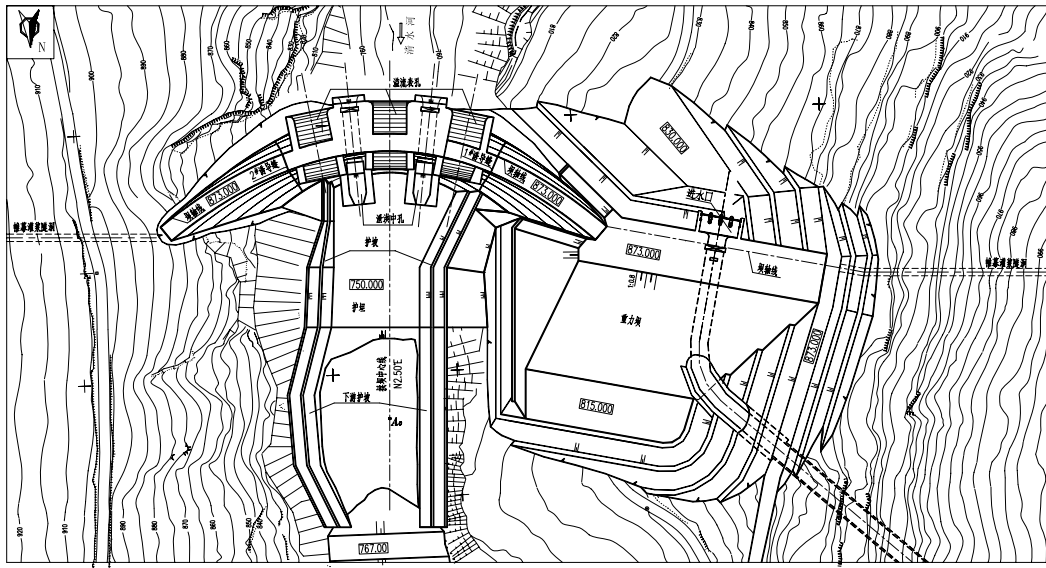


Dahuashui Hydropower Project

Layout of the Dahuashui Hydropower Project



General

The Dahuashui Hydropower Power is located on the main stream of Qingshui river in Guizhou Province. The Project is a multi-purpose hydro-development project with comprehensive benefits mainly in power generation, flood control and others. It can effectively promote the runoff regulation capacity and increase the benefits of cascade hydropower projects downstream.

The project is composed of a roll-compacted double-curvature arch dam, water diversion systems on the left bank, a switch station and so on. The main dam is a parabolic double-curvature arch dam with a gravity block on the left bank, and it is the highest and most difficult in technology dam among those same shape dams under construction in our country.

The crest elevation of the double-curvature arch dam is 873.00 m; the bottom elevation is 738.5 m; the maximum dam height is 134.50 m; the crest width is 7.00 m; the dam bottom thickness is 28.0 m; the thickness-height ratio is 0.208; the length of crest is 256.19 m; the maximum central angle is 40.075° ; the dam layout is dissymmetrical and the angle of central line is $N2.50^\circ$. The crest elevation of gravity block is 837.00 m; the bottom elevation is 800.00 m; the upstream face is vertical and the downstream slope is 1:0.7; the crest width is 20.0 m; the bottom width is 71.10 m. The flood discharging structures are composed of three surface spillways, two middle outlets and downstream energy dissipaters.

The installed capacity is 200MW; multiannual power generation is 0.731GWh; the firm output is 40.1MW; the annual generating hours is 3655h, and electricity can be transport to the Guizhou electric power system.

