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

M473464240

FACILITY: FORD MOTOR CO AUTO TRANSMISSION NEW PRODUCT CENTER		SRN / ID: M4734
LOCATION: 35500 PLYMOUTH RD, LIVONIA		DISTRICT: Detroit
CITY: LIVONIA		COUNTY: WAYNE
CONTACT: Manny Kusi-Appiah , Environmental Compliance Engineer		ACTIVITY DATE: 08/24/2022
STAFF: Samuel Liveson	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection of Title V major source.		
RESOLVED COMPLAINTS:		

On Wednesday August 24, 2022, AQD staff Sam Liveson conducted an announced, scheduled inspection of Ford Motor Company – Automatic Transmission New Product Center (Ford ATNPC) located at 35500 Plymouth Road in Livonia, Michigan. The purpose of the inspection was to determine the facility's compliance with the federal Clean Air Act; Part 55, Air Pollution Control, of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; the Michigan Air Pollution Control Rules (Rules); the conditions of Renewable Operating Permit (ROP) No. MI-ROP-M4734-2011; and the conditions of Permit to Install (PTI) Nos. 44-22, 32-18, and 68-12C.

## Pre-Inspection Meeting and Facility Overview

### 1. Scheduling, Arrival, and Safety Overview

Due to COVID safety concerns, the inspection was announced. AQD called Manny Appiah, Plant Environmental Control Engineer, on Tuesday August 23 about visiting the following day.

On August 24, 2022, AQD arrived at the facility at 9:00 AM. Weather was clear and the temperature was 77 degrees Fahrenheit. I parked on the east side of the facility and met Manny at the main entrance on that side of the building. Manny provided a tour of the facility and explained equipment and operations.

### 2. General Facility Overview

Ford ATNPC is involved in developing, testing, and proving new and future automatic transmissions, as well as developing the machining and assembly process for the new transmissions. The facility also studies transmission issues from current vehicles.

To test automatic transmissions, the transmissions are connected to an internal combustion engine whose power is absorbed via a dynamometer. Emissions result from the combustion of gasoline and diesel fuel in the engine. The facility has approximately 45 dynamometer test cells for transmission testing. The facility is divided into several wings or "phases".

Phase 1 includes administrative space like Manny's office. It also appears to include prototype operations (machining, assembly, testing) which are exempt from obtaining a PTI per Rule 285(2)(l)(vi)(B) or (C) for machining equipment either released to the general in-plant environment, or if released to outside ambient air are controlled by an appropriately designed fabric filter, as well as the facility cold cleaner and paint booth.

Phase 2 includes sixteen dynamometers used to test automatic transmissions that are permitted under PTI No. 44-22 issued April 14, 2022 (several months before this inspection). Phase 2 is divided into 4 sections (EEF1, EEF2, EEF3, and EEF4). The cells are uncontrolled but may be equipped with a catalytic converter depending on the testing

requirements. Phase 2 also includes the chassis rolls where fully assembled vehicles are tested for the purposes of vehicle certification required under Title II of the Clean Air Act.

Phase 3 and 3A contain 20 and 5 test cells respectively. They are permitted under PTI No. 68-12C, which was issued on August 4, 2022 (several weeks before this inspection).

Ford ATNPC is a Title V major source due to its potential to emit (PTE) greater than 100 tons per year of carbon monoxide and nitrogen oxides. The facility is also considered a major source regarding Prevention of Significant Deterioration (PSD) (Part 18 of the Rules) regulations due to its potential to emit greater than 250 tons per year of carbon monoxide and nitrogen oxides.

Ford ATNPC is a synthetic minor, or “area”, source of hazardous air pollutants (HAP). Note, HAP emissions from Ford ATNPC and Ford Motor Company - Livonia Transmission (State Registration Number A8645) are aggregated per the major source definition in the NESHAP regulations. Emission units EU-GASDISPENSING, EU-VEHICLEREFUEL, EU-EEF1, EU-EEF2, EU-EEF3, EU-EEF4, EU-PHASE3 and EU\_TANKFARMS6-12 at the stationary source are subject to the area source National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Category: Gasoline Dispensing Facilities (40 CFR Part 63 Subpart CCCCC).

### 3. Compliance Background

The facility has not received a violation notice or consent order since at least December of 2008, nor have complaints been received regarding the facility since at least that time.

