

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

M450567383

FACILITY: AWTEC		SRN / ID: M4505
LOCATION: 14920 KEEL STREET, PLYMOUTH		DISTRICT: Detroit
CITY: PLYMOUTH		COUNTY: WAYNE
CONTACT: Matt Tykoski		ACTIVITY DATE: 04/26/2023
STAFF: Katherine Koster	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY2023 - Targeted Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Targeted Inspection

INSPECTED BY: Katie Koster

PERSONNEL PRESENT: Matt Tykoski, Senior Environmental Specialist

FACILITY PHONE NUMBER: 734-454-1710 Ext. 5214

FACILITY BACKGROUND

AWTEC remanufactures automatic transmissions for both domestic and foreign automakers. The used transmissions are received from dealers, and they are disassembled, cleaned, painted, reassembled, and tested. The remanufacturing operations take place at two main buildings. The two facilities are referred to as AWTEC East (KSE) and AWTEC West (KSW), respectively. Both facilities are owned by the same parent company (AISIN Inc.). They both belong to the same industrial grouping and are located on adjacent property. Therefore, they are considered one stationary source. KSE is located at 14920 Keel Street and is a 75,500 square foot facility that has been at that location since January 1988. KSW is a 106,300 square foot facility located across the street, at 14933 Keel Street, that opened in 2003 with one coating line. The rest of the space at KSW is mainly used for storage, shipping and receiving. There is also a warehouse on Cleat Street in the same industrial park. According to facility personnel, that warehouse is used for storage and to make an electronic chip. Light machining occurs on lathes and CNC machines. No equipment exhausts to atmosphere. Initially, AWTEC remanufactured Aisin AW transmissions used in Toyota vehicles, but today they serve different OE customers which include Volvo, Saab, Hyundai, Nissan, Ford, GM, Mazda and other high-quality vehicle manufacturers. The facility is in a light industrial area and operates Monday through Friday from 7:00 a.m. to 3:30 p.m.

COMPLAINT/COMPLIANCE HISTORY

According to the inspection records in our files, the original operations at AWTEC were regulated under a permit issued in 1988 by the Wayne County for a paint spray booth. However, that permit did not specify the booth that had been permitted at the time, and it seems to have been voided. In 2005, a self-initiated inspection was conducted by AQD Detroit Office staff. At that time, it was determined that the facility was a Title V major source for Hazardous Air Pollutants (HAP's), and the facility had not submitted an ROP application within 12 months of commencing operation as a major source. As such, the facility was referred to AQD enforcement and entered into a consent order (AQD No. 16-2006). AWTEC also obtained a synthetic minor permit (PTI 345-05) on January 23, 2006, and since then it has been operating under that permit. The Consent Order was terminated on June 8, 2009.

OUTSTANDING CONSENT ORDERS/VN's

Presently, there are no outstanding Consent Orders or Violation Notices.

INSPECTION NARRATIVE AND PROCESS DESCRIPTION

On April 26, 2023, AQD inspector Katie Koster conducted a targeted inspection at AWTEC. I met with Matt Tykoski, Senior Environmental and Safety Specialist. The inspection was conducted to determine the facility's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55, and PTI 354-05. We started the inspection in the conference room where we discussed recordkeeping, and Matt presented the records that AWTEC has been maintaining. AWTEC emailed me copies of the records on the afternoon on April 26, 2023.

The layout for KSE and KSW, as well as the AWTEC "Remanufacturing Process Flow" that illustrates the sequence of operations are all included in the facility file in a prior inspection report. The operations are divided into seven (7) separate lines:

A1: High Volume Line

A2: Front Engine Front Wheel Drive – No longer in service

A3: Truck line

A4: Rework Line – No longer in service; rework in performed on another line

A5: Front Engine Front Wheel Drive

A6: Volvo line

A7: Front Engine Rear Wheel Drive (located at KSW)

The following is a detailed description of the unit operations at AWTEC (note, most of the description is from the prior inspection report. I have updated some details that have recently changed):

Core Receiving

Transmission cores are received into the facility, identified, and tagged with a unique tracking number. They are then stored in the warehouse section of the KSW facility. No chemicals are used in the receiving area of KSW.

