

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

N143664945

FACILITY: FCA US LLC - Chrysler Technology Center		SRN / ID: N1436
LOCATION: 800 Chrysler Drive, AUBURN HILLS		DISTRICT: Warren
CITY: AUBURN HILLS		COUNTY: OAKLAND
CONTACT: Nick George , Environmental Specialist		ACTIVITY DATE: 06/28/2022
STAFF: Adam Bognar	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On Tuesday, June 28, 2022, Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) employee Adam Bognar conducted a scheduled inspection of FCA US LLC – Chrysler Technology Center (the “Facility” or “FCA Tech Center”) located at 800 Chrysler Drive, Auburn Hills, Michigan 48326. The purpose of the inspection was to determine the facility’s compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) Administrative Rules; Renewable Operating Permit No. MI-ROP-N1436-2018; and Permit to Install No. 155-18.

I reviewed all records electronically. The on-site inspection conducted on June 28, 2022 was a facility-walk through only. We did not conduct any meetings and I did not collect any records during my on-site inspection. Nick George provided all records that I requested digitally. The last AQD inspection was conducted on May 6, 2021. For this reason, I only reviewed records from May 1, 2021 to the date of this inspection.

The FCA US LLC – Chrysler Technology Center campus is comprised of approximately 5.5 million square feet of space. This large footprint makes this one of the largest buildings in the United States. FCA Tech Center performs research and development for automobile, light duty truck, and vehicle component manufacturing. Operations include dynamometer test cells, pilot assembly processes, test painting, and various lab activities. Prior to the COVID-19 pandemic, there were approximately 16,000 workers at this facility. This number was reduced to approximately 1500-2000 after re-opening after the Governor’s “stay at home” order. The number of employees on-site is gradually increasing.

This facility is located in Oakland county which is currently designated as non-attainment for ozone based on the National Ambient Air Quality Standards (NAAQS). Oakland county is designated as attainment for all other criteria pollutants.

I arrived at the facility at 9 am. I presented the “control code” that Nick George provided to me via email before the inspection. This code allowed me past security into the facility. I met with Nick George - Environmental Specialist, Stuart Weiss - Consultant, and David Jump, Environmental Specialist. I identified myself and stated the purpose of the inspection.

Nick George and Stuart Weiss accompanied me for the entire inspection. David Jump stepped out for lunch at around 10:30 am. Although Stuart Weiss no longer works for FCA as of earlier this year,

he is still the most knowledgeable about air compliance at the FCA Tech center. Nick George is learning to take on Stuart's previous responsibilities.

Boilers

FCA staff showed me each of the 12 boilers at the facility during this inspection. I verified that each boiler is consistent with what is permitted in MI-ROP-N1436-2018. There are 7 large boilers in the central energy plant (CEP) on the ground floor. 6 boilers are 40MMBtu/hr and 1 is 10MMBtu/hr. These are used to provide heat to the building. The CEP also contains 14 chillers (electric) and two compressors (electric). Additionally, I observed that there are two 8.37MMBtu/hr boilers in the powertrain area (upstairs) and three 2.51MMBtu/hr boilers in the laboratory area (upstairs).

Dynamometers

FCA staff showed me each of the 80 dynamometer test cells at the facility. These are all located on the ground floor level in one of five wings (A,B,C,D,E). I walked through each of the five wings and looked at each dynamometer cell. In general, the uncontrolled cells are used for performance testing and the controlled cells are used for durability and/or transmission testing.

There are 14 uncontrolled cells in wing A. Each cell contains one test stand. All cells in Wing A were considered exempt from Rule 201 requirements pursuant to Rule 285(d) (currently Rule 285(2)(g)) at the time of installation. I verified that there are 14 test cells in this area. Cells 13 and 14 are equipped with special equipment for noise testing. All cells in Wing A are used for performance testing.

There are 18 uncontrolled cells in Wing B. Each cell contains one test stand. All cells in Wing B are used for performance testing.

There are 20 test cells in Wing C, 12 controlled and 8 uncontrolled. The controlled cells each contain two test stands while the uncontrolled cells each contain one test stand. The controlled cells all have hard piping that can be seen coming out of the combustion engine and into a larger diameter stack located either in the back of the test cell or on one of the sides. The uncontrolled cells have a gap between the engine exhaust and the uncontrolled stack. The gap between the engine exhaust and the stack allows the engines to operate without any pressure disturbances from being hard piped to a stack. The controlled cells in Wing C are used for durability/transmission testing. The uncontrolled cells in Wing C are used for performance testing.

There are 22 controlled cells in Wing D. Each cell contains two test stands. The cells in Wing D are all used for durability testing.

There are 20 test cells in Wing E, 12 controlled and 8 uncontrolled. The controlled cells each contain two test stands while the uncontrolled cells each contain one test stand. The controlled cells are used for performance testing while the uncontrolled cells are used for durability testing. Controlled cells E2, E4, E6, E8, E17, E19, and E20 are also permitted to perform simulation tests. During simulation testing, the controlled cells are controlled by a catalytic converter instead of the thermal oxidizer. This is done so that the engine is operating with all of the components it will have

when driving on the road, including the catalytic converter. I observed that cells E20 and E16 are now testing all electric drivetrains. There is a trend at this facility towards more hybrid and electric drivetrains.

MI-ROP-N1436-2018

EU-12HWG-1.07

This emission unit is one natural gas-fired boiler with a heat input of 40 million BTU/hour. This boiler utilizes natural gas exclusively and is equipped with low NOx burners. The boiler is subject to 40 CFR Part 60, Subpart Dc – New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units.

Section III – SC 1: States that the permittee shall only fire pipeline quality natural gas in the boiler. Stuart stated that natural gas is the only fuel fired in all boilers at FCA Tech Center. There is some amount of No. 2 fuel oil on site that, according to my conversations with Stuart Weiss, could be used in an emergency. Using No. 2 fuel oil in this boiler would be a violation of this permit condition. The records I reviewed indicate only natural gas usage in boilers.

Section VI – SC 1: States that the permittee shall monitor and record the fuel usage for EU-12HWG-1.07 on a monthly basis in a manner and with instrumentation acceptable to the AQD district supervisor. These records are maintained in accordance with this condition and 40 CFR Part 60, Subpart Dc. Total natural gas usage for all of 2021 was reported at 62MM cubic feet. The month with the highest usage was February 2022 at 8.7MM cubic feet.

Section VI – SC 2: States that the permittee shall develop a boiler preventative maintenance program and log preventative maintenance. A preventative maintenance program is maintained. Stuart Weiss stated in my previous inspection in May 2021 that no recent changes have been made to the boiler PM program. I did not review the boiler preventative maintenance program during this inspection. There have not been any recent issues with the boilers or any physical changes to the boiler setup.

Section IX – SC 1: States that the permittee shall comply with 40 CFR Part 60, Subpart A, 40 CFR Part 63, Subpart DDDDD, and 40 CFR Part 60, Subpart Dc. EU-12HWG-1.07 appears to be in compliance with these federal requirements. The requirements of Subpart DDDDD are discussed below under FG-BOILERMACT. The facility complies with 40 CFR Part 60, Subpart Dc by maintaining records of fuel usage and submitting bi-annual compliance certification reports.

