



China

21 Tianshengqiao First Hydropower Project (1)-(4)

A This project's objective was to construct a hydropower station with an output of 1,200MW and transmission lines in Guangxi Zhuangzu Autonomous Region and Guizhou Province, in order to increase power supply to Guangdong and Guangxi provinces, and thereby contribute to stabilizing electric power supply and to regional economic development in these regions.

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Loan Amount/Disbursed Amount: 40,600 million yen/36,923 million yen

Loan Agreement: October 1991-January 1995

Terms and Conditions: Interest rate 2.6%; Repayment period 30 years (grace period 10 years); General untied

Final Disbursement Date: November 1999-February 2004

Executing Agency: Tianshengqiao No. 1 Hydropower Corporation and High Voltage Transmission Company



External Evaluator: Mitsue Mishima (Overseas Project Management Consultants, Ltd.)

Field Survey: September 2004

Evaluation Result

In this project, a dam-type hydropower station (1200MW)* and transmission lines (984km) were constructed almost as planned. The project period was slightly longer than planned due to the time required to cope with complicated soil conditions and to procure part of equipments for transmission lines, but the project cost was almost the same as planned.

The availability factor rate of the power plant constructed in this project has been as high as 80-90% and electricity generated in 2002 reached 5,212Gwh/year, or 99.7% of the initially planned amount of 5,226Gwh/year. However, as electric power production decreased due to low reservoir water levels caused by drought, we need to pay attention to future conditions. The transmission loss rate has been maintained at the level of 6.5% (average in Japan: 5.5%). About 85% of the electric power generated in this project is supplied to Guangdong Province, and the remaining 15% is supplied to Guangxi Zhuangzu Autonomous Region. Thus, the project contributes to stabilizing power supply by meeting increasing demand in both provinces. The growth rate of these two provinces has been over 10%, exceeding the national average for China. This indicates that the project has supported

economic activity in these regions by stabilizing electric power supply.

Tianshengqiao No. 1 Hydropower Corporation, which operates and maintains the power station, and High Voltage Transmission Company, which operates and maintains transmission lines, have no problem with technical capacity and the operation and maintenance system. Their financial status is good.

* The output capacity of Kurobe River No. 4 hydroelectric power station (known as Kuroyon Dam) is 335MW.

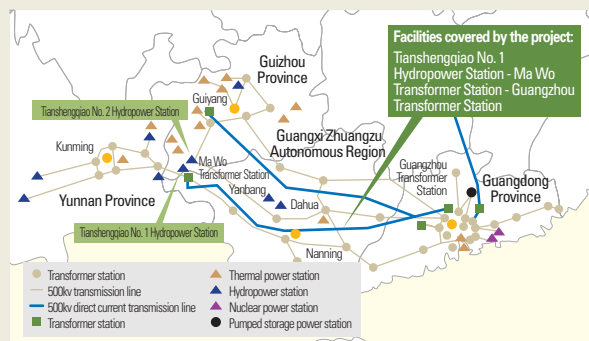
Third-Party Evaluator's Opinion

This project is contributing to further economic growth of Guangdong Province by supplying electric power on a stable basis. Factors that enabled modification of transformer stations within the planned project cost should be analyzed for future projects.

Third-Party Evaluator: Mr. Fang Dongping (academia)

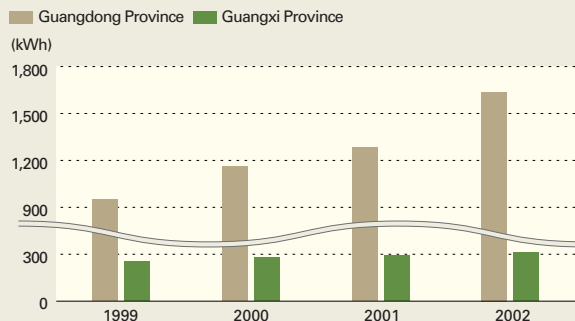
Obtained a doctoral degree in civil engineering from Kyushu University. Presently holds the posts of Executive Director, Institute of International Engineering Project Management and Professor at Tsinghua University. Specializes in civil engineering.

Project Area



This project is part of the West-to-East Power Transmission Program (a program to develop power sources in Western China and send electricity to Eastern China), which is regarded as a national project of high priority.

Effect of the project: changes in power supply



Source: China Electric Power Yearbook

The population in major beneficiary areas is 2.38 million in Guangdong Province and 0.97 million in Guangxi Zhuangzu Autonomous Region.