

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

N505357088

<b>FACILITY:</b> Oscoda Engine Services		<b>SRN / ID:</b> N5053
<b>LOCATION:</b> 3921 Arrow Street, OSCODA		<b>DISTRICT:</b> Bay City
<b>CITY:</b> OSCODA		<b>COUNTY:</b> IOSCO
<b>CONTACT:</b> Edward Meltz , Environmental Health & Safety		<b>ACTIVITY DATE:</b> 02/23/2021
<b>STAFF:</b> Nathanael Gentle	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> SM OPT OUT
<b>SUBJECT:</b> Scheduled onsite inspection.		
<b>RESOLVED COMPLAINTS:</b>		

On Tuesday, February 23, 2021, AQD District staff conducted a scheduled inspection at Oscoda Engine Services in Oscoda, MI. Staff arrived onsite at 11:40 AM and departed at 2:30 PM. Mr. Edward Meltz (Environmental Health and Safety Officer) was onsite to answer questions and provide a tour of the facility. The purpose of the inspection was to evaluate compliance with PTI No. 316-96 and applicable air quality laws and rules.

### Facility Description

Oscoda Engine Services is located in Iosco County at 3921 Arrow Street Oscoda, MI 48750. The facility occupies multiple buildings, located on the southern edge of the former Wurtsmith U.S. Air Force Base. The facility provides engine maintenance, repair, overhaul, and testing services for jet turbine engines, specializing on JT8D turbine engines. Currently the facility employs 18 people. Oscoda Engine Services is a synthetic minor opt-out source for NOx and minor source for SOx, CO, PM, and VOCs.

### Facility History

One active permit is on file for Oscoda Engine Services, PTI No. 316-96. The permit was issued on March 24, 1997. PTI No. 316-96 replaced the facilities previous permit, PTI No. 239-92. The facility's current permit encompasses an aircraft turbine engine test cell and its associated equipment. PTI 316-96 was originally issued to American International Airways (AIA). The facility has undergone changes in ownership and names throughout the years. Beginning with AIA, then Timco Engine Center, then HAECO Americas Engine Services, and now its current name and ownership Oscoda Engine Services, an Odyssey Engines Company.

In addition to the permits listed above, the facility has a voided permit, PTI 203-03 for a stripping and cleaning process. The permit was voided after it was determined VOCs associated with the process were exempt from permitting under Rule 290.

Oscoda Engine Services was last inspected in January 2017. No compliance issues were noted at the time of inspection.

No complaints or Letters of Violation are on record since the facility was last inspected.

As a synthetic minor opt-out source, Oscoda Engine Services is required to conduct emission reporting. MAERS reporting has historically been received in a timely manner.

### Emission Unit(s) Evaluation

As part of the onsite inspection, potential sources of emissions were noted and include combustion of jet fuel in the permitted test cell, spot cleaning of metal with isopropyl alcohol, two cold cleaner tanks in the main shop, surface preparation and coating activities conducted in the clean shop, and non-destructive testing (NDT) operations.

### Engine Test Cell

Oscoda Engine Services has one active Permit to Install, PTI No. 316-96. The PTI encompasses an aircraft turbine engine test cell and its associated equipment. No air control devices are part of the engine test cell. Permitted emission limits are met through using the appropriate fuel and limiting the yearly operating hours of the test cell. The test cell was not operating on the day of the onsite inspection. Visible emissions were not able to be assessed. Special condition 15 (S.C.15) of the PTI establishes hourly emission limits for PM10, CO and NOx. The PTI does not require periodic testing of these emission values. Compliance is maintained and demonstrated by appropriate fuel usage and limited operating times. S.C.14 establishes that fuel used in the test cell must have a sulfur content of 0.2% or less. Laboratory certifications are provided by the fuel delivery company to Oscoda Engine Services. The certifications for the years 2019 and 2020 were reviewed. The sulfur value of the jet fuel was below 0.2% for all certifications reviewed. The highest sulfur content noted in the records provided was 0.125%, for test results dated May 4, 2019. Using appropriate fuel and limiting the hours of operation allows the facility to maintain compliance with sulfur dioxide emission limits, S.C.13. The facility is limited to operating the test cell for no more than 800 hours per year. Records of hours of operation and fuel usage are to be kept, S.C.17. The facility has maintained the appropriate records. Engine start and stop times are recorded for each run in the test cell. These records are used to track total hours of operation for the test cell. Records of fuel usage and hours of operation for the years 2019 and 2020 were provided and reviewed. The test cell was operated 85.08 hours in 2019 and 79.75 hours in 2020, well below the permitted limit of 800 hours.