FG-BOILERS

This flexible group consists of four (4) boilers using natural gas as primary fuel with fuel oil No. 2 as backup, and five (5) boilers using natural gas exclusively.

Section I – SC 1,2,3: Places limits on Sulfur Dioxide (SO₂) emissions. Sulfur Dioxide emissions from FG-BOILERS are limited to 104.7 lb/hr and 232.9 tons/year. Facility is in compliance with the annual emission limit based on the records I reviewed. In 2020, the facility reported a total of 0.097 tons of Sulfur Dioxide was emitted. The highest reported monthly sulfur emissions were in January 2022

at 0.014 tons, which corresponds to an average hourly emission rate of 0.037 lb/hour. I verified that the facility is using the proper emission factors from Appendix 7 of this ROP. Section I – SC 3 is not applicable since no fuel oil is used.

Section I – SC 4: Places a limit on the emission of Nitrogen Oxides (NOx) of 85.8 tons/year. The facility is in compliance with this emission limit based on the records I reviewed. In 2021, the facility reported a total of 16.2 tons of NOx. The highest reported emissions were during the 12-month rolling period ending in May 2021 at 16.5 tons. I verified that the facility is using the proper emission factors from Appendix 7 of this ROP.

Section II – SC 1,2: Limits natural gas usage in FG-BOILERS to 521.5 million cubic feet/year. Facility is in compliance with this limit based on the records I reviewed. The highest reported 12-month rolling total was in May 2021 at 330.2MM cubic feet. Fuel Oil No. 2 usage is restricted to 6,415,000 gallons/year. Based on the records I reviewed, Fuel Oil No. 2 has not been used in the past 3 years. 100 gallons of Fuel Oil No. 2 were used in EG-12-1.03 in January 2019. According to Stuart, no Fuel Oil has been used in boilers since then.

Section III – SC 1,2: States that the permittee shall only fire pipeline quality natural gas in the following boilers: 12-HWG-1.05, 12-HWG-1.06, 16-B4.01, 16-B-4.02 and 16-B-4.03. Additionally, these conditions state that the permittee shall only fire natural gas or Fuel Oil No. 2 in the following boilers: 12-HWG-1.01, 12- HWG-1.02, 12-HWG-1.03 and 12-HWG-1.04. These boilers are operated with the appropriate fuels based on my conversations with FCA staff and the records I reviewed. I did not see any evidence of other fuels near the boilers.

Section V – SC 1: States that the permittee shall determine the sulfur content of No. 2 fuel oil by fuel supplier certification or fuel sample test data for any fuel oil used in FG-BOILERS. The fuel oil on-site was sampled in 2018 and found to contain 386.4 ppm sulfur. I verified this in a previous inspection.

Section VI – SC 1,2: Requires the permittee to monitor and record the quantity and type of each fuel used in each boiler on a monthly and 12-month rolling basis. For any Fuel Oil No. 2 shipment, the permittee must keep a record of sulfur content, heat content, and quantity received. These records are maintained. Fuel usage for each boiler is monitored and recorded separately for each 12-month rolling period.

Fuel Oil No. 2 is used very seldomly. The fuel oil currently on-site has been there for many years. The only time this fuel oil has been used in recent times was for a 100-gallon test conducted in 2019. The fuel oil used for the 100-gallon test was sampled in 2018 and found to contain 386.4 ppm sulfur.

Section VI – SC 3: States that the permittee shall monitor and record the boiler monthly hours of operation. I reviewed these records. The run-time hours are recorded for all boilers in FG-BOILERS combined. Run-time is reported around the same each month. The highest value is 744 hours in May 2022.

Section VI – SC 4: States that the permittee shall keep a record of the average hourly and monthly 12-month rolling emissions of SO₂. I verified that these records are kept.

Section VI – SC 5: States that the permittee shall keep a record of the monthly and 12-month rolling emissions of NO_x. I verified that NO_x emissions from FG-BOILERS are recorded in this manner.

Section VI – SC 6: States that the permittee shall develop a boiler preventative maintenance program and log preventative maintenance. A preventative maintenance program is maintained. Stuart stated that no recent changes have been made to the boiler PM program. I reviewed a document submitted by FCA that indicated that each boiler received a tune-up in 2021.

Section IX – SC 1: Section IX – SC 1: States that the permittee shall comply with 40 CFR Part 60, Subpart A, 40 CFR Part 63, Subpart DDDDD, and 40 CFR Part 60, Subpart Dc. The boilers appear to be in compliance with these federal requirements. The requirements of Subpart DDDDD are discussed below under FG-BOILERMACT. The facility complies with 40 CFR Part 60, Subpart Dc by maintaining records of fuel usage and submitting bi-annual compliance certification reports.

FG-BOILERMACT

This flexible group contains four (4) boilers using natural gas as primary fuel with fuel oil No. 2 as backup, and eight (8) boilers using natural gas exclusively. This flexible group is applicable to the following emission units when operating as a “Unit designed to burn gas 1 subcategory.” This includes gaseous fuel boilers that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year and gaseous fuel boilers that burn liquid fuel during periods of gas curtailment or gas supply interruptions of any duration.

Section II – SC 1: States that the permittee shall only burn fuels as allowed in the unit designed to burn gas 1 subcategory definition in 40 CFR 63.7575. The permittee only burns natural gas in these boilers based on the records I reviewed and conversations with facility staff. Fuel oil #2 was briefly used as a short test run several years ago but has not been used since.

Section III – SC 1,2,3,4,5,6: Specifies process/operational restrictions for FG-BOILERMACT. The boilers in the central energy plant are equipped with oxygen trim systems. The boilers are considered existing units because they commenced construction before June 4, 2010. Since all boilers are equipped with oxygen trim systems, tune ups are conducted at least once every five years in accordance with 40 CFR Part 63 Subpart DDDDD (40 CFR 63.7540(a)(12)). I requested and received documentation for the most recent tune up of these boilers. The document shows that each boiler received a tune up in 2021.

Section VI – SC 1,2,3,4,5: Specifies recordkeeping requirements for FG-BOILERMACT. FCA appears to be in compliance with recordkeeping requirements of FG-BOILERMACT. FCA maintains records of any alternative fuels used, performance tests completed, and all semi-annual/annual reports.

Section IX – Specifies other requirements for FG-BOILERMACT. The facility appears to be in compliance with 40 CFR Part 63, Subpart DDDDD based on the inspection and records that I reviewed. FCA Tech center performs tune-ups of boilers according to Subpart DDDDD.

FG-B/UP-TURBINES

This flexible group consists of two natural gas-fired turbine generators used for peaking. During start-up, these turbines use compressed natural gas to get the turbine moving. This start-up natural gas (3000-4000 cubic feet per start-up) is exhausted to the ambient air without combustion. In 2021, FCA installed new natural gas meters on each of the turbines. These new meters allow FCA to differentiate between the natural gas that is used for start-up versus what is combusted in the turbine. I verified that NOx and CO calculations are performed using the emission factors in Appendix 7.

Section I – SC 1,2: Establish emission limits for Nitrogen Oxides (NOx). For each turbine, NOx emissions are limited to 89.29 pounds per hour (pph). Combined emissions from both turbines are limited to 35.72 tons/year. This facility is in compliance with these emission limits based on the records I reviewed. The pph limit is based on a monthly average. The month I reviewed with the highest hourly emissions was for Unit 2 in June 2021 at 85 pph NOx. This appears to be an outlier. The next highest hourly NOx emissions are reported at 37.5 pph. Annual NOx emissions were reported highest during the 12-month period ending in May 2022 at 0.16 tons.

