BÚRFELL EXTENSION HYDROELECTRIC POWER PLANT PROJECT
SELFÓSS (IS)

CLIENT
Landsvirkjun and Eignarhlutir ehf.
(Icelandic State owned entities)

CONSTRUCTION PERIOD
2016 – 2018

CONTRACT SUM
CHF 57 Mio. (ISK 7’404 Mio.)

EXECUTION OF THE WORK
ÍAV Marti Búrfell sf.

CONSORTIUM PARTNERS
ÍAV hf, IS-Reykjavík
Marti Tunnel AG, CH-Moosseedorf

LEAD COMPANY AND TECHNICAL LEAD
Marti Tunnel AG, CH-Moosseedorf
ÍAV hf, IS-Reykjavík

COMMERCIAL LEAD
ÍAV hf, IS-Reykjavík
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SELFOS (IS)

PROJECT DESCRIPTION
The Búrfell Extension project comprises the expansion of the existing Búrfell hydroelectric plant, one of the main power suppliers of Reykjavík, for the installation of an additional 100 MW turbine. The contract covers the BUR-01 Civil works lot. The main parts of the project consist of:
- Access and tailrace tunnels, L=497 m, S=48 m² and L=463 m, S=72 m²
- Powerhouse excavation (V=35’000 m³)
- Shafts excavation: H=115 m, D=4.5 m and H=86 m, D=6 m
- Headrace, tailrace channel and power intake excavation
- Construction works of the power intake, powerhouse and portal

GEOLOGY
- Basalt with intersections of sedimentary layers

WORK DESCRIPTION
Underground excavation, rock support and grouting work
- Excavation methods: drill & blast and raise boring (shafts)
- Excavated length and volume: 1’200 m, 100’000 m³
- Grouting method: probe drilling and cementous pre-grouting
- Standard rock support (incl. shafts): shotcrete and systematic rock bolts
- Additional rock support: spiling bolts, reinforced shotcrete arches and steel beams

Surface- and groundwork
- Headrace channel excavation: 0.4 km and 95’000 m³
- Tailrace channel excavation: 2.2 km and 386’000 m³
- Power intake excavation
- Access and road works
- Bridge works: 18 m
- Landscaping

Concrete and architectural work
- Powerhouse
- Power intake house
- Portal building at the access tunnel
- Transformer building

Electrical installations work
- Laying of high voltage cable
- Cable and distribution system in the powerhouse
- Lighting and control system including alarm system
- Ventilation and telecommunication system

31.08.2017