KOYNA DOUBLE LAKE TAP, STAGE IV, MAHARASHTRA

SALIENT FEATURES

Location: Satara District, Maharashtra
River: Koyna

Power Generation:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Installed Capacity MW</th>
<th>Head m</th>
<th>Discharge Cumec</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>4 x 65 = 260</td>
<td>475</td>
<td>170</td>
</tr>
<tr>
<td>II</td>
<td>4 x 75 = 300</td>
<td>490</td>
<td>170</td>
</tr>
<tr>
<td>III</td>
<td>4 x 80 = 320</td>
<td>109</td>
<td>252</td>
</tr>
<tr>
<td>IV</td>
<td>4 x 250 = 1000</td>
<td>536</td>
<td>260</td>
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</tbody>
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Head Race Tunnel: L = 4.315 km, Horse Shoe = 7 x 9.5 m
Tail Race Tunnel: L = 1.87 km, D-Shape = 10 x 10 m
Lake Tap Details: Water Tapped by Two Lake Taps From Existing Koyna Reservoir Using Classic Norwegian Technique – Open Tunnel Blast. First Lake Tap in Asia.

MAJOR STUDIES

Comprehensive model scale 1: 30
- Performance and Flow Conditions in the Reservoir for Normal operation
- Efficacy of the Piers to eliminate vortex near intake
- Flow Conditions in the Reservoir, Muckpit and Water Rise in Stoplog Gate Shaft at the Time of Lake Tap
- Measurement of Hydrodynamic Pressures on the Stoplog Gate at the Time of Lake Tap
MDDL El. 630 m is satisfactory to draw 260 cusec discharge
- Piers of size 7m x 3m x 6m reduce the intensity of vortex
- Flow conditions in the muckpit and intake tunnel are satisfactory during lake blast
- Maximum hydrodynamic pressure on the stoplog gate for RWL El. 640 m and filling level in the tunnel El. 603 m was 60 m