Section I – SC 3,4: Establish emission limits for CO. CO emissions are limited to 16.23 lb/hour and 6.5 tons/year. The facility is in compliance with these emission limits based on the records I reviewed. CO emissions were highest during the 12-month rolling period ending in May 2022 at 0.03 tons.

The hourly CO emission rate was reported highest during the 12-month period ending in June 2021 at 15.4 pph CO. 49.23 pph and in June 2021 at 81.82 pph (close to limit). This appears to be an outlier. The next highest hourly CO emissions are reported at 5.8 pph. I emailed Nick and David to ask why this value was so close to the limit. They stated that the value appears accurate. They did not provide any explanation for why this value was relatively high.

Section I – SC 5: Limits sulfur content in natural gas to 0.8%. Stuart stated that CMS Energy provides FCA-CTC with natural gas that meets Mich. Admin. Code R.460.2381(1) - 20 grains sulfur per 100 cubic feet. This equates to approximately 0.03%.

Section II – SC 1: Limits natural gas usage to 190.2 MM cubic feet/year for both turbines combined. Natural gas usage was reported highest during the 12-month periods ending in September, October, November, and December at 0.87 MMCF.

The 190.2 MM cubic feet/yr natural gas usage limit is tied to the CO emission limit. Based on the CO emission factor of 68 pounds per million cubic feet, the maximum natural gas usage would result in achieving the maximum CO emissions of 6.5 tons. It would not make sense to count un-combusted natural gas used during startup towards the 190.2MM cubic feet/yr emission limit.

According to Stuart, around 3000-4000 cubic feet of natural gas are used without combustion in a typical startup cycle. Occasionally, the turbines will fail to ignite and will require multiple start-up cycles. Stuart stated that failures to ignite are recorded in the facility's handwritten operating logs (I did not review these). Based on my observations and conversations with Stuart, this routine venting of natural gas during startup is exempt from Rule 201 requirements pursuant to Rule 285 (2)(mm)(i).

Section III – SC 1,2,3: Specifies process/operational restrictions for FG-B/UP-TURBINES. The turbines are only operated as needed during a power outage. The units burn only pipeline quality natural gas. The turbines were not operated for more than 400 hours based on a 12-month rolling time period. In 2021, Unit 1 was operated for a total of 1.8 hours and Unit 2 was operated for a total of 5 hours.

Section VI – SC 1: States that the permittee shall monitor and record the monthly hours of operation of each turbine. These records are maintained.

Section VI – SC 2,3: Requires the permittee to keep 12-month rolling records of fuel consumption, total NOx emissions, and total CO emissions. These records are maintained.

Section VI – SC 4: States that the permittee shall develop a turbine preventative maintenance program and log preventative maintenance. A PM program is maintained. David Jump stated that there have been no recent changes to the PM program.

FG-EMERGENCY-RICE

This flexible group includes existing emergency stationary reciprocating internal combustion engines that have a maximum site rating of 500 brake horsepower and less than 30 liters per cylinder located at a major source of hazardous air pollutants (EU-FIREPUMP-1 & EU-FIREPUMP-2). I did not inspect these engines during this on-site inspection.

Section III – SC 1,2,3,4,5,6,7,8,9: Specifies process/operational restrictions for FG-EMERGENCY-RICE. The permittee appears to comply with these process/operational restrictions. Maintenance records show that the oil filter on both units was changed in June 2020. The engines have not exceeded 100 hours for maintenance checks and readiness testing. The records I reviewed show that the CEP Fire Sprinkler and HQ Tower Fire Sprinkler operated for 14.8 and 27.4 hours, respectively, in 2021.

Section IV – SC 1: States that the permittee shall install a non-resettable hour meter on each engine. Both engines are equipped with a non-resettable hour meter. During a previous inspection in July 2020, the CEP Fire Sprinkler hour meter showed 808 hours and the HQ Tower Fire Sprinkler showed 594 hours. I did not verify engine hours during this inspection. The records I reviewed state that the CEP Fire Sprinkler hour meter showed 835.9 hours and the HQ Tower Fire Sprinkler showed 648.0 hours in June 2022.

Section V – SC 1: NA since oil analysis program is not used.

Section VI – SC 1: Requires the permittee to keep records of the hours of operation of each engine using a non-resettable hour meter. Additionally, the permittee must differentiate and document how many of these hours are used for emergency operation, non-emergency operation, and demand response operation. For emergency operation, the permittee must document what classified the operation as emergency.

Since January 2019, these engines have not been operated for emergency or demand response purposes. Both engines are operated for around 2 hours per month for testing & maintenance purposes.

Section VI – SC 2,3: Requires the permittee to keep records of the occurrence, duration, and steps taken to mitigate each malfunction of operation. Based on the records I reviewed there have been no recent malfunctions in FG-EMERGENCY-RICE. FCA-CTC does its fire pump maintenance in accordance with NFPA25 with additional steps provided by FCA to the contractor.

The malfunction records state that the oil pressure sensor is leaking and appears to be faulty on CTC Tower Diesel. This was identified during the annual service on July 9, 2021. David Jump stated on July 27, 2022 that a new oil pressure switch has been ordered. This appears to be a minor issue; however, AQD should follow up in future inspections to verify this has been repaired.

Section VI – SC 4: Requires the permittee to keep records of the parameters that are analyzed in the oil analysis program. The oil analysis program is not used. An annual tune up is performed on both engines each year. The oil is changed during these tune ups. Stuart Weiss provided me with documentation indicating that engine tune-ups were performed in July 2021.

Section VI – SC 5: States that the permittee shall maintain maintenance records for FG-EMERGENCY-RICE. I verified that maintenance records are maintained for both engines in this flexible group.

Section VI – SC 6: Requires the permittee to keep records of the sulfur content of the diesel fuel used in FG-EMERGENCY-RICE. According to the diesel fuel supplier the fuel contains less than 15 ppm sulfur.

Section IX – SC 1,2: States that the permittee shall comply with 40 CFR Part 63, Subparts A – General Provisions, and ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. FCA appears to be in compliance with these standards.

Section 2 – Scientific Labs

EU-KIRKSITEFURN

This emission unit consists of an electrically heated melting furnace. Kirksite is a zinc-based metal casting formulation. Casting operation utilizes Pep Set sand mold. Processing of the mold and core is exempt under R 336.1282(2)(a)(iv). I did not inspect this emission unit during the on-site inspection.

Section V – SC 1: States that the permittee shall conduct and record visible emission readings on EU -KIRKSITEFURN once during each 5-year period. Stuart provided me with the test report for this test. This test was performed on October 12, 2017. No visible emissions were observed during the test. Visible opacity is not likely unless some contaminant ends up inside the furnace. I notified FCA that this testing is required every 5 years and another test is required before October 12, 2022.

FG-TESTCELLSA

This flexible group contains fourteen engine dynamometer test cells located in Wing A. At the time of installation, these test cells were exempt from the requirements of R 336.1201 pursuant to R 336.1285(d) (currently R 336.1285(2)(g)).

