Búrfell mountain

Búrfell Extension

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Iceland – Icelandic utility Landsvirkjun has awarded a contract to ANDRITZ HYDRO for the supply of electro-mechanical equipment and control systems for the Búrfell Extension hydropower station in Iceland.

Located about 130 km east of Reykjavík, the existing Búrfell hydropower plant has been operating continuously since 1969. It is equipped with six Francis units with a total output of 270 MW, providing 2,300 GWh of electrical energy annually to the national grid. Until the inauguration of HPP Kárahnjúkar in 2007, it was the largest hydropower plant in the country.

The new HPP Búrfell Extension project is located about 2 km from HPP Búrfell at the foot of the Sámsstaðaklif depression. A 100 MW Francis turbine will be installed in a separate underground powerhouse. This new unit will increase the total capacity of the combined Búrfell hydropower stations by 300 GWh per year.

ANDRITZ HYDRO's scope of supply comprises the delivery and installation of the turbine and its auxiliaries, the generator, the electrical power system, MV and LV systems, a fire extinguishing system, the powerhouse cranes, the auxiliary systems, as well as the control and protection system of the whole power plant.

In June 2016, the first important milestone – the model acceptance test – was performed together with the customer in the ANDRITZ HYDRO hydraulic laboratory in Canada. Existing components from various developed projects were used to build a Búrfell Extension model. During the witness tests the combination of those components could be successfully verified. The use of existing hydraulic components made it possible to start the inquiry process of components with a long delivery lead time directly after the project commencement.

With an overall project duration of 26 months from commencement, the delivery and completion dates of this project are tight. Hence, the project management requires high performance engineering to place purchasing orders in due time, as well as a clear focus on the interface management, and close monitoring of sub-suppliers.

The Búrfell Extension hydropower station is expected to start operation in 2018.

TECHNICAL DATA

Búrfell		
Output	6 × 45	MW
Voltage	13.8	kV
Head	115	m
Speed	300	rpm
Runner diameter	2,460	mm
Av. Annual production	2,300	GWh
Búrfell Extension		
Output	1 × 100	MW
Voltage	13.80	kV
Head	119	m
Speed	230.70	rpm
Runner diameter	3,190	mm
Av. Annual production	300	GWh