

Background Information on Shuibuya Hydropower Station

Qingjiang River lies in the southwest of Hubei province and flows through ten counties (cities) in Hubei province. It is a large branch of Yangtze River after Three Gorges, covering totally 423km. The valley area reaches more than 17, and the total height difference reaches 1,430m.

The river valley is rich in water resources and the development conditions are favorable. In addition, it is situated nearby the electric load center, and suitable for the construction of water conservancy and hydropower projects with large reservoir capacity and good regulating performance. According to the state-approved Qingjiang River Valley Cascade Development Plan, the developing task of Qingjiang mainly includes power generation, flood prevention and navigation, in conjunction with other related industries capable to promote regional economic development. The developing emphases focus on the three cascade hydropower stations located on the river section of the Qingjiang mainstream after Enshi, i.e. the Shuibuya, Geheyan and Gaobazhou Hydropower Station. Upon the completion of the three cascade hydropower stations, the total installed capacity will exceed 3,300 MW, and the annual power generation capacity will reach 8 billion kWh.

In order to implement the Qingjiang River Valley Development Plan, Hubei Qingjiang Hydroelectric Development Co., Ltd (HQDC) was established in 1987 to be in charge of the construction and operation management of the three cascade hydropower stations in Qingjiang River valley. With 20-year efforts, the development task of Qingjiang River valley cascade hydropower stations has basically completed. Wherein, Geheyan Hydropower Station and Gaobazhou Hydropower Station was put into operation in 1994 and 2000 respectively, and Shuibuya Hydropower Station will be put into full operation in this year, which mean that the three large cascade hydropower stations situated on the first river implementing “valley, cascade, cycling and comprehensive” development mode, Qingjiang, will step into the stage all-around exerting their social and economic benefits. At the same time, HQDC has become the first trial enterprise in China that succeed in implementation of comprehensive development mode for river valley, and also the first operation management enterprise completely realizing full-valley dispatch of cascade hydropower stations.

Shuibuya Hydropower Station is located in the midstream of Qingjiang river, belonging to Badong county of Enshi region, and is the flagship hydropower station on the Qingjiang trunk stream. The damsite is 117km away from Enshi, the capital city of Enshi Prefecture, in the upstream, and 92km from Geheyan Hydropower Station in the downstream. The catchment area of the damsite reaches 10, and occupies 64% of the total valley area. As an over-year regulation reservoir, the normal water level is 400m and the total reservoir volume is 4.58 billion . The project involves an inundated plowland of 17,558 Mou and a relocatee number of 14,145. Compared with other water conservancy and hydropower projects in similar scale, the loss of inundated properties is smaller.

Shuibuya Hydropower Station is composed of structures such as concrete faced rock-fill dam, water diversion type underground powerhouse, left-bank flood spillway and right-bank emptying tunnel. The highest height of dam reaches 233m, which ranks the highest among similar type of dams in the world. Shuibuya Hydropower Station is a backbone hydropower station with peak regulation and frequency modulation functions

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in central China power grid. The total installed capacity of the hydropower station is 1,840 MW, and the annual power generation capacity is 3.98 billion KWh. Due to the reverse regulation function to the two downstream hydropower stations, i.e. Geheyan and Gaobazhou, the annual power generation capacity of cascade hydropower stations can be increased by 357 million KWh.

The total scheduled construction period of the project is nine and a half years. In order to advance the benefits of the project, the Owner modified the schedule for river closure and power generation one year ahead, i.e. to realize river diversion in October 2002, to put the first unit into operation in 2007 and all the four units into operation in August 2008, and complete the whole project in 2009.

According to the *Report On Submersion Treatment Of Shuibuya Reservoir Region And Resettlement Plan* approved by the state in 1999, the inundated region of Shuibuya reservoir involves five counties and cities (Badong, Hefeng, Jianshi, Xuanxian and Enshi), 17 towns, and 131 villages. The population in the inundated region is 9950, including 8570 farmer population. The inundated area includes 17558 Mou of cultivated land and garden land, 17077.3 Mou of forest land, and 28269.7 Mou of brush mountain. The inundated area involves 481,600 various housing area, 4 towns, 7 bridges, 2 ferries, 53.57km graded roadways, 16 hydropower stations, and 18 industrial enterprises. The planned population to be relocated is 14145 people (where 11034 farms in villages and 3111 residents in towns), the planned population for farmer relocation is 10502 people, and the investment for relocation compensation approved by the state is RMB 921 million Yuan.

In accordance with the currently effective policies and practices in China related to Resettlement for large and middle-sized reservoirs, the relocation management mode “under the charge of government, with investment on a contract basis, with the participation of the Owner and the supervision of relocated residents” shall be applied and the developing relocation guideline shall be complied with. Resettlement work in the project is not directly organized by the Owner, but organized and implemented by local government. The project Owner is mainly responsible for organizing the preparation of *Resettlement Planning Report*, and obtaining governmental approval; during implementation, the Owner is responsible for paying the fund for relocation compensation, following on the implementing progress of relocation, and participating in coordination and settlement of problems encountered in Resettlement. In 2001, Hubei provincial government confirmed by a paper that the relocation task and relocation fund for Shuibuya reservoir are contracted to related provincial departments and Enshi municipal government, implementing a management system uniformly guided by the provincial government, under the charge of Enshi municipal government, and organized and executed by relevant counties and towns.

Migration Office of Hubei Province is the principal department in the provincial government in charge of Resettlement, and at the same time, the instructing party for the execution of relocation for Shuibuya reservoir in charge of dividing tasks, dispatching tasks, appropriating funds, providing business instruction, personnel training and fund supervision, following on the process and organizing acceptance test etc, and responsible for communicating and coordinating with the Owner and local government, balancing the interests of various parties, solving contradictions between various parties, and solving various problems occurring in execution. Various levels of governments in

Background Information on Shuibuya Hydropower Station

relevant cities and counties and towns are responsible for organizing the detailed execution of Resettlement work and corresponding migration organizations are responsible for centralized management of concrete business.

Resettlement in Shuibuya dam region varies from that in the reservoir region. In the dam region, the Owner assigns the relocation project to the corresponding county-level government in the dam region on an agreement basis. Relocated residents in Shuibuya dam region involve two counties (i.e. Badong and Changyang), two towns and seven villages, the relocated population is 2598 people, including 2580 farmer residents. Residents within the expropriated scope marked with red line in the dam region have been completely relocated, and the relocation fund has been compensated as planned, without any side effect remaining.