



Air Resources Board



Matthew Rodriguez
Secretary for
Environmental Protection

Mary D. Nichols, Chair
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Edmund G. Brown Jr.
Governor

August 14, 2015

Mr. Stephen Sonni
Senior Executive Account Manager
NRE, Global Holdings, Inc.
5064 Midas Avenue
Rocklin, California 95677

Dear Mr. Sonni:

This letter responds to NRE, Global Holdings, Inc.'s. (referred to as "NRE", previously known as National Railway Equipment Company) request for Air Resources Board (ARB) verification of the NREX 2015 GenSet locomotive. NRE is the manufacturer of the NREX 2015 GenSet locomotive, a single, two, or three engine switcher class locomotive designed to achieve United States Environmental Protection Agency (U.S. EPA) Tier 4 emission levels.

As noted in your application, the NREX 2015 GenSet locomotive that was tested is powered by two Cummins QSX15 Tier 4 diesel engines rated at 600 horsepower each, or a total of 1,200 horsepower. The U.S. EPA had previously certified the Cummins QSX15 engine for locomotives.

The Cummins QSX15 engine utilizes cooled exhaust gas recirculation (EGR) along with a combustion system that has been optimized for low oxides of nitrogen (NOx), particulate matter (PM), and hydrocarbon (HC) emissions. In addition, this engine uses a diesel oxidation catalyst combined with a catalyzed diesel particulate filter for HC, carbon monoxide, and PM control. Active regeneration is used to maintain the diesel particulate filter. The NREX 2015 is part of the N-ViroMotive product line.

The N-ViroMotive product line consists of ultra-low emitting four and six axle road and switcher locomotives that feature one or more self-contained modular power plants (MMP) or power on demand (POD) technology. Each MMP/PODs contain an engine, generator/alternator and engine cooling system designed for installation and subsequent removal and replacement as one entity on a locomotive frame. Based on ARB staff's evaluation of the application, the test data, and additional

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

Mr. Stephen Sonni
August 14, 2015
Page 2

information provided, ARB staff hereby verifies that this locomotive configuration and technology achieves U.S.EPA Tier 4 emission standards. Specifically, ARB staff has verified the NREX2015 GenSet locomotive at switch NOx and PM emission levels at or below 1.0 and 0.01 g/bhp-hr, respectively. This verification will be applicable to NREX 2015 GenSet locomotives with one, two, or three engine configurations, within a range of 600 to 1,800 horsepower. If you have any questions about this matter, please contact Mr. Harold Holmes, Manager, Rail Strategies Section at (916) 324-8029 or Harold.Holmes@arb.ca.gov.

Sincerely,



Cynthia Marvin, Chief
Transportation and Toxics Division

cc: Mr. Dennis Johnson, Director
Technology Assessment Center
United States Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code: 6406J
Washington, D.C. 20460

Mr. Harold Holmes, Manager
Rail Strategies Section
Transportation and Toxics Division