

San Gabán II Hydropower Scheme Peru

**Client**

Empresa de Generación Eléctrica
San Gabán S.A., Lima, Peru

Project

Hydropower run-of-river project

Service Provider

A joint venture of Pöyry Energy, another international consulting firm and a Peruvian firm

Services

Owner's engineer during implementation

- General management of the project
- Review of tender documents
- Civil construction drawings
- Review of suppliers' design of E&M equipment
- Supervision of construction, factory tests, installation and commissioning of equipment

Service Period

1996–2000

Project Description

The San Gabán II Hydropower Project is located on the San Gabán river, some 260 km north-west of Puno city and 100 km east of Cusco city.

Financing is provided mainly by the Eximbank of Japan and partially by local funds.

The major project structures comprise a concrete weir, an intake work, desilting basins, a regulation reservoir, and waterways consisting of head-race tunnel, surge shaft and an inclined underground penstock. Two Pelton turbines of 55MW each are installed in the underground powerhouse.

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San Gabán II Hydropower Scheme

Key Data

River diversion

Unlined tunnel:
Diameter 7.0 m
Length 170 m

Desilting basins

Number of units 4
Length 62 m

Daily regulation reservoir

Concrete-lined
Capacity 140 000 m³

Waterways

Pressure tunnel, unlined:
Diameter 3.6 m
Length 7,270 m

Surge shaft with 3 chambers:

Diameter 3.2m
Depth 57m

Underground penstock, concrete-lined:

Slope 60 °
Diameter 3.35 m
Length 738 m

Powerhouse

Type cavern
Installed capacity 2 x55 MW=
110 MW

Pelton units 2
Gross head 679 m
Rated discharge 19 m³/s

Energy production (GWh)

Total 715



View at diversion dam, water intake, desilting basins and regulation reservoir



Regulation reservoir during construction



Diversion tunnel outlet



Powerhouse