## Facility Walkthrough: Process Overview and Compliance Status

### 1. Phase II Dynamometers for Testing of Automatic Transmissions – PTI 44-22 – FG-PHASE2

Manny introduced me to Tom Masacek, Calibration and Facilities Supervisor. Tom explained that Phase 2 dynamometers exhaust uncontrolled. During testing of automatic transmissions in Phase 2, engines may be controlled by a catalytic converter, but it is not required.

AQD visited dynamometers F1 and A4, which were both running during the inspection. A4 was running a catalyst aging test. AQD observed an instantaneous reading of 2900 revolutions per minute (RPM).

#### 1.1. Issuance of PTI 44-22 due to Test Cell T2 Installation

Phase 2 dynamometers were permitted on April 22, 2022. Before this time, Phase 2 dynamometers were considered exempt from obtaining a PTI per Rule 285(2)(g) for engines with a maximum heat input less than 10 MMBtu/hr. The majority of cells within Phase 2 use dynamometers installed circa 1991 or 1992 and are considered “PTI exempt grandfathered” under Rule 285(g) as the installation occurred prior to promulgation of Rule 278 in 1993.

During an onsite evaluation of Phase 2 on August 29, 2019, test cell T2 was observed to have a dynamometer with a manufactured date of 2008 and an absorbing power of 600 kilowatts (KW) or approximately 804 horsepower (HP). Ford ATNPC provided an exemption analysis dated February 11, 2007 for the new T2 dynamometer installation in Phase 2. AQD disputed the NOx emission factor of 0.300 lb NOx/gal used by the facility in its exemption

analysis. The NO<sub>x</sub> emission factor from AP-42 (10/96, Section 3.3, Table 3.3-1) for diesel industrial engines is 4.41 lb/MMBtu, or 0.604 lb NO<sub>x</sub>/gal (assuming 7.3 gallons of diesel per MMBtu). Please see the staff report for the March 9, 2020 facility inspection for more details regarding the August 29, 2019 Phase 2 Evaluation. To resolve the dispute, Ford ATNPC applied for and received PTI 44-22 for the dynamometers in Phase 2.

### 1.2. FG-PHASE2 - PTI No. 44-22 - Special Conditions and Compliance Status

SC(s)	Brief Condition Summary	Determination	Explanation
I.1	Emission limit of 1.74 lb CO per gallon of gasoline.	Not evaluated	Evaluation of this emission limit depends upon the results of stack testing that is scheduled to occur on October 10, 2022.
I.2	Emission limit of 24.2 tons VOC per 12-month rolling time period.	Compliance	Emissions records provided on September 23, 2022 from January 2021 through July 2022 indicate that the highest 12-month rolling VOC emissions since PTI 44-22 was issued were 11.61 tons VOC in April of 2022 (for the 12-month period of May 2021 through April 2022).
I.3	Emission limit of 953 lb formaldehyde per 12-month rolling time period.	Compliance	Facility records indicate the highest 12-month rolling formaldehyde emissions since PTI 44-22 was issued were 452.4 pounds formaldehyde in April of 2022 (for the 12-month period of May 2021 through April 2022).
I.4	Emission limit of 1,714 lb benzene per 12-month rolling time period.	Compliance	Facility records indicate the highest 12-month rolling benzene emissions since PTI 44-22 was issued were 813.7 pounds benzene in April of 2022 (for the 12-month period of May 2021 through April 2022).
I.5	Emission limit of 6,698 lb acetaldehyde per 12-month rolling time period.	Compliance	Facility records indicate the highest 12-month rolling acetaldehyde emissions since PTI 44-22 was issued were 3,177.0 pounds acetaldehyde in April of 2022 (for the 12-month period of May 2021 through April 2022).
I.6	Emission limit of 576 lb 1,3-butadiene per 12-month rolling time period.	Compliance	Facility records indicate the highest 12-month rolling 1,3-butadiene emissions since PTI 44-22 was issued were 273.4 pounds 1,3-butadiene in April of 2022 (for the 12-month period of May 2021 through April 2022).
II.1	Material limit of 300,000 gallons gasoline per 12-month rolling time period.	Compliance	Facility records indicate the highest 12-month rolling gasoline fuel usage since PTI 44-22 was issued were 142,257 gallons gasoline in April of 2022 (for the 12-month period of May 2021 through April 2022).
II.2	Material limit of 80,000 gallons	Compliance	Facility records indicate the highest 12-month rolling diesel fuel usage since PTI 44-

