

NEAR ZERO EMISSION BUS DEMONSTRATION PROJECT

FINAL REPORT

Prepared for

the Mobile Source Air Pollution Review Committee (MSRC)

under the AB 2766 Discretionary Fund Work Program

Contract No. MS 16116

**May 18, 2017
Riverside Transit Agency
1825 Third Street
Riverside, CA 92507**

Acknowledgements

This report was submitted in fulfillment of MS16116 Near Zero Emission Bus Demonstration by Riverside Transit Agency (RTA) under the partial sponsorship of the Mobile Source Air Pollution Reduction Review Committee (MSRC). Work was completed as of March 17, 2017.

Disclaimer

The statement and conclusions in this report are those of the contractor and not necessarily those of the Mobile Source Air Pollution Reduction Review Committee (MSRC) or the South Coast Air Quality Management District (SCAQMD). The mention of commercial products, their sources or their uses in connection with material reported is not to be construed as either an actual or implied endorsement of such products.

Project Description & Work Performed

The AB 2766 Discretionary Fund received under Contract No MS16116 was used to pay for purchase of one new transit bus that is equipped with Cummins Westport 8.9 liter ISL G natural gas engine model, certified by the California Air Resources Board (CARB), below CARB's Optional Standard for oxides of nitrogen (NOx) of 0.02 grams per brake-horsepower hour (g/bhp-hr).

The work order was authorized in August 2016 and completed through a change order to an existing order of 23 new transit buses. This near zero emission natural gas bus was received on 12/29/2019, accepted on 3/6/2017, and placed in service on 3/17/2017.

Problems Encountered

Implementation of this project did not encounter any problem.

Emissions Benefits

The project benefits achieved are the same as proposed.

Photographs & Outreach

Attached media and outreach materials generated by the project include Press Release, Factsheet for the Public, Bus Card and publication on RTA's.

Summary and Conclusions

The AB 2766 grant funding was used to purchase a new transit bus with a natural gas engine model, certified by the California Air Resources Board (CARB), cleaner than CARB's Optional Standard for NOx of 0.02 g/bhp-hr. The project demonstrates the benefits of new emission technology in the transit industry and presents a solution to improve air quality for the Inland Empire region.

ATTACHMENTS



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FOR IMMEDIATE RELEASE

RTA DEBUTS FIRST NEAR-ZERO EMISSION ENGINE *Agency continues to push boundaries in bus technology*

RIVERSIDE, CA — April 27, 2017 — The Riverside Transit Agency (RTA) has unveiled its first near-zero natural gas vehicle.

The Agency's latest push for cleaner air has resulted in a near-zero engine aboard a 40-foot bus. On the outside, the 40-foot bus looks similar to others in the fleet. It has the same 280-horsepower and runs on compressed natural gas. But what sets this bus apart is its suped-up engine which takes thinking green to a whole new level.

The ISL G 280 NZ engine was installed in December. The new engine has a 90 percent reduction in nitrogen oxide emissions and 15 percent reduction in greenhouse gases, compared to RTA's already clean-burning engines.

The new engine gets better performance due to an enhanced control system that monitors sensors, and fuel and ignition systems. Other factors include a three-way catalyst that's packaged as part of the muffler and provides consistent emissions control, and closed crankcase ventilation system that reduces emissions.

"RTA is proud to be a long-time advocate of cleaner, greener technologies," said RTA Chair Linda Krupa. "This is another example of how we are exploring new and innovative ways to travel."

The 1,625-pound super engine, made by Vancouver-based Cummins Westport Inc., was made possible by a \$10,000 grant from the Mobile Source Air Pollution Reduction Review Committee.

This isn't the first time RTA has pushed the boundaries of bus technology.

