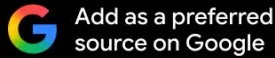


March 21, 2025 | [Locomotives](#)

NSR AMPS Traction G9 BEL in Revenue Service

Written by [William C. Vantuono](#), Editor-in-Chief

OmniTRAX

OmniTRAX Ohio rail affiliate Newburgh & South Shore Railroad (NSR) on March 21 placed a battery-electric locomotive (BEL), the AMPS Traction G9, into regular linehaul revenue service. OmniTRAX describes its deployment as a first in the U.S.

The 125-ton AMPS Traction G9, numbered 1234, [was introduced in November 2023](#) and recently completed testing. It is “designed to significantly reduce fuel consumption and emissions while maintaining the efficiency and reliability required for freight operations.” The locomotive is dedicated to the memory of Steve Ward, OmniTRAX’s longest-serving employee and former Division Engineer, who oversaw track safety and maintenance for 27 years until his passing in 2021.

The locomotive, one of two NSR units (the other is a conventional SW-1200 diesel-electric), was rebuilt by [AMPS Traction LLC](#) from an EMD GP-9 that had previously been converted into a “light hybrid” genset, according to AMPS Traction President and Co-owner Doug Bardwell. Its LNMC (Lithium Nickel Manganese Cobalt Oxide) batteries provide 1.2 MWh of usable power (based on 1.4 MWh of onboard power), or 1,700 gross horsepower, allowing the locomotive to operate up to 12 hours on a single charge, depending upon

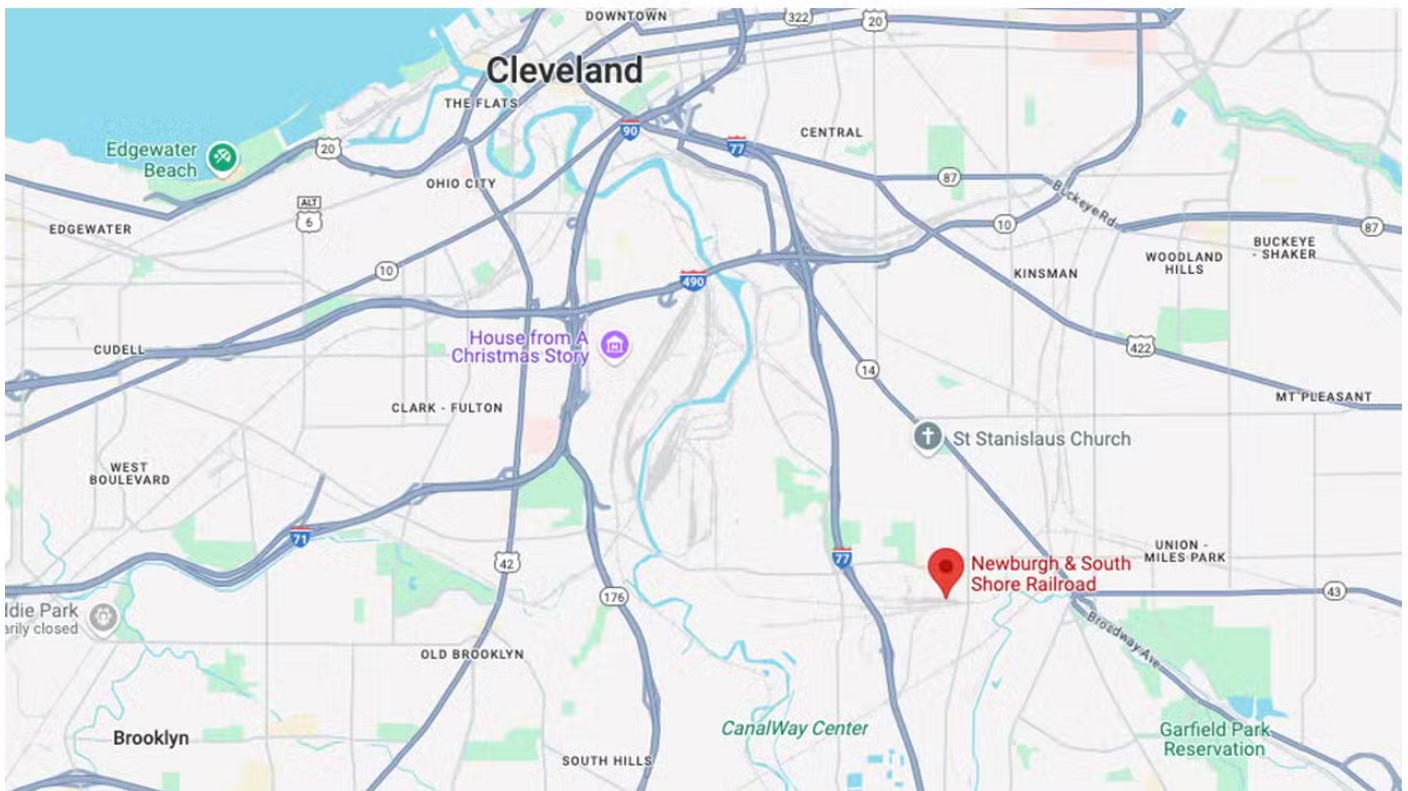
tonnage hauled. This extends battery life, Bardwell explains. NSR operates a single daylight hours shift, so charging is accomplished overnight with CCS1 (Combo Charging System) DC Fast Charging equipment in just under eight hours.* The batteries are liquid cooled. A patent-pending impulse absorption system with vertical and longitudinal springs protects the batteries from shocks encountered during switching/coupling and other in-train forces.

