# News Release

**For more information contact:**

Dana Kowalski
MARCOM Supervisor
EnerSys
800-538-3627 Ext: 1896
Fax: 610-3728613
E-mail: dana.kowalski@enersys.com

Kurt Andersen
Public Relations
Harris, Baio & McCullough
215-440-9800
Fax: 215-440-0717
E-mail: kurt@hbmadv.com

## ODYSSEY® Batteries Power Norfolk Southern's Prototype Hybrid Four-Axle Switcher

**READING, Pa., Oct. xx, 2009 –** ODYSSEY® Batteries by EnerSys® power a prototype 1,500-horsepower electric, four-axle switcher that Norfolk Southern unveiled at its Juniata Locomotive Shop in Altoona, Pa. on Sept. 28. The NS 999 switching locomotive is used to move smaller numbers of railroad cars from main-line trains. The energy storage system is powered exclusively by 1,080 ODYSSEY model 31-PC2150S rechargeable, lead-acid, 12-volt batteries configured in a 648-volt, 20-string system, and is capable of three eight-hour switchyard duty cycles.

The NS 999 switcher is the basis for a research project that Norfolk Southern is conducting to reduce emissions and define the benefits of regenerative braking systems to recover kinetic energy of braking trains in rail operations. According to Gibson Barbee, P.E. of Norfolk Southern's Research and Test Department, ODYSSEY Batteries by EnerSys were chosen for their energy storage capacity and reliability.

"We wanted batteries that would hold up in the application," Barbee said. "Cell-to-cell variation was of concern and EnerSys' manufacturing quality helped us make the decision."

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"We have been working with Norfolk Southern and Pennsylvania State University for about a year on the switcher," said Kalyan Jana, development support manager – specialty markets with EnerSys. "The batteries are carefully monitored and controlled through an elaborate battery-management system that ensures safety and maximum battery life. When fully charged, the NS 999 is able to operate three shifts before recharging is required."

The research effort will continue in pursuit of solutions to challenges such as long battery strings and battery life cycles.

"The NS 999 will allow Norfolk Southern to model the energy storage requirements that determine opportunities for chemical energy storage to apply current and future technology," Barbee said.

**ABOUT NORFOLK SOUTHERN**

Norfolk Southern Corporation (NYSE: NSC) is a leading North American transportation provider. Its Norfolk Southern Railway subsidiary operates approximately 21,000 route miles in 22 states and the District of Columbia, serves every major container port in the eastern United States, and provides efficient connections to other rail carriers. Norfolk Southern operates the most extensive intermodal network in the East and is a major transporter of coal and industrial products.

**ABOUT ENERSYS**

EnerSys®, the world leader in stored energy solutions for industrial applications, manufactures, distributes and services reserve power, motive power and starting, lighting and ignition (SLI) batteries, chargers, power equipment, and battery accessories to customers worldwide. SLI batteries are used for trucks and buses, passenger cars, boats, personal watercraft, ATVs, motorcycles and garden tractors. The company also provides aftermarket and customer support services to its customers from more than 100 countries through its sales and manufacturing locations around the world. For more information about EnerSys and its ODYSSEY® batteries, visit www.enersys.com or www.ODYSSEYbattery.com.

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