

An aerial view of an offshore wind turbine installation site in the Netherlands. The scene shows several large red and white service vessels (jack-up rigs) positioned around a central yellow and red structure, likely a wind turbine foundation or transition piece. Several yellow marker buoys are visible in the blue sea. The sky is clear and blue.

Nautical safety of wind turbine farms offshore Netherlands

Ton Bos, *HMC*

The Art of Transport and Installation Engineering

by

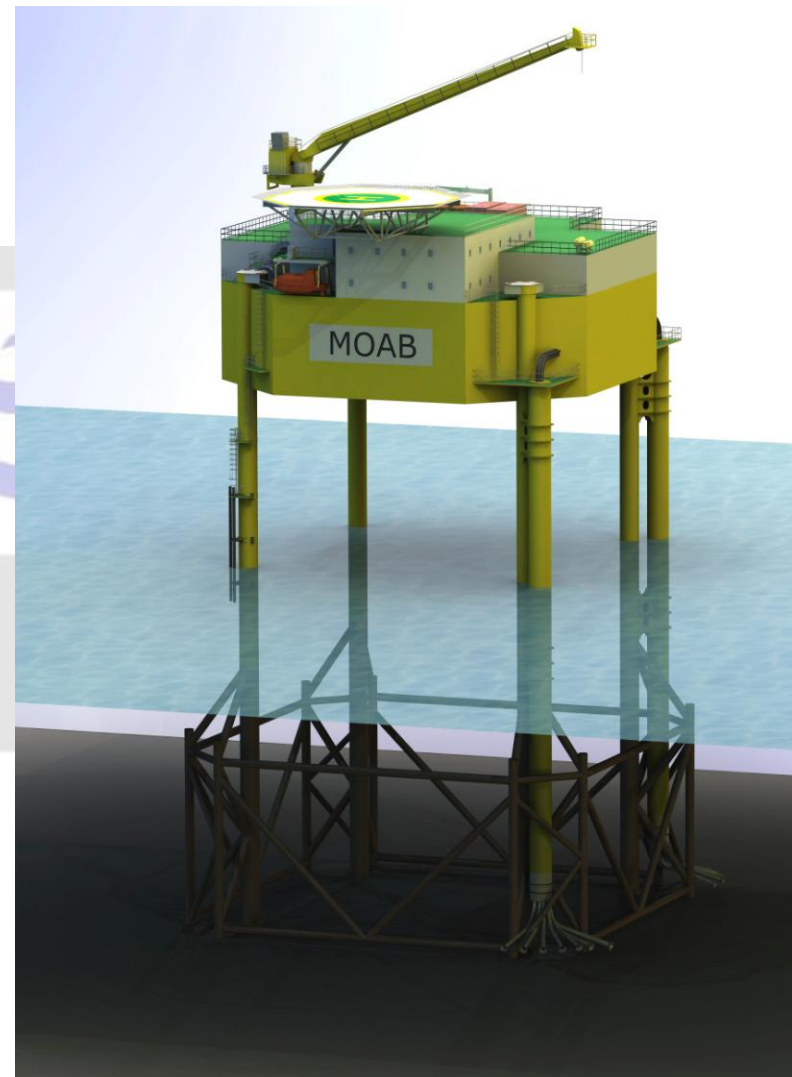
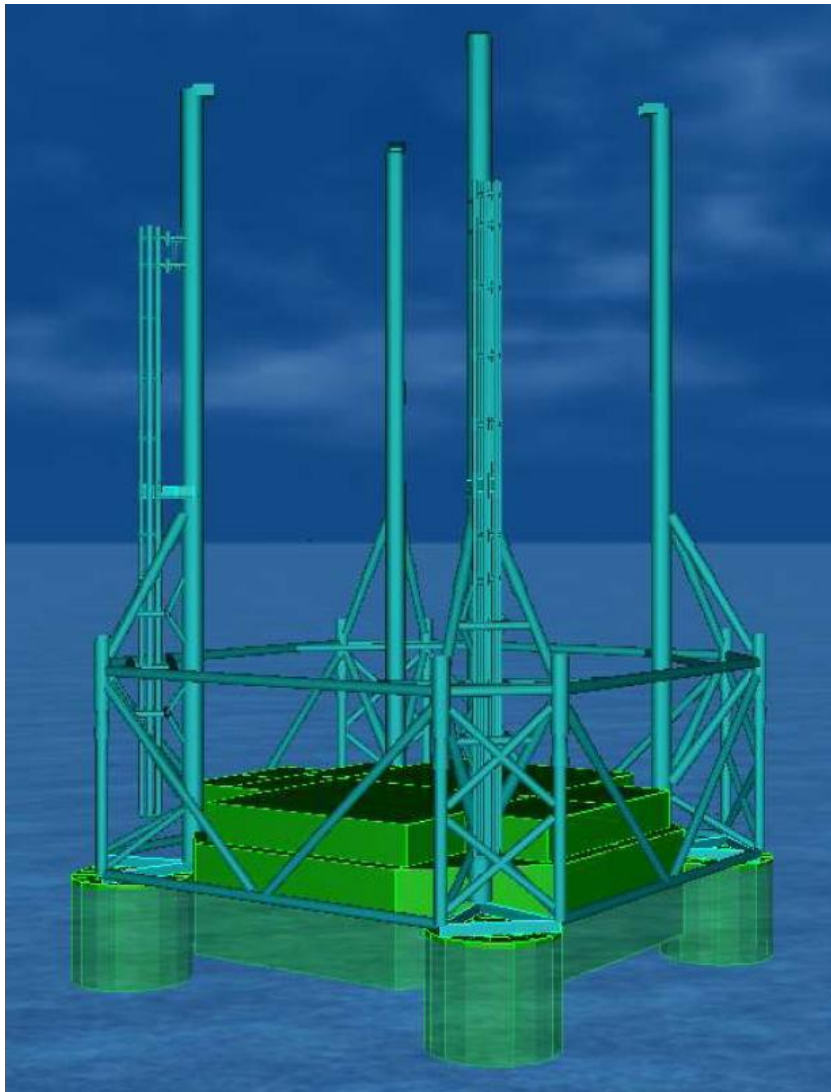
The Dutch Leading Offshore Engineering Company

