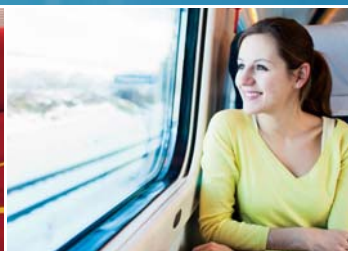

Saft extreme temperature batteries to keep trains running during 2014 Winter Olympics

New Siemens Desiro RUS trains for 2014 Winter Olympic Games in Russia will rely on Saft batteries for exceptional cold weather performance.

Reliable low-temperature operation

Trains that will serve the Sochi Winter Olympics are being fitted with Saft's specialized extreme temperature nickel-based rail batteries that are capable of providing reliable emergency backup and starting power at temperatures as low as - 40°C.

The Siemens Desiro RUS five-car train-sets being built for Russian Railways (RZD) will provide transportation for athletes and spectators between competition sites in the mountains around Sochi.

The Saft battery systems will perform two vital functions:

- First they will deliver emergency backup power to ensure continuity of vital functions such as lighting, communication and door controls during an outage.
- Second they will play an essential role in starting the electric trains by powering the compressed air system that raises the pantograph, as well as initiating the boot-up sequence for the train computer.

The first of the new trains are scheduled to enter service in Sochi in autumn 2013, in time for the start of the Winter Games in February 2014.

Case study

saft

Specialized design

The nickel-based rail battery system chosen by Siemens for the Desiro RUS trains was custom designed and engineered by Saft for the application. The battery system consists of 86 nickel-based cells with a nominal capacity of 190 Ah, making this one of the largest rail battery systems delivered by Saft to date.

Saft battery systems - key features

- robust, lightweight Sintered/Plastic Bonded Electrode (S/PBE) construction
- special electrolyte developed to ensure optimum performance in extremely cold conditions
- operation at temperatures down to - 40°C
- survives prolonged exposure to temperatures as low as - 50°C without damage
- fully tested in order to meet all specified requirements including the Russian GOST standards
- cells grouped in two separate systems, mounted on telescopic sliders below the floor of each five-car train-set, providing easy maintenance access from each side of the train.

Saft specialized nickel-based rail batteries – key benefits

- 30% lighter and more compact than conventional nickel-based batteries, offering significant increases in passenger-carrying capacity, while enabling OEMs and operators to specify the optimum battery system for the installation
- very low life cycle cost since Saft's superior nickel-based technology is field-proven to last more than 15 years with no risk of sudden-death failure
- translucent plastic containers make electrolyte levels immediately visible
- topping-up with water only required at two-year intervals under normal conditions
- engineered electrolyte is available in low and high temperature versions to cover a wide operating range from - 50°C to + 65°C.

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