DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

A580668459

FACILITY: The Hillshire Brands Company		**SRN / ID:** A5806
LOCATION: 8300 96TH AVE, ZEELAND		**DISTRICT:** Grand Rapids
CITY: ZEELAND		**COUNTY:** OTTAWA
CONTACT: Tim Kamradt , Environmnetal Manager		**ACTIVITY DATE:** 08/01/2023
STAFF: Chris Robinson	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: FY '23 on-site inspection to determine the facility's compliance status with respect to PTI 270-96D and any other applicable State and Federal air quality rules and regulations.		
RESOLVED COMPLAINTS:		

A) Introduction

Staff Chris Robinson (CR) from Michigan's Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) conducted an inspection at Hillshire Brands Company (SRN A5806) on July 25, 2023. Hillshire is located at 8300 96th Avenue in Zeeland, Michigan. The purpose of this inspection was to determine the facility's compliance status with the requirements of the federal Clean Air Act; Part 55 (Michigan's Air Pollution Control Rules) of Act 451 of the Natural Resources and Environmental Protection Act (NREPA); Permit to Install (PTI) 270-96D and any other applicable state and federal air quality rules and regulations.

CR did not observe any odors or visible emissions prior to entry or during the inspection. CR met with Tim Kamradt, Environmental Manager. Identification was provided and CR informed Tim of the purpose of the inspection which began by reviewing the facility's PTI and records.

Weather conditions were hazy with a temperature of approximately 83 degrees Fahrenheit and southwest winds at approximately 12 mph (www.weatherunderground.com).

B) Facility Description

The Hillshire Brands Company is owned by Tyson Foods but operated as Hillshire Brands. Hillshire is a smoked meat food producer. The main products produced are deli meats, hotdog/franks, sausage patties/links, beef roasts and breakfast bowls.

The facility has multiple production lines that use different combinations of meat cutting, spice blending, smoking, cooking with boiler heat, chilling, and packaging. The main emission units at the facility are the natural gas boilers and the smoking ovens. The facility also has an anhydrous ammonia refrigeration unit and emergency generators.

Some of the cooking lines utilize in-bag wet cooking where the meat is sealed in bags and cooked in hot water. The smoking lines use either liquid smoke flavoring, natural smoke, or a combination of the two. Both cooking types utilize process heat from the boilers.

C) Regulatory Evaluation / Compliance Evaluation

1) PTI No. 270-96D

The Hillshire Brands Company is a Title V opt out source for nitrogen oxides (NOx), carbon monoxide (CO) and carbon dioxide equivalent (CO2e). Permit to Install (PTI) no. 270-96D establishes facility wide (FGFACILITY) emission limits for NOx (<70 tpy), CO (< 80 tpy), and CO2e (< 89,000 tpy).

FGWOODSMOKEOVENS

This Flexible group consists of meat smoking ovens utilizing either liquid smoke and/or wood smoke. The ovens include EUALKAR4, EUALKAR5, EUALK-P2BATCH13, EUALK- 2BATCH14, EUAUR4, EUKSIP2BATCH7, EUMAUR2, EUMAUR3 and EUMAUR5.

FGWOODSMOKEOVENS is subject to a PM emission limit of 0.24 pounds per 1,000 pounds of exhaust gas. Compliance with this limit is demonstrated through proper operation and compliance with the PTI requirements which include 12-month rolling material usage limits. Except for EUALKAR4A and EALKAR5A wood chip usage is limited to 647.4 tpy. From July 2022 through June 2023, the highest monthly 12-month usage was 57.3 tons (August 2022). Liquid smoke usage for these same ovens is limited to 510 tpy. The highest monthly 12-month usage was 17.33 tons. Liquid smoke usage for EUALKAR4A and EUALKAR5A (combined) is limited to 7.5 tpy. The highest monthly 12-month usage was 3.4 tons (January 2023). A woodchip usage limit for EUALKAR4A and EUALKAR5A was not included in the PTI since these ovens cannot use woodchips.

Most of the records were reviewed on site but what was requested was provided. Stacks were not measured but appeared to meet the PTI requirements and Tim indicated that there have been no changes to the stacks.

FGFACILITY

FGFACILITY includes source-wide conditions that apply to all process equipment at the stationary source including equipment covered by other permits, grandfathered equipment, and exempt equipment. The facility is subject to 12-month rolling emission limits, which are 80 tpy of CO, 70 tpy of NOx, and 89,000 tpy of CO2e. Per the attached records, the month with the highest rolling 12-month emissions was December 2022 at 20.07 tons of CO, 23.89 tons of NOx, and 28,533 tons of CO2e.

The facility also has facility wide material limits. The permit establishes 12-month rolling limits on the use of natural gas (1,300 MMcf), wood chips (647.4 tpy), CO2 gas (10,000 tpy) for only the sausage mixing equipment, and No. 2 fuel oil (4,965 gallons) for the diesel engines. Per the attached records, the month with the highest usages for natural gas was December 2022 at 477.77 MMcf, woodchips were August 2023 at 57.3 tons, CO2e gas was May 2023 at 2,3970 tons. The facility used 1,440 gallons of no. 2 fuel oil in the last year.

The facility appears to be operating within all emission limits and material usage limits specified in their PTI. Fuel and woodchip usage is being monitored in accordance with the PTI and records are being maintained appropriately and were made available upon request by the AQD, which were mostly reviewed onsite.

