



Lochaber Hydropower Scheme

Consultancy Services for Rehabilitation of Scheme Infrastructure



Spilling of Laggan Dam | Photo: Multiconsult

The Lochaber Hydropower Scheme was first commissioned in 1929 and expanded in two subsequent stages to provide an original installed capacity of 75 MW and an annual energy production of some 460 GWh. The scheme comprises three principal reservoirs in cascade – Spey reservoir at the upstream end, Loch Laggan and reservoir and Loch Treig.

No major rehabilitation works had been undertaken of the scheme until in 2009 replanting of the power station was commenced, being completed in November 2011 providing the scheme with a new installed capacity of 90 MW and annual energy production in excess of 600 GWh.

The scheme’s main tunnel has not been dewatered for 35 years due to the reliance of the adjacent aluminium smelter upon the power produced by the scheme. Multiconsult is undertaking a strategic review to assess the next stages of rehabilitation and timing of the shutdown of the scheme.

PROJECT

Lochaber Hydropower Scheme Strategic Review

PROJECT TYPE

Rehabilitation of Hydropower Project

LOCATION

Fort William, Scotland

CLIENT

Rio Tinto Alcan

TIME PERIOD

2015 to ongoing

KEY NUMBERS

Capacity: 5 x 18 MW | Energy Production: 600 GWh per annum | Storage Capacity: 269 million cubic metres | Francis Turbines, Turbine Design Head: 214 metres

SCOPE OF WORK

Assistance in the strategic planning of shut-down of the scheme to facilitate rehabilitation of the main tunnel.

OUR SERVICES

- Assembling of historical records of the main tunnel and preparation of drawings
- Preparation of 3-D model of the main tunnel
- Preliminary condition assessment and cost estimate for rehabilitation
- Modelling of the power scheme with present condition and following rehabilitation of the main tunnel
- Main tunnel headloss assessment
- Study of options for isolating the main tunnel
- Condition assessment of main intake gates
- Assessment of works for access road and tunnel adits to enable tunnel rehabilitation
- Study into the options for double isolation at Laggan Dam low level outlet



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