

**SALIENT FEATURES OF NATHPA JHAKRI HYDRO-ELECTRIC
POWER STATION**

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| 1. | Name of Project | : | Nathpa Jhakri Hydro-Electric Project |
| 2. | Location | : | Districts of Shimla & Kinnaur (H.P.) |
| 3. | Type of Scheme | : | Run-off-river with Pondage |
| 4. | Installed Capacity | : | 1500 MW (6x250 MW) |
| 5. | Design Energy in 90%
dependable year | : | 6950.88 MU approx. at FRL 1488.5m
6984.37 MU approx. at FRL 1495.5m |
| 6. | Diversion Dam | : | Concrete gravity 627.5 m high 17.2 m long
in the first phase and the height of Dam be
increased by 5 metres in phase-II. |
| 7.(a) | Full Reservoir Level | : | EL 1488.50 m (Phase-I),
EL 1495.5m (Phase-II) |
| (b) | Minimum Drawdown Level: | : | EL 1474.00 m |
| 8. | <u>Head Race Tunnel</u> | | |
| | Length | : | 27.4. KM |
| | Diameter | : | 10.15 m |
| 9. | <u>Spillway</u> | | |
| | Crest Level | : | 1492.5 m |
| | Gates | : | 2 automatic counter balance type gates of
size 5.0mx3.0 m |
| 10. | <u>Under Sluices</u> | | |
| | Crest Level | : | 1458.00 m |
| | Gates | : | 5 radial gates each of size 7.50m x 8.50m |
| 11. | <u>Tail Race Tunnel</u> | | |
| | Size | : | 10.15m, circular |
| | Length | : | 982m |
| 12. | Power Station | : | Underground |


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13. Turbines : 6 Nos-Vertical axis Francis Turbines
255,000 kw, 300 rpm
14. Butterfly Valves : 3 Nos., 4900 mm dia
15. Generators : 6 Nos. Vertical Shaft, 3 Φ , 15.75 KV
terminal voltage, 50 Hz. AC synchronous
generators of rated output 278 MVA and 0.9
lagging power factor.
16. Type of Excitation : Static
17. Generator Transformers : 19 Nos (1 No. is spare), 102 MVA, 15.75
KV/420/ $\sqrt{3}$ KV Single phase, oil immersed
ODWF/OFWF cooled, indoor type
18. Switch Gear : SF6 Gas Insulated Switchgear with 3 Φ 50
Hz, 400 KV nominal, (420 KV rated 2000A,
50 KA short circuit rating)
19. Pothead Yard : Outdoor station, SF6 switchgear
20. Transmission Line : i) Nathpa Jhakri-Abdullapur 400 KV,
double circuit line
ii) Nathpa Jhakri-Nalagarh 400 KV, double
circuit line


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