Contents

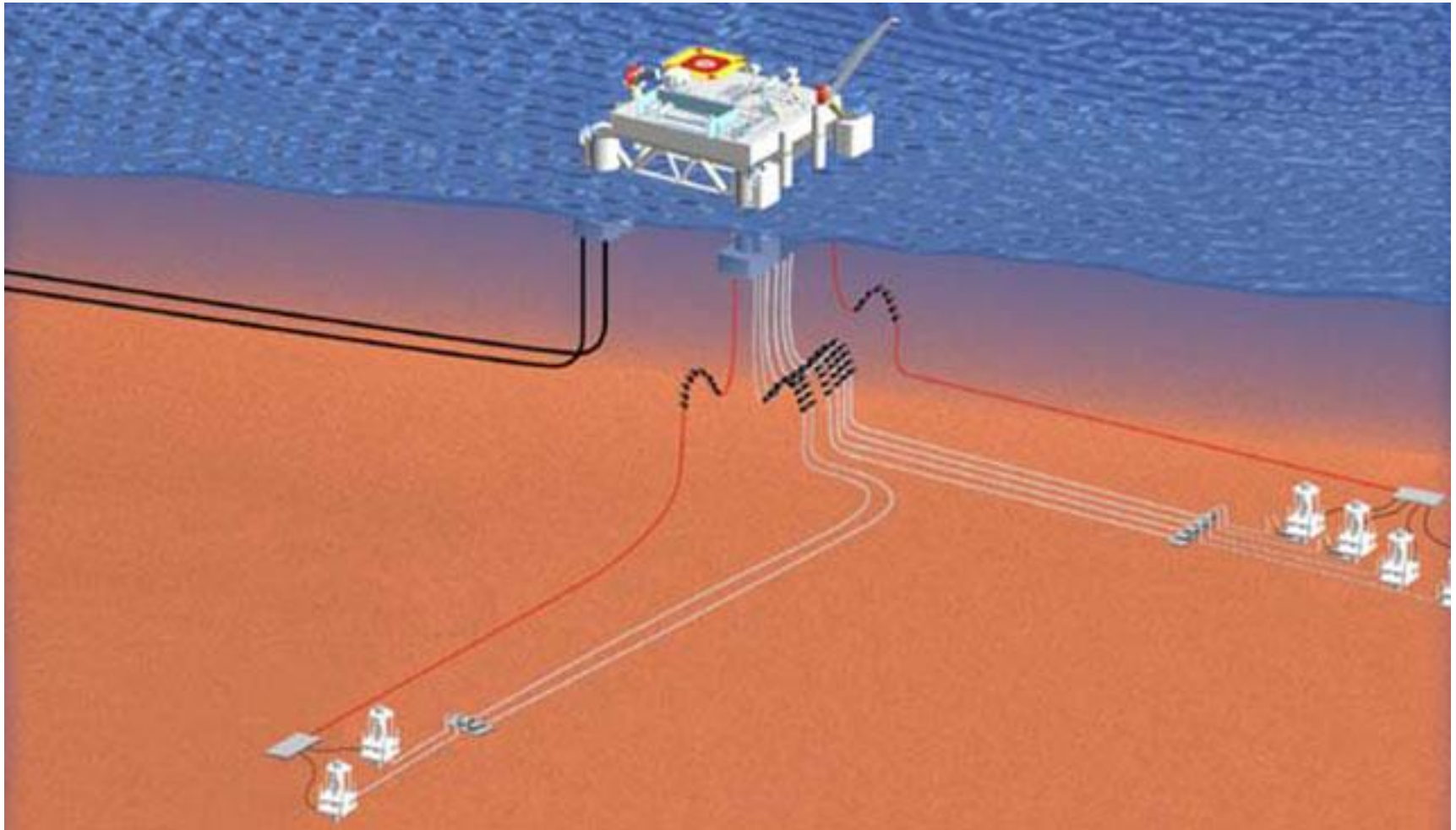
- Mobile Offshore Application Barge (MOAB) for German wind turbine farm
- Risk analyses wind turbine farm
- Nautical safety continental shelves (North West Europe)
- Multi functional Offshore support vessel



