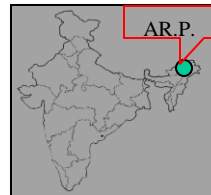




अनुसंधान के माध्यम से सेवा  
Service Through Research

# SUBANSIRI LOWER DAM SPILLWAY, ARUNACHAL PRADESH / ASSAM.



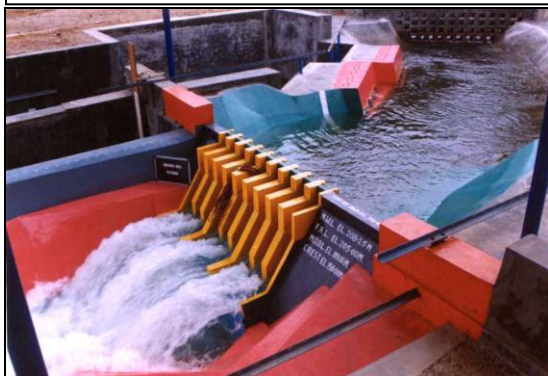
## SALIENT FEATURES

Location	: Dist. Lower Subansiri / Dhemaji ,
State	: Arunachal Pradesh / Assam
River	: Subansiri (a tributary of Brahmaputra River)
Power Generation	: 2000 MW
Maximum Discharge	: 35,000 m <sup>3</sup> /s
Type of dam	: Concrete Gravity Dam Height 133 m
Spillway	: 9 Spans of 11.5 m wide X 14 m high with breast wall
Energy dissipator	: Ski-jump bucket with pre-formed plunge pool

## MAJOR STUDIES

### Comprehensive model scale 1: 90

- ☺ Approach flow conditions upstream of spillway and power intake
- ☺ Assessment of discharging capacity & water surface elevations
- ☺ Performance of spillway and energy dissipator
- ☺ Layout of plunge pool and flow deflection arrangement in extreme bays



Original Design



Modified Design as per DDRP recommendations

## RESULTS

### Original Design :

- ☞ The maximum design discharge of 35,000 m<sup>3</sup>/s can be passed with a reservoir level much lower than the maximum water level El. 208.25 m.
- ☞ The flow conditions in the vicinity of power intake and spillway for entire range of reservoir water levels were tranquil.

**Technical Expert Committee** formed to review all aspects of Subansiri Project and recommended to form independent Dam Design review Panel (DDRP) to review some design features.

- ☞ Studies were carried out for modified layout of spillway. For effective energy dissipation, mode of spillway operation was suggested. End bays were provided with super elevation and deflection arrangement to deflect the jet towards plunge pool.
- ☞ It was suggested to increase the height of intermediate piers to accommodate the jet thickness.