

High Head Plants

## Paravani Weir and Hydroelectric Power Plant GEORGIA



Paravani Weir and Hydroelectric Power Plant is a hydropower scheme located on Paravani River in Samstkhe - Javakheti province, in Georgia. It is a BOT project licensed by the Ministry of Energy. The project is planned to be operational at end of the year 2014

The spillway has a design discharge  $169.70 \text{ m}^3/\text{s}$  ( $Q_{100}$ ), crest width of 34.50m. Spillway energy dissipation structure is a Type II stilling basin, having no gates. The power tunnel of diameter 3.5m and length 13771m, is followed by valve chamber. 2.5m diameter penstock continues from valve chamber to bifurcation point. At bifurcation point, the penstock, which is divided into two branches with diameters of 1.3m, reaches to powerhouse structure.

The powerhouse is a reinforced concrete structure with three vertical axis Pelton type turbines, and installed capacity of each unit is 29.0 MW.

**Client:**

Georgian Urban Energy Ltd.

**Powerhouse :**

- |                                  |                            |
|----------------------------------|----------------------------|
| • no.s/type of turbines          | 3/pelton, vertical axis    |
| • rated capacity/rated discharge | 87.0MW/25m <sup>3</sup> /s |
| • rated head                     | 415.37 m                   |
| • rotation/frequency             | 700 rpm/50 Hz              |
| • firm energy production         | 354.76 GWh/a               |

**Execution :**

2011-2014

**Services :**

- Review, appraisal and recommendations for feasibility study
- Programming site investigations and evaluation of the works
- Preparation of detailed construction drawings for project structures
- Consultancy services to the owner during site construction works, before and during installation of hydraulic steel structures and of electro-mechanical equipment

