

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

B664355069

FACILITY: BASF Corporation		SRN / ID: B6643
LOCATION: 1740 WHITEHALL RD, MUSKEGON		DISTRICT: Grand Rapids
CITY: MUSKEGON		COUNTY: MUSKEGON
CONTACT: Richard Pospisil , Head of Health, Safety, Environmental, & Security		ACTIVITY DATE: 07/23/2020
STAFF: Scott Evans	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Announced, scheduled air quality compliance inspection		
RESOLVED COMPLAINTS:		

Introduction

BASF is a chemical production plant that produces pesticides and herbicides. Presently, production capacity of chemicals is lower than the potential maximum at the facility due to a voluntary halt of the use of the Multi-Purpose Building #2 (MP#2). The facility intends to return the building to use and will contact the department when that time comes. The facility also hosts personnel from other companies for activities relating to the loading and unloading of chemicals to and from transportation vehicles.

On July 23, 2020, inspector Scott Evans (SE) conducted a scheduled inspection of this BASF facility. This facility was not unannounced due to current risks regarding the COVID-19 pandemic. This visit was scheduled approximately 24 hours in advance to ensure proper security clearance and safety precautions could be followed. Proper PPE and social distancing were maintained during the inspection.

Upon approach to the facility, SE observed no odors or signs of visible emissions from the perimeter of the facility. At 7:53 am, SE entered the facility and was greeted by the Head of Site Health, Safety, Environmental, and Security, Richard Pospisil (RP), and by HSE&S Representative Jim Whitaker (JW). After a brief safety instructional video and a brief discussion of the purpose of the visit, a walking, visual inspection of the facility commenced.

Visual Inspection**FG-Multipurpose2 (PTI No. 304-87B)**

This flexible group consists of five emission units:

- MP#2 East
- MP#2 West
- Tk4114
- Tk4115
- TK4116

MP#2 East and West refer to the two halves of the MP#2 building. Tk4114, Tk4115, and Tk4116 are the storage tanks that service the MP#2 building. At the time of inspection MP#2 was not in operation and so the associated equipment was not in use. This shutdown occurred in December of 2015. Documentation of approval of this shutdown from the AQD district office was provided. Assessment of the most recent operations of this equipment have been documented in past inspections. The visual inspection confirmed that all equipment is still being maintained despite current disuse in order to keep the facility ready for a return to service in the future.

This flexible group is serviced by three pieces of control equipment:

- D-4301
- D-85000
- I-70000

D-4301 and D-85000 are air scrubbers and I-70000 is a dust collector. Since MP#2 is not currently in operation and is not producing any emissions, none of this control equipment was operating in service of the building. As with the emission units, visual inspection confirmed that the equipment is maintained in good condition for an eventual return to service when the facility resumes operation of MP#2.

FG-Multipur2Tks (PTI No. 304-87B)

This flexible group consists of three emission units:

- Tk4114
- Tk4115
- Tk4116

These are the same tanks as are included in FG-Multipurpose2. While MP#2 is not operational, the storage

tanks are still capable of storing chemicals for use elsewhere in the facility. These tanks were in proper operational condition during the visual inspection. No leaks or emissions were seen to be coming from the equipment.

These tanks are serviced by three types of control equipment:

- Conservation Vents
- Vapor Balance mechanisms
- Nitrogen Blankets

During the visual inspection it could be seen that all control mechanisms for these tanks were functional and could be used as needed for the tanks. Many of these control methods are also used for other storage tanks throughout the facility and so the necessary protocols and equipment are maintained on the facility regardless of current use or disuse of any single tank.

FG-GA (PTI No. 84-96C)

FG-GA is the largest building on the premises and is the current primary production unit for the facility, manufacturing glufosinate ammonium (Liberty). It consists of 21 emission units:

- GA (the building as whole entity)
- FlexTk105
- FlexTk107
- FlexTk108
- FlexTk110
- FlexTk115
- FlexTk120
- FlexTk125
- MethnolTk130
- MethnolTk132
- MethnolTk1010
- MLiqResTk135
- UpPhasTk140
- HCLTk150
- HCLTk152
- FlexTk160
- FlexTk161
- FlexTk162
- AddtvTk165
- AddtvTk175
- SrfTk176

All emission units (except the GA building as a listed emission unit) are storage tanks that service the GA building. These tanks may hold various chemicals if they are flex tanks, while others are designated for specific chemicals, such as the Methanol tanks. During the inspection, all tanks appeared in good condition with no leaks, visible emissions, or continuous odors. There were occasional chemical odors on the facility grounds throughout the inspection, but none were strong or consistent enough to qualify as problematic.

