



Air Resources Board



Linda S. Adams
Acting Secretary for
Environmental Protection

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Edmund G. Brown Jr.
Governor

January 25, 2011

Mr. Scott Carpenter
Railpower Hybrid Technologies Corporation
16904 Black Kettle Drive
Leander, Texas 78641

Dear Mr. Carpenter:

This letter is in reply to your request that we recognize the U.S. Environmental Protection Agency (U.S. EPA) emission test results for Railpower Hybrid Technologies Corporation locomotives, using engine family ARJCK15.9BD2. The U.S. EPA issued a certificate of conformity, ARJCK15.9BD2-001, for this engine family dated November 18, 2010. U.S. EPA certificates of conformity are issued on a calendar year basis, must be renewed annually, and are effective for engines manufactured within that timeframe. This U.S. EPA certificate expired December 31, 2010. This certification states that engine family ARJCK15.9BD2 conforms to applicable emission requirements for locomotives listed in Title 40 Code of Federal Regulations Part 92 (40 CFR 92).

As you know, in 1998, the BNSF Railway Company and Union Pacific Railroad Company (Participating Railroads), along with the Air Resources Board (ARB) entered into a Memorandum of Mutual Understandings and Agreements¹ (1998 MOU) to reduce locomotive emissions in the South Coast Air Basin. Under the 1998 MOU, beginning no later than 2010, each Participating Railroad must calculate the fleet average for oxides of nitrogen (NO_x) emissions from its locomotive fleet operating in the South Coast Air Basin. The fleet average is calculated using the emission level, as determined pursuant to 40 CFR 92 for the line-haul duty cycle, for each locomotive in operation in the South Coast Nonattainment Area.

Based on U.S. EPA certificate of conformity, ARJCK15.9BD2-001, we recognize that engine family ARJCK15.9BD2 has a line-haul NO_x emission level of 2.8 g/bhp-hr, and a line-haul particulate matter emission level of 0.13 g/bhp-hr. This emission level can be used in calculating the average NO_x emissions for a locomotive fleet operating in the South Coast Air Basin. The emission level listed in this letter will be superseded if U.S. EPA revises the certificate of conformity referenced in this letter.

¹ MEMORANDUM OF MUTUAL UNDERSTANDINGS AND AGREEMENTS, South Coast Locomotive Fleet Average Emissions Program, July 2, 1998

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

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Alternative technology switcher locomotives funded by the Carl Moyer Program, such as genset locomotives, typically include an existing locomotive frame significantly refurbished with a new engine or engines, electronics, controls, and other equipment. For Carl Moyer Program funding, an alternative technology switcher must achieve a NOx emission rate of 3.5 g/bhp-hr and a particulate matter (PM) emission rate of 0.14 g/bhp-hr, based on U.S. EPA locomotive emission testing requirements specified in Title 40 Code of Federal Regulations (CFR) Part 92.

Based on the U.S. EPA issued certificate of conformity ARJCK15.9BD2-001, staff recognizes that the engine family ARJCK15.9BD2 has switch-duty-cycle emission levels of 3.0 g/bhphr NOx and 0.13 g/bhphr PM; both of which meet the switch-duty-cycle NOx and PM emissions levels specified for ARB incentive funding programs.

Based on the U.S. EPA test fuel specifications, it appears that the emission testing was performed using U.S. EPA ultra low sulfur diesel (15 ppmw) test fuel. We believe that if testing were performed using CARB diesel (or similar TXLED) the switch-duty-cycle emission levels would also potentially be at or below both the ULEL NOx and PM emission levels of 3.0 and 0.1 g/bhphr, respectively. This assessment is based on similar multiple engine switch locomotive emission testing results (pursuant to 40 CFR Part 92).

If you have any questions please contact me at (916) 324-8029, or hholmes@arb.ca.gov.

Sincerely,


Harold Holmes, Manager
Engineering Evaluation Section

cc: See next page.

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cc: Mr. Glenn Passavant, Director
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