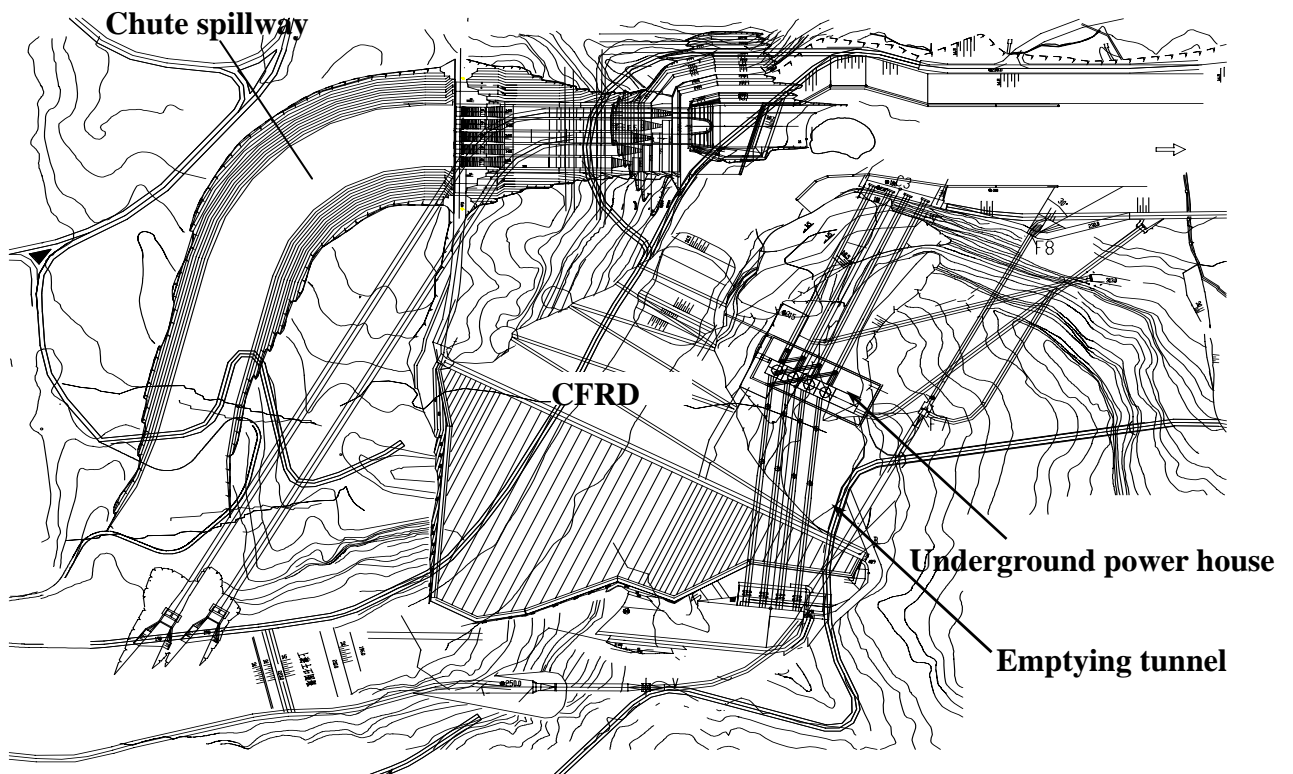


Shuibuya Hydropower Project



Layout of Shuibuya Project



Main Characteristics of Shuibuya Project

Owner: Hubei Qingjiang Hydroelectric Development Co., Ltd.				Builder: Hubei Qingjiang Shuibuya Project Construction Company			
Project Location: Badong County, Hubei				Approved Date for Construction: Jan. 2002			
Main Benefit: Power Generation, Flood Control, Navigation, Fishery, Tourism							
HYDROLOGY	Catchment Area Above Damsite		10860km ²	RESERVOIR	Regulation Performance	Multi-year	
	Annual Average Flow		299m ³ /s		Total Capacity	45.8 x 10 ⁹ m ³	
	Annual Average Runoff		94.4 x 10 ⁹ m ³		NPL	400m	
					Dead Level	350m	
MAIN BUILDING STRUCTURES	DAM	Type	CFRD	POWER STATION INDICES	Installation Capacity	1600MW	
		Max. Height	233m		Firm Output	310MW	
		Crest El.	409m		Annual Average Output	3985 GW · h	
		Crest Length	660m		Annual Util. Hours	2450 h	
	SPILLWAY	Type	Bank Type Spillway		Increased Output at Downstream Geheyan & Gaobazhou Projects	237 GW · h	
		Crest El.	378.2m		Displaced population	13967	
		Outlet Size (W X H)	5 - 14m×21.8m		Designer	CWRC	
		Design Flood Discharge	16300m ³ /s		Contractor	Gezhouba Group Company Jiangnan Water Resource & ydropower Engineering Co. China Water Resource & Hydropower No. 14 Bureau	
		Check Flood Discharge	18320m ³ /s				
	EMPTYING TUNNEL	Type	Pressure & Non-pressure Tunnel		Supervisor	Huadong Hydropower Engineering Consultancy Co. Zhongnan Co., China Water Resource & Hydropower Engineering Consultancy	
		Bottom El.	250m				
		Outlet Size (W X H)	6m×7m		Remarks	Under construction	
		Max. Discharge	1605m ³ /s				
	Main Powerhouse	Type	Underground				
		Inner Size (L×W×H)	168.5m×21.5m×65.47m				
		Turbine Installation El.	189m				

Shuibuya Hydropower Project is located in Badong County in the middle reach of Qingjiang River. It is the first cascaded project in Qingjiang mainstream and the third pearl follows to Geheyan and Gaobazhou. It is 117km downstream to Enshi City and 92km upstream to Geheyan Hydropower Project. The Project will be the major power source for peak load regulation in the Central China Power Grid. The installed capacity and annual output of Shuibuya Power Plant are 1,600MW and 3.92 GWh respectively. The project has a powerful regulating ability with a normal pool level of 400m and reservoir capacity of 4.58 billion m³. The Project consists of a concrete

faced rockfill dam (CFRD), underground power house, chute spillway on the left bank, and the sluice tunnel on the right bank. The dam is 233m high, which is the highest of its kind in the world at present with a total volume of $15.64 \times 10^6 \text{m}^3$. Shuibuya Project is designed to be completed within nine and a half years. In order to have the project exert benefit in advance, the proprietor decided that the dam be built and generating set go into production one year earlier than scheduled, that is, the river be closed in October 2002, the first unit is design to generate power in 2007, and the whole project will be completed in 2009.

The sketch of Shuibuya CFRD dam cross section

