
**DASHAM FALL SMALL HYDRO POWER PROJECT
SALIENT FEATURES**

Location

State	Jharkhand
District	Ranchi
River/Tributary	Subarnarekha/Kanchi river
Diversion Barrage	23 ⁰ 08' 40" N , 85 ⁰ 28' 13" E
Power House Site	23 ⁰ 08' 36" N , 85 ⁰ 28' 17" E

Hydrology

Catchment Area At Intake Site	474.42 km ²
Design Discharge	11.6 m ³ /s
Design Flood	1470 m ³ /s
Diversion Flood	40 m ³ /s

Diversion Structure

Type	Overflow weir
Length Of weir	67 m
Maximum Height From RBL	2.5 m
Top elevation of weir	EL. 388.5 m
Average River Bed Level	EL. 386.0 m
FRL	EL. 388.5 m

Intake

Sill Level	
Gate size	3.5 m X 1.6 m
Gate type	Vertical lift fixed wheel
Design discharge	14 cumecs

De-silting Basin

Type	Hopper type surface desilting basin
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Size of Basins	31 m (L) X 10.5 m (W) X 3 m (H)
Minimum size of particles to be removed	0.2 mm
Settling velocity	0.036 m/s

Forebay

Type	Rectangular tank
Size	20 m (L) X 15 m (W) X 4.5 m (H)
Invert Level	EL. 384.0 m
Top Level	EL. 390.0 m
Spill level	EL. 388.5 m

Main Penstock

Type	Steel lined circular-underground
Size	1.8 m diameter
Length	543 m

Branch penstocks

No. and size	3 no.
Branch 1	1 m dia. and 45 m long
Branch 2	1 m dia. and 42 m long
Branch 3	0.63 m dia. and 30 m long

Power House

Location	
Type	Surface
Total Installed Capacity	6 MW
No. of Units	3
Capacity of Units	2 X 2.5 MW and 1 X 1 MW
Size Of power house	43 m (L) X 19.5 m (W)
Type Of Turbine	Horizontal Francis
Speed Of Turbine	600 rpm
Gross Head	68.5 m

Net Operating Head Design Discharge 59.0 m

Tail Race Channel

Max. Tail Water Level EL. 321.0 m

Min. Tail Water Level EL 320.0 m

Normal Tail Water Level EL 320.5 m

Shape of channel Trapezoidal

Size 5.10 m (top W) X 1.74 m (H)

Length 110 m

Power Generation

Installed Capacity 6 MW

75% Dependable Energy 19.5 GWh

Plant Load factor 36.5 %

COST ESTIMATE

INR (Crores)

Civil & HM Works 35.28

Electro Mechanical Works 12.00

Transmission Works 2.50

Total Hard Cost 49.78

IDC and Financing Charges 3.86

Total Cost of the Project 53.64

Cost per MW 8.94