Section I – SC 1: Limits SO₂ emissions to 1.7 lb/MMBTU heat input of fuel oil. This limit only applies when the test cells are fired by fuel oil. Based on the records I reviewed and my conversations with Stuart, no fuel oil has been used in these dynamometers since January 2019.

Section VI – SC 1: States that when the engines are fired by fuel oil, the permittee shall maintain a record of the fuel specifications. No fuel oil has been used in FG-TESTCELLSA since January 2019.

Section VI – SC 2: States that the permittee shall maintain a record of the date of installation for each engine test cell. All of these dynamometers were installed in October 1990 at the same time. FCA Maintains written correspondence with the AQD from the 1990's showing that these dynamometers were installed in October 1990.

Section VI – SC 3: Requires the permittee to record the types and amounts of fuel used per calendar year. These records are maintained. The total fuel consumption in 2020 was reported at 63,702 gallons of gasoline. In 2021, total fuel consumption was reported at 41,226 gallons of gasoline.

FG-ENGPAINSHOP

This flexible group consists of Surface coating and associated auxiliary coating equipment located at the engineering paint shop.

Section I – SC 1,2,3,4,5,6: These conditions establish several emission limits for VOC. VOC emissions are limited to 1185.6 lbs/day and 30.3 tons per year. The facility is in compliance with these emission limits based on the records I reviewed. The highest 12-month rolling total during the period I reviewed was in February 2022 at 3.7 tons. The daily emission limit is based on a monthly average. Based on the reported annual emission rate, the daily VOC emission limit has not been exceeded. Even if 3.7 tons was emitted in a single month, the average daily VOC emissions would be around 250 lbs.

Additionally, these conditions limit VOC content of coatings depending on the process the coatings are used in. VOC content minus water, as applied, is limited to 3.6 lb/gallon for plastic parts, 5.16 lb/gallon for primer/surfacer painting process, 5.44 lb/gallon for prime painting process, and 6.60 lb/gallon for top coat painting process. Painting is not done on plastic parts. David Jump provided manufacturers formulation data showing the VOC content for the above coating types. This data includes the VOC content of the raw coating as received, both with and without water. The facility

appears to meet these VOC content restrictions. See table below for the facility's current maximum VOC formulations.

Coating Type	VOC Content (lb/gallon)	VOC Content minus water (lb/gallon)	Limit (lb/gallon)
Topcoat (65-950-4037 Bright White + reducer)	6.15	6.23	6.60
Primer/Surfacer (NCP-250 + NCX-255)	4.28	4.64	5.16
Primer Paint (DP-50-LF + DP-401-LF)	4.49	4.49	5.44

Section III – SC 1: States that the permittee shall not operate any spray booth unless the filters are installed and operating in a satisfactory manner. I observed that the filters were in place in all four booths. FCA has recently switched to double layer filters in all booths at this facility. FCA maintains a daily log in each booth where an operator notes the filter status before beginning painting for the day. FCA began maintaining this daily log in response to two instances where AQD noted that filters were missing during inspections.

Section III – SC 2: States that waste coatings and solvents shall be stored in closed containers. I observed that waste coatings are stored in sealed containers outside of the paint booths.

Section V – SC 1: States that the permittee shall perform a Method 24 test on each coating as applied or receive permission from the AQD district supervisor to use formulation data in lieu of Method 24 testing. I asked the facility if they had ever sent this request, but they were unsure. FCA believes that this request was likely submitted decades ago. FCA submitted a new request to the AQD district supervisor on September 30, 2022 requesting to use formulation data. FCA is in compliance with this condition pending a response from the AQD district supervisor. Additionally, it is reasonable to consider that this request may have been submitted long ago and that information is not readily available to AQD staff or FCA staff. FCA has been using formulation data to demonstrate compliance with VOC limitations for several years.

Section VI – SC 1: Requires the permittee to keep a record of the identity of each coating and the coating category to which it belongs. These records are maintained. Coatings are classified by their coating category in the same database where coating usage is reported.

Section VI – SC 2: States that the permittee shall keep a daily usage rate for each coating, in gallons. These records are maintained. Daily coating usage is generally less than 10 gallons.

Section VI – SC 3,4,5: Requires the permittee to keep a record of the VOC content of each coating as received and as applied, both with and without water. These records are maintained.

Section VI – SC 6: Requires the permittee to record daily and 12-month rolling VOC emissions. These records are maintained.

Section VI – SC 7: Requires the permittee to determine the VOC content of coatings using Method 24. As an alternative, the VOC content may be determined from formulation data. VOC content is currently determined from formulation data.

FG-CNTRLDCELLS (Permit to install No. 155-18)

This flexible group contains forty-six (46) engine dynamometer test cells located in Wing C, Wing D and Wing E (durability, transmission and catalyst test cells). The 46 engine dynamometer test cells house a total of 80 engine dynamometer test stands. Emissions from these test cells are controlled with thermal oxidizers. All Wing D test cells are controlled. Wings C and E have both controlled and uncontrolled test cells. Wings B are uncontrolled test cells. The most updated version of this flexible group is in permit to install No. 155-18. The facility has notified AQD that they are operating in "Scenario B" now.

Section I – SC 1,2: Establish emission limits for Nitrogen Oxides (NO_x). NO_x emissions are limited to 218.2 tons/year for all types of testing combined. Emissions from durability and transmission testing are limited to 10.45 pounds per hour (pph) per thermal oxidizer. The facility is in compliance with these emission limits based on the records I reviewed. NO_x emissions were reported highest during the 12-month period ending in June 2021 at 86.6 tons. Based on the most recent stack test results (March 22, 2022 test), NO_x emissions are 5.42 pph.

During this inspection, the thermal oxidizers were running at the same temperature as during my last inspection. This is notable because FCA plans to reduce this temperature after the results of the March 22, 2022 stack test. FCA was able to meet their emission limits at 1420°F.

Section I – SC 3,4,5: Establish emission limits for Carbon Monoxide (CO). CO emissions are limited to 20.8 tons/year while performing durability or transmission testing & 17.57 tons/year while performing simulation testing. CO emissions are also limited to 1 pph per thermal oxidizer. The facility is in compliance with these emission limits based on the records I reviewed. CO emissions were highest during the 12-month period ending in June 2021 at 8.3 tons. CO emissions from simulation testing was highest during the 12-month period ending in December 2021 at 0.67 tons. Based on the most recent stack test results (March 22, 2022 test), CO emissions are 0.75 pph.

Section I – SC 6,7: Establish emission limits for Volatile Organic Compounds (VOC). VOC emissions are limited to 12.5 tons per year and 0.64 pph per thermal oxidizer. The facility is in compliance with these emission limits based on the records I reviewed. VOC emissions were highest during the 12-month period ending in June 2021 at 5 tons. VOC emissions are estimated using the 0.006lb/gallon limit as the emission factor. Based on the most recent stack test results (March 22, 2022 test), VOC emissions are 0.27 pph.

Section I – SC 8: Limits Lead emissions to 0.58 tons/year. The facility is in compliance with this emission limit based on the records I reviewed. Lead emissions were highest during the 12-month period ending in December 2021 at 0.044 tons.

