HYDRAULIC MODEL STUDIES FOR
SALMA DAM SPILLWAY, AFGHANISTAN

SALIENT FEATURES OF THE PROJECT

Location : Herat province, Afghanistan
River : Hari rud
Type of dam : Earth and rock fill dam, 107.5 m high
Maximum discharge : 2100 cumec
Overflow Spillway : 3 spans of 8 m (W) X 11.17 m (H)
Energy dissipator : Ski jump bucket with plunge pool
Multi Purpose : 42 MW Power Gen., 75000 Ha. Irrigation

RECOMMENDATIONS FROM MODEL STUDIES AT CWPRS

Adequacy of spillway capacity to pass design discharge was ensured
Approach flow conditions were improved by provision of guide walls
Design of spillway crest profile safe from cavitation damage
Optimization of design of ski jump bucket
Uniform distribution of flow along spillway chute for selective operation of gates by incorporating divide walls.
Improvement of flow conditions downstream of spillway by incorporation of deflector on the right side of ski jump bucket
Optimization of design of Plunge pool and downstream protection works
Optimization of irrigation sluice tunnel by providing ramp and eye brow at the roof of exit portal to improve pressures

ACHIEVEMENTS

❖ Salma Dam, also known as the Herat dam, is a landmark infrastructure project fully aided by Indian government on river Hari rud for irrigation, power generation and other benefits to the people of Afghanistan.

❖ Dam will stimulate Afghan agriculture and provide a fillip to its nascent industry.

❖ In a landmark move, PM Shri Narendra Modi jointly inaugurated the Afghan-India Friendship Dam (Salma Dam) with Afghanistan President Ashraf Ghani on 4th June 2016.