

Burfell Extension Hydroelectric Project



ÍAV Marti Búrfell sf. started construction of the Búrfell 2 Hydro Power Plant in April 2016, with planned start of operations at the end of April 2018. ÍAV Marti Búrfell sf. will execute the drilling and blasting of the access tunnel, tailrace tunnel and construction of the underground powerhouse where the power plant turbine is located. The intake structure will be constructed at the southern end of the Bjarnalón pond and from there a 150 meter high vertical shaft will be drilled into the powerhouse (the water head will be roughly 120 meters). The diameter of the pressure shaft is about 6 meters which at this height will result in a production of roughly 100 MW or 300GWh per year.

The powerhouse will be located in a cavern, 300 meters inside the mountain Sámstaðaklif and roughly 150 meters below Bjarnalón pond. A steel pipe located between the intake structure and the powerhouse will be installed by the German company DSD NOELL GmbH. An outlet tunnel will be constructed by drilling and blasting 450 meters out from the powerhouse, where the water will flow into a canal which will run for 2 km to Þjórsá River.

Customer

The National Power Company

Structural design

Verkís

Project start

April 2016

Client Supervision

Mannvit Engineering

Landsvirkjun's consultants

Verkís

Project finish

Summer 2018

Main quantities:

Loose excavation: 745.000 m³

Rock excavation: 175.000 m³

Rock pre-split: 27.000 m²

Soil excavation: 59.000 m³

Underwater excavation: 67.500 m³

Underwater rock excavation: 26.000 m³

Ditch excavation: 1.000 m³

Tunnel excavation: 94.000 m³

Sprayed concrete: 6.500 m³

Steel rock support in tunnel: 23.500 kg

Construction concrete: 18.000 m³

Land fills: 89.000 m³

Road surface: 34.000 m²

Rip-rap: 24.000 m³

Concrete formwork: 23.000 m²

Reinforcement: 1.288 kg

Embedded steel: 27.500 kg

Steel construction: 96.000 kg

Earth wire: 4.500 m

Underground high voltage cable: 9.000 m

Cable channels: 1.000 m

Electric wiring and controls: 78.000 m

Water and sewage piping: 3.500 m

Ventilation ducts: 1.100 m

Landscaping: 330.000 m²

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