



press release
press release

N° 41-06

Saft rechargeable Ni-Cd batteries help Norway's Utsira Island community to become renewable energy self-sufficient

- *Project is the world's first practical demonstration of a combined wind power and hydrogen storage scheme*
- *A community of 10 households has been living 'off-grid' for two years with all its electricity provided from renewable resources*
- *Saft batteries with high-cycling capability provide 'buffer' power support for up to 30 minutes to ensure complete system reliability*

Paris - August 29, 2006 – Saft rechargeable Ni-Cd (nickel-cadmium) batteries are playing an important role in the success of the joint Hydro and Enercon project on Utsira Island – the world's first practical demonstration of how wind power and hydrogen storage can work together to create an efficient and reliable, stand-alone, energy supply system for remote communities.

Over the past two years, a community of 10 households on the windswept island off the west coast of Norway has been living 'off-grid, with its peak-load requirement of 55 kW provided from its own, local, renewable resources. The 37 kWh Saft battery system forms a vital 'buffer' in the island's energy chain by providing up to 30 minutes of backup power to ensure complete grid reliability in the case of heavy load variations, component failure and bridging between generation methods.

Two 600 kW Enercon E-40 wind turbines have been installed at Utsira Island. In the first practical example of a combined wind power and hydrogen storage project anywhere in the world, Hydro has developed a method of storing the surplus electricity generated in the form of hydrogen produced by water electrolysis. When the wind doesn't blow, a hydrogen motor and fuel cell convert the stored hydrogen back into electricity. This way the two wind turbines function as a stable and secure source of power for the tiny island community, ensuring that sufficient renewable power can be generated at any time – even when consumption is high and wind activity is minimal. Any excess power is sold on the electricity market.

Battery system

To ensure the stability of the island's electricity grid, short term storage for smoothing of the wind energy in the seconds range combined with frequency control is provided by a 200 kW Enercon flywheel. For longer support, up to 30 minutes, a battery system was required. Due to the nature of this application, the main criteria was cycle life and robustness, rather than energy density.

After an intensive 18-month test period to evaluate various battery technologies and suppliers, Enercon decided that Saft rechargeable Ni-Cd batteries with a sintered/PBE construction, developed specifically to offer a high-cycling capability in high-rate applications, offered the optimum combination of cost, reliability and performance. The Saft battery system comprises 140 Ni-Cd cells in series, with a nominal voltage of 168 V and a power capacity of 40 kW.

The battery system is kept on float-charge, and typically is called on for a few minutes support once a day.

Project extension

In 2004, the Utsira project won the Platts Global Energy Award for best project within renewable energy. It was planned to run for two years, however Hydro and Enercon have now decided to extend the demonstration until spring 2008.

About Saft

Saft (Euronext:: Saft) is a world specialist in the design and manufacture of high-tech batteries for industry. Saft batteries are used in high performance applications such as industrial infrastructure and processes, transportation, space and defense. Saft is the world's leading manufacturer of nickel cadmium batteries for industrial applications and of primary lithium batteries for a wide range of end markets. The group is also the European leader for specialized advanced technologies for the defense and space industries. With approximately 3,800 employees worldwide, Saft is present in 18 countries. Its 18 manufacturing sites and extensive sales network enable the group to serve its customers worldwide.

For more information, visit Saft at www.saftbatteries.com

Press contacts:

Ginette Kergoat, Saft Industrial Battery Group

Tel: +33 1 49 93 17 69; e-mail: ginette.kergoat@saftbatteries.com

Jill Ledger, Saft Communications Director

Tel: + 33 1 49 93 17 77; e-mail: jill.ledger@saftbatteries.com