	diesel per 12-month rolling time period.		22 was issued were 44,103 gallons diesel in April of 2022 (for the 12-month period of May 2021 through April 2022).
II.3	Do not burn fuels other than gasoline and diesel.	Compliance	Records indicate the fuels used in Phase 2 are gasoline and diesel.
III.1	Do not perform wide-open-throttle (WOT) engine testing.	Compliance	Staff indicated that test cells are run to test automatic transmission performance rather than for testing engines in WOT conditions. During the inspection, AQD observed catalyst aging testing in operation on cell A4, where the RPM of 2900 indicated this was not WOT engine testing. AQD did not request records of the type of engine testing performed.
IV.1	Install, calibrate, maintain, and operate devices to monitor the total gasoline and diesel usage for FG-PHASE2.	Compliance	Tom explained that fuel usage is monitored via a fuel meter on each test cell. A record is kept by the fuel management system. Flow meters are calibrated. I did not request records of calibration.
V.1	Stack testing for CO lb/hour emission factor within 180 days of permit issuance.	Not evaluated	PTI No. 44-22 was issued April 14, 2022. 180 days from this date is October 11, 2022. Manny explained that stack testing is planned for October 10, 2022.
VI.1, 2, 3	Keep records of fuel usage and emission calculation records.	Compliance	On September 23, 2022, Manny provided a detailed spreadsheet of facility fuel usage and emissions calculations for the time period of January 2021 through July 2022.
VI.4	Keep records of the type of engine testing performed.	Not evaluated	AQD did not request a record of the type of engine testing performed.
VIII.1-4	Stack dimensions; exhaust unobstructed vertically	Not evaluated	AQD did not observe the Phase 2 stacks during the inspection.

## 2. Phase III Dynamometers for Testing of Automatic Transmissions – PTI 68-12C – FG-PHASE3

Phase III includes 20 dynamometer test cells. Engines being run on the dynamometers are mainly a tool to drive the transmission, but the facility also has the ability to test the engines. Exhaust from these engines and those in Phase IIIA is controlled by one (or sometimes two) out of three regenerative thermal oxidizers (RTO). During the inspection, RTO 1 was controlling emissions.

Phase III dynamometers are permitted under PTI No. 68-12C, issued August 4, 2022 (several weeks before this AQD inspection). This permit was for the upgrade of two of the

existing Phase III transmission test cells (I-12 and I-13) to accommodate testing of new battery electric vehicle (BEV) transmissions systems. According to staff, the updates to test cells I-12 and I-13 have not started yet; materials are being procured for the updates at this time.

AQD visited dynamometer I-13. It appears to have a 300 HP absorption capacity and to have been installed in 1994.

PTI 68-12C refers to banks 5, 6, and 7 in SC IV.1. Talking with staff on site, hallways at the facility are divided into wings to indicate where a test cell is located. Banks also relate to the common exhaust control system leading to the RTO. There is a main header of exhaust leading to the RTOs, and the banks are exhaust wings off of that main header. Tom Masacek showed me a map of the facility hung in his office and described where wings are located at the facility. Banks 5, 6, and 7 are wings of the building where Phase III test cells are located.

Tom explained that fuel use tracking is commonized throughout the facility. Fuel usage is tracked via fuel meters and recorded electronically. Days of operation are also tracked in order to demonstrate compliance with permit limits based on a calendar day.

2.1. RTO Information

Emissions from FG-PHASE3 and FG-PHASE3A are controlled by three RTOs which were installed in 2006 according to the facility. RTO control panels can be observed from a control room off of the facility roof mezzanine. The mezzanine has safe designated walking areas.

The facility has three RTOs that are each the same size. Generally, one RTO is run at a time, and a second RTO is on standby, or kept up to temperature in case it is needed to control emissions. During the inspection, RTO 1 was running and controlling emissions, and RTO 3 was on standby. RTO 2 was not operating (idle). A programmable logic controller decides if two RTOs may be needed for control due to the number of test cells operating. Staff explained that if the RTO drops below 1400 °F, emissions are routed to the standby RTO. This is also described in the facility malfunction abatement plan.

Each of the three RTOs has three chambers: at any one time, one chamber serves as the inlet chamber, one serves as the purge chamber, and one serves as the exhaust chamber. The chambers appear to cycle every 30 seconds.

