**Project Summary**

**Project Background**
The northern areas of Pakistan, especially the communities in Gilgit-Baltistan (GB), have an exceptionally low rate of electrification and therefore limited opportunities for development. However, there is immense potential for development of hydropower based energy projects. The Water & Power department of GB has initiated several mini and micro hydropower projects in the region. As part of this initiative, several projects are under construction in the Skardu District. This project dealt with 2 of such projects with Turbo Generating (TG) set capacities of 500 kW each.

**Project Objectives**
The overall objective of the project was to provide services for the supply, installation and commissioning of the TG sets. The consultant provided technical assistance in accordance with international best practices and standards required. Additionally, the services included test running of TG sets to ensure safe and efficient operation of the power project.

**Tasks:**
The project was intended to be implemented as supply, installation and commissioning of E&M equipment. INTEGRATION’s role was the provision of technical support and consulting services.

Due to the difficult terrain and unavailability of concrete roads near the site, the machinery was first dismantled and then reassembled at the point of use.

**Project Results**
The power house with a total output of 1 MW supplies the people in the isolated villages with 24/7 sustainable electric power of high quality. Local staff has been trained in O&M after completion and commissioning of the hydropower projects. Furthermore, specifications and best practices guidelines were drafted to support the implementation of future turnkey projects in the region.

**Services Provided**
- Provision of support in import procedures and taxes, duties, insurance and other issues
- Verification of technical drawings and other required documentation
- Provision of technical know-how and support in import and supply of Turbo Generating (TG) sets for the respective power plants
- Technical assistance in installation and commissioning of the TG sets as per the specifications
- Support in test running of the TG sets
- Supply and installation of protective instruments and their calibrations as per the technical specifications
- Identification and documentation of services to be provided on projects being implemented on turnkey basis
- Preparation of best practices guidelines
- Training of staff for sustainable operation of the plants.

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**Pakistan**

**Installation of Turbo Generating sets for Hydro Power Projects in Ganokh, Gilgit-Baltistan**

**Client**
Water & Power Division Skardu, Gilgit-Baltistan

**Duration**
27/01/2015 - 26/06/2015

**Personnel**
- 1 international STE (1 PM, Electrical Expert)
- 1 international STE (1 PM, Mechanical Expert)
- Pool of national STE (4 PM, Technicians)