MAPANG BOGUDIYAR H.E. PROJECT

SALIENT FEATURES

LOCATION

State	Uttaranchal
District	Pithorgarh
River	Goriganga
Dam site	D/s of confluence of Lapsa Badli Gad with Goriganga River
Nearest Airport	Delhi
Nearest rail head	Tanakpur
Location of Dam Site	
Latitude	30^{o} 15’ 55” N
Longitude	80^{o} 13’ 09” E

HYDROLOGY

Catchment area at dam site	829 sq km
Maximum average Discharge at dam site	55.52 cumecs
Minimum average Discharge at dam site	21.96 cumecs

RESERVOIR

Full reservoir level (FRL)	2960 m
Minimum drawdown level (MDDL)	2953 m
Gross storage at FRL	4.74 M cum
Live storage	1.54 M cum
Area under Submergence at FRL	24.2 ha.

DIVERSION TUNNEL

Number	1
Size	7.0 m dia
Length	480 m
Diversion discharge	212.8 cumec

DAM

Type	Concrete Gravity Dam
Top elevation of dam	2963
Height of dam above deepest foundation level	83 m
Length of dam at top	195 m
River bed level	2895 m

SPILLWAY

Design flood	3174.85 cumec
Type	Ogee spillway
Crest elevation	2941 m
Number	2 bays in 3 blocks
Length of spillway	2 bays of 12 m each
Energy dissipation type	Ski jump bucket

INTAKE

Invert level	2942 m
Number	1
Size of gate opening	4.5m x 4.5m
Trash rack	5m x 11m x 5 no.

DESILTING CHAMBER

Number	1
Size	11m (w) x 18m (h)
Length	320 m
Design discharge	59.80 cumec
Particle size to be removed	0.2 mm and above

HEAD RACE TUNNEL

Number	1
Size	3.9 m dia
Shape	Horse shoe
Length	3.52 km

SURGE SHAFT

Number	1
Size	10 m dia
Height	53.50 m

PRESSURE SHAFT

Numbers	1
Size	3.4 m dia
Length	622 m

POWER HOUSE

Type	Underground
Installed capacity	200 MW (2x100 MW)
Number of units	2

Power house cavern size	17.5 m x 82.0 m
Type of turbine	Vertical Francis
C.L. of turbine	2474.0 m
Rated Head	465.07 m

TAIL RACE

Size	4.5 m dia
Type	Tunnel
Length	300 m
Design Discharge	47.84 cumecs
River Bed Level	2478.0 m
Normal TWL	2483.0 m

SWITCHYARD

Size	GIS on the floor above the trasnsformers in transformer cavern of size 14 m x 50 m

POWER GENERATION

Installed capacity	200 MW (2x100 MW)
Annual energy generation	
i) 90% dependable year	882.04 GWh
ii) Energy in 90% year on 95% availability	1034.60 GWh

CONSTRUCTION PERIOD	5 years and 6 months