As mentioned earlier, during the facility inspection, RTO 1 was operating, RTO 3 was in standby, and RTO 2 was idle. Observing the RTO control panels during the inspection, I noted that RTO 1’s temperature was 1536 °F in tower 1, 1500 °F in tower 2, and 1554 °F in tower 3. (RTOs have three chambers or “towers” which alternate between purge, inlet, and exhaust.) The RTO setpoint is 1500 °F. I also noted that RTO 3’s temperature was 1545 °F in tower 1, 1540 °F in tower 2, and 1535 °F in tower 3. The exhaust stack temperature was 170 °F.

2.2. FG-PHASE3 – PTI No. 68-12C - Special Conditions and Compliance Status

SC(s)	Brief Condition Summary	Determination	Explanation
		Not evaluated	

I.1-2; I.5-8; I.10; I.12-13; VI.4, 5	Emission limits of NOx, SO2, VOC, CO, PM10, and PM2.5 in pounds per day and tons per year based on monthly records.		Please see the discussion of the facility's previous PTI No. 68-12B, below. <sup>1</sup>
I.3, V.1	Emission limit of 86.4 pounds NOx per hour.	Compliance	The most recent stack test was conducted May 31, 2017 and June 1, 2017 on RTO #2. The average NOx emission rate for diesel fuel was 1.40 pph and gasoline at 4.37 pph. Please see facility file for the stack test report.
I.4, IV.3, V.2, VI.3	Emission limit for natural gas based on stack testing; install a device to monitor natural gas usage; conduct stack testing within 180 days of commencement of operating natural gas fueled engines; monitor and record natural gas usage.	Not evaluated	These natural gas conditions relate to the engines and not to RTO natural gas usage. According to Manny, no natural gas-fueled engines have been tested at Ford-ATNPC, so stack testing to determine compliance with this emission limit is not required per SC V.2. AQD did not evaluate the engine natural gas meter or usage records because no natural gas-fueled engines have been tested at Ford-ATNPC.
I.9, V.1	Emission limit of 8.64 pounds VOC per hour.		The most recent stack test was conducted May 31, 2017 and June 1, 2017 on RTO #2. The average VOC emission rate for diesel fuel was 0.0 pph and for gasoline was 0.02 pph. Please see facility file for the stack test report.
I.11, V.1	Emission limit of 189.12 pounds CO per hour.	Compliance	The most recent stack test was conducted May 31, 2017 and June 1, 2017 on RTO #2. The average CO emission rate for diesel fuel was 0.01 pph and gasoline at 0.70 pph. Please see facility file for the stack test report.
II.1-3	Material limits of fuel usage gallons per day and per year based on monthly records.	Not evaluated	Please see the discussion of the facility's previous PTI No. 68-12B, below. <sup>1</sup>
II.4, 5	Burn only gasoline, alcohol/gasoline fuel blend, diesel, kerosene, hydrogen, LPG (or propane), and natural gas; do not use leaded	Compliance	From facility monthly fuel usage records and fuel supplier records, fuels used on site are diesel and gasoline. The certification indicates that gasoline does not contain lead.

	gasoline in FG-PHASE3.		
III.1	Implement and maintain a malfunction abatement plan (MAP) for the RTOs.	Compliance	AQD received the facility MAP dated July 24, 2019 as part of the facility's ROP renewal application. This is the most up-to-date version of the MAP.
IV.1, 2; VI.2, 6	Maintain a minimum RTO temperature of 1400 degrees Fahrenheit and a minimum retention time of 0.5 seconds; monitor and record RTO combustion temperature.	Compliance	Facility records were provided for RTO temperature every 10 minutes for the week of July 25-29, 2022. RTO 1 was operating and its lowest temperature was 1507.0 °F. RTO 2 was offline for repair during that time period. RTO 3 was not required and remained in standby mode with temperatures that did not fall below 1523 °F. According to staff, temperatures are recorded digitally on hard drives. This information is extracted via USBs into a readable format. Provided calculations from the manufacturer indicate the retention time is greater than 0.5 seconds.
IV.4	Install, calibrate, maintain, and operate RTO thermocouple.	Compliance	Facility records provided September 23, 2022 include Reports of Calibration for RTO 1 and RTO 3 thermocouples. The calibration was conducted on August 5, 2022. Also included was the third quarter RTO checklist for RTO #2, which took place in September of 2021 and indicates that combustion chamber thermocouples were replaced for RTO #2.
VI.1	Complete calculations by the 30 <sup>th</sup> day of the calendar month for the previous calendar month.	Compliance	Records were provided on September 23, 2022 for the time period of January 2021 through July 2022 as requested.
VI.7	Determine the maximum sulfur content using fuel supplier certification.	Compliance	The facility provided the fuel supplier certification for diesel and gasoline fuels, which include sulfur content in parts per million.
VI.8	Keep a demonstration of the minimum retention time.	Compliance	Ford ATNPC provided hand-written calculations from Durr at the time of installation demonstrating that the minimum retention time was 1.143 seconds at 1400 ° F.
VIII.1-3	RTO stack parameters; exhaust unobstructed vertically	Compliance	From the facility roof mezzanine, where it is necessary to travel to observe RTO temperatures, RTO stacks are also visible. I observed that there are three cylindrical

