

# ETALIN H.E. PROJECT (TANGON DAM SPILLWAY)

## ARUNACHAL PRADESH



### SALIENT FEATURES

Location	: Dibang Valley District
River	: Tangon
Power Generation	: 1235.4 MW
Maximum Discharge	: 10,218 m <sup>3</sup> /sec
Type of dam	: Concrete Gravity Dam
Height of dam	: 80 m
Spillway	: Sluice spillway of 6 Spans 7.9 m (W) x 14 m (H)
Energy dissipator	: Ski Jump Bucket



### MAJOR STUDIES

#### 1: 40 G.S. 2-D sectional model / 1:60 G.S. 3-D Comprehensive Model

- Approach flow conditions upstream of spillway and power intake
- Assessment of discharging capacity with full and partial gate openings , pressures and water profiles on spillway
- Performance of spillway and energy dissipator
- Assessment of Scour downstream of spillway



### RESULTS / RECOMMENDATIONS FROM MODEL STUDIES

- ✓ Several recommendations were made to improve the overall performance of spillway such as raising of bucket lip for auxiliary spillway, extension of divide walls up to the lip of the ski jump bucket, extension of plunge pool to the downstream based on water surface profiles and change in layout of power intake so as to avoid vortices and facilitate tranquil flow conditions in the vicinity of spillway and intake.
- ✓ Performance of the power intake was found to be satisfactory as no vortex formation was found in the vicinity of power intake.
- ✓ Discharging capacity found to be adequate with one span inoperative.
- ✓ Performance of Ski Jump Bucket found to be satisfactory for entire range of discharges.