External Wash at Core Washers (Five)

Cores are transported to each line as needed. The cores are removed from their containers, and the external surfaces of the cores are washed in core washers, like a dishwasher, located at the lines. The five units are natural gas fired and are heated between 120 -130 F. They have a steam stack and exhaust gas stack to the atmosphere. In the prior inspection, the core washers used Power Clean APS 1033-AT aqueous cleaner at a 3% detergent concentration. The washing solution that is now in use is Power Clean APS 3033.

Container Washers (Two)

Once the transmission cores are removed from the aluminum containers, the containers (cases) are transported to separate container washers. There are only two heated container washers, one is located at KSE and the other one is at KSW. They handle all the containers from both facilities. Power Clean APS 3033-AT is in use. These units are natural gas fired, heated between 120 °F - 130 °F, and do not exhaust to the atmosphere.

The containers have ID stickers which are manually removed by the operators prior to washing them. The sticker remover is either heptane or isopropyl alcohol that is dispensed in open air areas by “sure shot” pressurized cans.

Disassembly and Prewash (Cold Cleaners)

The transmissions are disassembled. The individual components are prewashed in cold cleaners stations using Premium 142 Solvent (previously Safety Kleen Premium Gold 150 solvent). Each line has at least one prewash station; there are nine cold cleaner stations as noted in attached spreadsheet showing gallons used. Many of the lids were open but the units appeared to be actively in use.

Gasket Scrape Booths (Six – Three with exhaust stacks)

A gasket scrape booth is located at each one of the manufacturing lines. A grinder is used in the booth to remove gasket material from the individual components that have been pre-washed. The booths at lines A3, A5 & A7 have an exhaust stack with fiberglass (furnace type) filters over the exhaust. A1 & A6 are self-contained and do not have exhaust stacks.

Tunnel Washer (Five)

Almost all the parts are loaded into specially designed baskets for transport through a tunnel parts washer. A1, A3, A5, A6 & A7 all have their own tunnel washer. The small and large parts undergo a series of soaping and rinsing stages and the wastewater is routed through an oil/water separator. There is a blower at the end of the tunnel to dry the parts.

Note, as of the most recent inspection, all of the tunnel washers have been replaced by electrically powered washers except for one that is still gas powered.

Large Parts Robot Wash (Discontinued)

Currently, there is no robot washer for large parts and they are also washed in the tunnel washers.

Parts Inspection and Component Painting

Dimensional and visual inspection is performed on all parts. At this point, the case, housing and oil pan are sent to a paint booth and sprayed with either silver (aluminum, non-leaving fad), black (black fad stock), or jasper gray paint prior to reassembly. Housings, cases and oil pans from lines A1, A3, A5, & A6 are brought to painting booth P1 or 2 (Located at KSE). Once painting is completed they are returned to the appropriate line for assembly. Housings, cases and pans from line A7 are brought to painting booth P3 (Located at KSW) and then returned to line A7 for assembly. Paint booth 4 is no longer in use.

Valve Body

Most valve bodies are reassembled at the assembly line. Some of the newer models are taken to the Valve Body Room to be reassembled and tested.

Case Prep/Sub Assembly/Main Assembly

Different portions of the transmission are reassembled at Case Prep and Sub-Assembly with final assembly done at Main Assembly. Main Assembly uses a small amount of heptane in a “plunger can” to clean surfaces that require a gasket material.

Torque Converter Flusher/Tester

The torque converter is separated from the rest of the transmission at the core wash stage. The torque converter is flushed and/or tested using Automatic Transmission Fluid (ATF) and it is returned to the transmission at Dynamometer Testing.

Dynamometer and Leak Tests

AWTEC has five (5) dynamometer-testers. The transmissions are transported to the appropriate dynamometer tester and then each unit is also leak tested using air pressure. No engines are associated with the dynamometers. They are powered by electricity.

