

## STUDIES FOR SHIP MANOEUVERING USING NAVIGA

### Description

Simulates approach and departure maneuver with the help of a mathematical auto-pilot in a waterway under the action of wind, waves & currents

### Applications

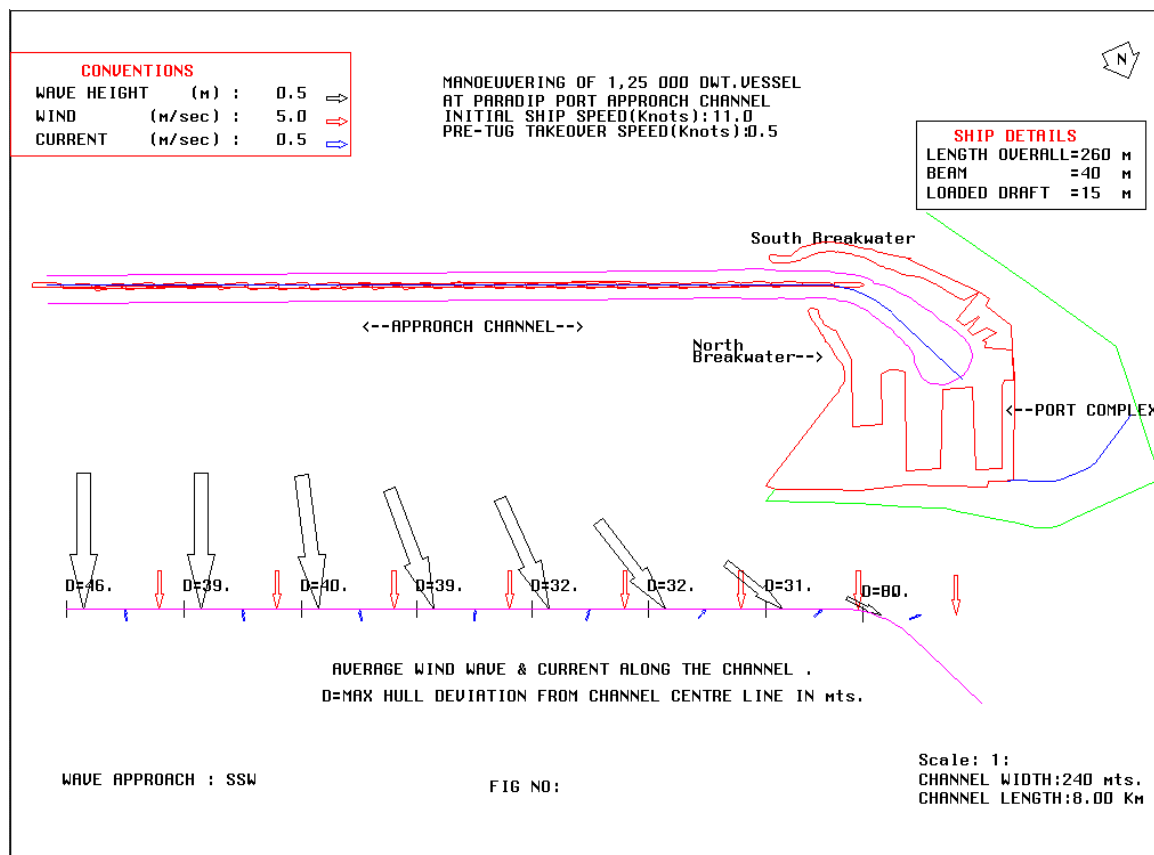
- Optimization of approach channel width
- Determination of best alignment of channel
- Ascertaining the navigability of channel
- Identification of limiting climatic conditions for safe manoeuvring
- Determination of safe manoeuvring speed



### Studies Conducted

Manoeuvring studies : Car carriers at JNPT; passenger ship to direct landing facility at Kavarathi; general cargo ships at Pondicherry and Cuddalore; LPG carriers for port of Hazira; bulk carriers at M/s Sanghi Cements, Gujarat; ore carriers at Mirya bay, Ratnagiri; container ships in JNPT channel for entry point modification.

Adequacy of approach channel : Cochin port for 125000 cum LNG tankers; Paradip port; Baina bay, Goa; Ennore port.



Manoeuvring of Ore Carrier at Paradip Port





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