

October 8, 2018

Mr. James M. Wurtz Jr., President
Knoxville Locomotive Works
300 West Quincy Avenue
Knoxville, Tennessee 37917

Dear Mr. Wurtz:

This letter responds to the Knoxville Locomotive Works (KLW) request for a California Air Resources Board (CARB) locomotive verification for the Tier 4 Series 2000 switcher locomotive family. CARB verifies that the KLW switch locomotive achieves U.S. EPA Tier 4 switch exhaust emissions levels. This verification is applicable to the KLW switch locomotive models SE10B T4L, SE13B T4L, SE14B T4L, and SE15B T4L equipped with MTU's Series 2000 diesel engine.

The KLW switch locomotive family utilizes MTU Series 2000 engines with model names 12V2000C66R and 16V2000S96. The MTU engines in the KLW locomotives received calibration changes and were retrofitted with an emissions control system developed jointly by Knoxville Locomotive Works (KLW) and Catalytic Combustion Corporation that contains a Diesel Oxidation Catalyst and Selective Catalytic Reduction system.

The KLW Series 2000 switch locomotive accumulated 3,000 in-use hours in Richmond, California. Exhaust emissions testing was performed by West Virginia University's Center for Alternative Fuels, Engines, and Emissions. In addition, KLW obtained Tier 4 certification (Engine Family JKLWK35.7XN4) of this switch locomotive from the U.S. EPA in December 2017.

Based on CARB staff's evaluation of the application, exhaust emissions 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,



Cari Anderson, Chief
Freight Transport Branch
Transportation and Toxics Division

cc: Dennis Johnson, Director
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