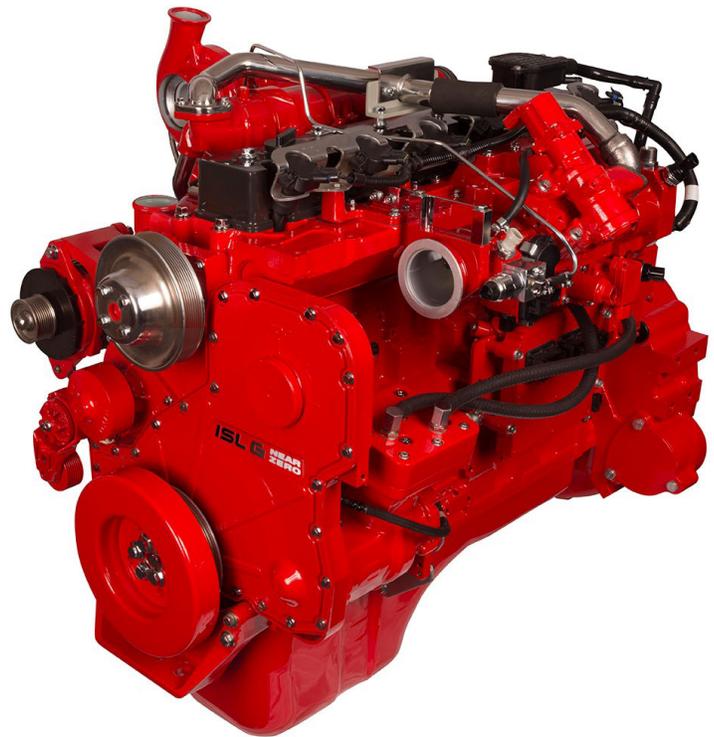
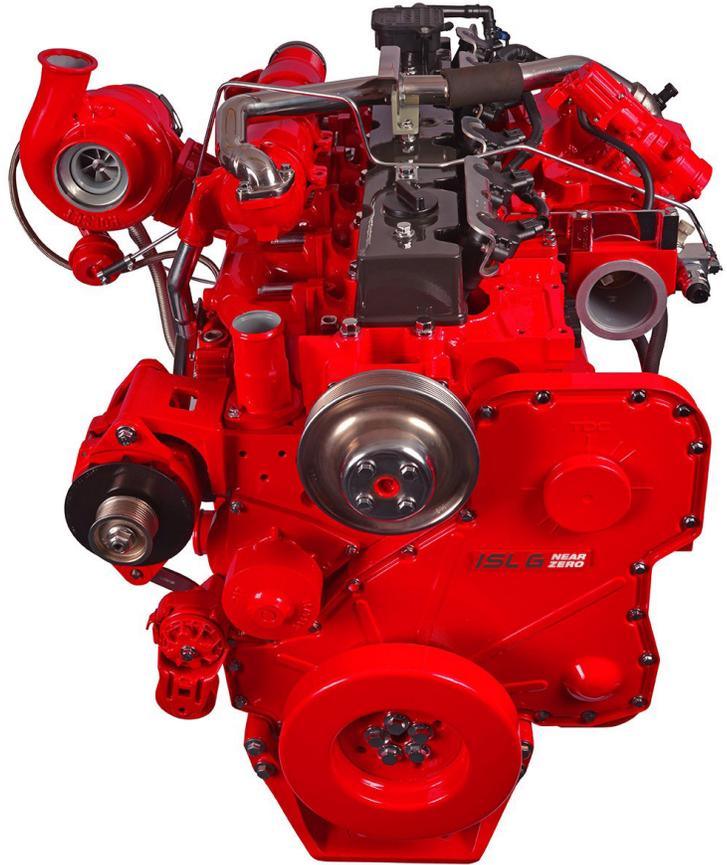
In 1988, prior to today's laws that regulate bus emissions, RTA was among the first transit systems in the nation to operate low-emission methanol buses. In fact, when RTA's Riverside headquarters was built in 1986, it included a separate fueling system for alternative clean fuels. The drive for cleaner fuel didn't stop there. In 2001, the agency took its biggest step by replacing its entire fleet of diesel buses with compressed natural gas buses.

The Riverside Transit Agency provides public transportation for Western Riverside County, operating 36 local fixed routes, eight CommuterLink express routes and Dial-A-Ride service. RTA's service area spans 2,500 square miles, among the largest in the nation. For bus route and schedule information contact RTA at (951) 565-5002 or go to www.RiversideTransit.com.

ISL G 280 NEAR ZERO ENGINE

The Agency's latest push for clean air has resulted in a near-zero engine aboard a 40-foot bus. On the outside, the bus looks similar to others in the fleet. It has the same power and runs on compressed natural gas. But what sets this bus apart is its suped-up engine which takes thinking green to a whole new level.

- Installed in December, 2016
- Reduces nitrogen oxide emissions by 90
- Reduces greenhouse gases by 15 percent
- Weight: 1,625 pounds
- Power: 280 horse power
- Spark-ignited engine
- Capable of operating on renewable natural gas (RNG)
- Enhanced to monitor sensors, and fuel and ignition systems
- Provides consistent emissions control
- Closed crankcase ventilation system helps reduce emissions
- Manufactured by Vancouver-based Cummins Westport Inc.
- Made possible by grant from Mobile Source Air Pollution Reduction Review Committee



RiversideTransit.com | (915)565-5002



LEADING CLEAN

This bus is powered by RTA's first near-zero emission engine. Thanks to a grant from the Mobile Source Air Pollution Reduction Review Committee, the new super engine is helping RTA push the boundaries in cleaner, greener technologies.

