



Air Resources Board



Matthew Rodriguez
Secretary for
Environmental Protection

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

Edmund G. Brown Jr.
Governor

February 12, 2013

Mr. Robert M. Grimalia
Vice President
Safety, Security, Environment and CSO
Union Pacific Railroad
1400 Douglas Street, STOP 1180
Omaha, Nebraska 68179-1180

Dear Mr. Grimalia:

The Air Resources Board (ARB) received Union Pacific Railroad's (UP) 2011 Fleet Average Agreement Annual Compliance Report (Compliance Report) pursuant to Section IV.B. of the 1998 Memorandum of Mutual Understanding and Agreements, South Coast Locomotive Fleet Average Emissions Program (1998 Agreement). The Air Resources Board staff has determined that UP has fully complied with provisions of the 1998 Agreement for its operations in 2011.

UP's Compliance Report included the following:

- (1) UP's letter of certification: This letter is signed by the railroad and certifies that the information in this report is true, accurate and complete.
- (2) UP's fleet summary information: This is information regarding the methodology used by the railroad to comply with the 1998 Agreement (Form F-S).
- (3) UP's fleet average calculation: This information includes individual locomotive megawatt-hours and emission levels, as well as calculations and any necessary adjustments (Form F-A-1 through Form F-A-6).

Starting in calendar year 2010, the 1998 Agreement requires that UP have an annual locomotive final fleet average of 5.5 grams per brake horsepower per hour (g/bhp-hr) for oxides of nitrogen (NOx) for locomotive operations in the South Coast Air Basin. Additionally, the 1998 Agreement allows UP to use accumulated fleet average credits, including credits accrued from the use of ultra-low emitting locomotives (ULEL) in the South Coast Air Basin, in order to meet the locomotive final fleet average.

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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Staff has reviewed UP's initial submittal of its Compliance Report, which included activity information (in megawatt-hours) and emission levels for over 5,000 individual locomotives in 2011. Staff assessed the accuracy of UP's data by comparison with extensive locomotive information collected from ARB field surveys, inspection reports, and locomotive inventories. As a result, modifications were made to the initial UP fleet average. After final changes and reviews were completed, it was determined that, for calendar year 2011, UP had an initial fleet average NOx level of 6.1 g/bhp-hr.

Union Pacific has generated ULEL fleet average credits in 2011 by operating genset and battery-electric hybrid switch locomotives, which are 50 to 75 percent cleaner than required. These advanced technology locomotives have provided the South Coast Air Basin with significant early emission reductions and public health benefits. For 2011, UP has applied 0.6 g/bhp-hr of ULEL credit to its fleet average. Therefore, we find that the adjusted final fleet average for 2011 meets the required 5.5 g/bhp-hr NOx compliance level set forth in the 1998 Agreement.

As discussed, ARB will make all of the information publicly available except for individual locomotive activity levels, which have been determined to be business confidential according to California Government Code Section 6254.7. The activity data will be aggregated by tier or emission standard level.

Should you have any questions regarding UP's compliance with the 1998 Agreement, please contact me at (916) 324-0062 or cmarvin@arb.ca.gov or Mr. Harold Holmes, Manager, Rail Strategies Section at (916) 324-8029 or hholmes@arb.ca.gov.

Sincerely,



Cynthia Marvin, Chief
Stationary Source Division

cc: See next page.