Project: Harangi Dam Mini Hydel Project - 9 MW

Overview:

Harangi Irrigation Project has been built on Harangi River with the Harangi Dam forming the Reservoir and the Right bank and left Bank Irrigation canals feeding a command area of 8000 Hectares. The left bank canal is the major canal and the discharge into this major canal is controlled by the Head Regulator structure in the dam. The level difference between the FRL of the reservoir and the bed level of the canal is 14 meters. At the minimum draw down level of the reservoir, the level difference is 6 meters. The Reservoir surpluses, every year. This surplus water and canal discharge is utilized to generate power in the Harangi Dam Power House Scheme. The Scheme with an installation of 9 MW was formulated and implemented by M/s EDCL Calcutta. The EPC Contractor for implementation of the Scheme was M/s Sulzer Flovel Ltd., who were also the manufacturers and suppliers of the generating equipment. Design Group handled the Detail Design Engineering of all the Civil Engineering structures of the scheme and completed the assignment in the year 2000.

The Scheme involved Construction of:

1) A well type intake structure along with an approach channel on the upstream of the left bank hill mass, and with the control gates,
2) A 5 m Dia and 97.5m long. RCC lined headrace tunnel driven through the left bank hill mass and ending in the Single MS steel penstock bifurcating in to two at the power house
3) A RCC surface power house structure housing the two vertical axis Kaplan turbine generators of 4500 kW Capacity each
4) Tail race stop log gates
5) Tail pool discharging into the left bank canal, with a discharging capacity of 56 cumecs.

Since during the monsoon period when the reservoir is full, the surplus water is also utilized for power generation, the excess water over and above the capacity of the left bank canal is surplussed, through a surplus weir, back to the Harangi River downstream.

Specifications:

HARANGI DAM MINI HYDEL SCHEME -SALIENT FEATURES

1. LOCATION

i)	State	Karnataka
ii)	District	Coorg
iii)	Taluk	Kushalnagar

2. APPROACH CHANNEL

i)	Length	70 m
ii)	Bed Level	EL 856.00 to EL 843.00 in approach pool
iii)	Bed Width	6 m
iv)	FSL	EL. 871.42 m
v)	Top of Embankment	EL.873.00 m
vii)	Lining	Concrete

3. INTAKE STRUCTURE

i)	Top Width	8 m
ii)	Top of Intake	EL 874.50 m
iii)	Foundation level	EL 709.00 m
iv)	Bottom Width	9 m Circular

4. BY - PASS ARRANGEMENT

i)	Type of gate	Ungated weir
ii)	No of gate	---
iii)	Size of the gate	---
iv)	Top of by - pass arrangement	EL.848.70 m

v)	Crest of the weir	EL. 847.71 m

5. POWER HOUSE

i)	Design head	27.98 m
ii)	Design discharge	42.47 cumecs
iii)	Generator floor level	EL 843.10 m
iv)	Installed capacity	9000 KW (2 x 4500 kw)
v)	Unit type	Vertical shaft full Kaplan
vi)	Size of power house	18.40 m x 19.00 m
vii)	Annual Generation	32 GwHr

6. TAIL RACE CHANNEL

i)	Length	28.00 m
ii)	Bed level	EL 837.50 to 844.90
iii)	Bed width	12 m
iv)	Tail water level Maximum	EL.847.71 m
v)	Tail water level Minimum	EL.845.40 m

Thanks for your interest in our services.
Please do reach us at…

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