a major source of criteria pollutants and/or HAPs.

It is subject to 40 CFR 60, Subpart DD—Standards of Performance for Grain Elevators –
The provisions of this subpart apply to each affected facility at any grain terminal elevator or any grain storage elevator, except as provided under 40 CFR 60.304(b). The affected facilities are each truck unloading station, truck loading station, barge and ship unloading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations.
(b) Any facility under paragraph (a) of this section which commences construction, modification, or reconstruction after August 3, 1978, is subject to the requirements of this part.

40 CFR 60.301 Definitions.

(c) ***Grain terminal elevator*** means any grain elevator which has a permanent storage capacity of more than 88,100 m3 (ca. **2.5 million U.S. bushels**), except those located at animal food manufacturers, pet food manufacturers, cereal manufacturers, breweries, and livestock feedlots.

ADM became a ***grain terminal elevator*** in 1993-1994 with the installation of Bin 10. The permanent storage capacity increased to greater than 2.5 million bushels. Any equipment installed after 1993-1994 is subject to the requirements of 40 CFR 60, Subpart DD.

Commencement of Mfg. Operations: Early 1980s, ADM had 100% ownership by 1998

Plant Storage Capacity: 4,261,454 bushels

No. of Staff: 15

Operations are seasonal. Late June to August is wheat harvest. Late September to December is corn and beans.

During peak season, the facility operates from 7:00 am to 10:00 pm, 7 Days/Week.

Michigan Air Emissions Reporting System (MAERS):
The facility reports to MAERS as a Category II fee subject. There were 20 tons of particulate matter less than 10 microns (PM10) emissions reported for 2017 due to grain handling and drying operations, and a very small amount of combustion pollutants were reported due to natural gas combustion in the grain dryers.

Inspection:
A pre-inspection meeting was conducted with Mr. Leo Muhlenkamp, Superintendent. The facility operations were discussed. This was not peak harvest time, so facility operations were minimal. One truck was unload during the inspection. Facility maintenance, and installation of a new loadout to replace an open loadout was in progress. During the inspection, more ADM staff joined us who were on-site for various off-season maintenance projects.

The facility takes in grain and ships it out. Grain is transferred to rail and truck for sale for ethanol and feed products. Corn and wheat are stockpiled in large piles that are tarped. The grain storage silos have condensation control fans.

Facility roads are gravel with concrete pads under and around the loadouts. Calcium chloride is used, as needed, for dust control. The spring application of calcium chloride had not occurred yet. The gravel roads need to be graded first. There was some dust when a truck came through.

Emergency Generator:
Cummins generator set, diesel fuel-fired, installed in 2008. A diesel fuel tank with secondary containment sits beside the generator set. The engine is tested monthly for 30 minutes.

Cummins Engine – Model V112-700-08, Engine No. 10481576, 536 HP, Date of Manuf. 2/1975
Generator – Cummins Standby, kW 350/400, kVA 500, Model No. 80FOC5038AAW, Serial No. DA-92051-1/23-3
Hours Clock – 613.8 hrs

The engine is exempt from permitting per Rule 285(2)(g) because it has a heat input less of than 10 MMBtu/hr. The diesel fuel tank is exempt from permitting per Rule 284(2)(d). The engine is not subject to 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The engine meets the definition of existing emergency engine per 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). There are no requirements under this regulation as long as this engine is defined as an existing emergency RICE.

Grain Dryers:
There are two (2) natural gas-fired column grain dryers on-site. A GSI/Zimmerman AP 5000 installed in 1999 that has inner and outer plate perforations of 0.063 inch / 0.063 inch. A Sukup 4700 installed in 2011 that has inner and outer plate perforations of 0.078 inch / inch 0.063 inch. The grain dryers are subject to 40 CFR 60, Subpart DD. The column plate perforations cannot exceed 2.4 mm diameter (ca. 0.094 inch) and discharge

gases from the dryer cannot exhibit greater than 0% opacity per 40 CFR 60.302(a). They were not operating the day of the inspection.

