

CASE STUDY

GRYTVIKEN - South Georgia



KEY STATISTICS

Customer: Morrison Construction
Head: 65m
Flow: 472 l/s
Turbine type: Gilkes Twin Jet Turgo
Output power: 250 kW
Dia: 13.5"
Speed: 1000 rpm
Commissioned: 2007

SCOPE OF SUPPLY

Gilkes 13.5" Twin Jet Turgo Turbine
Hydraulic Control Module
Main Inlet Valve with actuator
Electro Hydraulic Governor System
Synchronous Generator with Flywheel
Control Panel
Head level sensor
Installation & Commissioning

South Georgia is located in the middle of the South Atlantic some 1400 kilometres from the Falkland Islands. The island is classed as 'sub Antarctic' and has been under British Administration since 1908, except for a brief period in 1982 when it was occupied during the Falklands War.

The island is the home of the Applied Fisheries Research Station, staffed by scientists from the British Antarctic Survey and the Museum of South Georgia. It is also the site of Shackleton's grave.

CONTACT

Email: hydro@gilkes.com Tel: 01539 720028 Fax: 01539 732110
www.gilkes.com

Gilbert Gilkes & Gordon Ltd, Canal Head North, Kendal, Cumbria LA97BZ. Registration No. 173768 London

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GRYTVIKEN, South Georgia

South Georgia was originally a base of whaling and the main station was at Grytviken on the north east side of the island. The station was powered by hydropower up until the time it fell into disuse in the 1960s. Morrison International was commissioned to undertake some refurbishment and rebuilding work at the main base at Grytviken. In discussions with Gilbert Gilkes & Gordon Ltd of Kendal it was decided to install a new hydroelectric generation system, using much of the existing infrastructure.

A 13.5" Twinjet Turgo Impulse (a turbine originally patented by Gilkes) was installed in 2008 and commissioned just before Christmas. A Turgo Impulse turbine is ideally suited to this application as it maintains efficiency over a large flow range and is of a proven and rugged design.

The main power station is very quiet; the main sound being the water in the tailrace in the bottom of the building as it makes its way to the sea. South Georgia plays host to over 5,000 visitors a year and has become one of the world's most exclusive destinations for environmental tourists.

The Hydropower Station is a short distance from the site of Shackleton's grave – you can be sure that he would have approved of the conversion to green renewable energy thereby preserving the natural beauty of an island he died upon almost 100 years ago.



Powerhouse



Intake



Gilkes Turgo Impulse Turbine



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