		stacks that exhaust unobstructed vertically. Stack dimensions appear to be similar to those in the facility permit based on visual observations.
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<sup>1</sup> PTI 68-12C was issued August 4, 2022. This inspection was conducted on August 24, 2022. Records were provided on September 23, 2022 for January 2021 through July 2022 as requested. Per PTI 68-12C FG-PHASE3 SC VI.1, calculations shall be completed by the 30<sup>th</sup> day of the calendar month for the previous calendar month. Monthly and 12-month rolling records for August 2022 were not yet required and were not evaluated during this facility inspection.

**2.3. FG-PHASE3 – PTI No. 68-12B - Special Conditions and Compliance Status**  
 Although PTI No. 68-12B was void upon issuance of PTI 68-12C on August 4, 2022, AQD evaluated compliance with emission limits and material limits from January 2021 through July 2022 with PTI No. 68-12B because this was the active permit during that time period.

SC(s)	Brief Condition Summary	Determination	Explanation
I.1, 5, 7, and VI.5	Prorated daily emission limits of 2027.5 lbs NOx/day; 507.1 lbs SO2/day; and 228.1 lbs VOC/day.	Compliance	The facility records the days of operation for each month. The maximum reported lb/day emissions from January 2021 through July 2022 were 109.72 lbs NOx/day in June 2021; 0.41 lbs SO2/day in January 2022; and 0.36 lbs VOC/day in June 2021.
I.2, 6, 8, 10, 12, 13, and VI.4	12-month rolling emission limits of 52.2 tpy NOx; 10.8 tpy SO2; 5.9 tpy VOC; 128.5 tpy CO; 11.7 tpy PM10; and 11.7 tpy PM.2.5. Keep records of emissions calculations.	Compliance	The maximum reported tpy emissions from January 2021 through July 2022 were 15.3 tpy NOx in March 2022; 0.06 tpy SO2 in March, May, and June 2022; 0.05 tpy VOC in November 2021 through June 2022; 1.67 tpy CO in May 2022; 1.67 tpy PM10 in March 2022; and 2.02 tpy PM2.5 in March 2022.
II.1-3, VI.4	Fuel usage is limited to 12,672 gallons per day and 652,500 gallons per 12-month rolling time period; of that 12-month fuel rolling limit, diesel usage shall not exceed 500,000 gallons per 12-month rolling time period.	Compliance	Based on records provided, the facility calculates daily fuel usage using the fuel usage for the month divided by the number of operating days. The highest daily fuel usage from January 2021 through July 2022 was 610 gallons fuel per day in June 2021. The highest 12-month rolling fuel usage was 169,946 gallons fuel in March 2022. The highest 12-month rolling diesel or diesel-like fuel usage was 63,158 gallons diesel in February of 2022.



### 3. Phase IIIA Dynamometers for Testing of Automatic Transmissions - *PTI 68-12C – FG-PHASE3A*

Phase 3A houses five dynamometers which are in the same building as the Phase 3 dynamometers, but Phase 3A dynamometers were installed at a later date. Dynamometers in Phase 3A are controlled by the same three RTOs that also control Phase 3 dynamometers. Phase 3A test cells are located in Wing 8 of the building; however Phase 3A dynamometers M3 and M4 are at located the end of Wing 6.