Grain Receiving Pits 1 and 2 with Baghouse Dust Collector:
Covered by a two (2) sided structure with vent pickups in the floor. A 24,000 cfm baghouse dust collector installed in 2014 is used to control dust. The baghouse has a side exhaust vent. It has a pressure gauge (PLC) and an alarm will go off if pressure drop goes over 5 inches. (All dust collectors are alarmed, and operation is monitored electronically.) Baghouses are on an annual maintenance schedule, or if problems occur, they are serviced more frequently.

Loadout of a truck was observed during the inspection. Dust collection was observed with just a little bit of dust escaping capture. There was no dust observed from the exhaust vent of the baghouse. The operator swept any loose grain into the pit that escaped during loadout. Fugitive emissions from truck unloading stations are limited to 5% opacity per 40 CFR 60.302(c)(1). Any process cannot discharge particulate matter (PM) in excess of 0.023 g/dscm (ca. 0.01 gr/dscf) and greater than 0% opacity per 40 CFR 60.302(b)(1) and (2).

Grain Receiving Pit C with Baghouse Dust Collector:
This pit is covered by a four (4) sided structure with two (2) overhead doors for truck entrance and exit. The doors are open during loadout because the structure is not meant to hold / cover the entire truck. A 12,000 cfm Donaldson Torit baghouse dust collector installed in 2011 is used to control dust. The baghouse has a side exhaust vent.

New Loadout –
A new loadout is being installed replacing an open loadout. It will be an enclosed structure with a 15,000 cfm Donaldson Torit baghouse dust collector. Open belts in the loadout are being replaced with closed belts. Construction is expected to be complete in August. This process will be subject to testing per the requirements of 40 CFR 60, Subpart DD.

According to information provided by ADM, the dust collectors have a filter media that is capable of achieving average emission levels of no more than 0.002 grains per dry standard cubic foot (gr/dscf) of PM. This emission rate does not include condensable materials. (Manufacturing information attached.) Emissions for PM which are probably PM10 (excluding condensables) or less in size are estimated as follows for each baghouse:

Pits 1 and 2 with 24,000 cfm baghouse:
0.002 gr/dscf x 1 lb/7000 gr x 24,000 ft^3/min x 60 min/hr = 0.411 lb/hr x 8760 hr/yr x 1 ton/2000 lb = 1.8 tpy of PM/PM10

Pit C with 12,000 cfm baghouse:
0.002 gr/dscf x 1 lb/7000 gr x 12,000 ft^3/min x 60 min/hr = 0.206 lb/hr x 8760 hr/yr x 1 ton/2000 lb = 0.9 tpy of PM/PM10

New Loadout with 15,000 cfm baghouse:
0.002 gr/dscf x 1 lb/7000 gr x 15,000 ft^3/min x 60 min/hr = 0.257 lb/hr x 8760 hr/yr x 1 ton/2000 lb = 1.1 tpy of PM/PM10

Information on the amount of corn, wheat, and beans received, processed, and shipped for 2015, 2016, and 2017 is attached. The largest amount of grain received by the facility in the three (3) year period was 13,471,576 bushels in 2015.

Summary:
The facility appeared to be in compliance with the applicable rules and regulations. Equipment that is subject to 40 CFR 60, Subpart DD has been tested and meet the requirements. The new loadout will be tested as required by 40 CFR 60, Subpart DD after installation is complete.

A complete equipment list is attached to the June 26, 2014 AQD Inspection Report. There have been no equipment changes since the 2014 inspection.

