

Annexure I
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**CHUTAK HYDRO-ELECTRIC PROJECT (4X11 MW) IN J&K BY
NHPC**

SALIENT FEATURES

LOCATION

State	:	Jammu & Kashmir
District	:	Kargil
River	:	Suru (Tributary of Indus)
Barrage	:	Near village Sarzhe

HYDROLOGY

Catchment area	:	3488 sq.km
Design Flood	:	1400 cumecs

BARRAGE

Top Level	:	EL 2783 m
Length	:	47.5 m
Design Flood	:	1400 cumecs
Full Reservoir level	:	El 2781 m
Crest level	:	EL 2768 m
Number of bays	:	5
Size of gate	:	6 m (W) x 6.5 m (H)
Type of gates	:	Radial gates

POWER INTAKE/INTAKE TUNNEL

Intake Tunnels	:	2 no. 4.5 m dia Horse Shoe
Length including cut & cover section	:	295 m

DESILTING CHAMBER

No.	:	Two
Size	:	170 m x 12.5 m x 15.10 m
Design discharge	:	110.60 cumecs

HEAD RACE TUNNEL

Diameter/Type	:	5.9 m dia horse shoe shaped
Length	:	4370 m
Design discharge	:	96.20 cumecs

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SURGE SHAFT

Type : Orifice type
Diameter : 19.0 m
Height : 59.0 m

PRESSURE SHAFT

Number : Two
Type : Circular, steel lined
Diameter : 3.25 m
Height : 37.0 m

Penstock

Number : Four
Diameter : 2.3 m each
Length : 31 m each

POWER HOUSE

Type : Underground
Size : 81 m (L) x 15.5 m (W) x 34.5 m (H)
No. of Units : 4 nos
Installed capacity : 44 MW (4 x 11 MW)
Type of turbines : Francis vertical shaft
Rated Head : 52 m
Rated Speed : 333.33 rpm

TAIL RACE TUNNEL

Diameter / Shape : 5.9 m dia horse shoe shaped
Length : 50.0 m
Normal Tail water level (4 unit running) : EL 2717.60 m

Switchyard

Type : Outdoor
Size : 45 m x 100 m

POWER GENERATED

Annual energy generation in 90 % : 212.93 MU
Dependable year with 95 % machine availability