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

N112767933

FACILITY: DENSO INTERNATIONAL AMERICA INC		**SRN / ID:** N1127
LOCATION: 24777 DENSO DR, SOUTHFIELD		**DISTRICT:** Warren
CITY: SOUTHFIELD		**COUNTY:** OAKLAND
CONTACT: Gary Godin , Manager EHS & Security		**ACTIVITY DATE:** 06/23/2023
STAFF: Owen Pierce	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: FY 2023 Inspection Report		
RESOLVED COMPLAINTS:		

On June 23, 2023, I (Owen Pierce EGLE - Air Quality Division) performed a scheduled targeted inspection of Denso International Inc. located at 24777 Denso Drive, Soutfield, Michigan. Iranna Konanahalli (EGLE-AQD) and Marie Reid (EGLE-AQD) joined me for the inspection. The purpose of the inspection was to determine the facility's compliance with the Federal Clean Air Act; and Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451 and the conditions of Permit to Install (PTI) No. 452-85C. Upon arrival Iranna, Marie, and I met with Gary Godin, Manager, and conducted a pre-inspection meeting where we introduced ourselves, presented our credentials, and stated the purpose of the inspection.

During the pre-inspection meeting, Gary explained the facility's processes and equipment. Denso International America (Denso), an American subsidiary of Denso Corporation of Japan, has, in Southfield,MI, a 16.5-acres Research and Development (R&D) campus that includes a total of five buildings (Original Building (Tech Center), Buildings No. 10, 20, 30, and 40).
The Tech Center operations include engineering, design, prototype, testing and calibration of automotive components including emissions controls, fuel systems, air intake systems, ignition systems, alternators, air-conditioning systems, relays, controls, etc. Denso has a staff of approximately 1,260 employees including office staff. Non-permitted equipment at Denso includes five emergency generators, one spray booth, one solvent cleaning booth and fume hood, a SMOG-HOG, and five boilers used for heating purposes. In addition, Gary informed us that the Fuel Lab is no longer in operation.

Facility Walkthtough Observations

During the walkthrough, we observed the EUTESTCELL1 and EUTESTCELL2. Both emission units consists of a chamber room that houses an Engine dynamometer test cell with a maximum capacity of 500 HP. No visible emissions were observed at the time of the inspection and both test cells were not running during the inspection.

Next there was a paint spray booth located in the machine shop in the Tech Center. Gary informed us that only spray cans are used in the booth. We noticed that there were some gaps in the dry filters that were installed and informed Gary that the filters need to be leak proof. Gary immediately had a technician fix the gaps in the filters. Additionally, there were 4 CNC machines in the machine shop. The CNC machines appear to be exempt from the requirement in R336.1201 to obtain a permit to install per R336.1285(2)(l)(vi)(B) because they are used to cut and/or grind metal or wood and the emissions are released into the general in-plant environment.

We observed Five natural gas fired boilers during the walkthrough: 1 Brian boiler with a max heat input of 1.2 MMBTUs, 2 Clear Fire-H boilers with a max heat input of 2.3 MMBTUs, 1 Lockinvar boiler with a max heat input of 500,000 BTUs (0.5 MMBTUs), and 1 Ajax boiler with a max heat input of 1.5 MMBTUs. All boilers at the facility are exempt from Rule 336.1201 (Permit-to-Install) pursuant to rules 336.1282(2)(b) (<< 50 million BTU per hour heat input, natural gas only), and New Source Performance Standards (NSPS) Subpart Dc (<< 10 million BTU per hour heat input, natural gas only).

Five 1000 kW (1 MW) Caterpillar Diesel Emergency Generators were observed at the facility: Generator 1 (DN 01/Tech Center), Generator 2 (DN 10/Building No.10), Generator 3 (DN30 / Building No.30), Generator 4 (DN 20/Building No. 20), and Generator 5 (DN 40/Building No. 40). Since the fuel consumption for a diesel generator producing 1000 kW is approximately 72 gallons per hour of diesel, and 1 gallon of diesel produces approximately 138,000 BTUs, the approximate max heat input for a 1000

kW diesel generator equals approximately 9.936 MMBTUs. Therefore the generators are exempt from Rule 336.1201 (Permit-to-Install) pursuant to 336.1285(2)(g) (<< 10 million BTU per hour max heat input).

Generators 1 and 2 were installed in 1988, Generator 3 was installed in 2006, and Generators 4 and 5 were installed in 2016. Since Generators 3-5 were installed in 2005 or later, they appear to be subject to the New Source Performance Standards (NSPS) (40 CFR 60 Subpart IIII).
NSPS IIII requires:

1. Non-resettable hours-meter.
2. ULSD (15 ppm S) Diesel only.
3. 50 hrs. / yr. for non-emergency generator use.
4. 100 hrs. / yr. for maintenance and testing: Only annual testing is performed.
5. Compliance with emission standards listed in 40 CFR 60 Subpart IIII.
6. Operate in accordance with manufacturer recommendations.

