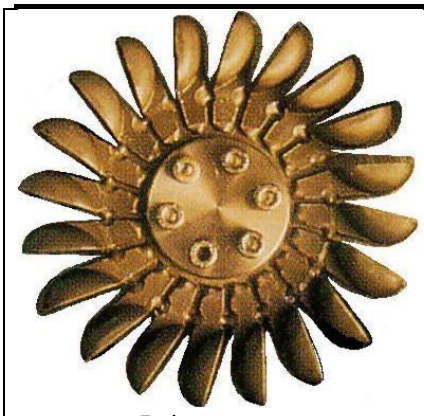
La Caratera Hydro Power Plant

Case History



Pelton runner

La Caratera Hydro Power Plant
Cajul in Quiche
Guatemala

Project owner & developer:
Fuerza de Gravedad SA

Status:

- Application under preparation

Key Figures:

- Head: 230 m
- Qm 3,2 m3/s
- Qt : 2,6 m3/s
- Penstock L1750m/D1400mm
- Turbine 1x5000kW
- Annual generation : 32GWh
- Estimated cost– 13,5 mUSD
- Specific cost 0,43 USD/GWh

Construction time:
Abt. 24 months

Year :
06/2013-06/2015

Commissioning:
2015

Intake area left

Penstock & plant area

La Caratera in Quiche waterfall on Rio Ximula

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Case History

Brief project description

Fuerza de Gravedad SA has bought the project from the local owner Eddy Avila and his family who has settled down on the farm recently. They and now currently constructing their new home and they will be living on this farm.

The land on the left bank is at the possession of the seller Eddy and he has promised to include necessary land area to enable a full construction, operation and maintenance of the project.

The family is offered a 10% share in company net benefits, and an operation and maintenance contract. Please see a picture of the wife of land owner (right).

The project will undertake a full sociological, biological and environmental investigation and scrutiny, according to Guatemalan laws and regulations, prior to further actions. The waterfall is the private property of Eddy Avila, but the Ixil speaking Mayan population in the area may also consider this a natural treasure of future touristic value. It is important to obtain their consent in this enterprise, through offers of social works, improved infrastructure etc. We will also promise to maintain a 10% water flow at all times, and open the cascade at full potential during 4 days of Easter each year.

The project will be a run of the river project located on the highland plateau of Quiche in the western part of Guatemala on the Pacific approximately 8 hour dri from the Capitol Guatemala City.

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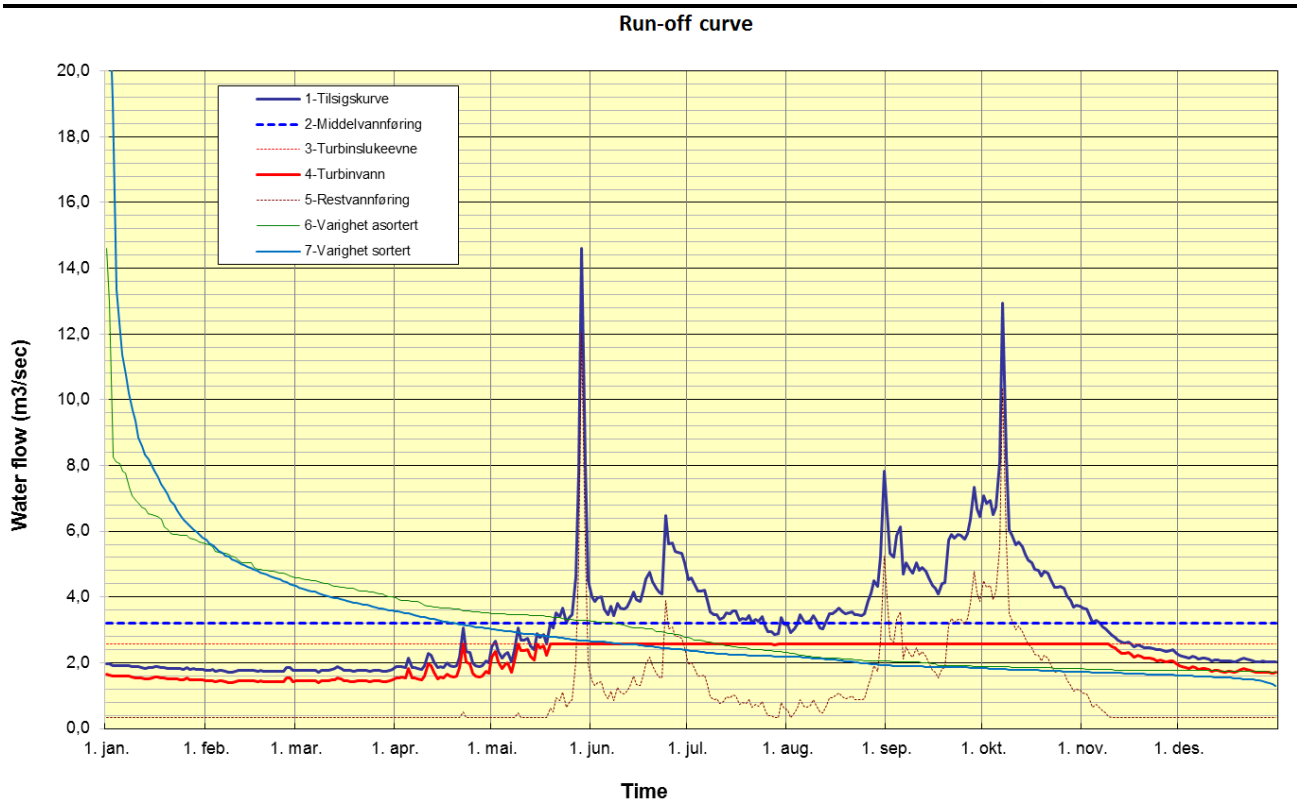
Location of project

The river Ximula has not been gauged but the region faces a relatively constant rain period of about 10 months yearly and the project as such is expected to have a relatively constant river run-off. A spot gauging has, however, been undertaken proving about 3,2 m3/sec during the dry season.

The project terrain is considered to be quite simple and no major technical problems are expected in this area.



The project includes a combined intake and dam construction in concrete in the river where shown on the front page picture. The intake has exposed solid rock all across the river and no particular problems should be encountered.

The water-way may be quite steep but it is possible to make necessary access roads as needed.

The access road to the power house has to be combined with a new access road to the farm. Land acquisition is not expected to be any problem. .

The powerhouse needs a solid foundation of concrete and preferably anchored and cast directly on solid rock. The top housing construction will also be made of a pre-manufactured steel structure. The power plant will be water-level controlled as all run-of-the-river plants.

Project team:

Project manager	Einar Sofienlund,
Civil Engineer	Alf V. Adeler
Mechanical engineer	Bjorn Undrum,
Electrical engineer	Einar Sofienlund,
Engineer	Edgar Padilla, Guatemala
Civil Engineer	Ricardo Bonilla, Guatemala
Mechanical engineer	Ronald Gonzalez
Local project manager and Site engineer	Ricardo Bonilla, Guatemala