

N5864
Mawila

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

N586454496

FACILITY: Adient US, LLC		SRN / ID: N5864
LOCATION: 49200 HALYARD DR, PLYMOUTH		DISTRICT: Detroit
CITY: PLYMOUTH		COUNTY: WAYNE
CONTACT: Michael L. Stoelton , Director of Environmental Affairs		ACTIVITY DATE: 01/16/2020
STAFF: C. Nazaret Sandoval	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR SM OPTOUT
SUBJECT: FY 2020 Scheduled inspection		
RESOLVED COMPLAINTS:		

Source: SRN N5864 – Adient US, LLC (former Johnson Controls)

Location: 49200 HALYARD DR, PLYMOUTH, MI 48170

Inspection Date January 16, 2020

Inspector: Nazaret Sandoval, AQD

Contact Person: Michael L. Stoelton, Director of Environmental Affairs

Facility Phone Number: (734) 254-5000 (main line)

Email: michael.l.stoelton@adient.com

FACILITY BACKGROUND AND EXEMPT EQUIPMENT

Adient US, LLC (formerly Johnson Controls) was consolidated in 1991 in over 500,000 square feet of office space accommodating about 2,000 employees within three buildings in Metro West Technology Park in Plymouth, Michigan. The Plymouth technical campus consists of design, engineering, sales and development functions for automotive seating components and systems as well as a sales team for the OE battery business.

In the building, there are various sources of air pollutants, but most equipment is used on nonproduction basis and they exhaust to the in-plant environment. The Foam Business Unit at the Plymouth Technical campus has a Research and Development (R&D) Laboratory where new foam formulations, de-molding agents and molding processes are tested. The foams are tested for a variety of properties including resiliency, flammability, and durability. In addition, the facility operates natural gas-fired hot water boilers, small natural gas-fired heating units (direct and hot water), emergency generators, a small welding area, a small woodworking shop and 3D printing, a small coating booth and a small laser etching unit. The existing processes have been historically exempted from the requirement of R 336.1201(1) to obtain a permit to install and the facility has been classified as a true-minor source.

In 2018 the facility submitted a permit application to AQD for a modification of the existing facility which included the installation of six pieces of equipment:

- Two natural gas-fired Cleaver Brooks Model CFC-700-3300 hot water boilers.
- One natural gas-fired Lochinvar Model AWN601PM-PS-RJA200 hot water heater.
- Two natural gas-fired rooftop heating units manufactured by Trane (Model Nos. YHC060F4RHA and YSC092F4RHA.)
- One Kohler Model No. KD62V12-6CES emergency engine/electricity generator set (genset).

As part of the project, the facility proposed the removal of:

- The existing 350- kW emergency generator.
- Three hot water boilers.
- Two of the ten existing hot water heaters, and
- Two rooftop heating units.

According to the permit evaluation and the exemption demonstration submitted by the company along with the permit application in 2018, all new proposed equipment qualified for permit exemptions, except for the emergency generator.

The emergency genset is to supply power to the facility in the event of a power outage and the engine will exclusively use fuel oil. In a genset, the engine is the combustion source that emits air contaminants; therefore, it is the core element that required review. The engine required a permit because its maximum input capacity (23.7 MMBtu /hour) is above 10MMBtu per hour - the internal combustion engine capacity limit allowed by Rule 285(2)(g) to be exempt from permitting-. The permit for the installation of the new diesel-fuel emergency generator (PTI 171-18) was issued on April 8, 2019. The contribution to the regulated pollutants from the exempt equipment was included in the total project emissions.

COMPLIANCE HISTORY

There are not any records of complaints and/or violation notices for this source within the last five years.

INSPECTION NARRATIVE

On January 16, 2020 I arrived at the facility at about 2:30 PM to conduct an inspection at Adient US, LLC (herein Adient). After the introductions, I stated the purpose of the inspection, which was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, the applicable Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) regulations and the requirements/conditions cited in PTI 171-18 .

We had an opening meeting where I briefly discussed the permit conditions and the record request that I had sent to Mr. Stoelton on 1/15/2020.

Mr. Stoelton guided me through the building. We started at the foam lab area and continued the tour until we checked all operations that could potentially contribute to air pollution.