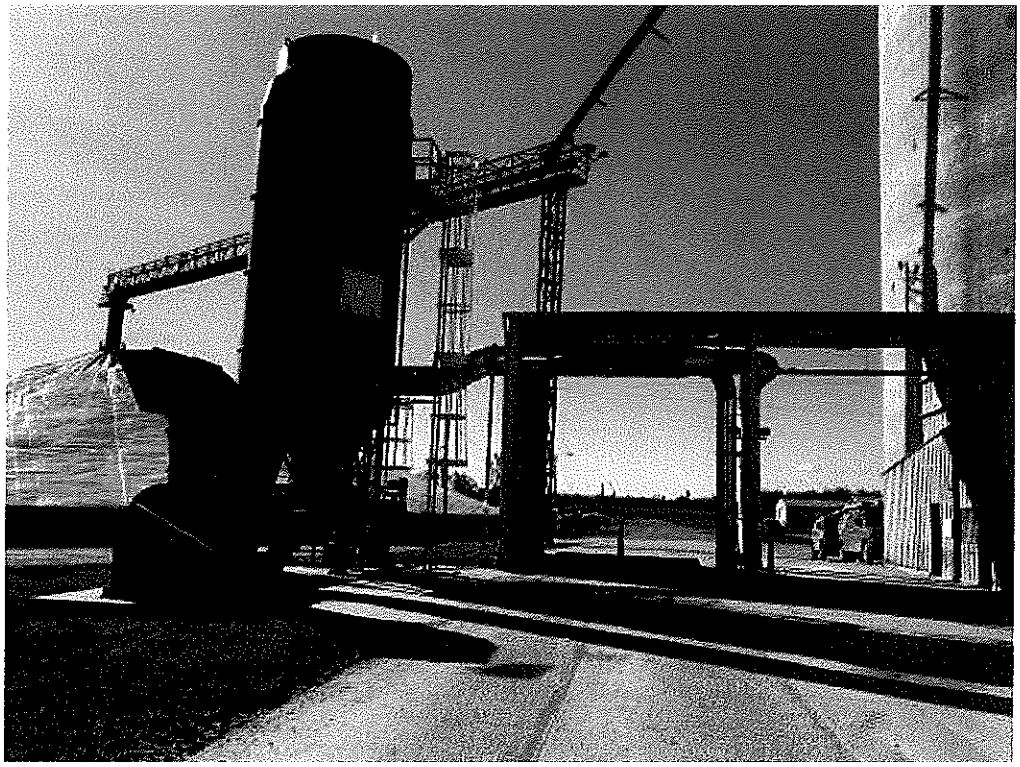

Image 1(0162) : Grain receiving Pits 1 & 2 with baghouse

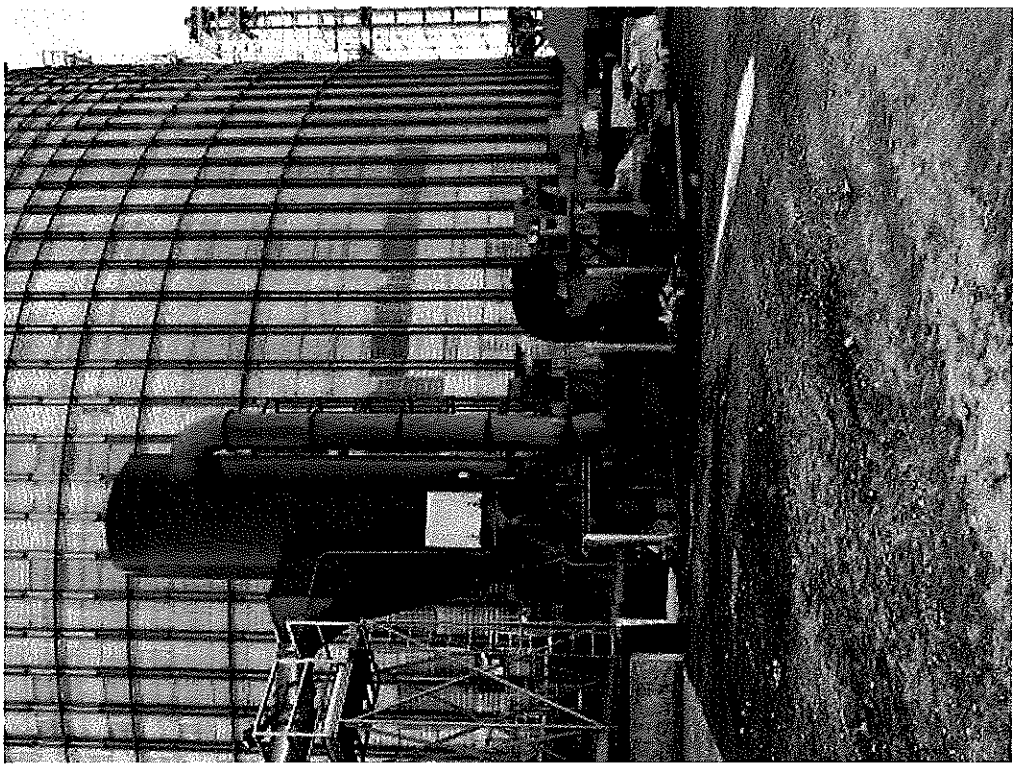

