Modular equipment to upgrade Network Rail’s Southern region distribution system

Upgraded DC power supply will enable an enhanced train service on Southern region.

The Background
ABB has won a contract from Network Rail to design, manufacture and supply 15 modular Medium Voltage (MV) switchboards in housings, based on its ZX1.2 gas insulated switchgear, for the current Southern DC traction power supply enhancement project. The new modules, to be installed at strategic locations across the Southern region network, will form part of wider substation works which will increase the power available to the 750V DC traction power supply, enabling longer and more frequent trains to run in the future.

The Response
The ABB contract will commence with the East Grinstead Line, which diverts off the Brighton Main Line at South Croydon, and is an important commuter route. The main element in the modules is ABB’s ZX1.2 metal-clad gas insulated MV switchgear, which has technical acceptance from ENA (the Energy Networks Association) and full Product Approval from Network Rail for use at 33kV for ratings up to 31.5kA and 2000A.

ABB is supplying a complete package including the Low Voltage (LV) AC switchboard and battery backup system. As an integral part of this packaged approach, ABB is carrying out the detailed design and integration of the equipment within the housing, as well as manufacturing and installing the switchgear and performing the FAT (Factory Acceptance Test) at the housing manufacturer ready for the completed substation to be delivered to site.

Malcolm Cork, Product Group Manager Modular Systems, UK said “This latest order continues our long standing relationship with Network Rail in providing traction power supply equipment, in particular the power upgrade contracts going back to 2004 when we supplied and installed a large number of modular substations for the very successful Southern Region Power Supply Upgrade (SRPSU) project. Our dedicated rail project management and engineering resource was a key factor during Network Rail’s evaluation phase, and the ABB team clearly demonstrated the expertise and experience they will bring to the project.

“The technical capability of the ZX1.2 medium voltage switchgear makes it ideally suited for this type of rail project, and as an example of its flexibility we are carrying out some small improvements to further optimize its installed footprint to make even better use of the space available within the container.”

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