CENTRAL WATER AND POWER RESEARCH STATION

HYDRODYNAMICS AND OPTIMIZATION OF DREDGED DISPOSAL LOCATION FOR THE PROPOSED PORT AT MACHILIPATNAM, KRISHNA DISTRICT, ANDHRA PRADESH

STUDY OVERVIEW

The scope of this study encompasses a detailed evaluation to validate the dredge disposal location proposed by the PA and recommend a suitable location, if possible in a grid form, for dredged disposal location for the proposed Machilipatnam Port, Krishna District, Andhra Pradesh.

APPROACH

- The mathematical model studies were carried out using MIKE 21 software with Flexible Mesh. The flexible mesh is considered as suitable for near-shore region with undulated coastline. The hydrodynamic model was calibrated with the data provided by the PA.
- The 2-dimensional hydrodynamic model MIKE 21 HD, Flexible Mesh is used for simulating the flow field in the model domain and MIKE 21 MT for the sediment transport studies in the existing and the proposed scenario under prevailing tidal and wave conditions.

IMPACT/SIGNIFICANCE/OUTCOME

The study identifies a suitable dumping location in the form of a grid size 3 km x 6 km (D1-D4) is recommended at the location D1-D4.

KEY FINDINGS

Adopting alternate dumping in the sub-domains of D1-D4 (**D1 – 551123 E, 1782600 N; D2 – 555030 E, 1778053 N; D3 – 552694 E, 1776078 N; D4 – 548829 E 1780667 N**) would be wise to reduce the adverse impact of dumping. The dumping location D1-D4 is shown in Fig.