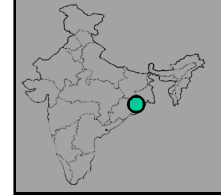




अनुसंधान के माध्यम से सेवा
Service Through Research

CENTRAL WATER AND POWER RESEARCH STATION
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TELENGIRI MEDIUM IRRIGATION PROJECT, ODISHA



SALIENT FEATURES

Location	: Dist. Koraput, Odisha
State	: Odisha
River	: Telengiri (a tributary of Indravati river)
Gross command area	: 116664.34 hectares
Maximum Discharge	: 2,272 m ³ /s
Type of dam	: Homogeneous Earth Fill Dam Height 43 m
Spillway	: 3 Spans of 12.0 m wide x 13.5 m high radial gate
Energy dissipator	: Ski-jump bucket

MAJOR STUDIES

Comprehensive model scale 1: 50

- ❖ Discharging capacity of spillway with full as well as with partial opening of gates
- ❖ Water surface and pressure profiles for entire range of discharges
- ❖ Performance of energy dissipation arrangement
- ❖ Flow conditions upstream and downstream of spillway



Original Design



Modified Design of Spillway Tail Channel

RESULTS

Original Design :

- ❖ Design discharge of 2,272 m³/s can be passed with a reservoir level much lower than the maximum water level El. 633.0 m.
- ❖ Pressures over the spillway surface and water surface profile throughout the spillway length and in the downstream reach were found in safe range.
- ❖ Return flows were observed on either side of tail channel after impingement of ski-jump jet at about 220 m downstream of dam axis. Hence, it was proposed to modify the design of tail channel.

Modified Design of spillway tail channel

- ❖ Smooth flow conditions were observed in the tail channel for all the discharges.