Hydrology

Catchment area: 4328 km²

Peak flow (P=1%): 4940 m³/s

Multi-annual mean suspended sediment load: 565×10³t

Multi-annual mean flow: 75.8 m³/s

Peak flow(P=0.05%): 7270 m³/s

Reservoir

Normal storage level: 868 m

Design flood level: 868.43m

Total reservoir capacity: 276.5×10³ m³

Reservoir area: about 4328 km²

Dead water level: 845 m

Check flood level: 871.35m

Active storage: 135.4×10³ m³

Design diversion flow: 170 m³/s

Roll-compacted concrete double-curvature arch dam

Crest elevation: 837.00 m

Maximum dam bottom width: 28.0 m

Spillway crest elevation: 860 m

Energy dissipation: ski-jump spillway

Crest length: 287.56 m

Maximum dam height: 134.50 m

Size of spillway gates: 3 gates, 13.5×8 m

Type of spillway gates: radial gate

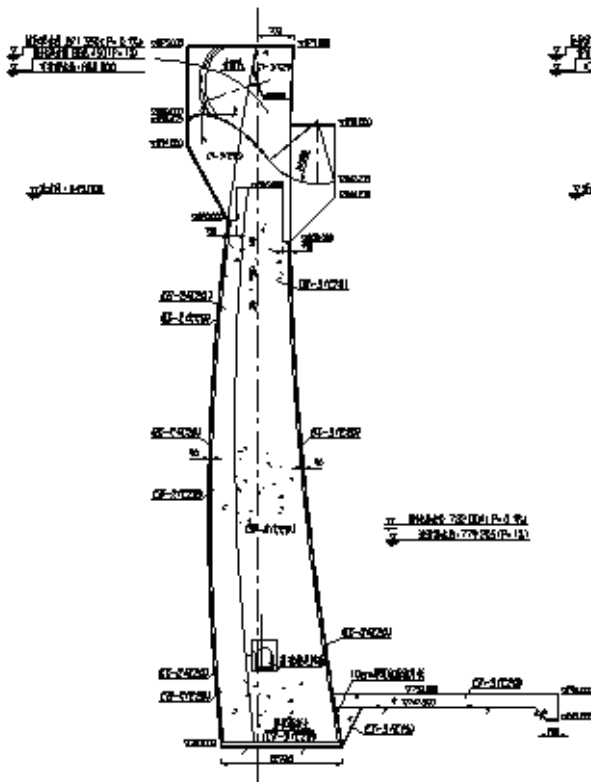
Middle outlets in dam body

Sill elevation: 815 m

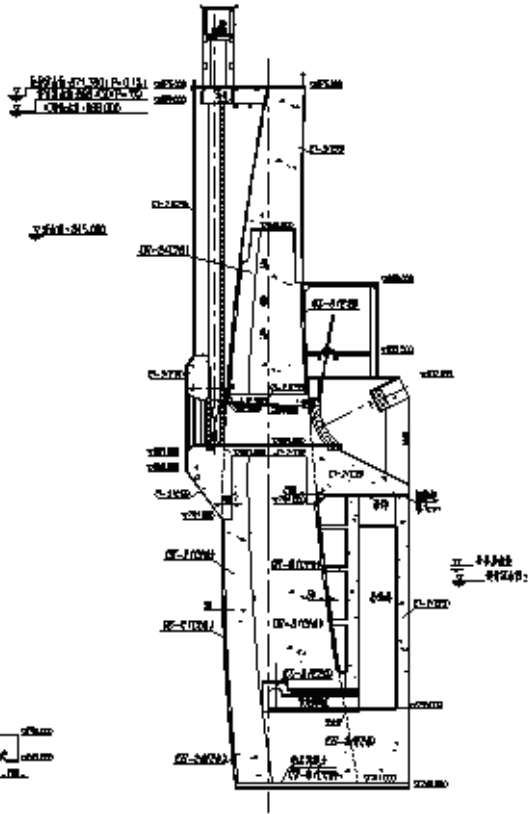
Elevation in outlet bucket lip: 851.73 m

Size of gates: 2 gates, 6×8 (width × height)

The cross section of crown beam



The cross section of left middle outlet



The photos of dam construction