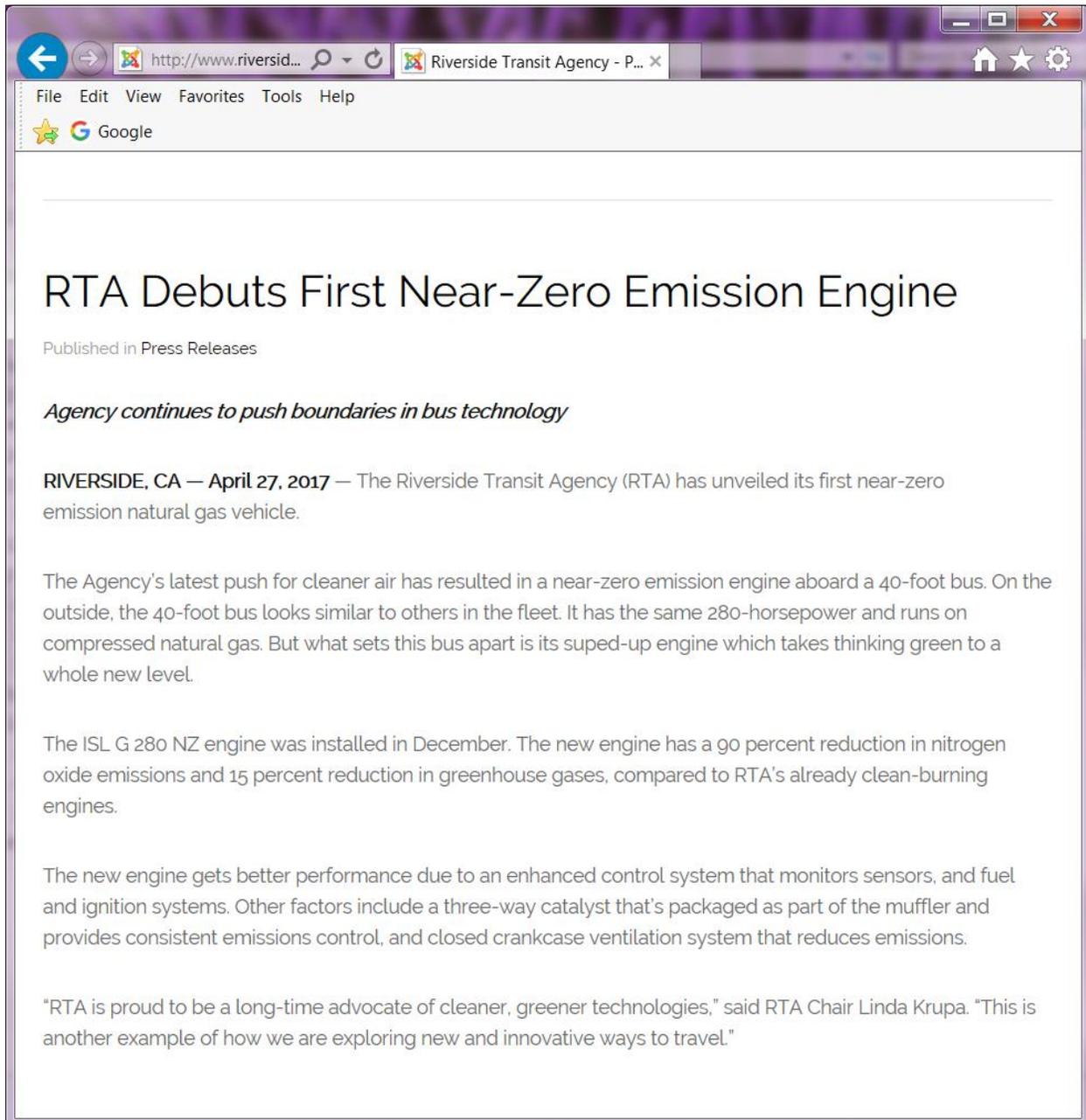
LÍDER LIMPIO

Este autobús está propulsado con un motor de emisiones casi cero, el primero de RTA. Gracias a una subvención de Mobile Source Air Pollution Reduction Review Committee, el nuevo súper motor está ayudando a RTA a superar los límites en tecnologías más limpias y más verdes.



Clean Transportation
Funding from the MSRC
Mobile Source Air Pollution Reduction Review Committee

Posted at www.riversidetransit.com



The image is a screenshot of a web browser window. The address bar shows the URL "http://www.riversidetransit.com" and the page title "Riverside Transit Agency - P...". The browser interface includes a menu bar with "File", "Edit", "View", "Favorites", "Tools", and "Help", and a search bar with the Google logo. The main content area features a large heading "RTA Debuts First Near-Zero Emission Engine" and a sub-heading "Agency continues to push boundaries in bus technology". The text of the press release follows, detailing the agency's new near-zero emission natural gas vehicle and the benefits of its advanced engine technology.

RTA Debuts First Near-Zero Emission Engine

Published in Press Releases

Agency continues to push boundaries in bus technology

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