

December 23, 2020

Sen "Jack" Zhang
Product Management Leader
Director of Product Management, Modernization
General Electric Transportation,
Wabtec Company
2901 East Lake Road
Erie, Pennsylvania 16531

Dear Mr. Zhang:

This letter responds to the General Electric Transportation (GET), a Wabtec Company (together as Wabtec), request for a California Air Resources Board (CARB) locomotive verification for the ET23 locomotive. CARB verifies that the Wabtec ET23 Locomotive achieves the United States Environmental Protection Agency (U.S. EPA) Tier 4 locomotive emission levels. This verification is applicable to the ET23 Locomotive.

The ET23 may be a new locomotive, or it may be a modernized locomotive built from several types of Motive Power Industries, National Railway Equipment, Electro Motive Diesel, or General Electric locomotives. It is powered with a GE Evolution (GEVO) inline six-cylinder diesel engine. The engine features two stage turbo charging with intercooler and after-cooler, high cylinder pressures, a high pressure common rail fuel injection system, an optimized air intake system, an upgraded control system, and cooled exhaust gas recirculation to meet the U.S. EPA Tier 4 standard.

Exhaust emission testing was conducted by Wabtec at the Erie, Pennsylvania plant. Wabtec also provided additional data for exhaust emission testing and durability for the GEVO Tier 4 technology platform product line. In addition, Wabtec obtained a U.S. EPA Tier 4 Certificate of Conformity in November 2019 (Engine family name: LGETG0958T4K for 2020 production, and MGETG0958T4K for 2021 production). For the most current EPA Certificate of Conformity, please see the EPA website 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 locomotive oxides of nitrogen (NOx), particulate matter (PM), carbon monoxide (CO), and hydrocarbon (HC) exhaust emission levels.

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If you have any questions or comments, please email Thomas Olson, Manager, Freight Approvals Section at thomas.olson@arb.ca.gov or Mike Jaczola, Staff Air Pollution Specialist, Freight Approvals Section at michael.jaczola@arb.ca.gov.

Sincerely,



Richard Boyd
Assistant Division Chief
Transportation and Toxics Division

cc: Dennis Johnson, Director
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(via email)

Tom Olson, Manager
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