### Spot Cleaning

Jet engines are disassembled in the main shop. As parts are disassembled, they are spot cleaned using isopropyl alcohol. VOCs associated with the isopropyl alcohol usage appear to meet exemption R.285(r)(i) for the surface treatment of metal.

### Cold Cleaners

Two cold cleaners are located within the main shop. Both tanks remain covered when not in use and appeared to have an air/vapor interface of not more than 10 square feet. The cold cleaners in the main shop appear to be exempt under R.281(h).

### Clean Shop

Parts that are unable to be cleaned with isopropyl alcohol alone, or that require recoating are sent to the clean shop. Units located in the clean shop include three parts cleaning units, a paint booth, two electric fired drying ovens and the stripping and cleaning process.

### Three Parts Cleaning Units

Two plastic blasters and one aluminum oxide blaster make up the three parts cleaning units. Staff report the plastic blasting units get used more often than the aluminum oxide blaster. The parts cleaning units appear to be exempt under R.281.

### Stripping Process

The stripping process mentioned previously, using exemption R.290 is also located in the clean shop. The process consists of 8 steel dip tanks. Each tank is 36 inches long, 36 inches wide, and 36 inches deep, with a volume of 150 to 160 gallons. The tanks consist of cadmium strip, nickel strip, hot water rinse, cold water rinse, high concentration alkaline cleaner, low concentration alkaline cleaner, water evaporator, and aqueous degreaser. The tanks are vented using side-draft, slotted hoods that meet at a common duct which exhausts directly to the ambient air. Tanks are covered when not in use and evaporative balls are used to help minimize solution loss from evaporation. Depending on the contents of the dip tank, some tanks are heated using electric heat elements, while others are operated at room temperature. Facility personal track material usage and calculate VOC emissions associated with the stripping and cleaning process as part of R.290. These records were provided and reviewed as part of this inspection. Appropriate records appear to be in place. Solutions used and their VOC emission calculations appear to meet R.290 requirements. All ITSL values are greater than 2.0 ug/m<sup>3</sup>. Emissions for the year 2019 total 1 lb with the highest monthly emissions occurring in December with 1 lb/month. Emissions for the year 2020 totaled 2 lbs. The highest monthly emissions occurred in March and December, at 1 lb/month for both months. VOC emissions associated with the stripping and cleaning process are well below the monthly limit of 1,000 lb/month for uncontrolled sources promulgated in R.290.

### Painting Operation

A paint booth and two associated electric drying ovens were also located in the clean shop. Facility personnel report using minimal amounts of paint, less than 5 gallons/year, well below the 200 gallons per month, minus water, limit to qualify for exemption R.287. Staff said they will send safety data sheets as well as material usage estimates for all coating products used in the paint booth.

### Non-destructive testing (NDT)

As part of onsite activities, select parts are inspected using non-destructive testing (NDT). The process begins by submerging parts into a penetrant containing tank. Depending on the penetrant used, the parts may also be submerged in an emulsifier containing tank. After an allotted amount of time, parts are washed, dried, and a powder developer is applied. Defects and cracks are then identified in the parts using a black light. Oscoda Engine Services also uses magnetic inspection as part of its NDT. The NDT operates as exempt under R.290. The facility tracks material usage and VOC emissions associated with NDT. Rule 290 records for the NDT were provided and reviewed. Appropriate records appear to be in place. Solutions used and their VOC emission calculations appear to meet R.290 requirements. All ITSL values are greater than 2.0 ug/m<sup>3</sup>. VOC emissions for the year 2019 totaled 25 lb with June having the highest monthly emissions with 10 lb/month. Total VOC emissions for the year 2020 were 158 lb. January and September had the highest monthly VOC emissions, both with 67 lb/month. VOC emissions associated with NDT are well below the monthly limit of 1,000lbs/month for uncontrolled sources promulgated in R.290.

### Compliance Determination

At the time of this inspection, Oscoda Engine Services appears to be in compliance with PTI No. 316-96 and applicable air quality laws and rules.

NAME \_\_\_\_\_

DATE 3/2/2021

SUPERVISOR \_\_\_\_\_

*Nathanael Gentry*

*Chris Hare*