Section I – SC 9,10,11: Establishes limits for particulate matter emissions. PM₁₀ & PM_{2.5} emissions are limited to 15.91 tons per year while performing any type of testing. PM_{2.5} emissions are limited to 0.0186 pph per test stand while performing simulation testing. The facility is in compliance with these emission limits based on the records I reviewed. PM₁₀ emissions were highest during the 12-month period ending in June 2021 at 10.3 tons. PM_{2.5} emissions were

highest during the 12-month period ending in June 2021 at 5.3 tons. During the most recent stack test on the simulation cells, the total PM emission rate was 0.0071 lbs/hour.

Section II – SC 1: Limits total fuel used while performing any type of testing to 4,160,700 gallons per year. The facility is in compliance with this limit based on the records I reviewed. Total fuel usage is reported highest during the 12-month period ending in June 2021 at 1,658,646 gallons.

Section II – SC 1a: Limits ultra-low sulfur diesel fuel usage to 1,040,175 gallons per year. The facility is in compliance with this limit based on the records I reviewed. Ultra-low sulfur diesel fuel usage is reported highest during the 12-month period ending in February 2022 at 44,966 gallons.

Section II – SC 1b: Limits total fuel usage when performing simulation testing to 265,000 gallons per year. The facility is in compliance with this limit based on the records I reviewed. Total fuel usage during simulation testing is reported highest during the 12-month period ending in December 2021 at 10,275 gallons.

Section II – SC 1c: Limits leaded gasoline usage while performing any type of testing to 95,000 gallons per year. The facility is in compliance with this limit based on the records I reviewed. The facility reported that no leaded fuel was used during the period I evaluated.

Section II – SC 2: Limits total fuel usage while performing any type of testing to 1,096.3 gallons per hour. I reviewed this data for the month of April 2022. FCA submitted the results on a daily basis in PDF form, but did not sum all 80 test cells together. I could not easily do the summations myself, so I requested updated records which showed the sum of all 80 cells for each day.

In the updated records, FCA “doublechecked” some of the reported emissions and changed certain emission values, resulting in significantly less emissions. Because of this, I manually entered the original PDF values into an excel spreadsheet to do the sums myself. Based on the original records I reviewed, the highest hourly emission rate during April 2022 was 968.5 lbs/hour. The updated spreadsheet that FCA provided me shows the highest hourly emission rate at 453.2 lbs/hour.

If I identified exceedances in the original records, then I would issue a violation notice. Both the original and updated spreadsheets indicate compliance with this condition. I am awaiting a response from FCA about why the emissions were changed and what FCA will do going forward to prevent incorrect emission records being sent to AQD.

Section II – SC 3: places limits on the fuel type for each type of testing. FCA is in compliance with the fuel type requirements based on the records I reviewed. Only unleaded gasoline and ultra-low sulfur diesel were used during the period I reviewed.

Section III – SC 1: States that the permittee shall not operate the durability and transmission test cells unless the associated thermal oxidizers are installed, maintained, and operated in a satisfactory manner. Proper operation of the thermal oxidizers includes maintaining a 3-hour average minimum combustion chamber temperature of either 1400°F or the value established during the most recent stack test. The most recent stack test in March 2022 established a minimum combustion chamber temperature of 1420°F. The oxidizers must also have a retention

time greater than 0.5 seconds. FCA is in compliance with these limits based on this inspection and record review. I collected temperature data during my inspection on all operating thermal oxidizers. Of the 11 total thermal oxidizers, 6 were operating during this inspection. See table below for temperature data collected during this inspection.

Wing	Oxidizer	Set Point (°F)	Instantaneous temperature during inspection (°F)
E	93-THO-4.02	1515	1510
D	92-THO-4.02	1515	1519
D	92-THO-4.03	1515	1508
D	92-THO-4.05	1515	1497
C	91-THO-4.01	1530	1529
C	91-THO-4.02	1515	1509
E	91-THO-4.03	1515	1528

92-THO-4.05 had an instantaneous temperature below 1500°F; however, the 3-hour average temperature remained above 1500°F.

Section III – SC 2: Requires the permittee to submit an updated malfunction abatement plan within 180 days of beginning simulation testing. The simulation cells commenced trial operation on July 14, 2020. An updated MAP was submitted to AQD on December 23, 2020. This new MAP addresses the use of simulation test cells.

Section III – SC 3: Requires the permittee to comply with the approved written plan for the collection, analysis, and recording of data used to determine compliance with the fuel use limits. FCA revised this plan in March 2022 after switching to Scenario B. I collected a copy of the revised plan.

Section V – 1,2: Specifies testing/sampling requirements for FG-CNTRLDCELLS. NO_x, VOC, and CO testing has been performed in the past 5 years. NO_x, CO, VOC, and PM testing was performed on March 22, 2022 for durability & transmission testing cells. AQD received the results of this test on May 20, 2022.

NO_x, CO, VOC, PM₁₀, and PM_{2.5} testing was performed on a simulation test cell on January 6, 2021.

Section VI – SC 1,2: Requires the permittee to maintain records indicating the maximum lead content of each fuel. These records are maintained. Maximum lead content in diesel fuel is 0.02ppm. Maximum lead content in gasoline is 0.05 gram/gallon.

Section VI – SC 3: States that the permittee shall maintain records of the maximum sulfur content in the ultra-low sulfur diesel fuel. These records are kept. The maximum sulfur content for diesel fuel at FCA Tech Center is reported at 15 ppm sulfur.

Section VI – SC 4: Requires the permittee to monitor the thermal oxidizer temperature and maintain records of the temperature over each consecutive 3 hour period. There are 11 thermal oxidizer at this facility, so this is a very large amount of data. I reviewed thermal oxidizer data during March 2022 for each of the 11 thermal oxidizers. Based on the records I reviewed, the temperature is either maintained above 1500°F or the oxidizer is off. For each instance that an oxidizer was off during the month of March 2022, I requested an explanation. FCA provided the following explanations for the oxidizer downtime during March 2022:

On March 16, 2022, five thermal oxidizers were not in operation for limited time periods, and no engines connected to these oxidizers were running during those times. These oxidizers were 91THO401 (from 16:01 to 19:21), 92THO402 (from 17:00 to 21:10), 92THO403 (from 17:05 to 21:10), 92THO405 (from 17:10 to 21:15), and 93THO401 from 17:30 to 21:15).

For the thermal oxidizer unit 91THO401 (C Wing):

On March 22, 2022, from 08:40 through March 22, 2022, to 19:16, the exhausts from engines controlled by this unit were controlled by thermal oxidizer 91THO403. During that time period, thermal oxidizer 91THO401 was not required to operate.

On March 23, 2022, from 08:26 through March 23, 2022, to 12:06, the exhausts from engines controlled by this unit were controlled by thermal oxidizer 91THO403. During that time period, thermal oxidizer 91THO401 was not required to operate.

On March 30, 2022, from 09:00 through March 23, 2022, to 15:11, the exhausts from engines controlled by this unit were controlled by thermal oxidizer 91THO403. During that time period, thermal oxidizer 91THO401 was not required to operate.

For the thermal oxidizer unit 91THO402 (C Wing):

This unit was disconnected and out of service for the entire month of March and not used. During this time the engine exhausts normally controlled by this thermal oxidizer were controlled by thermal oxidizer 91THO401.

For the thermal oxidizer unit 91THO403 (C Wing):

On March 2, 2022, from 22:00 through March 3, 2022, to 01:45, the exhausts from engines controlled by from this unit were controlled by oxidizer 91THO401. During that time period, thermal oxidizer 91THO403 was not required to operate.

