CENTRAL WATER AND POWER RESEARCH STATION
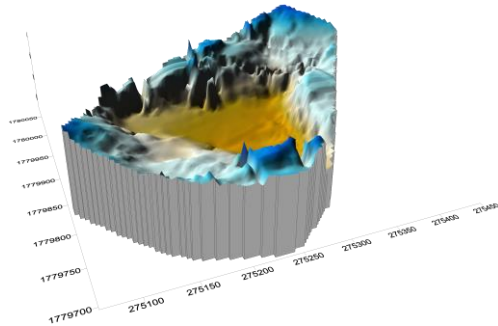
Bathymetry Survey of the Plunge Pool area and Extraction of Profiles of the Plunge Pool bottom of Srisailam Dam, A.P.

STUDY OVERVIEW

CWPRS, Pune, conducted the study of Bathymetry survey of Plunge pool area of the Srisailam Dam, A.P. using Integrated Bathymetry System (IBS) consisting of echo-sounder, DGPS with real time data acquisition system. The objective of the study was to find the maximum depth of the Plunge pool and its location, extraction of depth profile of existing plunge pool and latest bathymetry of the plunge pool area.

Plunge Pool of Srisailam dam

3-D Surface map of Plunge pool

APPROACH

CWPRS team carried out the Bathymetry survey of the Plunge pool of Srisailam Dam, A.P. The survey was carried out with a motorized boat equipped with the Single Beam dual frequency Echo-Sounder (210 Khz and 33 Khz), Mobile GPS system with MSK Beacon receiver mounted on board and a laptop computer. The EIVA survey software is used for fixing of grid lines and interfacing of bathymetry equipment and GPS by logging the data i.e. boat location (x, y) and water depth (z) values. Boat navigation is also controlled by the software, so that boat tracks the grid line accurately. The whole plunge pool area was divided into grid lines at an interval of 25 m grid and the data was logged on these grid lines to cover the entire plunge pool area.

KEY FINDING

The survey data was processed and analyzed using various processing software such as, EIVA, HECRAS, Surfer and AUTOCAD. The results of the analyzed data such as Digital Elevation Map (DEM), contours, cross-section profiles, 3-D surface map etc., are compiled and a detailed Technical report is prepared.

OUTCOME

The maximum depths, latest bathymetry of plunge pool area and depth contour of one meter were drawn. This is one of the studies among various studies entrusted to CWPRS, as a part to evolve methodology for filling of the plunge pool portion formed on downstream side of Srisailam dam or Neelam Sanjeeva Reddy Sagar Srisailam Project (NSRSSP).