

January 11, 2019

Mr. Gregory D. Hoenert, Manager
Global Emissions Certification and Compliance
Large Power Systems Division
Caterpillar Inc.
P.O. Box 610
AC 6146
Mossville, Illinois 61552

Dear Mr. Hoenert:

This letter responds to Caterpillar/Progress Rail Services request for a California Air Resources Board (CARB) locomotive verification for the Tier 4 Progress Rail EMD24 switch locomotive. Progress Rail Services, a Caterpillar subsidiary, is the manufacturer of the EMD24 locomotive. CARB verifies that the EMD24 switch locomotive achieves U.S. EPA Tier 4 switch locomotive emission levels. This verification is applicable to the four axle EMD24B or six axle EMD24C.

The EMD24 switch locomotive is built off of GP-38/40 and SD40-2 locomotive chassis, repowered with a Caterpillar 3512C-HD diesel engine, and equipped with a Caterpillar Clean Emissions Module (CEM) after-treatment system. The CEM after-treatment includes urea based selective catalytic reduction, a diesel particulate filter, and diesel oxidation catalyst technology.

The test EMD24 switch locomotive accumulated 3,000 in-use hours operating with Pacific Harbor Line, Inc., which provides rail transportation, maintenance and dispatching services to the Ports of Long Beach and Los Angeles. Southwest Research Institute performed all emission tests during this in-use field demonstration. In addition, Progress Rail Services obtained a U.S. EPA Tier 4 Certificate of Conformity for their remanufacturing kit in March 2017 (Engine Family HPGRK58.6F14-009) which includes the engine and after-treatment system.

Based on CARB staff evaluation of the application, exhaust emission data, and additional information provided, CARB staff hereby verifies that this locomotive configuration and technology achieves U.S. EPA Tier 4 switch NO_x, PM, CO, and HC exhaust emission levels.

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If you have any questions or comments, please contact Ajay Mangat, Manager, Freight Systems Section at (916) 324-2718 or via email at ajay.mangat@arb.ca.gov or Mike Jaczola, Staff Air Pollution Specialist, Freight Systems Section at (916) 324-5607 or via email at michael.jaczola@arb.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Cari Anderson". The signature is fluid and cursive, with the first name "Cari" being more prominent and the last name "Anderson" following in a similar style.

Cari Anderson, Chief
Freight Transport Branch
Transportation and Toxics Division

cc: Dennis Johnson, Director
Technology Assessment Center
U.S. Environmental Protection Agency
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Ajay Mangat, Manager
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