



MANNVIT
ENGINEERING

Project example:

Karahnjukar Hydroelectric Power Station

The Karahnjukar Hydroelectric Power Station in East Iceland harnesses two glacial rivers. The complex comprises a rockfill dam as well as several smaller dams, an underground power station and two 400 kV transmission lines, each approximately 50 km long, that supply power to the Alcoa Fjardaal Aluminum Plant.



Technical data:

Client: The National Power Company – Landsvirkjun

Installed capacity: 690 MW

Turbines: 6 Francis units, vertical axis

Rated capacity: Discharge of 144 m³/s at a power of 690 MW

Gross head: Max gross head of 599 m

Karahnjuka Dam: Length 700 m; height 198 m

Water reservoir: Halslon Reservoir; 625 - 575 m.a.s.l.; storage capacity of 2,100 million m³

Headrace tunnel: 40 km, \varnothing 7.2-7.6 m

Other tunnels: 11 tunnels totalling 32 km in length, \varnothing 6.5-9.0 m

Pressure shafts: 2 vertical pressure shafts; \varnothing 3.4 m; length 400 m

Generating capacity: Approximately 4,600 GWh/year

Mannvit services:

Site investigation, EIA report, assessment of harnessing choices, civil works design, structural and mechanical design including preliminary and final design. Additionally, Mannvit handled cost estimates, tender documents, contract documents, bid evaluation and project planning, as well as participating in testing, commissioning and start-up, and site supervision. The company also designed the 400 kV transmission lines.



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