EnerSys Selected by US Navy to Develop VRLA Batteries for Nuclear Submarine Fleet

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Reading, PA, April 2004 – EnerSys, the world's leading provider of stored DC power solutions for industrial applications, recently announced that its EnerSys Energy Products Inc. subsidiary has been selected by the US Navy to develop valve regulated lead acid (VRLA) batteries using its thin plate pure lead (TPPL) technology, as part of an ongoing effort to retrofit the entire nuclear submarine Fleet with VRLA batteries in place of the present flooded lead-acid batteries. Following successful completion of this developmental effort, EnerSys will have the opportunity to compete for future US Navy VRLA submarine battery production contracts.

“Our TPPL technology provides a higher energy density (watt-hours/liter) than flooded batteries currently in use and other VRLA batteries considered by the US Navy,“ said John Craig, Chairman, President and CEO of EnerSys. “While the Navy's motivation for conversion to VRLA is a substantial reduction in battery maintenance, we expect that our proprietary technology will enable each submarine to achieve longer run times on battery power, with the batteries taking up less space than other flooded or VRLA batteries,” he added.

The development program will be carried out in EnerSys' facility located in Warrensburg, MO. EnerSys' commitment to conduct this activity in Missouri is enthusiastically supported by Senator Kit Bond (R, MO), who noted, “ We are proud that a Missouri-based facility has been selected for this effort. With the heightened security measures being employed in all of our nation's military branches, it is imperative that we take advantage of the most effective and productive technologies available.”

The EnerSys development contract is administered by Crane Division, Naval Surface Warfare Center (NSWC Crane) in Crane, IN. “Conversion of the US Navy's submarine Fleet to VRLA batteries is a key step in the modernization of the emergency power system of one of the nation's most important strategic weapons platform,” commented Captain Daniel M. Wise, Commanding Officer, NSWC Crane.

“EnerSys' TPPL, a well-proven VRLA technology, is already in use on land in Army and Marine tactical vehicles, where it has considerably enhanced wartime capability, and in air, on Air Force and Navy aircrafts, where it has significantly improved readiness and increased reliability. Currently, TPPL VRLA technology is used on the F-16 Falcon, the F-18 Hornet, the AV-8B Harrier, the F-117 Stealth Fighter, and the UH-60 Blackhawk helicopter,” said Sanjay Deshpande, EnerSys Vice President of Aerospace and Defense business.

“Now, in the sea, it will provide great benefits in submarine power applications. EnerSys TPPL VRLA batteries will eliminate the need for the removal of stibine, a compound of antimony and hydrogen, that is required on some other VRLA batteries. EnerSys is a world leader in VRLA technology for industrial and military applications and has supplied submarine batteries to the navies of 25 countries around the world,” he continued.

The Navy's nuclear submarine Fleet consists of four different classes of ships, each serving a specific purpose. The Los Angeles and Seawolf Classes are both multi-mission attack vessels, capable of deploying to forward ocean areas to search out and destroy enemy submarines and surface ships, as well as to launch missiles in support of other military forces. The Virginia class is designed for battlespace dominance across a broad spectrum of regional and littoral missions as well as open-ocean, “blue water” missions. The Ohio class, a ballistic mMissile submarine, can rapidly target its missiles should the need arise, using secure and constant at-sea communications links. All 70 ships in the Fleet currently use flooded batteries, which will be converted to VRLA batteries by 2010.

The predominantly sealed operation of VRLA batteries made possible by the immobilized electrolyte in each battery cell significantly reduces maintenance requirements, and frees the submarine crew from time consuming maintenance chores such as electrolyte level measurements, water additions and cell cover cleaning. Also, VRLA technology drastically reduces the need for special air handling needed with the old batteries to remove hydrogen gas emitted during charging and discharging cycles.

For further information, contact:
Richard Zuidema
Executive Vice President
EnerSys
2366 Bernville Road
Reading, PA 19605
+1 800-538-3627