

MALARI JELAM HE PROJECT (2X27.5 =55MW)

SALIENT FEATURES

LOCATION

State	Uttaranchal
District	Chamoli
River	Dhauliganga

DAM SITE

Location	2.5 km D/s of confluence of Girthi Ganga with Dhauliganga river
Latitude	30°- 40' - 54.7" N
Longitude	79° -53' - 4.5" E
Nearest Airport	Dehradun
Nearest rail head	Rishikesh

HYDROLOGY

Catchment area at dam site	1343.0 sq. km
Maximum average discharge at dam site	123.5 cumec
Minimum average discharge at dam site	9.0 cumec

RESERVOIR

Full reservoir level (FRL)	El 2864.5 m
Minimum drawdown level (MDDL)	El 2854.0 m
Gross storage at FRL	1.82 M cum
Live storage	0.90 M cum
Area under Submergence at FRL	10.45 ha

DIVERSION TUNNEL

Number	1
Size	5.0 m diameter (D shaped)
Length	240 m
Diversion discharge (assumed)	60 cumec

DAM

Type	Gravity Dam
Top elevation of dam	2866.50 m
Height of dam above	24.5 m

River bed level	
Length of dam at top	80.0 m
River bed level	2842.0 m

SPILLWAY

Design flood	5325 cumecs
Type	Ogee with brest wall
Crest elevation	El 2845.0
Size of bays	4 of 12 m x 15 m
Length of spillway	64.0 m
Energy dissipation	Stilling Basin

INTAKE

Design discharge	37.0 cumecs
Invert level	El 2847.0 m
Number	1
Size of gate opening	3.5x 3.5 m
Trash rack	5 of 5 m x 9 m
Intake tunnel	3.5 m ϕ (D-shaped)

DESILTING CHAMBER

Number	One
Size	200 m x 9.50 m x 14.0 m depth
Design discharge	37.00 cumec
Particle size to be removed	0.2 mm and above

HEAD RACE TUNNEL

Number	One
Size	3.5 m diameter
Shape	Horse shoe
Length	4.50 km
Design discharge	30.54 cumecs

SURGE SHAFT

Number	One
Size	8.0 m diameter
Height	115 m

PRESSURE SHAFT

Numbers	One (Bifurcated into 2 of 2.0 m ϕ)
Size	2.6 m diameter
Length	230.0 m

POWER HOUSE

Type	Underground
Installed capacity	55.0 MW
Number of units	2 of 27.5 MW
Power house cavern size	60 m x 21.5mx29 m(H)
Type of turbine	Vertical Axis Francis
C.L. of turbine	El 2841.50 m
Rated Head	200.33m

TAIL RACE

Size	4.0 m diameter
Type	D-shaped
Length	816.0 m
Design Discharge	30.54 cumec
River Bed Level	El 2645.0
Maximum TWL	2650.0 m

SWITCHYARD

Size	Gas Insulated Switchyard (GIS) on the floor above the transformer/s in P/H cavern
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POWER GENERATION

Installed capacity	2 x 27.5 MW (55 MW)
Annual energy generation	
i) 90% dependable year	243.07 GWh
ii) Energy in 90% year on 95% availability	236.85 GWh

CONSTRUCTION PERIOD

5 years