On March 24, 2022, from 09:30 through March 24, 2022, to 12:30, the exhaust from this unit switched to oxidizer 91THO401. During that time period, thermal oxidizer 91THO403 was not required to operate.

For the thermal oxidizer unit 92THO401 (D Wing):

From March 1, 2022, from 00:00 through March 16, 2022, to 21:10, this unit was disconnected and out of service. During this time engine exhausts normally controlled by this thermal oxidizer were controlled by thermal oxidizer 92THO402. Thermal oxidizer 92THO401 was returned to service on March 16, 2022, at 21:10.

For the thermal oxidizer unit 92THO402 (D Wing):

From March 24, 2022, from 10:45 through the end of the month, the engine exhausts normally controlled by this thermal oxidizer were controlled by thermal oxidizer 92THO401.

For the thermal oxidizer unit 92THO403 (D Wing):

On March 24, 2022, from 10:45 through the end of the month, the engine exhausts normally controlled by this thermal oxidizer were controlled by thermal oxidizer 92THO404.

For the thermal oxidizer unit 92THO404 (D Wing):

From March 1, 2022, from 00:00 through March 16, 2022, to 21:10, this unit was disconnected and out of service. It was returned to service on March 16, 2022, at 21:20. During that time engine exhausts normally controlled by this thermal oxidizer were controlled by thermal oxidizer 92THO403.

For the thermal oxidizer unit 92THO406 (D Wing):

From March 23, 2022, from 13:55 through the end of the month, the unit did not operate and engine exhausts normally controlled by this thermal oxidizer were controlled by thermal oxidizer 92THO405.

For the thermal oxidizer unit 93THO401 (E Wing):

With the exception of March 16, 2022 (from 17:30 to 21:15), the thermal oxidizer was running properly. On March 16, 2022 (from 17:30 to 21:15), no engines connected to these oxidizers were running during those times.

For the thermal oxidizer unit 93THO402 (E Wing):

From March 24, 2022, from 10:30 through the end of the month (March 31 at 00:00), the engine exhausts normally controlled by this thermal oxidizer were controlled by thermal oxidizer 93THO401.

Section VI – SC 5: Requires the permittee to calculate and maintain records of annual NO_x emissions from FG-CNTRLDCCELLS. I verified that these records are maintained on a 12-month rolling basis.

Section VI – SC 6 (Scenario B): Specified recordkeeping requirements under the Scenario B operating regime. Gallons of each fuel used per month for each type of testing is maintained. Ultra

-low sulfur diesel fuel use calculations are maintained on a monthly and 12-month rolling time period. Total fuel use calculations for simulation testing and other types of testing are maintained separately on a 12-month rolling basis. These fuel use values are used to calculate the 12-month rolling emissions for NO_x, CO, VOC, lead, PM₁₀, and PM_{2.5} separately for simulation testing and durability & transmission testing.

Section VI – SC 7: Requires the permittee to maintain a record of hours of operation for each test cell operating during the calendar day, gallons of fuel used per day in each test cell, and hourly fuel use calculations based upon the fuel use that day divided by the number of hours each cell operated on that day. I verified that these records are maintained.

Section VII – SC 1,2,3,4: Specifies reporting requirements for FG-CNTRLDCELLS. The facility notified AQD upon beginning simulation testing and when they changed from Scenario A to Scenario B. Actual emissions of NO_x did not exceed the baseline actual emissions by a significant amount, so no notification was sent regarding actual NO_x emissions. Actual emissions were lower than baseline actual emissions during every period I evaluated. FCA provided AQD with a record of the size of the dynamometer used for each test stand in each test cell.

FG-CAMTO

FG-CAMTO consists of 11 natural gas fired thermal oxidizers (TO) serving forty-six (46) dynamometer test cells. The 46 engine dynamometer test cells house a total of 80 engine dynamometer test stands.

Section VI – SC 1: Requires the permittee to utilize three thermocouples in each thermal oxidizer. FCA utilizes three thermocouples in each oxidizer – one on the inlet, and two located inside the combustion chamber. These thermocouples shall ensure that the combustion chamber temperature remains above 1400 degrees Fahrenheit, or the temperature established during the most recent stack test (1420°F), and that the thermal oxidizer will meet applicable emission limits. Based on the records I reviewed the temperature of the oxidizers is kept above 1420°F degrees when the test cells are is operating. Not all thermal oxidizers operate simultaneously. Oxidizers are turned on as needed based on how many test cells are being utilized.

Stuart stated that an interlock system is present that will automatically shut down all test cells connected to a thermal oxidizer if that oxidizer temperature falls below the permitted limit. When the engines shut down, the isolation valves connecting the engine test cells to the thermal oxidizer are closed. The system will also prevent any new test cells from being started if the oxidizer temperature is below the permitted limit.

During this inspection, the oxidizers were still being operated above 1500°F. FCA plans to reduce this temperature after their recent stack test at 1420°F. FCA staff was not sure when this change might occur. Reducing oxidizer operating temperature should extend the life of the oxidizer/components and reduce natural gas usage. This was the purpose of testing at a lower temperature.

Section VI – SC 2: Requires the permittee to calibrate or install new thermocouples on an annual basis. The device that translates the thermocouple signal into temperature readout must also be

calibrated annually. These maintenance activities are performed annually. Stuart Weiss provided me with work order numbers for these preventative maintenance activities. The work orders show that each thermal oxidizer was serviced once in 2021. In addition to the work order, I requested a document that shows what occurred during this work order. The work order states that three thermocouples in each oxidizer are replaced on an annual basis – the blower fan thermocouple, the high temperature limit thermocouple, and the combustion chamber thermocouple.

Section VI – SC 3: States that the permittee shall continuously record the TO temperature data when an engine is operating in FG-CNTRLDCELLS. Based on the TO temperature records I reviewed the data is recorded continuously. Stuart explained that there are three temperature recorders on each oxidizer. Each records the same data from the combustion chamber thermocouple, but only one of them reports to the central database. Another temperature recorder keeps data on a hard drive located on the oxidizer control panel. There are multiple redundant systems so that there is never a period where oxidizer temperature data is not taken.

Section VI – SC 4,5,6,7,8: Specifies CAM plan requirements. FCA Tech Center appears to be in compliance with the CAM rule requirements. The CAM plan includes provisions for maintaining necessary parts for routine repair of the monitoring system. Records of monitoring data for the thermal oxidizers are maintained. FCA submitted a CAM semi-annual report and a CAM Excursions/Exceedance report by March 17, 2022.

Section IX – SC 1,2,3,4: Specifies additional CAM requirements. Facility appears to be in compliance with the CAM rule requirements. No deviations were reported. There were no reported instances of monitor downtime for the period reviewed. Facility is not currently required to submit/maintain a Quality Improvement Plan (QIP).

FG-UNCNTRLDCELLS

FG-UNCNTRLDCELLS consists of thirty-four (34) engine dynamometer test cells (performance test cells) located in Wings B, C and E. The 34 engine dynamometer test cells house a total of 34 engine dynamometer test stands. Performance test cells do not have emission control equipment.

