

December 12, 2024

Greg Hoenert
Global Emissions Certification and Compliance Manager
Caterpillar Inc.
Building AC 6146
2427 East Engine Drive
Chillicothe, Illinois 61523
Hoenert_Gregory_D@cat.com

Dear Mr. Hoenert:

This letter is in response to the Progress Rail Locomotive Inc. request for a California Air Resources Board (CARB) locomotive verification for the Tier 4 SD70ACe-T4 line haul locomotive. CARB verifies that the SD70ACe-T4 locomotive achieves the United States Environmental Protection Agency (U.S. EPA) Tier 4 line haul locomotive emission levels. This verification is applicable to the SD70ACe-T4 locomotive rated at 4,500 horsepower.

The SD70ACe-T4 locomotive is powered with a Progress Rail Locomotive Inc. 1010J 12-cylinder diesel engine that is equipped with a cooled exhaust gas recirculation (EGR) system and a high pressure common rail fuel injection system to meet the U.S. EPA Tier 4 line haul locomotive emissions standards.

The test locomotive (UP 3040) accumulated 7,735 In-use durability hours during normal freight (line haul) service operated by a Class I railroad, Union Pacific, for CARB verification. Southwest Research Institute® (SwRI®) performed the final emissions testing following completion of the durability hours. In addition, Progress Rail Locomotive Inc. obtained a U.S. EPA Tier 4 Certificate of Conformity in November 2021 (Engine family name: NEMDK1010TE3). For the most current EPA Certificate of Conformity, please see the U.S. EPA web site at <https://iaspub.epa.gov/otaqpub/>.

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 line haul emission levels for particulate matter (PM), oxides of nitrogen (NOx), carbon monoxide (CO), and hydrocarbon (HC).

Design and technology improvements to the configuration are allowed as long as U.S. EPA emissions certification is maintained. Emissions compliance and warranty are still covered by Progress Rail Locomotive Inc. under its Certificate of Conformity with U.S. EPA. In addition, Progress Rail Locomotive Inc. must comply with warranty requirements per California Code of Regulations (CCR), Title 13, Section 2707, and submit to CARB annual warranty reports per CCR, Title 13, section 2707(c).

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If you have any questions or comments, please contact Robin Pritchard, Manager, Freight Approvals Section, at robin.pritchard@arb.ca.gov or Milad Pirhadi, Ph.D., Staff Air Pollution Specialist, Freight Approvals Section, at milad.pirhadi@arb.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Richard Boyd". The signature is written in a cursive, flowing style.

Richard Boyd, Assistant Division Chief, Transportation and Toxics Division

cc: Milad Pirhadi, Ph.D., Staff Air Pollution Specialist, Freight Approvals Section
Joel Squire, Engineering Specialist, Caterpillar Inc., Squire_Joel_T@cat.com