**Project Summary**

**Project Background**
The Government of Pakistan (GOP) received a loan from Asian Development Bank (ADB) under Renewable Energy Development Sector Investment Programme for construction of Machai HPP. The Pakthunkhwa Energy Development Organization (PEDO) Government of NWFP was the Executing Agency.

**Project Objectives**
The Machai Hydropower Management Consultants worked with PEDO and provided overview/oversee, supervision, coordination and engineering review services sufficient to perform a continuous due diligence to avoid faults in the execution of Machai HPP. The project consists of the following construction parts: Diversion Canal, Tailrace Canal, Headrace Canal, Powerhouse/E&M and Interior Installations, Workers Colony, New Diversion Road, 11 kV Transmission line. The services provided project support beginning with the preparation of the EPC tender documents, selection of the EPC contractor through to final commissioning of the project.

**Project Activities**
- Prepare the EPC Tender Documents based on the FIDIC/ADB Conditions for EPC/ Turnkey Contract for a fixed time fixed cost basis;
- Coordinate and respond to the Tenderer’s questions and clarifications and complete the initial technical evaluation report of EPC proposed project designs, obtaining clarifications as required;
- Review designs, evaluate cost proposals, financing arrangements and condition of repayment;
- Provide assistance to PEDO in negotiations with the selected bidder in finalizing the EPC contract including any modifications, inclusions, exclusions and conditions to the draft contract;
- Conduct continuous supervision of construction, review of final designs provided and quality assurance;
- Review power purchase agreement and preparation of power tariff document/model and to provide assistance to PEDO in negotiations of power tariff with WAPDA/power purchaser;
- Prepare, apply, defend and obtain generation license from NEPRA/relevant authority;
- Prepare, apply, defend and obtain tariff for sale of power of the project from NEPRA/relevant authority;
- Prepare and help client in negotiation and signing of power purchase agreement for sale of power of the project with power purchase;
- Assist and draw proposals/ plan for training of PEDO staff for design, construction, operation and maintenance of Hydro Power plant.

**Services Provided**
- Review of Feasibility Study
- Preparation of Bidding Documents
- Organisation of Tender
- Tender Evaluation and contract preparation
- Site Supervision
  - Quality management and Quantity control
  - Design supervision
  - Cost control
  - Evaluation of Variation Orders
  - Contract management
  - Reporting to the client
  - Liaising with the client
  - Monitoring H&S and environmental compliance
- Training for Design, Construction, O&M

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**Pakistan**

**Management, Design and Civil Construction Supervision of Machai Hydropower Project (2.6 MW)**

**Client**
Pakthunkhwa Energy Development Organization (PEDO)

**Duration**
13/07/2009 - 30/04/2017

**Personnel**
- 3 international experts (45 PM)
  - Teamleader (LTE)
  - Contract Expert
  - Electric Engineer
  - Hydropower Engineer
- 8 national Experts (134 PM)
  - 1 national LTE
  - pool of national STE