



# BÚRFELL EXTENSION HYDROELECTRIC POWER PLANT PROJECT SELFOSS (IS)

## CLIENT

Landsvirkjun and Eignarhlutir ehf.  
(Icelandic State owned entities)

## CONSTRUCTION PERIOD

04.2016 – 10.2018

## 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-Mooseedorf

## LEAD COMPANY AND TECHNICAL LEAD

Marti Tunnel AG, CH-Mooseedorf  
ÍAV hf, IS-Reykjavík

## COMMERCIAL LEAD

ÍAV hf, IS-Reykjavík

# BÚRFELL EXTENSION HYDROELECTRIC POWER PLANT PROJECT

## SELFOSS (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 m<sup>2</sup> and L=463 m, S=72 m<sup>2</sup>
- Powerhouse excavation (V=35'000 m<sup>3</sup>)
- 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 m<sup>3</sup>
- 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

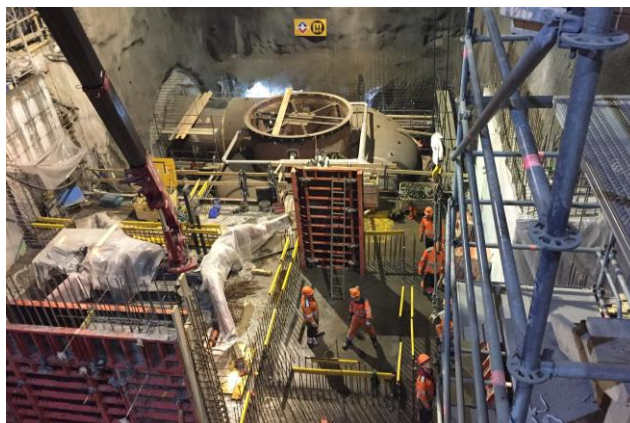
- Headrace channel excavation: 0.4 km and 95'000 m<sup>3</sup>
- Tailrace channel excavation: 2.2 km and 386'000 m<sup>3</sup>
- Power intake excavation
- Access and road works
- Bridge works: 18 m
- Landscaping

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



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