Section I – SC 1,2: Establish emission limits for Nitrogen Oxides (NOx). NOx emissions are limited to 32.1 tons/year using an emission factor of 0.2 lb/gallon fuel (ROP requires this emission factor to be used for emission calculations). The facility is in compliance with these emission limits based on the records I reviewed. NOx emissions were highest during the 12-month period ending in December 2021 at 25.7 tons. During the most recent stack test, NOx emissions were reported at 0.0012 lb/gallon. The maximum NOx lb/gallon limit from the permit is used for emission calculations, which is acceptable since the stack test values are even less than the permit limit.

Section I – SC 3,4: Establish emission limits for Carbon Monoxide (CO). CO emissions are limited to 501 tons/year with an emission factor of 3.12 lb CO/gallon fuel (ROP requires this emission factor to be used for emission calculations). The facility is in compliance with these emission limits based on the records I reviewed. CO emissions were reported highest during the 12-month period ending in December 2021 at 400.6 tons. During the most recent stack test, CO emissions were reported at 0.030 lb/gallon.

Section I – SC 5,6: Establish emission limits for Volatile Organic Compounds (VOC). VOC emissions are limited to 25.7 tons per year with an emission factor of 0.16 lb/gallon fuel (ROP requires this emission factor to be used for emission calculations). The facility is in compliance with these emission limits based on the records I reviewed. VOC emissions were reported highest during the 12-month period ending in December 2021 at 20.5 tons. During the most recent stack test, VOC emissions were reported at 0.030 lb/gallon.

Section I – SC 7: Limits Lead emissions to 0.37 tons/year. The facility is in compliance with this emission limit based on the records I reviewed. Lead emissions were reported highest during multiple 12-month rolling periods at 0.01 tons/year.

Section II – SC 1,2,3: Establish material limits for fuels. Unleaded fuel use in FG-UNCNTRLDCELLS is limited to 320,952 gallons/year and 2,362 gallons/day. Leaded gasoline emissions are limited to 95,000 gallons/year for both FG-CNTRLDCELLS and FG-UNCNTRLDCELLS. The facility is in compliance with these material usage limits based on the records I reviewed. Unleaded fuel usage is reported highest during the 12-month period ending in December 2021 at 256,794 gallons. Facility reported that no leaded fuel was used in the period reviewed.

Daily unleaded gasoline usage is reported as an average. The total gallons used per month in each test cell is divided by the number of days that test cell operated to get an average daily usage for each test cell. The averages for each test cell are added together to obtain the total average daily usage. Average daily fuel use from the uncontrolled cells was reported highest in August 2021 at 1097 gallons.

Section V – SC 1,2,3: Requires FCA Tech Center to verify NO_x, CO, and VOC emission rates from a representative number of performance cells every 5 years. This test was last completed on August 11, 2021. AQD received the test results from this test on October 7, 2021.

Section VI – SC 1,2: States that the permittee shall monitor and record the fuel usage and the number of days operated for each test cell on a monthly basis. These records are maintained and used to calculate the daily average fuel usage required by Section VI – SC 3. These values are summed into 12-month rolling records required by Section VI – SC 4. Leaded fuel is accounted for per Section VI – SC 5.

Section VI – SC 6: States that the permittee shall keep records of the maximum lead content for each type of fuel used. These records are kept. Based on the records I reviewed the maximum lead content is 0.02 ppm for ultra-low sulfur diesel fuel and 0.05 grams/gallon for regular gasoline.

Section VI – SC 7,8,9,10: Require the permittee to maintain 12-month rolling emission records for NO_x, CO, VOC, and Lead. These records are maintained.

Section IX – SC 1: States that the permittee shall comply with the approved written plan for the collection, analysis, and recording of data used to determine compliance with the fuel use limits. This plan has been followed based on the records I reviewed.

FG-GASTANKS

This flexible group contains any existing or future emission unit that emits air contaminants that are exempt from the requirements of R 336.1201 pursuant to R 336.1284(2)(g)(i). FG-GASTANKS currently includes six (6) underground gasoline storage tanks for Wet Fuels Building, eighteen (18) underground gasoline storage tanks at the South Tank Farm and three (3) underground gasoline storage tanks at the North Tank Farm.

Section III – SC 1,2: States that the permittee shall not receive deliveries of gasoline in these storage tanks unless a submerged fill pipe and vapor balance system is present. I observed that a submerged fill pipe is present. In a previous inspection (July 2020), Stuart sent me a photo of a recent gasoline delivery which showed that a vapor balance/recovery system was connected during the delivery.

Section IV – SC 1,2: States that the tanks shall have systems in place to ensure that the vapor-tight collection lines are connected before any gasoline is loaded. FCA Tech Center employees utilize a checklist for each gasoline delivery to ensure that the hoses are connected before unloading gasoline. I had Stuart show me this checklist during a previous inspection (July 2020).

Section VI – SC 1: Requires the facility to keep records indicating the dimensions and storage capacity of gasoline storage tanks larger than 10,566 gallons but smaller than 19,810 gallons. These records are maintained.

Section IX – SC 1,2: States that the permittee shall comply with the applicable provisions of R 336.1703. Additionally, the permittee must maintain and utilize a written procedure and checklist to ensure that the vapor tight collection line is connected before any gasoline is loaded into the storage tanks. A written checklist is utilized during each delivery. Facility appears to comply with Rule 703 by having a vapor recovery system and vapor-tight collection lines.

FG-WETFUELSTEST

This flexible group contains equipment in the wet fuels area. Process and process equipment are exempt pursuant to R 336.1283(2)(a)(ii).

The wet fuels test area is used to remove gasoline from gas tanks, test carbon fuel canisters, and test fuel injectors. After the majority of the fuel is transferred out of a fuel tank, the remaining fuel is left out to evaporate. Several vacuum hoses capture evaporative gasoline emissions and vent them out through a stack. The bulk of the gasoline removed from tanks is transferred via pipe to an underground storage tank. Emissions from the carbon fuel canister and fuel injector testing are also vented through a stack.

I inspected this area during this inspection. I verified that there is both a low flow and high flow vapor generator used to create gasoline vapors for testing refueling emission canisters. One is an older model and one is newer. The emission canister is weighed before and after running gasoline vapor through the canister to test for adsorption capabilities.

There is a 100 station fuel injector endurance test stand and a 4 station fuel pump test stand. FCA is permitted for a 24 station fuel pump test stand; however, staff in the wet fuels area stated that there is not a 24 station fuel pump test stand – only the 4 station stand.

There is a wet fuels mineral spirits testing unit used for fuel injector performance and electrical fuel pump/fuel filter tests. This is located in the large area near where the vehicle lifts are.

Section III – SC 1: States that the testing equipment in the wet fuels area shall not be used for the production of a product for sale, market testing, or for the treatment of hazardous waste. Stuart stated that the wet fuels lab is never used for these purposes. Staff in the wet fuels area explained that only laboratory testing is done in this area.

Section III – SC 2: States that new equipment installed in this flexible group may not be exempt from Rule 201 requirements if it is a major modification or has emissions above significance levels outlined in R 336.1119. There does not appear to be any new equipment installed in this flexible group.

Section VI – SC 1: States that the permittee shall monitor fuel usage on a monthly basis. These records are maintained. The records I reviewed show that in all of 2021, 151 gallons of gasoline was used. From January through May 2022, 45 gallons were used. Most of the gasoline usage is from the fuel injector performance testing.

