

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

B233142542

FACILITY: Michigan State University - Bioeconomy Institute		SRN / ID: B2331
LOCATION: 242 Howard Avenue, HOLLAND		DISTRICT: Grand Rapids
CITY: HOLLAND		COUNTY: OTTAWA
CONTACT: Amy L. Stevens, Environmental Engineer		ACTIVITY DATE: 11/02/2017
STAFF: Tyler Salamasick	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY 2018 Synthetic minor inspection		
RESOLVED COMPLAINTS:		

Background

Michigan State University Bioeconomy Institute (MSU or Bioeconomy Institute) SRN: B2331 is a research facility that specializes in developing pilot plant operations. The facility is located at 242 Howard Avenue, Holland, Michigan. The Bioeconomy Institute is located at the former Pfizer Global Manufacturing Holland Plant. The facility is in a mixed industrial and residential area with the nearest residential structure approximately 370 feet west north west of the facility and industry to the north east and south. The facility was inspected on 11/2/2017 by Tyler Salamasick, Environmental Quality Analyst of the Michigan Department of Environmental Quality, Air Quality Division. The intent of the inspection was to determine the facility's compliance with the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, Michigan's Air Pollution Control Rules and PTI No. 267-09. The permit limits emissions of volatile organic compound (VOC), individual hazardous air pollutant (HAP), particulate matter 10 microns (PM10) and combined hazardous air pollutant (HAPs) from the pilot plant (EUPILOTPLANT). EUPILOTPLANT includes the pilot plant reactors, distillation vessels, centrifuges, heat exchangers, mixers, vacuum pumps, scrubbers and dust collectors. The permit does not have a facility wide limit. The permit enforces limits that make MSU a synthetic minor. MSU is considered a synthetic minor so long as the facility does not install additional equipment that would put their potential to emit over major source thresholds.

Inspection

Site arrival was at 10:05 am on 11/02/17. I met with Amy Stevens, Environmental Engineer for MSU. Upon meeting, I presented my State of Michigan identification card, informed the facility representative of the intent of my inspection and was permitted onto the site. Amy described the facility and its processes. The facility is a pilot process research facility. MSU specializes in upscaling production of biofuels, agricultural and medical chemicals. The plant has three main buildings. They are divided into building 100, 200 and 300. The general plant operations are carried out in building 100. At the time of my inspection building 200 was being used as storage and building 300 was being used for rotary and tray drying. Amy showed me the facility and the pollution control devices. The devices include three scrubbers and four dust collectors. The control equipment can be used in various combinations depending on which process is being operated and what reactions are being used. After inspecting the facility and the control equipment I had a closing meeting with Amy, which included some record review as well as record requests. Amy provided me with the 12 month rolling emissions records for 2015, 2016 and 2017 as requested.

PTI No. 267-09 - EUPILOTPLANT

This permit covers pilot plant reactors, distillation vessels, centrifuges, heat exchangers, mixers, vacuum pumps, pumps, scrubbers, and dust collectors. The pollution control equipment includes three scrubbers SR-001, SR-002, and SR-003 as well as four dust collectors, EF-1, EF-3, DU-366A, and DU-366B.

The permit limits VOC, PM, individual HAP, total HAP and PM 10 emissions from EUPILOTPLANT. The facility is limited to emissions of 89 tons of VOC, 22.4 ton total HAPs, 13.4 tons PM10 and 8.9 tons individual HAPs per 12 month rolling time period. The facility does not currently demonstrate a 12 month rolling total for these air contaminants. The records do indicate that based on their monthly emissions the facility would meet these limits. Amy is in the process of correcting the records and submitting them to the MDEQ AQD.

EUPILOTPLANT does not have material limits set by the permit. MSU does have process and operational restrictions that require the facility to have an operation and maintenance plan. During the inspection I requested a demonstration of the facility's operation and maintenance plan. Amy provided me with a copy of the facility's written plan. This document details the equipment and includes work checklists. The document appears to comply with the process and operational restriction requirements of the permit.

The design and equipment parameters of the permit require that the scrubbers SR-001, SR-002 and SR-003 are

installed, maintained and operated in a satisfactory manner, as described in the operation and maintenance plan. During the inspection I observed the control equipment and it appeared to be operation correctly. The equipment did not indicate low/no flow. MSU appears to comply with this requirement.

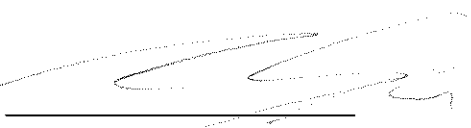
The permit also requires that dust collectors EF-1, EF-3, DU-366A, or DU-366B are installed, maintained, and operated in a satisfactory manner, as described in the operation and maintenance plan. The facility was not operating the dust collectors at the time of the inspection, but I did observe the maintenance checks that included the pressure drop readings. They were not running the dust collectors because they were not operating a process that required them. The facility's sheet had a hand-written note that indicated the baghouse was supposed to operate at a very low pressure. I discussed this with Amy, and she indicated that the number was not correct. She showed me additional information that indicated that the pressure drop readings were correct.

The permits monitoring and record keeping requirements indicate that the facility must monitor alarms for scrubber liquid flow rates in accordance with the operation. MSU appeared to comply with this requirement. The permit also requires that MSU maintain record of all materials processed in EUILOPLANT. Amy provided me with electronic records that indicated the material usage. Amy also indicated that she would update her records to indicate a 12 month rolling total. This is required by the permit and will be demonstrated at a later date.

Conclusion

It appears that MSU is in compliance with the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, Michigan's Air Pollution Control Rules and PTI No. 267-09.

NAME



DATE

12/4/17

SUPERVISOR