The emission units within FG-GA are serviced by four pieces of control equipment:

- D-680 – Main plant scrubber
- D-640 – Maintenance scrubber
- D-155 – Hydrochloric acid tank farm scrubber
- I-350 – Dust collector for the packaging area

During the visual inspection all four pieces of equipment were functioning as required. The current operational parameters of each during the inspection was recorded as follows:

- D-680 – liquid flow indicator = 12.8 gallons/minute (gpm)
- D-640 – liquid flow indicator = 7.3 gpm
- D-155 – liquid flow indicator = 14.4 gpm
- I-350 – pressure drop indicator = 0.8 inches of H₂O

As discussed in the GA Malfunction Abatement Plan (MAP) the operational parameters for the scrubbers is a positive flow rate and the operational parameter for the dust collector is a pressure drop of <1 in H₂O. As can be seen in the recorded values, all equipment was operating as required by the MAP during the inspection.

Additionally, all vapor balancing systems were operational, and all stacks were of original construction and appeared within compliance of permitted requirements.

FG-AmmoniaTks (PTI No. 84-96C)

This flexible group consists of two emission units:

- AmmoniaTk180
- AmmoniaTk185

These tanks both store ammonia for use within the facility. During the inspection there were no ammonia odors by the tanks or elsewhere in the facility and there were no visual signs of leaks.

FG-Facility (PTI No. 84-96C)

The facility as an entire entity demonstrated no visual signs of excess emissions and no consistent odors suggesting excess emissions. All equipment appeared to be functioning properly or was maintained in good condition if not in current use. While on the roof of the GA building, there was no evidence on any buildings or tank coverings of particulate matter coming from any stacks to collect anywhere on the facility.

Multiple pieces of exempt equipment including boilers, generators, diesel engines, and parts cleaners were observed during the inspection. All appeared to be properly maintained. A more detailed discussion of this equipment and applicable rules can be found in the "Exempt and Other Items" section of this report below.

During the inspection there were a couple instances of vapor clouds coming from various stacks and control equipment. When observed, these clouds could be seen to be only water vapor without any discoloration, trailing particulate matter, or strong odors.

Records Review

FG-Multipurpose2 (PTI No. 304-87B)

As is required by PTI 304-87B, the facility has a MAP on site for MP#2. This document is still on site and up to date even though the equipment is not currently in use. The facility is also expected to regularly monitor control equipment operational parameters and record VOC emissions. However, because this equipment is not currently in use, there were no readings or records for review.

FG-GA (PTI No. 84-96C)

The MAP for the GA building was on site and up to date. This matches the version of the MAP that the department currently has on file. The facility is required to keep annual production records of product from the building on a 12-month-rolling basis. These records were properly maintained and provided to the department. Upon review it was seen that as of June 2020, the annual production was 4,989 tons of product. This value is well within the permitted production limit of 8,800 tons. This flexible group also has two emission limits of 2.7 lbs of VOCs per ton of product made and 0.08 lbs/hr of particulate matter (PM). Stack testing to verify compliance with these two emission limits is not being required at this time.

FG-AmmoniaTks (PTI No. 84-96C)

Required documentation for this flexible group includes a written plan for Fire Response and a log of any malfunctions of the tanks. The facility was able to provide an Emergency Response plan for the entire facility, which includes fire response procedures. The facility also provided a copy of their emergency response checklist and their notification call list. Within the past calendar year there were no malfunctions of the ammonia tanks that required documentation.

FG-Facility (PTI No. 84-96C)

This flexible group, which covers the entire facility, is subject to three Emission Limits:

- 34.0 tons/year (tpy) of Volatile Organic Compounds (VOCs)
- 9 tpy of each individual Hazardous Air Pollutant (HAP)
- 22.5 tpy of aggregate HAPs

To demonstrate compliance of each of these emission limits, the facility is required by PTI 84-96C to maintain monthly and annual (on a 12-month-rolling basis) records of emissions for VOCs, Individual HAPs and aggregate HAPs. These documents were provided by the facility and showed the following results for the period of June 2019 through June 2020:

- Highest Monthly VOC: 0.806 tons in March 2020
- Highest 12-Month-Rolling VOC: 9.324 tpy as of June 2019
- Highest Monthly Individual HAP: 70.2 lbs Hexane in February 2020
- Highest 12-Month-Rolling individual HAP: 2.7 tpy of Methanol as of June 2020
- Highest Monthly Aggregate HAPs: 3 tpy in December 2019, January 2020, and February 2020
- Highest 12-Month-Rolling Aggregate HAPs: 4.94 tpy as of June 2019

All of these values demonstrate emissions that are well within permitted emission limits.

