Third Party Evaluator's Opinion on
Tianshengqiao First Hydropower Project (1)-(4)

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Relevance

According to the ex-post evaluation report, the power demand in China is predicted to increase by 5% on average in the Tenth 5-Year Plan (2001-05), while Guangdong Province's Tenth 5-Year Plan for Energy Development (2010-2015) predicts that power consumption in Guangdong Province will increase at a rate over 5% on an annual average. However, the demand has still been underestimated due to the rapid economic growth in the rich province. On June 13 2005, the electricity capacity demands increased to 40800MW, 1100MW (about the same as a Tianshengqiao First Hydropower Project) more than last year. It is predicted that in 2005, the demand will increased by 17.5%. However, the province still suffers the lack of electricity by 23,700,000MW·h.

Therefore, there is a great challenge to secure a stable power supply for the future. As the structure of power sources in the province relies on thermal power generation (70.3% of the total) and the thermal power generation induces pollution and the coal supply is insufficient, it is difficult to meet the power demand only by the thermal power sources in the province. Thus receiving a stable and clean power supply from outside the province is essential.

In this regard, the Tianshengqiao First Hydropower Project, a part of the West-to-East Power Transmission Program, is crucially important for the continuing development of Guangdong province. According to the news release on the South China Grid website, Tianshengqiao First Hydropower Project provides 1,200MW capability, that is 30% capacity of the West-to-East Power Transmission from Guizhou. In 2001, it generated 5,110,000MW·h, in 2002: 5,212,000MW·h, and in 2003: 4,674,000MW·h respectively. This project operated also as an amplitude modulation generator for the South China Grid. In July of 2005, Guangdong province received 6,824,000MW·h from west provinces, 35.6% more than the same month in 2004. In which, Guizhou grid, where Tianshengqiao First Hydropower Project locates, supplied 2,410,000MW·h, 121.66% more than the same month in 2004.

In conclusion, the project greatly satisfies the beneficiary's needs and priorities to an unexpected extent, as well as the priorities, policies and national development plan of China.

Efficiency

According to the ex-post evaluation report, the output planned at the appraisal time was achieved almost according to the plan. However, in order to enhance the efficiency of power transmission by establishing the transformer station closer to the demand area, the location of it was changed from Jiangmen to Guangzhou, and the length of transmission lines was extended for about 50 km. It has been proved to be a right decision because the electricity demand in Guangzhou is much bigger than in Jiangmen.

According to the ex-post evaluation report, the whole project period planned at the appraisal time was 98 months from October 1991 to December 1999, whereas actually it took 116 months (118% of the initially planned period) from October 1991 to June 2001, partially due to the delay in the civil engineering work for the dam construction due to more complicated soil conditions than expected. For such a hydropower project, it is acceptable in considering the normal construction practice in China, as long as the total project cost was 174.704 billion yen, almost the same as the planned 174.948 billion yen at appraisal time.

It is great to have the Jiangmen Transformer Stations to be changed to Guangzhou Transformer Stations for better performance without overrun the budget. However, the ex-post evaluation report did not explain how this is achieved, which need to be explored in details for future similar project.