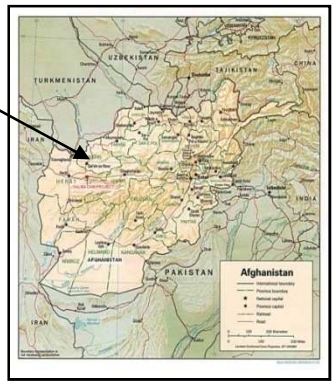
HYDRAULIC MODEL STUDIES FOR

SALMA DAM SPILLWAY, AFGHANISTAN

CENTRAL WATER AND POWER RESEARCH STATION
PUNE - 411 024 , INDIA.

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 presures

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.