

Alcad Vantex battery systems keep the power flowing for Namibia's 300 MW Caprivi Link

Gerus and Zambezi HVDC converter stations rely on Vantex nickel-based rechargeable batteries to provide up to 16 hours of autonomous backup power for critical control systems

Oskarshamn, Sweden, January 12, 2012 – NamPower, Namibia's transmission system operator, has installed 10 Alcad Vantex battery systems to provide vital backup power that ensures uninterrupted operation for the Gerus and Zambezi AC/DC converter stations at each end of the country's new 300 MW HVDC (high-voltage direct current) Caprivi Link Interconnector. The Vantex batteries, developed by Alcad to ensure maximum reliability and optimum TCO (total cost of ownership) in stationary industrial installations, can deliver up to 16 hours of autonomous local power for the protection relays and critical control systems and other DC supplied equipment at the converter stations.

NamPower's new -350 kV, 300 MW transmission link runs from Zambezi, close to the Zambian border in the region of Caprivi, to Gerus in the central part of the country – a distance of 950 km. The two networks are very weak and the HVDC technology helps to stabilize them.

The Caprivi Link Interconnector, connecting electricity grids in Namibia and Zambia, ensures reliable power transfer capability between the east and west of the Southern African Power Pool (SAPP). It is also the first electrical connection between the Caprivi region of Namibia and the rest of the country, and is able to supply power to the region if normal supplies from Zambia are disrupted. Even larger islanded parts of the Namibian and Zambian grids can be supplied by the DC link, which maintains frequency control and thereby avoids power outages.

"The battery backup systems are critical to maintaining operational continuity for the Caprivi Link," says Mr Floors Burger of NamPower. "Alcad's Vantex cells met our specifications for a high capacity within a compact footprint, low maintenance and long life, as well as enabling us to standardize on a single supplier and cell type across all the battery systems in this project."

Compact dimensions make optimum use of limited battery room space

A total of 10 batteries, comprising over 1000 Vantex cells, have been installed at the two converter stations to provide uninterrupted power to the control systems as well as all the other DC supplied equipment, ensuring continuous operation in the event of loss of the main power supply. The compact dimensions and wide capacity range of the Vantex cells – with no need to connect cells in parallel – made it possible to create high capacity battery systems (ranging from 195 Ah to 1120 Ah) that make optimum use of the limited space available in the site battery rooms.

The Vantex cell also met NamPower's requirements for a long service-life – over 20 years in this application – combined with low maintenance requirements so that the batteries will only need topping up with water once during their lifetime. Vantex cells can also be stored for up to two years in normal conditions. This long shelf life was an added advantage for NamPower, as it was anticipated that the batteries would need to be stored on site for some time before the converter stations were commissioned.

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