New GIS substation for Sloy

Remote setting of the substation at Sloy

ABB’s engineering team based in East Kilbride is managing the construction of a new substation for Scotland’s most powerful hydroelectric facility in readiness for a new pumping station designed to blend in with the plant’s setting in the Loch Lomond and Trossachs National Park.

The need
Scottish & Southern Energy (SSE), which operates the 152.5 MW facility at Sloy, is building a new pumping station, which will enable it to pump water up from Loch Lomond to Loch Sloy during times of low electricity demand, releasing it to generate an extra 100 GWh of electricity per year. In addition, the existing substation was built in the 1950’s and SSE wanted to upgrade the substation to ensure the site’s continued ability to meet the energy demand of almost a quarter of a million people in and around Glasgow.

Project details
With the planned energisation of the new pumping station at the end of 2013, ABB’s East Kilbride engineers are fast-tracking construction of the new substation. This means carrying out construction work throughout the winter months, a significant challenge in the remote setting of the Trossachs.

Advances in switchgear pioneered by ABB since Sloy was built mean that the new substation will be built using gas insulated switchgear (GIS) manufactured by ABB. This takes only around one fifth the land of the existing air insulated switchgear. This compact size means that the substation will be enclosed in a low profile building clad in granite, which will help it blend in with the National Park surroundings.
ABB completed the construction of the building in March 2013 and is now installing the electrical plant and linking it to the overhead lines with around 7 km of high voltage cabling, ready for energising at the end of 2013. Once the new substation is in operation, the old one will be dismantled and the land where it was built will be returned to its natural condition.

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