

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

B754937031

FACILITY: Pioneer Hi-Bred International Inc	SRN / ID: B7549
LOCATION: 1365 S WASHINGTON, CONSTANTINE	DISTRICT: Kalamazoo
CITY: CONSTANTINE	COUNTY: SAINT JOSEPH
CONTACT: Andrew DuBois , Production Location Manager	ACTIVITY DATE: 10/07/2016
STAFF: Dennis Dunlap	SOURCE CLASS: MINOR
SUBJECT: Scheduled inspection.	
RESOLVED COMPLAINTS:	

This was not an announced inspection. Drew DuBois is the contact person on site. The last AQD inspection was in 2008.

This facility takes in harvested seed corn in Sept. and Oct. During this time the corn is de-husked, sorted, dried, shelled, sized, treated, and packaged. Treatment and packaging usually occurs from Sept. through April.

Walkthrough

Harvested seed corn is brought to the facility in trucks. There is an unloading area on the south side of the facility. It is unloaded out of the back of the trucks and put into ground level grates where it is conveyed to the sorting building. The harvested seed corn contains husks with the ears as well as some stalks. In the sorting building the ears are removed from the husks and stalks. The ears are then hand sorted. Husks and stalks are then conveyed outside to an open-topped truck to be hauled away. It is assumed that a cover is put over the truck when it leaves the facility. This is the first year that the husks and stalks are not put through a tub-grinder to be made into silage. There are no dust collectors associated with the de-husking operation. No visible emission were seen at the sorting building. The unloading operation as well as de-husking and sorting are exempt by Rule 285(p).

The ear corn is then conveyed to one of the 5 dryers. Each dryer is enclosed. There are no dust collectors associated with the drying operation. Dryer 1 is covered by permit 678-77; Dryer 2 is covered by permit 679-77; dryer 3 is covered by 976-80; and dryers 4 and 5 are covered by permit 382-08. The corn may be at 30% moisture when it comes from the field. It is dried to 12-13%. The corn spends 50-100 hours in the dryers. After drying the corn is conveyed to the sheller building. No visible emissions were seen coming from the dryers. At the conveyors on the east side of the dryers there were a few large particles coming from the conveyors. The conveyors are covered at this location. There may be a few gaps where particles can escape.

There is a maintenance shop where there is one Safety Kleen degreaser. The lid was closed. This is exempt by Rule 281(h). There is also one grinder. This is exempt by Rule 285(l)(vi)(B).

There are two shellers in the sheller building. There are two dust collectors associated with the shellers. They emit back inside the building. There is one other dust collector for other pick up points in the building. This also emits back inside the building. Bees wings are collected. These are wetted down and conveyed by an auger to an outside truck. It is assumed that the truck is covered when it leaves the facility. Corn cobs are conveyed to a field on the east side of the facility where they are deposited on the ground. The cobs are then loaded into trucks using a front loader. The cobs are in large pieces. No visible emissions were observed from this corn cob operation. The shelling operation is exempt by Rule 285(p).

There is an outside Torit dust collector outside of an area used for research. This area is exempt by Rule 283(1)(a)(vi) or Rule 285(p).

From the sheller building the corn is conveyed to the bulk storage building. For treating the corn is conveyed to the corn conditioning tower where the corn is cleaned and separated by size and shape (round vs flat). The corn is then stored in kernel size bins prior to treating. Two dust collectors were seen in this area. One was on the top floor and one was on the floor below. These are GS Farr dust

collectors. These are for the two aspirators associated with cleaning as well as the treatment process. The treatment system is covered by permit 45-09B which includes two dust collectors as well as an activated carbon filter. These dust collectors emit back inside the building. Two other dust collectors were mentioned as being in the treatment building. These are GS Farr 40 and GS Farr 16 units and they emit back inside the building. At least one of these may be associated with the kernel sizing operation.

The treatment process includes two bowl seed treaters. The corn is spun around and the treatment chemicals are added. Drying also occurs in the bowl. There is a metering system for adding the chemicals. From 2015 records twelve chemicals were added. Nine of these contain VOCs. There is a control room with a screen that shows the metering for the chemicals. The bowl seed treaters and the two associated dust collectors with the activated carbon filter are covered by permit 45-09B. The seed sizing operations and associated dust collectors are exempt by Rule 285(p).

After treating the corn is transferred to packaging bins. There are two bagging/packaging lines. One is for rework bagging. The other is the main bagging line. Each line has a dust collector that emits back inside the building. The packaging lines are exempt by Rule 285(p). There is a trash compactor inside this building used to consolidate paper waste. No visible emissions were seen at the treatment building. Packaged corn is stored in the warehouse area.

Records Review

The facility has a 956,000 bushel storage capacity. Based on this it is not subject to 40 CFR Part 60 Subpart DD. In 2015 1,283,654 bushels were processed. Based on past records about 1,935,077 bushels were processed in 2008. At that time actual and potential emissions were calculated. Actual emissions were below MAERS reporting levels. It is assumed that since the number of bushels processed in 2015 was less than in 2008, the facility is still below MAERS reporting levels.

In 2015 the amount of natural gas used in the 5 dryers was 6,234 mcf (1000 cubic feet). Calculations indicate that NOx emissions were about 3 tons from the dryers.

Dryers 4 and 5 are covered by permit 382-08. This permit limits hours of operation for each dryer to 2,000 hours per 12-month rolling time period. The permit also requires PM-10 calculations. The dryers operate only in Sept. and Oct. In 2015 Dryer 4 operated for 972 hours, and Dryer 5 for 969 hours. The facility supplied PM-10 emissions for Dryers 4 and 5. After review of the original permit application for 382-08, it was recommended to the facility to use 1.45 lb/hr for Dryer #4 and 0.58 lbs/hr for Dryer #5. This includes non-combustion and combustion emissions of PM-10. Using these emission factors, emissions from Dryer 4 were calculated to be 0.7 tons, and Dryer 5 emissions were 0.3 tons for 2015. The facility responded that the permit application data using the Iowa data included emissions from combustion. This seems reasonable so the PM-10 emission factor for Dryer 4 is 1 lb/hr and 0.22 lb/hr for Dryer 5. The permit limit is 2.8 tpy and 2.4 tpy, respectively.

The only permit conditions for Dryers 1-3 is opacity (20%). Permit 679-77 contains an additional condition that the "applicant shall cover truck inside the building before leaving the building. This is an obsolete condition since trucks do not enter the buildings.

The seed treaters are covered by permit 45-09B. The permit limit for VOC is 11.5 tpy based on a 12-month rolling time period. The VOC content of each material has a limit of 20% by weight as received. Record keeping sheets were provided showing the VOC content of each material. Record keeping sheets were also provided showing the daily usage amounts and monthly summaries of each material in ounces for 2015. According to the sheets the material with the highest VOC content was Raxil at 8.1% by weight. Based on the usage amounts the VOC emissions were calculated to be 8.84 tons in 2015. This matches the facilities calculations which were 8.87 tons (difference probably based on rounding).

The activated carbon filter is inspected monthly (called secondary filter) by maintenance staff. The filter is replaced at readings above 2 inches of water column.

The facility has a permit application in review(45-09C). This application is requesting to replace the two

corn treater dust collectors with a Farr GS32 unit. There may be a stack associated with this. They are also proposing two add 2 fluidized bed conveyors which would be used to dry corn after treatment. The facility considered these exempt from permitting but may be included as part of the treatment system. The facility also proposed other changes that would be exempt by Rule 285(p).

NAME Dennis Dunlap

DATE 10/13/16

SUPERVISOR maul13/2016