Image 2(0163) : Grain Receiving Pit C

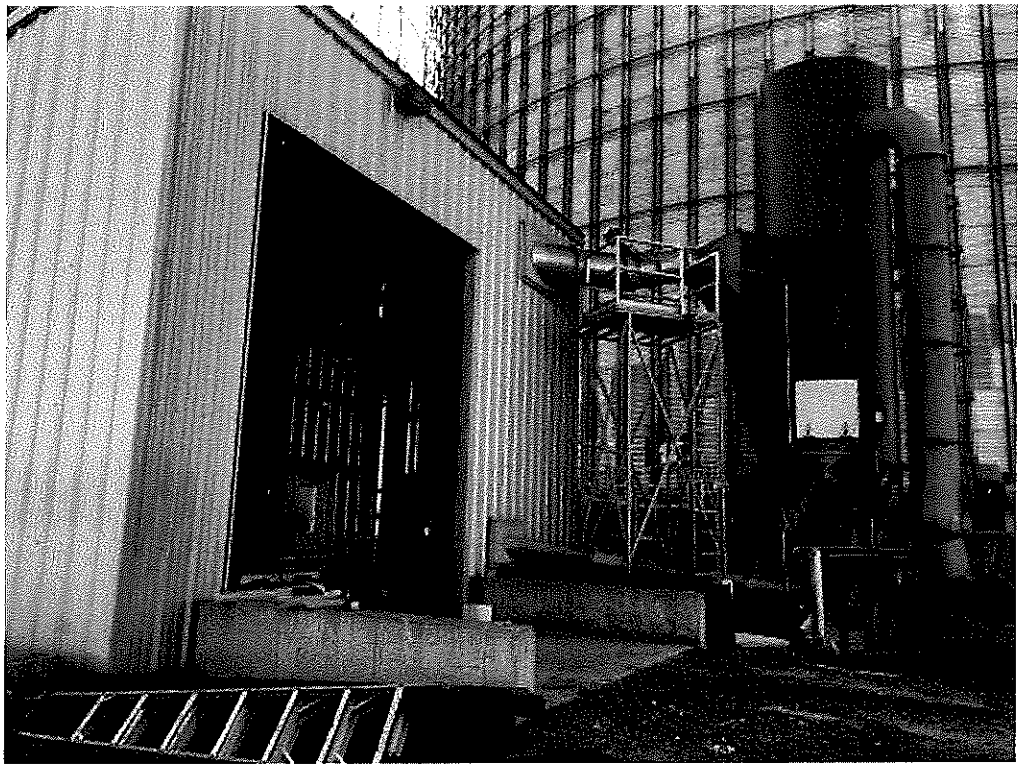

Image 3(0164) : Grain receiving Pit C

NAME Julia A. Brown DATE 6/18/18 SUPERVISOR B.M.