#### 3.1. FG-PHASE3A – PTI No. 68-12C - Special Conditions and Compliance Status

SC(s)	Brief Condition Summary	Determination	Explanation
I.1-2, VI.3	Emission limits of NOx and CO per 12-month rolling time period based on monthly records.	Not evaluated	Please see the discussion of facility's previous PTI No. 68-12B, below. <sup>1</sup>
II.1-3	Material limits of fuel usage gallons per day and per year based on monthly records.	Not evaluated	Please see the discussion of facility's previous PTI No. 68-12B, below. <sup>1</sup>
II.4, 5	Burn only gasoline, alcohol/gasoline fuel blend, diesel, kerosene, hydrogen, LPG (or propane), and natural gas; do not use leaded gasoline in FG-PHASE3A.	Compliance	From facility monthly fuel usage records and fuel supplier records, fuels used on site are diesel and gasoline. The certification indicates that gasoline does not contain lead.
III.1	Implement and maintain a MAP for the RTOs.	Compliance	AQD received the facility MAP dated July 24, 2019. This is the most up-to-date version of the MAP.
IV.1-2, VI.2, 4, 6, VIII.1-3	RTO design, operation, monitoring, recordkeeping, and stack requirements.	Compliance	Phase 3A cells are controlled by the same RTO as Phase 3. Please see the previous discussion of RTO conditions for Phase 3.
IV.3	Install, calibrate, maintain, and operate a device to monitor natural gas usage.	Not evaluated	AQD did not evaluate the engine natural gas meter because no natural gas-fueled engines have been tested at Ford-ATNPC.
VI.1	Complete calculations by the 30 <sup>th</sup> day of the calendar month for the previous calendar month.	Compliance	Records were provided on September 23, 2022 for January 2021 through July 2022 as requested.

VI.5	Determine the maximum sulfur content using fuel supplier certification.	Compliance	The facility provided the fuel supplier certification for diesel and gasoline fuels, which include sulfur content in parts per million.
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<sup>1</sup> PTI 68-12C was issued August 4, 2022. This inspection was conducted on August 24, 2022. Records were provided on September 23, 2022 for January 2021 through July 2022 as requested. Per PTI 68-12C FG-PHASE3A SC VI.1, calculations shall be completed by the 30<sup>th</sup> day of the calendar month for the previous calendar month. Monthly and 12-month rolling records for August 2022 were not yet required and were not evaluated during this facility inspection.

3.2. FG-PHASE3A – PTI No. 68-12B Special Conditions and Compliance Status  
 Although PTI No. 68-12B was void upon issuance of PTI 68-12C on August 4, 2022, AQD evaluated compliance with emission limits and material limits from January 2021 through July 2022 with PTI No. 68-12B because this was the active permit during that time period.

SC(s)	Brief Condition Summary	Determination	Explanation
I.1-2, VI.3	12-month rolling emission limits of 35.5 tpy NOx and 58.1 tpy CO; keep monthly records.	Compliance	The maximum reported tpy emissions from records provided for the time period of January 2021 through July 2022 were 1.33 tpy NOx in March 2022, and 0.21 tpy CO in March 2022.
II.1-3	Fuel usage is limited to 4,752 gallons per day and 295,000 gallons per 12-month rolling time period; of that 12-month fuel rolling limit, diesel usage shall not exceed 120,000 gallons per 12-month rolling time period.	Compliance	Based on records provided, the facility calculates daily fuel usage using the fuel usage for the month divided by the number of operating days. The highest daily fuel usage from January 2021 through July 2022 was 67 gallons fuel per day in May 2021. The highest 12-month rolling fuel usage was 14,730 gallons fuel in March 2022. The highest 12-month rolling diesel or diesel-like fuel usage was 1,705 gallons diesel in March of 2022.

4. Facility-Wide HAP Limits – FGFACILITY – PTI No. 32-18  
 Ford ATNPC is a synthetic minor source of HAP. Note, HAP emissions from Ford ATNPC and Ford Motor Company - Livonia Transmission (State Registration Number A8645) are aggregated per the major source definition in the NESHAP regulations. In Ford ATNPC's renewal ROP issued September 28, 2006 (MI-ROP-M4734-2006), the facility chose to incorporate HAP opt-out limits to avoid potential applicability of major source National Emissions Standards for Hazardous Air Pollutants (NESHAP). The HAP opt-out limits were obtained prior to the first compliance date for the NESHAP for Industrial Boilers and Process Heaters (40 CFR Part 63 Subpart DDDDD), the NESHAP for Surface Coating of Miscellaneous Metal Parts (40 CFR Part 63 Subpart MMMM), and the NESHAP for Engine Test Cells (40 CFR Part 63 Subpart PPPPP). On May 2, 2018, the facility was issued PTI

No. 32-18 for HAP opt-out limits that replace the limits issued as part of MI-ROP-M4734-2006.