FG-RULE331

This flexible group contains existing or future emission units that emit air contaminants which are exempt from the requirements of R 336.1201 pursuant to R 336.1285(2)(l)(vi)(A) and R 336.1285(2)(l)(vi)(C). Flexible group includes any equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening or polishing metals, plastics, wood and wood products, and any exhaust system or collector exclusively serving the above equipment. Equipment is exhausted externally and used on a nonproduction basis.

I did not review all emission units in this flexible group. During this inspection, I looked at the particulate control equipment in the woodshop area. There are many machining operations in the woodshop area. Emissions from these machining operations are ducted to a baghouse. I observed the baghouse was operating during my inspection. The stated operating pressure range on the baghouse control panel is 3" to 7" of water across the large baghouse.

During this inspection, the baghouse was operating at 8" of water. I asked facility staff during the inspection why this was operating out of the pressure range stated on the control panel. The operator of the wood shop was not sure.

After the inspection, FCA provided me with an explanation. FCA stated that the 3" to 7" of water pressure range is what FCA prefers; however, the manufacturers specification sheet states that the device can be operated up to 19" of water. I requested and received this manufacturers specification sheet. The sheet shows that the max design pressure is 25" of water and the max operating pressure is 19" of water.

Nick stated that the most recent maintenance check on this unit was closed out on August 24, 2022. FCA's millwrights inspected the unit and found that the filters were intact, but they did

recommend the filters be replaced as a preventative measure. Nick stated that additional maintenance on this unit is scheduled to take place on September 4, 2022 (the Labor Day holiday weekend). The filters will be replaced at that time. The facility is planning to upgrade the pressure monitoring device to provide an alarm when the pressure reaches an appropriate level. The parts for this upgrade have been ordered and will be installed upon their delivery.

There is no requirement in MI-ROP-N1436-2018 that requires a malfunction abatement plan or operation and maintenance plan for the dust control equipment in FG-RULE331. Future ROP renewals may want to include a condition requiring these plans. It is difficult to determine if these devices are operating properly when AQD does not know the proper operating parameters.

Section I – SC 1: Limits particulate emissions from FG-RULE331 to 0.1lb/1000 lb of exhaust gases. This emission limit is verified by performing and maintaining a log of all routine and scheduled preventative maintenance for the dust control equipment. Based on the records I reviewed, preventative maintenance was performed on all five dust collectors in 2020/2021. The facility appears to comply with this emission limit.

Section VI – SC 1: States that the permittee shall keep an updated record of all emission units subject to R 336.1331 (a). Nick provided me with these records. There are seven total emission units subject to these standards.

Section VI – SC 2: States that once per year the permittee shall conduct and log all routine and scheduled preventative maintenance. Based on the records I reviewed, preventative maintenance activities have been performed on all five emission units in 2020/2021.

FG-RULE290

Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278, 278a and 290. Emission units installed/modified before December 20, 2016, may show compliance with Rule 290 in effect at the time of installation/modification.

There are currently no units operating under this flexible group.

FG-RULE287(2)(c)

This flexible group contains any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278, 278a and 287(2)(c). Emission units installed/modified before December 20, 2016, may show compliance with Rule 287 in effect at the time of installation/modification. Current emission units operating under this flexible group are EU-MAINTPAINTING, EU-PRODDSGNPAINT, EU-WOODSHOPPAINT. I only saw EU-PRODDSGNPAINT during this inspection. EU-MAINTPAINTING and EU-PRODDSGNPAINT should be looked at in future inspections.

Section II – SC 1: Limits the coatings used per emission unit to 200 gallons/month/emission unit. FCA Tech Center has not exceeded this usage limit based on the records I reviewed. The highest monthly usage is reported at 46 gallons in one of the two design booths in July 2021. Total combined usage in the design booths in 2021 was reported at 438 gallons. The combined usage for

the two wood shop booths was reported at 84 gallons in all of 2021. The usage for the maintenance coating booth was reported at 12 gallons in all of 2021.

Section IV – SC 1: States that the booth exhaust systems must have a properly installed and operated particulate control system. I observed that dry filters were installed in the woodshop paint booth, maintenance paint booth, and in the product design booths. During a previous inspection it was noted that FCA had failed to install dry filters on one of the product design booths. FCA addressed this issue by requiring workers in the product design booth to check filters each day prior to painting in the booths. These checks are logged into daily log sheets. I verified that these logs are being kept during this inspection.

Section VI – SC 1: States that the permittee shall maintain records of the volume of coating used, as applied, minus water, in gallons. These records are maintained. From January 1, 2021 through May 31, 2022, the total amount of coatings used in all three emission units is reported at 181.6 gallons.

FG-COLD CLEANERS

This flexible group contains any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, 278a and Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979. There are currently five cold cleaners installed at this facility. There are a number of other cleaners which are aqueous based.

Section II – SC 1: States that the permittee shall not use cleaning solvents containing more than five percent by weight of the following halogenated compounds: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chloroform, or any combination thereof. No halogenated solvents are utilized in the cold cleaners at this facility based on my conversations with facility staff and the records I have reviewed.

Section III – SC 1: States that cleaned parts shall be drained for no less than 15 seconds or until dripping ceases. This operating instruction is posted on the cold cleaners at FCA-Tech Center. I observed three cold cleaners during this inspection. Two were located in the engineering paint shop and one was located in the design paint booth area. I observed that all three cold cleaners had proper operating procedures posted on the cold cleaner. The lids were closed on all three cold cleaners. The cold cleaners are equipped with a rack to drain parts.

Section III – SC 2: States that the permittee shall perform routine maintenance on each cold cleaner as recommended by the manufacturer. The cold cleaners at FCA-Tech Center appeared to be in good working order.

Section IV – SC 1,2,3,4,5: Specifies design/equipment parameters for FG-COLD CLEANERS. Each cold cleaner must have an air/vapor interface less than ten square feet and only be used for cleaning metal parts with emission vented to the general in-plant environment. The cold cleaners at this facility appear to meet these criteria. All cold cleaners that I observed during this inspection were equipped with covers during my inspection. The lids were closed.

Section VI – SC 1,2,3,4: Specifies recordkeeping requirements for FG-COLD CLEANERS. FCA maintains records of the model number, installation date, air/vapor interface area, and solvent vapor pressure of each cold cleaner. Cold cleaners are operating under Rule 281(2)(h). Written procedures are posted conspicuously near each cold cleaner. None of the cold cleaners are heated. Mechanically assisted lids are kept closed when not in use.

Reporting Requirements

FCA Tech Center appears to be in compliance with the reporting requirements of MI-ROP-N1436-2018 and PTI No. 155-18 based on the records I reviewed. MAERS report certification was received on March 28, 2022. ROP Annual Certification, Semi-Annual Certification, CAM certifications, and boiler MACT certification were all received on March 17, 2022.

Stack/Vent Restrictions

I did not verify stack dimensions during this inspection. The stacks that I was able to view appeared to be exhausted vertically unobstructed to the ambient air.

Compliance Determination

FCA US LLC – Chrysler Technology Center appears to be operating in compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) Administrative Rules; Renewable Operating Permit No. MI-ROP-N1436-2018; and Permit to Install No. 155-18.

NAME Adam Bogner

DATE 10/3/2022

SUPERVISOR K. Kelly