Transmission Cleaning, Paint Touch up, and Packaging

Once the transmissions have been tested, they go to the paint booth closest to the tester where they were run. Generally, lines A1 & A5 go to P1 and lines A3 & A6 go to P2. Line A7 goes to P3 (KSW). The paint is touched up. In the past, heptane was used for cleaning. It was discontinued in the booths in 2016. Now, heptane is only used in small amounts in the two open areas for cleaning prior to the gasket application. It is only applied with a rag; no spraying of heptane occurs. The transmissions are then put in the container for shipment. Manual records of paint usage are kept on the door of each paint cabinet. Filters were installed in the booths that I observed. See attached photos of example of paint usage records.

COMPLIANCE EVALUATION

The facility operations are checked for compliance with the applicable regulations and the permit conditions set in the permit to install PTI 354-05 Opt-Out Permit for HAP's. The permit special conditions are paraphrased for brevity.

FGFACILITY

Condition 1.1a: In Compliance.

Each individual HAP emissions are less than 9 tons per year.

Condition 1.1b: In Compliance.

Emissions of aggregate HAP's are less than 22.5 tons per year.

I reviewed the monthly and 12 month rolling records for 2022. The highest 12-month total for aggregate HAP's (xylene, ethyl benzene, ethyl methyl benzene, trimethyl benzene, toluene) was

2974 pounds (1.49 tons) in January 2022 which indicates compliance with the aggregate limits of 22.5 tons. Also, since this figure is below 9 tons it also indicates compliance with the individual HAP limit of 9 tons. HAP's records are included in Appendix A. Benzene and ethylbenzene, toluene, and xylene are on the EPA HAPs list. Ethyl methyl and trimethyl benzene are not specifically listed. As such, the HAP's calculation may be an overestimate of the emissions. Regardless, emissions are below the emission limits.

Condition 1.2: In Compliance.

The facility shall determine HAP content of each material as received and as applied using manufacturer's formulation data.

HAP containing paint is sometimes thinned with a small amount of Xylene. Xylene is primarily added to the black paint at a rate of 1/2 cup to 1 cup, as needed, to thin the paint. The paint comes in five gallon pails, but each 5 gallon pail does not necessarily get xylene added to it. Xylene usage is recorded and tracked separately from paint usage. HAP content of each material as received is indicated on attached Safety Data Sheets (SDS). Also, the facility sent Aluminum and Black Fad paint samples to ATOM in 2016 for a Method 311 analysis (in facility file). Facility uses these values in their emission records. See Appendix A.

Condition 1.4: In Compliance. (See HAP records in Appendix A)

The facility shall keep records of the following:

- a. Gallons or pounds of HAPs used
- b. Gallons or pounds reclaimed. N/A
- c. HAP content, in pounds/gal, of each HAP containing material.
- d. Individual and aggregate HAP emission calculations on the monthly basis.
- e. Individual and aggregate HAP emission calculations on a 12-month rolling time period basis.

PERMIT TO INSTALL EXEMPT EQUIPMENT

CORE WASHERS / CASE WASHERS / PART WASHERS IN TUNNEL – ALKALINE SOLUTION

Parts washers use an alkaline aqueous solution for cleaning, which is exempt per Rule 285(2)(l)(iii); "The following equipment and any exhaust system or collector exclusively serving the equipment: Equipment for surface preparation of metals by use of aqueous solutions, except for acid solutions." The SDS for the "Power Clean APS 3033" is included in the facility file. It is not an acid solution.

TRANSMISSION CLEANING STATIONS (Five)

There are five transmission cleaning stations. Three stations are existing paint booths and two stations are in open air areas (one at Keel Street East and Keel Street West). At each line with an associated paint booth, facility has stopped using heptane as of 2016. Heptane is still used in the two open areas. The ITSL is 3500 ug/m3 and each area is operating under the Rule 290(2)(a)(i)

exemption (which limits emissions to 1000 pounds non-carcinogenic VOC's per month). Records from 2022 and 2023 were reviewed and showed compliance with monthly limits. See Appendix B.