The facility is also subject to the following material production limits:

- 3,000 tpy of product containing HAPs that are VOCs.
- 9,000 tpy of product not containing HAPs.

The facility currently does not produce products containing HAP material. Therefore, production of product not containing HAPs is equal to 0 tpy as of June 2019. This may change in the future if MP#2 is returned to operation depending on the products being manufactured in the building. This also means that production of product not containing HAPs is the same as the facility-wide production of 4,989 tpy as discussed in the "FG-GA" section above, which is well within the permitted amount.

Exempt and Other Items

The facility has five boilers on site, one of which has been dismantled, leaving four functional boilers. All boilers operate on natural gas.

- One boiler was installed in October of 1997 and has a maximum heat capacity of 42.1 mmBtu/hr. This boiler is exempt from air permitting regulations by Rule 282(2)(b)(i) as a water heating unit with a heat capacity of <50 mmBtu/hr. This boiler is subject to New Source Performance Standards (NSPS) 40 CFR Part 60 Subpart Dc by way of fuel type (Natural Gas), heat capacity (>10 mmBtu/hr), and install date (after June 9, 1989). Though it is unclear if notification of initial startup of this boiler was provided to the AQD this boiler is otherwise compliant with expectation of Subpart Dc and the facility can provide current operational data, therefore no violation will be issued. This boiler is not subject to National Emission Standard for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 subpart JJJJJ as it is a natural gas-fired boiler.

- Two Boilers were installed in January of 1976 and have maximum heat outputs of 20.9 mmBtu/hr each. These boilers are exempt from air permitting regulations by Rule 282(2)(b)(i) as water heating units with a heat capacity of <50 mmBtu/hr. These boilers are not subject to NSPS 40 CFR Part 60 Subpart Dc by way of install date (prior to June 9, 1989). These boilers are not subject to NESHAP 40 CFR Part 63 subpart JJJJJ for industrial area source as they are natural gas-fired.

- One Boiler was installed in November of 2012 and has a maximum heat capacity of 10.04 mmBtu/hr. It is exempt from air permitting regulations by Rule 282(2)(b)(i) as a water heating unit with a heat capacity of <50 mmBtu/hr. This boiler is subject to NSPS 40 CFR Part 60 Subpart Dc by way of fuel type (Natural Gas), heat capacity (>10 mmBtu/hr), and install date (after June 9, 1989). Notification of initial startup for this boiler was provided in 2012 and so the facility is in compliance with subpart Dc. This boiler is not subject to NESHAP 40 CFR Part 63 subpart JJJJJ for industrial area source as it is a natural gas-fired boiler.

The facility has one diesel emergency generator. This generator was installed in November of 2008 and has a maximum heat capacity of 2.14 mmBtu/hr. It is exempt from air permitting regulations by Rule 285(2)(g) as an internal combustion engine with a maximum heat capacity of <10 mmBtu/hr. Since the engine was installed after June 12, 2006, it is considered a new unit and is subject to the Reciprocating Internal Combustion Engine (RICE) NSPS 40 CFR Part 60 subpart IIII. It is unclear if initial startup notification was provided in 2008, but as it is now known that the unit is on site, no violation will be issued. This unit is subject to RICE MACT 40 CFR Part 63 Subpart ZZZZ. The facility is within compliance with this RICE MACT standard through compliance with NSPS 40 CFR Part 60 Part IIII.

The facility has two diesel engines that service the fire suppression system pumps. These engines were installed in 1977 and have maximum heat capacities of 2.11 mmBtu/hr. These engines are not subject to the NSPS 40 CFR part 60 subpart IIII due to classification as existing fire pump engines installed prior to July 11, 2005. These engines are subject to the MACT standard 40 CFR 63 Subpart ZZZZ. Compliance with this requirement is demonstrated through compliance with NSPS 40 CFR Part 60 Subpart IIII, which these engines are not subject to.

The facility has one parts cleaner station located in their maintenance shop. This is a small cold cleaner of <10 square feet of surface area and is exempt from air permitting regulations by Rule 281(2)(h). The lid of this unit was closed at the time of inspection.

Conclusions

At the conclusion of the inspection the facility appeared to be in compliance with all air permitting regulations including limits and requirements outlined in PTI No. 304-87B and PTI No. 84-96C.

NAME

Scott Evans

DATE 9/24/2020

SUPERVISOR

SEV