

FCA US LLC

Via Electronic and U.S. Mail

August 27, 2021

Mr. Remilando Pinga
Michigan Department of Environment, Great Lakes, and Energy
Air Quality Division
27700 Donald Court
Warren, MI 48092
pingar@michigan.gov

**RE: FCA US LLC (FCA) – Sterling Heights Assembly Plant, SRN: B7248
Response to Violation Notice**

Dear Mr. Pinga:

This letter responds to AQD's August 9, 2021 Violation Notice ("VN"), which is based on Permit to Install No 27-17C ("PTI") for FCA's Sterling Heights Assembly Plant ("SHAP"). Specifically, the VN alleges a violation of Special Conditions I.4 and I.5 for FG-REPAIR BOX (p.29 of 57), which limit the emissions of both PM₁₀ and PM_{2.5} to 0.052 lb/hr for the spot repair operations. The VN is based upon the most recent stack test performed at SHAP's south paint shop repair station. As explained below, FCA has initiated actions to address this issue, including submittal of the August 25, 2021 PTI application to correct the PM₁₀ and PM_{2.5} emission limit based on new, site-specific information.

Background

In 2016, SHAP was issued a PTI for the installation of a new paint shop, located in the south end of the complex ("south paint shop"). The PTI application included estimated emissions based on the best data available at that time. In the case of SHAP's spot repair stations, permitting was based on emission factors from the repair process at a different facility, which employs different equipment to perform a similar "repair" function. Despite these differences, as the best information available at the time, the available repair process emission factors were used to establish the current PM₁₀ and PM_{2.5} limits for the spot repair operations at SHAP.

The spot repair operations involve minor blemish rubbing, sanding, and repairing with coating repair materials. The repair process is intermittent and variable in nature (i.e., repairs only occur when required due to a blemish or damage to the truck box, and each repair is unique in terms of the size of repair). The process may not occur at all during some production shifts. Given this irregular process, which is performed "as needed," the operation and resulting emissions can vary.

Measuring PM Emissions

Despite the variable nature of repair operations and emissions at the south paint shop, the PM₁₀ and PM_{2.5} emission limit at SC I.4 and I.5 is quantified to the thousandths of a pound level (i.e., 0.052 lb/hr). Further, in order to capture enough particulate from the underlying repair operations, the associated Method 5 testing was extended to include three 240-minute test runs instead of the typical three 60-minute test runs. This additional testing (i.e., 4 times longer than usual) was deemed necessary to secure enough sample volume and mass to more precisely measure PM. Attempting to measure very low emission rates from such a process can provide inconsistent results based upon the limitations of both the process and the testing method.

The south paint shop has been in operation since late 2017. In accordance with PTI requirements, in late 2018, the south spot repair operations underwent exhaust stack testing for PM₁₀ and PM_{2.5} emissions. The 2018 test results (0.035 lbs PM_{2.5}/hour and 0.052 lbs PM₁₀/hr) demonstrated compliance with the applicable permit limits in FG-REPAIR BOX SC I.4 and I.5.

In May of 2021, the south spot repair box operations were again stack tested and the results indicated that the PM_{10/2.5} emissions were higher than the previous test results and inconsistent with emission estimates used to establish the permit limit.

FCA's Investigation

In an effort to determine the possible reasons for the inconsistent emission rates, FCA investigated the circumstances surrounding the different stack tests. After a thorough examination of the two testing procedures in 2018 and 2021, FCA and its test consultant were unable to identify any inconsistencies in the testing process that might explain the divergent results.

FCA also researched the potential for an operational explanation such as a malfunction. This evaluation, however, confirmed that the particulate filters used to control the repair station's air exhaust were in place during testing and consistent with the manufacturer's recommendations. FCA also evaluated other aspects of the operations to determine whether any physical changes or changes in the method of operation had taken place since the compliant testing in 2018, but identified none. Thus, in evaluating the south repair shop operations, FCA has not identified any characteristic of the spot repair operation or change that might explain the difference in the measured emission rates on the two different test dates.

Instead, FCA believes that the differences between the 2018 and 2021 test results for the spot repair operations largely reflect the variable nature of the underlying repair operations. That inherent variability is further exacerbated by the difficulty in gathering

sampling data from a relatively small particulate source over a considerably longer period of time, and then comparing those results to a very low hourly rate (i.e., 0.052 lb/hr).

PM Emission Limits - Updates

The original permit limit of 0.052 lb/hr for PM₁₀ and PM_{2.5} was based on the data available at the time the application was filed, which was limited to a repair operation with a different station configuration and different operational characteristics. FCA used the best information available at the time of filing its application to characterize the expected PM emissions from the spot repair process. Measured emissions, however, have proven to be more variable than expected.

Therefore, in order to ensure going forward that the PM emissions from the south paint shop repair process are accurately reflected in the PTI, FCA proposes to update the corresponding PM_{10/2.5} maximum emission rate permit limitations. On August 25, 2021 FCA submitted to the AQD a PTI application to update the corresponding PM_{10/2.5} maximum emission rates from 0.052 lb/hr to 0.25 lb/hour. The PTI application included the required NSR/PSD applicability analysis and minor source air dispersion modeling for PM_{2.5} (per AQD Policy and Procedure document AQD-022). The PM_{2.5} modeling results demonstrated that the proposed modifications to the hourly emission rates associated with the south paint shop repair operations result in ambient air impacts of PM_{2.5} that comply with both the NAAQS and the PSD Increment.

Corrective Action

As noted above, the spot repair process is variable in nature, both from an hours-of-operation and quantity of particulate emissions stand point. As a result, the emissions from the process on a pound per hour basis will vary. Combined with the difficulty of compliance testing and the very low particulate emission rates, verifying compliance with the current limits is challenging. Finally, when considering the differences between different repair operations, FCA believes that the prior permitting at SHAP—despite using the best data available at that time—underestimated the process emissions of PM₁₀ and PM_{2.5}. Taken together, and based on the better data available today, FCA believes that the new proposed pound per hour permit limit will accommodate the variable nature of the emissions while continuing to ensure the SHAP facility emissions meet all required air quality standards.

Please feel free to me at 248-736-8061 or kevin.sugar@stellantis.com if you should have any questions.

Sincerely,

A handwritten signature in black ink, appearing to be 'KS', with a long horizontal flourish extending to the right.

Kevin Sugar
Environment, Health and Safety Lead
FCA US LLC, SHAP

C: Ms. Jenine Camilleri, AQD Enforcement Unit (camillerij@michigan.gov)
Ms. Joyce Zhu, AQD SW MI District (zhuj@michigan.gov)
Mr. James Gholston, SHAP Plant Manager
Mr. Al Johnston, FCA Corporate EHS
Ms. Sandra Walker, FCA Corporate EHS
Mr. Matt Read, FCA OGC