The molded-foam production starts by mixing long chain alcohol resins (polyols), surfactants, catalysts, and water in batch blended 55 gallon drums .The resin blend is metered in the appropriate ratio and proceeds to a pouring station where toluene di-isocyanate (TDI) is added via high pressure impingement mixing. The resin blend/TDI mixture is then poured into molds. Other areas of operations at the facility include: the bulk chemical storage and receiving area, the drum storage area, the chemical mixing area, and the tooling area (where mold maintenance repairs occur).

To finalize the tour Mr. Stoelton showed me the new boilers, the water heaters and the permitted emergency generator which was on the back the building (north side).

The inspection concluded with a closing meeting where I indicated that additional information was needed to complete the compliance evaluation and I would follow up with Mr. Stoelton to complete the collection of records. A report with the inspection findings would be prepared. I left the facility at approximately 4:30 PM.

After the site visit, I had various conversations with Adient's staff and their consultants where I asked for additional records, clarification, and documentation to verify compliance with condition of permit 171-18 and Rules 336.1282-1291. The information was compiled and summarized by Adient's consultant engineer in three documents; a letter dated 6/19/2020 and two emails dated 7/9/2020 and 8/5/2020. The attachment provided with the email dated 8/5/2020, which included PTE calculations for the natural gas heating equipment, was updated per AQD comments. Adient's consultant sent the updated information via email on 8/18/2020. The records will be discussed later in this report.

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SC I.1 to SC I.3 – In Compliance

Hourly Emission Limits for NMC+NO_x, CO, and PM, are: 6.4, 3.5 and 0.2 g/kw-hr; respectively.

Evaluation:

The permit emission limits are based on the federal requirements for certified engines established under 40 CFR 60.4205(b) and 40.CFR 60.4202(b)(2) Table 1 of 40 CFR 89.112.

According to the records the facility purchased an EPA certified engine. For additional details refer to the evaluation of SC VI.2 and VI.3 in the next sections of this report.

SC I.1 to SC I.3 – In Compliance

Hourly Emission Limits for NMC+NO_x, CO, and PM, are: 6.4, 3.5 and 0.2 g/kw-hr; respectively.

The facility is required to provide fuel supplier certification records or fuel sample test data for each delivery of diesel fuel oil used in EUEMGEN1, demonstrating that the fuel meets the requirements cited above. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil.

Evaluation:

Records provided via email on 2/7/2020 indicated that since the installation of the emergency generator the facility had only one fuel delivery on 11/10/2018. The information is documented in a tracking sheet maintained by the operators at the facility. The fuel is No. 2 Ultra Low Sulfur Diesel distributed by Marathon Petroleum. The SDS was provided. The reported cetane index of 45, and the sulfur content of less than 15 ppm, both from the fuel supplier, are within the acceptable requirements.

SC III.1 to III.3, SC IV.1 SC. VI.4 – In Compliance

Operational restriction and recordkeeping

EUEMGEN1 shall not operate for more than 500 hours per year based on a 12-month rolling-time-period as determined at the end of each calendar month.

EUEMGEN1 shall not operate for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing. (Record the hours per calendar year

for the purpose of necessary maintenance checks and readiness testing).

EUEMGEN1 may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing.

Provide the number of hours spent for emergency operation and non-emergency operation. Provide records of total hours of operation for EUEMGEN1 on a monthly and 12-month rolling time-period basis and the hours of operation during non-emergency operation for EUEMGEN1, on a calendar year time-period basis.

Evaluation:

Log-sheets were provided on 2/7/2020 and on 6/19/2020 showing the monthly generator's maintenance/testing and emergency hours of operation. The log has a column for the recording of the rolling 12-month total for year 2019 /2020. According to the information it appears as if the generator started-up its operations in April 2019, therefore; in January 2020, when this inspection was conducted, there were not enough recorded data to evaluate a 12-month period.

Additional information provided via email on 6/19/2020 indicated that at start-up in April 2019, the initial hours on the unit were recorded as 43.2 hours. The most recent reading of totalized hours reflects 79.8 resulting in 36.6 total hours operated under permit 171-18 since April 2019. (refer to Appendix B in letter from CTI Consultants, dated 6/19/2020)

SC I.1 to SC I.3, SC IV.2, SC IV.3, SC III.4, SC VI.2a and VI. 3a – In Compliance Certified Engine Emission-Related Written instructions and Maximum Rated Power.

