

Siemens clean diesel-electric Charger locomotives progressing through demanding testing program

- **States across the U.S. to rely on the new Charger locomotives to power the next generation of clean, efficient and high-performance rail travel**
- **The Tier 4-certified Siemens Charger locomotives will be among the cleanest in the nation, reducing emissions by approximately 90 percent compared to currently operating Tier 0 locomotives**
- **Representatives from California, Washington, Maryland and Michigan on-hand to witness locomotive testing in Pueblo**

Siemens new diesel-electric Charger locomotives are advancing through a rigorous testing program at the Transportation Technology Center in Pueblo, CO. A variety of tests and validation exercises including maximum speed runs, acceleration and braking and the overall performance capabilities of the locomotive are conducted to ensure it is operating and performing as designed and that the locomotive is ready to provide reliable service for passengers.

The Charger locomotive is powered by a high-performance, environmentally friendly, 4,400 horsepower-rated Cummins QSK95 diesel engine. Designed to operate at speeds up to 125 miles per hour, the locomotives are the first high-speed passenger locomotive to receive Tier 4 emissions certification from the Environmental Protection Agency (EPA).

“These diesel-electric locomotives truly represent the next generation of clean and efficient rail travel in the United States, and the testing being done in Pueblo is a crucial step in bringing this advanced rail technology to states across the country,” said Michael Cahill, President of Siemens Rolling Stock. “The Siemens Charger not

only is the first diesel-electric locomotive to meet the EPA's strict Tier 4 emissions standards, but it is also a powerful example of what can be accomplished through American manufacturing."

"These locomotives mark a new era in Pacific Northwest train travel," said Ron Pate, director of Rail, Freight and Ports for the Washington State Department of Transportation, who traveled to Colorado for the testing. "They will help provide more frequent, reliable and faster service to our Amtrak Cascades customers and also advance our agency's commitment to offering alternative and sustainable transportation choices."

The Buy America-compliant locomotives, built at Siemens nearly 1,000-person Sacramento, CA plant which is powered in part by solar, will operate in states across the U.S. including Illinois, California, Michigan, Washington, Maryland and Missouri and will power trainsets for Florida's new Brightline passenger rail service.

"The Charger will provide California's Intercity Passenger Rail Services with a fleet of locomotives that meet very stringent Tier 4 emission standards and that help promote Caltrans' mission of a safe, sustainable, integrated and efficient transportation system," said Caltrans Division of Rail Chief Bruce Roberts. "The new locomotives are capable of quicker acceleration, higher top-end speeds and will provide passengers with the safety of positive train control."

The new locomotives are among the cleanest in the nation and will result in dramatic emission reduction of approximately 90 percent compared to trains powered by currently operating Tier 0 locomotives. They are equipped with electronically-controlled regenerative braking systems that use energy from the traction motors during braking to feed the auxiliary and head-end power systems to minimize fuel consumption.

"Cummins QSK95 is the first locomotive prime mover for single engine installations to be certified to the United States EPA's ultra-low Tier 4 emissions regulations," said Melina Kennedy, General Manager, Cummins Global Rail and Defense Business. "Not only is it the cleanest diesel engine for locomotives, it also offers large gains in fuel efficiency over the non-certified engines currently being used in many passenger rail applications."

The powerful diesel-electric drivetrain allows for better acceleration, cleaner emissions, and low noise levels while on-board and waiting at the platform. The Chargers also feature an attractive streamlined design and smoother traction control which results in better ride quality for passengers. The locomotives also meet the latest federal safety regulations, including enhanced carbody structure safety with crash energy management

All main components of the new locomotive are produced in Siemens plants in the United States – including traction motors and gearboxes in Norwood, Ohio and propulsion containers in Alpharetta, GA. The diesel engines are manufactured by Cummins in its Seymour, Indiana plant. Siemens has also established a robust and diverse base of U.S. suppliers across the country to support production of the Charger locomotives. Transformers and alternators are supplied out of Florida, brake components out of Maryland, diesel engines from Indiana, HVAC systems out of Nebraska, and steel and fabrication parts out of California and Oregon.

“TTCI is honored to assist Siemens in qualifying the new Charger locomotive,” said Lisa Stabler, president of the Transportation Technology Center, Inc. “And we are happy to be able to provide a testing facility that enables our customers to evaluate their product's performance in a real-world environment.”

The first Charger locomotives were ordered under a \$225 million contract awarded in 2014 by a multi-state coalition of led by the Illinois Department of Transportation (IDOT). Since then, additional options have been ordered for use in six states including Illinois, California, Michigan, Washington, Maryland and Missouri. In addition, the first trainsets for the new Brightline passenger service in Florida, each powered by two Charger Locomotives will ship this fall. The Illinois Department of Transportation will receive their first Charger locomotive later this year, with additional customers to follow throughout 2017.

For additional information on Siemens clean diesel-electric Charger locomotives, please see <http://siemensusa.synapticdigital.com/Charger>.

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