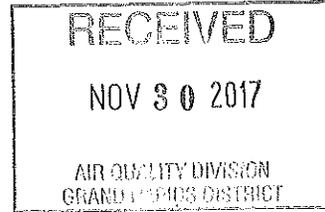




November 27, 2017



Mr. David L. Morgan
Environmental Quality Specialist
Michigan Department of Environmental Quality
Air Quality Division
State Office Building
350 Ottawa Ave NW
Unit 10
Grand Rapids, MI 49053

**Re: Kawasaki Motors Corp USA
SRN P0677**

Dear Mr. Morgan,

Kawasaki Motors Corp USA (KMC) is submitting this correspondence in response to the Violation Notice dated November 9, 2017 regarding the Carbon Monoxide (CO) emission rate at the KMC Grand Rapids facility (SRN P0677).

KMC was issued Permit to Install 230-15A on January 13, 2017. In accordance with Special Condition V.1, KMC was required to verify the CO emission rate on a pounds per gallon (lbs/gal) of fuel basis. KMC completed the required stack test on September 20, 2017 at the KMC facility to determine the emission rate of CO per gallon of fuel combusted during engine testing operations. The results of the test showed that the worst case average emission rate of CO during engine testing is 6.57 lbs per gallon of fuel combusted.

KMC performs a wide variety of engine testing on small (no more than 50 hp) internal combustion engines. These include testing for performance and durability under varying operating conditions, testing engines under varying environmental conditions (e.g., temperature), and testing noise levels in an anechoic chamber. Because of the nature of the testing, the variability in engines tested, and the variability of the test protocols, it is anticipated that the emissions from the engines will vary.

Without prior specific knowledge of the CO emission rates from the specific engines and test performed, KMC relied upon U.S. EPA emission factors to develop emission estimates that were the basis for the emission levels specified in the current Permit to Install (PTI). The emission factor, and current permit limit from the EPA FIRE database, is 3.94 lbs CO per gallon of fuel combusted. The September 20, 2017 emissions test was performed during engine testing operations that were specifically designed to produce the highest possible CO emission rate. The testing utilized the largest engines currently in operation at the facility, under 100% load at wide open throttle (WOT). While this scenario is indicative of the worst-case CO emission rate, it is not representative of the typical engine

Kawasaki Motors Corp., U.S.A.
5080 36th Street SE, Grand Rapids, Michigan 49512
Ph. 616.949.6500 Fax 616.954.3031

testing completed at the facility (i.e., KMC believes that the majority of engine testing operations result in CO emission rates less than the 6.57 lb/gal). The underlying applicable requirement listed for the lb CO/gal fuel emission rate limit is 40 CFR 52.21(d). A review of the PTI application documentation indicates that this limit likely arose from the results of dispersion modeling of CO emissions. The maximum impacts of the modeling analysis are based not only on the lb CO/gal emission rate, but also the physical parameters of the exhaust stacks, and the assumption that the facility is operating at its maximum short-term fuel limit.

As indicated above, KMC believes that most engine testing completed at the facility results in emission rates below the stack test value. Additionally, KMC does not normally operate at or near its maximum short-term fuel usage rate. Nevertheless, subsequent to the stack test results, KMC has increased the height of the exhaust stacks serving the dynamometers, such that even if it operated at its maximum fuel usage rate, *and* at an emission rate equivalent to the worst-case stack test results, it will remain in compliance with the underlying applicable requirement (40 CFR 52.21(d)).

In order to maintain operational flexibility, KMC has submitted an application to amend its PTI based upon the worst case average CO emission rate determined by the stack testing. The submittal of the application to amend the PTI to correspond to the worst-case average CO emission rate based upon stack tests is the appropriate corrective action in response to the Violation Notice which will allow KMC to perform any necessary engine testing operations while maintaining compliance with the terms and conditions of the PTI.

KMC also notes that the material limits in the PTI were complied with even though the CO emission factor was tested at a higher value. Specifically, the CO limit of 145 tons per year and the limitation of 73,000 gallons of fuel per year were not exceeded.

We trust that the proposed response to the Violation Notice outlined above is sufficient to resolve this matter. If you have any questions, or require additional information, please contact me at 616-240-3089.

Sincerely,

Kawasaki Motors Corp USA

A handwritten signature in black ink, appearing to read "Troy Smith", written in a cursive style.

Troy Smith
Manager
R&D Testing, Applications and EFI