



Beijing IWHR Technology Co. Ltd (BITC)

KEY REFERENCE FOR TURKISH MARKET

Bayramhacılı Hydropower Station

48 MW / Kızılırmak River

BITC is one of the leading companies in China with regard to Hydropower Plant Projects. Our project management expertise, our experience, and successful planning and execution of some of the largest hydropower plants in Turkey are proof of our excellence for our Turkish customers.

In order to deliver the best quality with the most advanced technology at the Bayramhacılı hydropower plant, BITC laboratory was specially used for the development and test of the model turbine which ensured not only the best practice of design but also the highest efficiency possible.



Hydraulic turbine generator of Bayramhacılı HPP

Contract details:

Owner:

Senerji Enerji Üretim A.S.
(Soyak Holding Company)

Contractor:

Beijing IWHR Technology Co. Ltd (BITC)

Description of the project:

The Bayramhacılı Project is located in the central Anatolia region of Turkey over Kızılırmak River which flows into the Black Sea. The dam axis is located 5 km. downstream of Bayramhacılı village, and 18 km. upstream of Avanos. The powerhouse is located at the toe of the dam and it is designed to provide power production of 166 GWh annually. It is equipped with 2 equal sets of double regulated Kaplan turbine and generators.

Work scope:

As the turn-key supplier of the project, BITC provided; design, manufacturing, transportation, erection, integration, testing, commissioning of electro-mechanical equipments, including hydraulic turbine, inlet valve, governor, oil pressure supply unit, hydraulic auxiliary equipment, unit operation control, synchronous generator, excitation system, SCADA system, generator protection, generator neutral equipment, etc.

Main technical specifications:

Turbine model:	ZZJK515a-LJ-320
Rated power:	23.75 MW
Number of Units:	2
Rated net head:	39 m
Rated discharge:	67.5 m ³ /s (Each Unit)
Turbine efficiency:	93.55%
Rotational speed:	250 rpm
Generator model:	SF24-24/5500
Rated voltage:	10.5kV

The turbine model, governor and SCADA system are developed and designed independently by BITC and model acceptance test of hydraulic turbine is carried out in BITC's hydraulic machinery laboratory. During the implementation of the project, all the production and installation works are executed strictly according to inspection and construction schedule, Bayramhacılı HEPP project has been completed on schedule with excellent quality.

Putting into commercial operation:

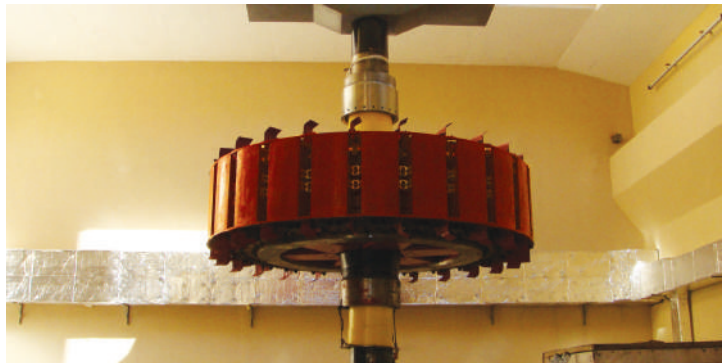
In January, 2011, site acceptance tests of electro-mechanical equipments were carried out, including commissioning, protection test, full load test, load rejection test, emergency stop test, etc. The acceptance test results indicate that the performances of two units satisfy the technical specifications stipulated in the EPC contract as well as TEIAS and EMRA Regulations. The Bayramhacılı HEPP was permitted putting into commercial operation duly on time and equipments are operating in excellent conditions since then.



Central control room of Bayramhacılı HPP



Installing spiral case of Bayramhacılı HPP



Installing rotor of Bayramhacılı HPP



BEIJING IWHR TECHNOLOGY CO. LTD. (BITC)
A1, Fuxing Road, Beijing
Tel: +86 10 68781740
Fax: +86 10 68781838
e-mail: luli@iwhr.com