4.1. Corrected HAP Records

Original HAP records received by AQD on September 23, 2022 indicated that the highest individual HAP emissions per 12-month rolling time period were 1.20 tons glycol ethers in September 2021. (The highest 12 month rolling aggregate HAP emissions were 4.49 tons aggregate HAP in September 2021.) The highest individual HAP record appeared to be in error because records indicated that maximum acetaldehyde emissions for Phase 2 were 3989.7 pounds in December of 2021. Because acetaldehyde is a HAP, 1.99 tons acetaldehyde in December 2021 appears to be the highest individual HAP emissions, rather than 1.20 tons of glycol ether in September 2021.

On January 13, 2023, AQD requested corrected HAP records. Updated records were provided on Friday January 20, 2023. During a discussion on January 25, 2023 with Manny Appiah, Arthur Losey from Ford, and Jay Williams from GZA, it was explained that a cell on the spreadsheet provided to AQD had been corrupted. Updated records indicated that acetaldehyde is the highest individual HAP on site. Acetaldehyde emissions from Phase 3 and Phase 3A dynamometers are assumed to be 0 because of the RTO control. HAP emissions are calculated based on the sum of HAPs emitted by each emission unit. In HAP records, the acetaldehyde gasoline emission factor for Phase 2 is  $2.23 \times 10^{-2}$  lbs acetaldehyde per gallon of gasoline, which is the emission factor indicated in Appendix A of PTI 44-22.

4.2. FGFACILITY – PTI 32-18 - Special Conditions and Compliance Status

SC(s)	Brief Condition Summary	Determination	Explanation
I.1 and 2, VI.2.d and e	Emissions of each HAP less than 8.9 tons and aggregate HAPs less than 22.4 tons per year. Maintain individual and aggregate HAP records.		Ford ATNPC provided 12-month rolling HAP emission records for the time period of January 2021 through July 2022 for both Ford ATNPC (M4734) and Ford Livonia Transmission (A8645) facilities combined as requested. During this time period, the highest individual HAP emissions per 12-month rolling time period were 1.99 tons acetaldehyde in December 2021. The highest 12 month rolling aggregate HAP emissions were 6.34 tons aggregate HAP in December 2021. Records are maintained.
V.1	Determine HAP content of material using formulation data. Upon request of the AQD District Supervisor, verify the HAP formulation data using EPA Test Method 311.	Compliance	The facility maintains the HAP content from manufacturer’s formulation data or SDS. At this time the AQD has not requested EPA Test Method 311 analysis.
VI.1		Compliance	

	Complete calculations by the 30 <sup>th</sup> day of the calendar month for the previous calendar month.		Records were provided on September 23, 2022 for January 2021 through July 2022 as requested.
VI.2.a-c	Keep monthly records of gallons or pounds of each HAP material used; HAP content in pounds of each HAP material used; and fuel usage and equipment-specific emission factors for each fuel.	Compliance	The records provided by the facility appear to satisfy these requirements.

**5. Fuel Storage Tanks – MI-ROP-M4734-2011 - FG-GASOLINE DISPENSING >10,000 AND <100,000/MONTH**

According to the facility ROP application received on March 9, 2016, EU-TANKFARM68-12 was installed December 3, 2014. This tank farm has four above-ground storage tanks of 16,000 gallons each. Three of these 16,000 gallon tanks are subdivided into 10,000 gallon and 6,000 gallon sections, so that in total, there are 7 tanks. I observed these tanks from a distance. According to staff, there is vapor recovery during filling.

There also appears to be emission unit EU-VEHICLEREFUEL, which is the 6,000 & 20,000-gallon gasoline storage tanks serving the dynamometer cells, vehicle chassis rolls, vehicle on-road and test track calibration and transmission testing operations. I did not observe these tanks. Underground storage tanks EU-UST1 and EU-UST2A have been removed according to the facility ROP application.

EU-GASDISPENSING, EU-VEHICLEREFUEL, EU-EEF1, EU-EEF2, EU-EEF3, EU-EEF4, EU-PHASE3, EU-PHASE3-21, EU-PHASE3-22, and EU-TANKFARM68-12 appear to be subject to the area source NESHAP 40 CFR Part 63 Subpart CCCCC. AQD does not have delegated authority for this NESHAP.