This project was made possible through a grant from the Ohio Environmental Protection Agency Diesel Mitigation Trust Fund, which supports initiatives that improve air quality by reducing diesel emissions. OmniTRAX collaborated with the Federal Railroad Administration on the deployment. NSR was selected as a grantee from the \$75 million Diesel Mitigation Trust Fund, overseen by the Ohio EPA.

"This is a transformative moment for the rail industry," said Kayden Howard, OmniTRAX Senior Vice President of Health, Safety and Environmental Programs. "For the first time, a battery-electric locomotive is moving freight in regular, revenue-generating service. We are proving that sustainable rail operations are not just a concept for the future—they are happening right now. This milestone will help accelerate the adoption of zero-emission technologies across the industry."

"This deployment reinforces our commitment to innovation and environmental responsibility," said Sergio Sabatini, President and CEO of OmniTRAX. "We are proud to lead the way in bringing cutting-edge, sustainable solutions to freight rail, reducing emissions and delivering real-world benefits to the communities we serve. OmniTRAX continues to explore and implement sustainable rail solutions, furthering its leadership in innovation and environmental stewardship."

Based in Cuyahoga County, Ohio, **NSR** serves rail customers in the greater Cleveland area, hauling steel, aggregates and chemicals and offering transloading and railcar storage. Originally built and opened in 1904 as one of several railroads in Ohio to serve U.S. Steel's Cleveland area steel mills, NSR operates five route-miles and 13 track-miles, interchanging with Norfolk Southern, CSX, Cleveland Works Railway and Wheeling & Lake Erie.



OpenRailwayMap.org (top) and Google Maps

*LNMC batteries are a type of lithium-ion battery that use a cathode made from a combination of nickel, manganese, and cobalt, offering a good balance of energy density, power output, and cycle life, making them suitable for electric vehicles and other applications. The Combined Charging System (CCS) is a charging station standard for plug-in electric vehicles that uses the Combo 1 (CCS1) or Combo 2 (CCS2) connectors, which are

extensions of the IEC 62196 Type 1 and Type 2 alternating current (AC) connectors, respectively, each with two additional direct current (DC) contacts to allow high-power fast charging.

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