SC IV.2a - requires the permittee to install, maintain and operate the engine of EUEMGEN1 certified to the emission standards cited on SC I.1, SC I.2 and SC I.3, for the same model year for EUEMGEN1.

SC III.4 - requires the facility to operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions.

SC IV.3 – requires the maximum rated power output of EUEMGEN1 shall not exceed 3,621 HP (2,700 kW), as certified by the equipment manufacturer.

SC VI.2a. - for a certified engine, the permittee shall keep records of the manufacturer certification documentation indicating that the engine meets the applicable requirements contained in the federal Standards of Performance for New Stationary Sources 40 CFR Part 60 Subpart IIII.

SC. VI.3a. - for a certified engine, the permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.4.

Evaluation:

According to the records, the facility purchased an EPA certified engine.

A copy of the USEPA certify of conformity with the CAA for the stationary engine 2017 model year, is in AQD permit application files. The EPA Certificate of Conformity No.

HLHAL103.ESP-008 was issued to Liebherr Machines Bulle SA for the Diesel engine that powers the Kohler generator. The engine model LIEBHER KD62V12-6CES for the Kohler generator model KD2500 is certified to meet Tier II air emissions standards and it has a kW of 2,700. Adient recognizes that the unit must be operated and maintained to the manufacturer's written instructions to ensure that the unit continues to meet the certification.

The hard copy O&M manual provided by Kohler is maintained on-site. Adient provided a copy of the O&M manual to AQD via email on 2/10/2020. The tables located on Pages 58-59 of the O&M manual identify the daily "operator level-general maintenance" recommended during

operation of the unit. Adient personnel performs basic daily maintenance (referred to as level 1 in the O&M Manual). The remaining Level 1 emissions related maintenance tasks outlined in the O&M Manual table are completed by a qualified third-party contractor. In 2019, PM Technologies conducted routine emissions related maintenance on the unit. On 8/30/19, the summary (checklist) of the preventive maintenance activities completed by the contractor was provided to AQD to demonstrate compliance with SC III.4a and VI.2a of PTI 171-18. As a result of the maintenance, the Genset was found to be fully operational with no recommendations listed. Since that time, Adient has entered a contract with Cummins, Inc. to conduct semi-annual service in accordance with written manufacturer's emissions related maintenance recommendations. A copy of the contract with scope of work was emailed to AQD for our records. According to the information on the email received on 2/10/2019, Cummins was scheduled to be at the site for the semi-annual maintenance event at the end of February 2020.

The mechanism which has been used at the site to document completion of the manufacturer recommended general maintenance is in the form of an electronic system in which the operator enters the date on which the non-emissions related tasks were conducted and verifies completion. The system is not currently set up to run a report but Adient shared a screen shot showing the format that has been used to track maintenance to date. The operators have found that it is difficult to extract information from the system to share it during an inspection. Therefore, a separate spreadsheet is being developed which will capture the non-emissions related daily maintenance tasks more clearly than the current system.

SC V.I – Performance Testing – N/A

This condition is not applicable because the engine has been installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions; otherwise, performance testing will be required

SC VII.1 and SC VII.2 – In Compliance

Notification of installation of a certified engine.

Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by the Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity.

Evaluation:

AQD received a notification from Adient, dated July 24, 2019, for the installation and operation of Kohler Model KD62V12-6CES emergency genset with a maximum rated electrical output of 2,500 kW (3621 bhp-hr). The notification indicated that the genset meets USEPA Tier II emission standards.

APPLICABLE FEDERAL REGULATIONS

40 CFR Part 60 Subpart IIII - NSPS for Stationary Compression Ignition Internal Combustion Engines – In compliance

NSPS IIII is for Stationary Compression Ignition Internal Combustion Engines. This NSPS was promulgated in 2006. The new emergency engine is subject to Subpart IIII. Compliance with the conditions cited on PTI 171-18 would mean compliance with the NSPS and those conditions were already evaluated:

- The NSPS compliance method is engine certification. Adient purchased a certified engine.
- The fuel burned is ultra-low sulfur diesel.
- The emergency engine is restricted to 500 hours per 12 month rolling time-period. This condition requires a non-resettable hour's meter be installed to track the total hours used and the hours used for non-emergency purposes (provided).