**5.1. 40 CFR Part 60 Subpart Kb – NSPS for Volatile Organic Liquid Storage Vessels**

The facility’s 20,000 gallon fuel storage tank may be subject to federal New Source Performance Standards for Volatile Organic Liquid Storage Vessels (40 CFR Part 60 Subparts A and Kb) due to tanks having capacity greater than 75 cubic meters (19,812.9 gallons) and true vapor pressures greater than 15.0 kPa per 40 CFR 60.110b(a). From provided gasoline certifications, the 87 octane gasoline Reid vapor pressure (RVP) is 6.5 psi, or 44.8 kPa, and the 93 octane gasoline RVP is 14.44 psi or 99.5 kPa. AQD did not evaluate applicability or compliance with this subpart during the facility inspection.

**6. Cold Cleaner – MI-ROP-M4734-2011 – FG-COLDCLEANERS**

AQD observed the cold cleaner on site near the maintenance paint booth. The cold cleaner is an S150 Safety Kleen cold cleaner. It appears to be exempt from obtaining a PTI per

Rule 281(2)(h) for cold cleaners with a vapor/air interface less than 10 square feet. Applicable requirements are discussed below.

6.1. FG-COLDCLEANERS – MI-ROP-M4734-2011 Special Conditions and Compliance Status

SC(s)	Brief Condition Summary	Determination	Explanation
II.1	Don't use cleaning solvents containing more than 5 percent of methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chloroform, or any combination thereof.	Compliance	The solvent is Safety-Kleen Premium Solvent (Virgin and Recycled). During the previous inspection on March 9, 2020, the SDS was reviewed and it was determined that the halogenated compounds of concern are not in the cleaning solvent. The solvent contains 100% Distillates (petroleum) hydrotreated light (CAS # 64742-47-8). During this inspection, AQD did not request the solvent safety datasheet (SDS).
III.1, 2, IV.1, 2, 3, 4, 5	Drain cleaned parts; maintain parts washer; have air/vapor interface less than 10 square feet or exhaust to the in-plant environment; have a draining device; have a closed cover; vapor pressure requirements.	Compliance	The lid was closed. The surface area appeared to be less than 10 square feet. It exhausts to the in-plant environment. Solvent does not appear to be heated. Previous inspection reports indicate the cold cleaner is not agitator-equipped.
VI.1, 2, 3, 4	Monitor temperature if solvent is heated; maintain information on file; post operating procedures; waste solvent stored in closed containers unless a safety hazard.	Compliance	AQD did not request cold cleaner documentation. Usage instructions were posted.

7. Maintenance Paint Booth – FGRULE 287(c) – MI-ROP-M4734-2011

I observed the paint booth on site. It appears to be in good condition. The applicators used appear to be spray applicators and aerosol cans. Aerosol can paint usage appears to be exempt from obtaining a PTI per Rule 287(2)(b) for surface coating using aerosol spray cans. The booth and spray applicator appear to be exempt from obtaining a PTI per Rule 287(2)(c) for surface coating lines using less than 200 gallons per month with dry filter control serving exhaust.

Staff showed me the flammable storage cabinet in which aerosol coatings are stored, as well as the drum for waste coatings, which is closed. All containers were closed and I didn't observe any solvent odor. Applicable requirements are discussed below.

7.1. FGRULE 287(c) – MI-ROP-M4734-2011 Special Conditions and Compliance Status

SC(s)	Brief Condition Summary	Determination	Explanation
II.1, VI.1.a		Compliance	Coating usage is tracked monthly. The facility provided paint use logs

	Coating usage limited to 200 gallons a month; keep records.		for January 2022 through June 2022. The amounts used each month did not exceed one gallon.
IV.1, VI.1.b	Equip exhaust with proper particulate control system.	Compliance	The paint booth is well maintained. Particulate control include filters with a magnehelic gauge. Filters are changed as needed. The booth was not operating during the inspection.
VI.1.b	Document filter replacements.	Not evaluated	AQD did not request records of filter replacements.

8. Equipment exempt from obtaining a PTI per Rule 290 – FGRULE 290 – MI-ROP-M4734-2011

The facility does not appear to operate equipment exempt from obtaining a PTI per Rule 290. These flexible group conditions were not evaluated.

**Conclusion**

The facility appears to be in compliance with the evaluated conditions of ROP No. MI-ROP-M4734-2011; PTI Nos. 44-22, 32-18, and 68-12C; and applicable state and federal standards.

NAME AL

DATE 1-26-23

SUPERVISOR JK