2) Rule 201 Permitting Exemptions

The facility maintains a list of the exempt emission units located within the facility (see attachment "Zeeland PTE calculations 2023"). Emission units claimed exempt by the facility include Rule 282(2)(b)(i) for natural gas fired boilers, Rule 290 for nine (9) natural gas-fired ovens and four (4) natural gas sausage cookers, Rule 281(2)(h) for seven (7) cold cleaners, and Rule 285(2)(g) for two (2) combustion engine driven fire pumps and two (2) emergency generators.

Three (3) of the five main boilers at the facility were observed (no. 1, 2, & 6). Boilers #1 and #2 are Cleaver Brooks 14.6 MMBtu/hr. natural gas fired boilers manufactured on 4/29/1966 and installed in April 1985. Since this unit was not installed prior to August 1967 it is not considered to be "grandfather" from Michigan's Rule 201 permitting requirements. Boiler #4 is 16.8 MMBtu/hr. and was installed in April 1995. Boiler #6 (Replacement for Boiler #3) and #5 are rated at 20.9 MMBtu/hour. Boiler #6 was manufactured on 12/22/90 and installed in January 1993 while boiler #5 was installed in July 1996.

Since boilers 4, 5 & 6 have max capacities of greater than 10 MMBTU/hr. and were installed after 1989 these boilers are subject to the Standards of Performance for New Stationary Sources (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units as promulgated in 40 CFR Part 60, Subpart Dc. The facility maintains fuel usage records to demonstrate compliance. Initial notifications are required. CR will verify if they have been submitted, if not, forms will be provided for the facility to complete and submit.

The facility tracks monthly emissions for the 13 emission units claimed exempt under Rule 290. The months with the highest combined VOC emissions for the past year are July and August 2022 at 0.23 tons (460 lbs). This combined total is less than the 1,000 lb. per month individual emission unit limit.

Based on the information gathered during the inspection, which is listed in the table below, all 4 engines appear to be subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Stationary Reciprocating Internal Combustion Engines as promulgated in 40 CFR Part 63, Subpart ZZZZ (RICE MACT). The RICE MACT requirements for the Lift Station Fire pump are to comply with the NSPS for Compression Ignition Internal Combustion Engines as promulgated in 40 CFR Part 60, Subpart IIII, since it was constructed after June 12, 2006. The remaining engines are not subject to this NSPS since they were ordered prior to July 11, 2005, and have not been modified or reconstructed since. Only the compliance status of the Fire pump with respect to the NSPS will be evaluated by AQD. However, the facility should evaluate the three NESHAP subject engines for requirements and compliance status with respect to the RICE MACT.

It is unknown if the fire pump engine is a certified NFPA engine, but it was manufactured after 7/1/2006. Therefore, if it is not a certified NFPA engine it would not be subject to NSPS IIII. If it is a certified NFPA engine it would be subject to emission standards for NOx+NMHC, CO, and fuel specifications. Compliance with the emission limitations can be demonstrated by purchasing an EPA certified engine, which based on the engine's nameplate, it is (see note in table below).
Compliance with the fuel requirement is demonstrated by using fuel that contains a maximum sulfur content of 500 ppm and a minimum cetane index of 40. Ultra-Low sulfur diesel typically has a sulfur content of 15ppm and a cetane level of 40-45. Therefore, its use meets the fuel specifications required by the NSPS. Hillshire uses Ultra-Low Sulfur Diesel.

ID	Fuel Type	HP	Dates	EPA Compliant	Hours of Operation
Lift Station Fire pump	Diesel	74	Install Date - April 2019	Name plate states that it complies with EPA Regs for Diesel C3.48 Certificate # KFPXL03.48PL	--

Peerless Fire pump	Diesel	170	Manufacture Date - 3/16/1985	--	742
Onan Genset	NG	--	Approximately around the same time the John Deer was installed.	--	--
John Deer Genset	Diesel	~102	Startup Date - 8/19/1996	--	--

Hillshire operates two (2) anhydrous ammonia refrigeration systems. One system consists of Engine Rooms A-C and the second consists of Engine Room D. Engine Rooms B and C were installed in 1985 and Engine Room A was added to that system in 2001. Engine Room D was installed in 2014. Engine Rooms A-C contain a combined total of 213,979.16 pounds (~42,796 gallons) of Anhydrous ammonia and Engine Room D contains 73, 675.09 pounds (~14,735 gallons). Prior to 2016 cold storage refrigeration systems using anhydrous ammonia could be considered exempt from Michigan's Rule 201 permitting requirements regardless of capacity of anhydrous ammonia. In 2016 a maximum capacity of 500 gallons was added to the exemption. Although, Hillshire's refrigeration system is substantially over the 500-gallon limit, facilities are "grandfathered" into exemptions as they were at the time of initial use. Therefore, this refrigeration system appears to be exempt per the former Rule 280 requirements. Substantial repairs and/or modifications may change this status, limiting the system to 500-gallons and/or apply for a permit.

3) MAERS

Report submittal was received on time (March 15, 2023) and was reviewed by AQD on April 28, 2023. Source-wide emissions as reported are listed below.

Pollutant	Amount (tons)
Ammonia	0.76
CO	21.63
Lead	0.0001
NOx	23.11
PM10, FLTRBLE	0.003
P10, PRIMARY	3.30
PM2.5, FLTRBLE	0.003
PM2.5, PRIMARY	1.70
SO2	0.16
TOC	0.003
VOC	6.61

D) Conclusion

Based on observations, discussions and a records review, Hillshire Brands Company appears to be operating in compliance with applicable air quality rules and regulations including PTI No. 270-96D.

NAME _____ DATE 8/24/2023 SUPERVISOR _____