40 CFR Part 63 Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines – In Compliance

NESHAP Subpart ZZZZ applies to major and area sources of HAP emissions, this facility is an area source of HAP emissions. NESHAP Subpart ZZZZ requires that new engines at area sources comply with the NESHAP by complying with their applicable NSPS, which for this engine is NSPS Subpart IIII.

Non-Applicable Rules and Regulations

40 CFR Part 63 Subpart JJJJJJ- NESHAP for Industrial, Commercial, and Institutional Boilers at Area Sources

Subpart JJJJJJ applies to certain boilers at area sources of HAP emissions. The facility is an area source of HAP emissions. The proposed boilers are considered gas-fired boilers for Subpart JJJJJJ. Per 40 CFR 63.11195(e), gas-fired boilers are not subject to Subpart JJJJJJ.

EXEMPT EQUIPMENT

According to Rule 278a, to be eligible for a specific exemption listed in Rule 280 to Rule 291, any owner or operator of an exempt process or exempt process equipment must be able to provide information demonstrating the applicability of the exemption. The demonstration may include the following information: (a) A description of the exempt process or process equipment, including the date of installation. (b) The specific exemption being used by the process or process equipment. (c) An analysis demonstrating that Rule 278 does not apply to the process or process equipment.

During a meeting conducted with Adient's representatives and their consultants, on 6/11/2020, I asked for additional documentation. I requested clarification to complement the information submitted by Adient when PTI 171-18 was approved. In the meeting I asked them to provide an updated inventory for all exempt equipment (EU) including the description of each equipment or process, the specific exemption claimed for each EU, as well as the records – when required by the exemption -.

In response to my request Adient's consultants prepared a letter dated 6/19/2020 which was sent to me via email. The letter and its appendices (A to E) covered all the information I requested. Appendix E included the Air Emission Inventory and Summary. The summary table includes nine columns with the following headings: EU ID, Description, Model/Manufacturer, Capacity, Type of Fuel, Exemption Rule, Date of Installation, Condition for Exemption, Demonstration (record, etc.).

After the building expansion the facility added numerous natural gas fired units, therefore; I requested the updated Potential to Emit (PTE) calculations for all installed heating units. Adient's consultant engineer emailed me a response on 8/5/2020, which was revised on 8/18/2020.

The PTE calculations as well as the previous cited documents have been filed in AQD files in a separate folder titled: "Adient - Exempt Equipment and Permitted Generator"

The facility has demonstrated the applicability of the exemptions and it appears to be following the conditions and recordkeeping requirements.

MAERS (Michigan Air Emissions Reporting System)

AQD's internal Policy and Procedure AQD-013 explains which Michigan facilities operating sources of air pollution are required to report their annual emissions in MAERS. Historically, this facility has not reported emission in MAERS, and it was considered a minor source with various emission units (EU) that were exempt from the requirements of Rule 201 to obtain a permit to install. Most of the existing exempt EU had actual emissions of applicable criteria pollutants that did not trigger the levels of emissions specified in the cited policy and procedures for MAERS reporting. However, during this inspection, I have identified a few existing exempt EUs (i.e. the paint booth, and the foam lab) whose emissions must be reported in MAERS.

In addition, the Internal Combustion Engine (ICE) for the emergency generator exceeds the 10MMBtu per hour capacity limit allowed by Rule 285(2)(g) to be exempt from permitting. The ICE is regulated under the opt-out permit PTI 171-18 issued on 4/8/2019. The ICE is also subject to 40 CFR Part 60 Subpart IIII - NSPS for Stationary Compression Ignition Internal Combustion Engines.

Per AQD-013 policy, all EUs regulated by an opt-out permit are required to report annual emissions in MAERS.

In conclusion, I will ask the AQD - Emission Reporting and Assessment Unit (ERAU) to evaluate the inclusion of Adient to the MAERS inventory list for reporting year 2020. The ERAU notification to facilities, which is generally sent in January, will identify the fee category applicable to Adient in accordance with the classification approved on 11/14/2019 during the fee reauthorization.

FINAL COMPLIANCE DETERMINATION:

At the time of posting of this inspection report the source appear to be in compliance with the state and federal applicable air pollutant regulations and the conditions cited on permit PTI 171-18.

NAME

Offandoval

DATE

10/28/2020

SUPERVISOR

JK