Small amounts of isopropyl alcohol are used for cleaning transmission cases to apply a sticker and cleaning laminated sheets for reuse. The ITSL is 220 ug/m³, the usage is tracked, and company is applying the Rule 290(2)(a)(i) exemption (which limits emissions to 1000 pounds non-carcinogenic VOC's per month). Records from 2022 and 2023 were reviewed and showed compliance with monthly limits. See Appendix B. Records from 2022 and 2023 were reviewed and showed compliance with monthly limits. See Appendix B.

PAINT BOOTHS (Four)

All paint booths (P1 to P4) appear to qualify for the R336.1287(2)(c) exemption based on the records provided. Paint booths were installed over a significant amount of time (1990 - 2005) and can be treated as separate "activities" for the purposes of Rule 278. All the conditions (i, ii, iii) of the exemption are met. Paint booth 4 is no longer in use for painting.

Filters were adequately installed. The monthly coating use records for the most recent 2 years were available. According to attached records, the monthly paint usage for each booth, including xylene added as a thinner, is below 200 gallons. See Appendix C.

PAINT PURGE STATIONS (Four)

The facility uses acetone for purging the paint guns. As acetone is specifically exempted from the definition of a VOC in R 336.1122(f) (xiii), VOC emissions are zero.

DEGREASER - MISC. USED THROUGHOUT FACILITY

Degreaser is used in a variety of capacities such as case sticker removal and other miscellaneous metal cleaning activities, such as cleaning solenoid valves in the testing area. Cleaning operations that use degreaser in the general "in plant" environment are exempt per Rule 285(2)(r)(iv); "Equipment used for any of the following metal treatment processes if the process emissions are only released into the general in-plant environment:(iv) cleaning". Accordingly, the degreaser usage appears to be exempt under the cited rule. The degreaser in use is now Power Solvent 200. Prior solvent was Degreaser 125. There is no emission limit associated with this exemption and emissions do not need to be reported in MAERS.

COLD CLEANERS (Eleven)

Cold cleaners do not vent to atmosphere and are exempt per Rule 285(2)(r)(iv); "Equipment used for any of the following metal treatment processes if the process emissions are only released into the general in-plant environment: cleaning." As the throughput is more than 1000 gallons per year, the yearly VOC emissions must be reported in MAERS. 2115 gallons were used in 2022 and 7 tons of emissions were reported in MAERS. See Appendix D.

TESTING EQUIPMENT

Facility is applying the Rule 283(2)(c) exemption for testing equipment; "equipment used for hydraulic or hydrostatic testing." There is no emission limit in this exemption. However, the yearly VOC emissions are required to be reported in MAERS. See Appendix E.

NATURAL GAS FIRED GENERATOR

A natural gas fired emergency generator was recently installed. According to the spec sheet, it is 38 kW and is exempt per Rule 285(2)(g). Generators need to be approximately 1000 kW to exceed the 10MMBTU/hr heat input. The spec sheet is in the facility file.

Generator appears to be subject to NSPS JJJ – (a)(4) (iv). It was installed in December 2017. Attached is a picture of the label on the engine stating that it "conforms to EPA regulations" and is certified for natural gas. At this time, this information appears sufficient for certification purposes.

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS

N/A. All lots are paved.

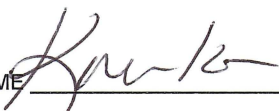
MAERS REPORT REVIEW

MAERS report was received timely. Review indicates there was an error in reported VOC emissions related to cold cleaners. I contacted the facility and they updated the report.

FINAL COMPLIANCE DETERMINATION

At this time, this facility appears to be in compliance with the federal and state regulations that were evaluated in this report.

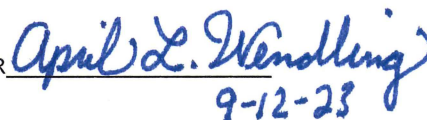
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DATE

7/31/23

SUPERVISOR


9-12-23