In a September 10, 2014 letter from Gary Godin, a US EPA 2006 Model Year Certificate of Conformity with the Clean Air Act for Generator 3 was received by the AQD. In a August 8, 2017 letter from Robert Pleva, a US EPA 2016 Model Year Certificate of Conformity with the Clean Air Act for Generators 4 and 5 were received by the AQD. Both of these EPA Certifications for Generators 3 and 4-5 satsify the compliance with emission standards requirement in NSPS IIII for stationary emergecy internal combustion engines of the same type, manufacturer, and design specifications.

During the walkthrough, each Generator was observed having a non-resettable hours meter and hours meter readings were taken. The hours meter readings from 2019-2023 are as follows:

- Generator 1 = 767.2 hours (6/27/2023), 754 hours (6/6/2022), 734 hours (6/16/2021), 728 hours (6/14/2020), 713 hours (7/4/2019)

- Generator 2 = 1224 hours (6/27/2023), 1212 hours (6/6/2022), 1175 hours(6/16/2021), 1139.5 hours (6/14/2020), 1111 hours (7/4/2019)

- Generator 3 = 553.1 hours (6/27/2023), 544.3 hours (6/6/2022), 518.5 hours (6/16/2021), 497 hours (6/14/2020), 477 hours (7/4/2019)

- Generator 4 = 169.1 hours (6/27/2023), 160.7 hours (6/6/2022), 136.9 hours (6/16/2021), 104 hours (6/14/2020), 85 hours (7/4/2019)

- Generator 5 = 197.1 hours (6/27/2023), 188.6 hours (6/6/2022), 164.8 hours (6/16/2021), 132 hours (6/14/2020), 112 hours (7/4/2019)

Gary provided diesel invoice records from 2022 and 2021, and a safety data sheet (SDS), that confirms the use of dyed ultra low sulfur diesel fuel (ULSD) (15 ppm S Diesel) for their generators.

Although the five generators may be subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combuston Engines (NESHAP) (40 CFR 63 Subpart ZZZZ) at area sources of hazardous air pollutants the Michigan Department of Environment, Great Lakes, and Energy (EGLE, AQD) has not accepted delegation from the U.S. Environmental Protection Agency (US EPA) for enforcing NESHAP for Stationary Reciprocating Internal Combuston Engines (40 CFR 63 Subpart ZZZZ) at area sources of hazardous air pollutants.

PTI No. 452-85C Compliance Evaluation

FGTESTCELLS

Special Condition (SC.) I.1 states that visible emissions shall not exceed 0 percent. No visible emissions were observed from EUTESTCELL1 and EUTESTCELL2 during the inspection and both test cells were not running during the inspection.

FGFACILITY

SC I.1 through 4. sets CO, VOC, and HAPs emission limits for FGFACILITY based on a 12-month rolling time period as determined at the end of each calendar month. The emission limits are displayed in the table below:

Pollutant	Limit
1. CO	Less than 89 tpy
2. VOC	Less than 89 tpy
3. Individual HAP	Less than 8.9 tpy
4. Aggregate HAPs	Less than 22.4 tpy

SC. VI.3 requires that the permitee provide the following information on a monthly basis for FG FACILITY:

- CO emission calculations in tons.
- CO emission calculations in tons per 12-month rolling time period as determined at the end of each calendar month.
- VOC emission calculations in tons.
- VOC emission calculations in tons per 12-month rolling time period as determined at the end of each calendar month.
- Individual and aggregate HAPs in tons.
- Individual and aggregate HAPs in tons per 12-month rolling time period as determined at the end of each calendar month.

Gary provided records of CO, VOC, and HAPs emissions for 2019 - 2023. According to the CO, VOC, and HAP records, the highest 12-month rolling emissions from 2019-2023 are as follows: CO emissions were approximately 20.75 tons, VOC emissions were approximately 2.87 tons, facility-wide individual HAP emissions were all below 8.9 tons each per year, and aggregate HAPs emissions approximately were 2.43 tons.

SC. II.1 states that liquid fuel used for combustion is limited to less than 41,000 gallons per year based on a 12 month rolling time period as determined at the end of each month, and SC.VI.2 requires that the permitee provide records of the amount and type of fuel used for combustion on a monthly and 12-month rolling time period basis. Based on liquid fuel usage records from 2019-2023, the maximum fuel used was approximately 16,879 gallons of fuel.

SC. II.2 limits the usage of natural gas to 180 MMCF per year based on a 12 month rolling time period as determined at the end of each month. According to the natural gas usage records from 2019-2023, the maximum natural gas used was approximately 65.58 MMCF.

Conclusion

Based on the observations made during the inspection, and an analysis of the requested records, the facility is in compliance with the conditions and requirements of PTI No. 452-85C.

NAME Owen Pierce DATE 7/19/2023 SUPERVISOR K. Kelly