



Beijing IWHR Technology Co. Ltd (BITC)

KEY REFERENCE FOR TURKISH MARKET

Güllübağ Hydropower Station

99 MW / Çoruh 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 Güllübağ 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 Güllübağ

Contract details:

Owner:

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

Contractor:

Beijing IWHR Technology Co. Ltd (BITC)

Description of the project:

The Güllübağ Project is located in Eastern Black Sea region of Turkey over Coruh River which flows into the Black Sea. The dam site is approximately 6 km. east of Ispir county of Erzurum province. The hydropower plant is designed to utilize the gross head of Çoruh River between 1,147.00 m. and 1,042.00 m. and provide power production of 313.9 GWh annually. It is equipped with 3 equal sets of vertical axis Francis turbines and generators.

Work scope:

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

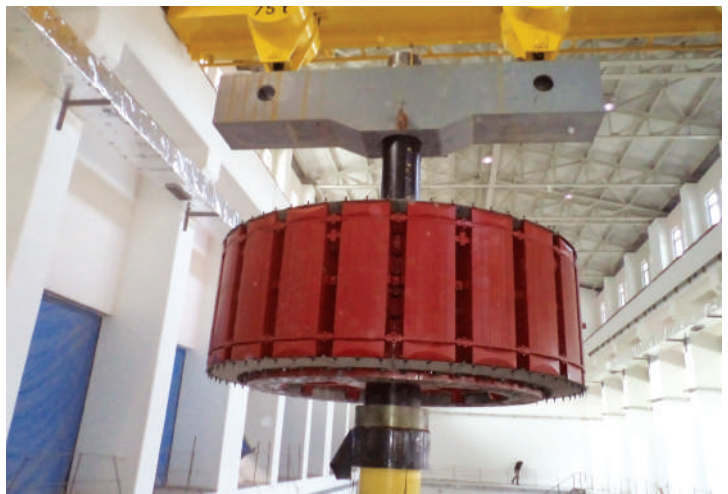
Main technical specifications:

Turbine model:	HLJF2061-LJ-245
Rated power:	33 MW
Number of Units:	3
Rated net head:	96.04 m
Rated discharge:	37.67 m ³ /s (Each Unit)
Turbine efficiency:	95.97%
Rotational Speed:	272.7 rpm
Generator model:	SF32.3-22/5000
Rated voltage:	10.5 kV

Equipments are supplied to Güllübağ project with advanced and mature technology and customized design according to the technical requirements of the EPC contract. Therefore, the turbine model is developed and designed independently by BITC with advanced numerical techniques and also high-precision model test stands of BITC were used. During the implementation of the project, experienced and professional technical personnel are dispatched to work as supervisors at the factories which ensured that the high quality standards of BITC are met. During installation process, detailed construction schedule and necessary successful planning of our project management team, has ensured the timely progress of the project which resulted in, on time commissioning.



Scada system of Güllübağ



Installing rotor of Güllübağ

Putting into commercial operation:

Site acceptance tests of electro-mechanical equipments were carried out in February, 2012, including commissioning, full load test, load rejection test, emergency stop test, continuous operation test, etc. The performances of three units meet the technical specifications stipulated in the EPC contract as well as TEIAS and EMRA Regulations. Güllübağ HEPP was permitted to put into commercial operation and the main equipments are operating in excellent conditions since then.



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