Mobile Offshore Application Barge (MOAB)



Mobile Offshore Application Barge (MOAB)



Mobile Offshore Application Barge (MOAB)



Risk analyses wind turbine farm

Expert opinion as regards the probability of accidents in vicinity of Wind Turbine Parks

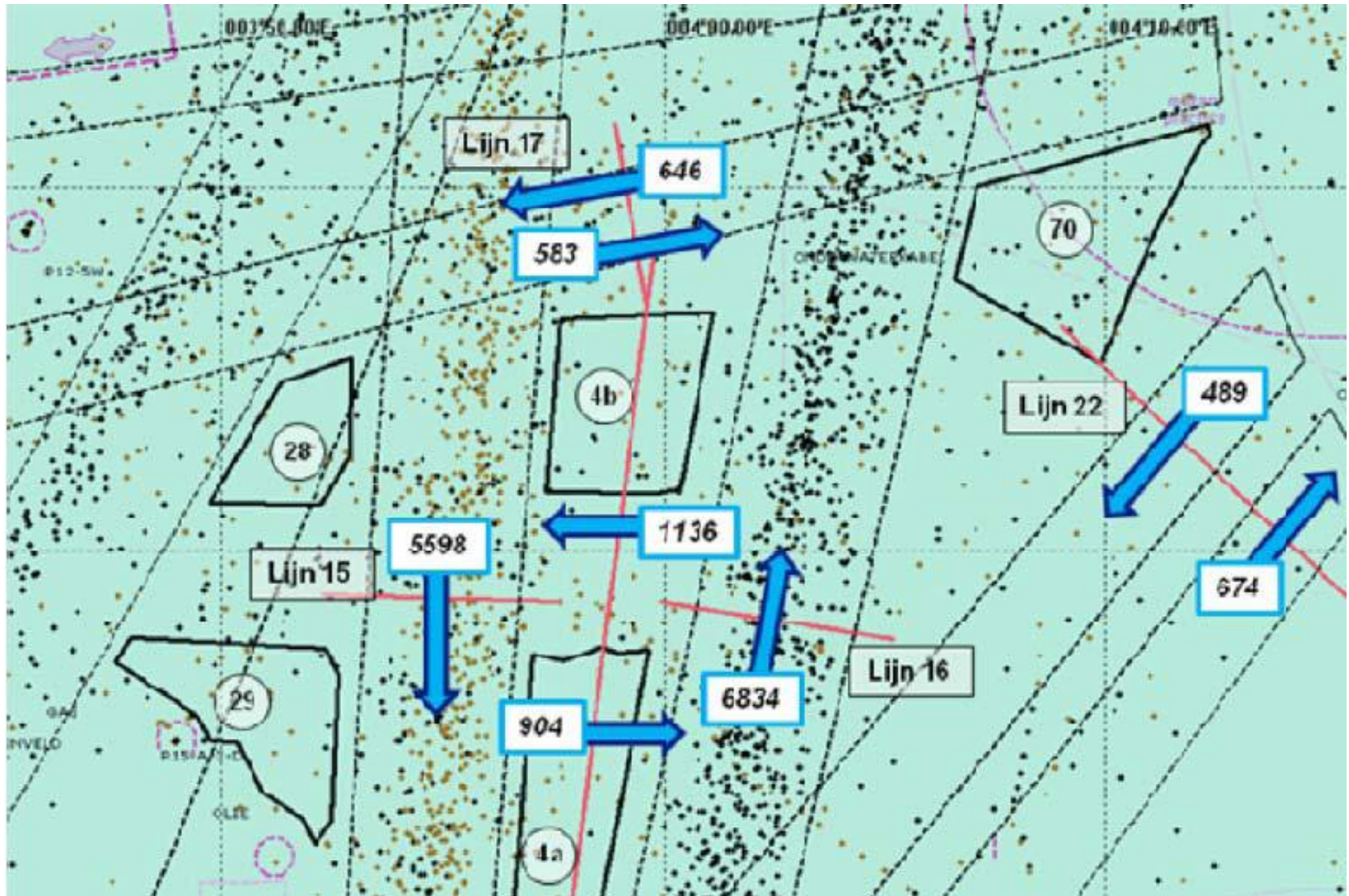
- MANOEUVRING DISTANCES BASED ON THE INTERNATIONAL STARTING POINT OF SHIP DESIGN
- PROBABILITY OF COLLISIONS
 - Shipping traffic intensity
 - Shipping safety and methodology
 - Relative increase of the probability of failure with respect to the present situation
 - Present situation estimation of the upper limit
 - Example of the present situation versus the new, planned situation
 - Upper limit of the probability of collision
 - Cumulative probability of the various formations

Risk analyses wind turbine farm

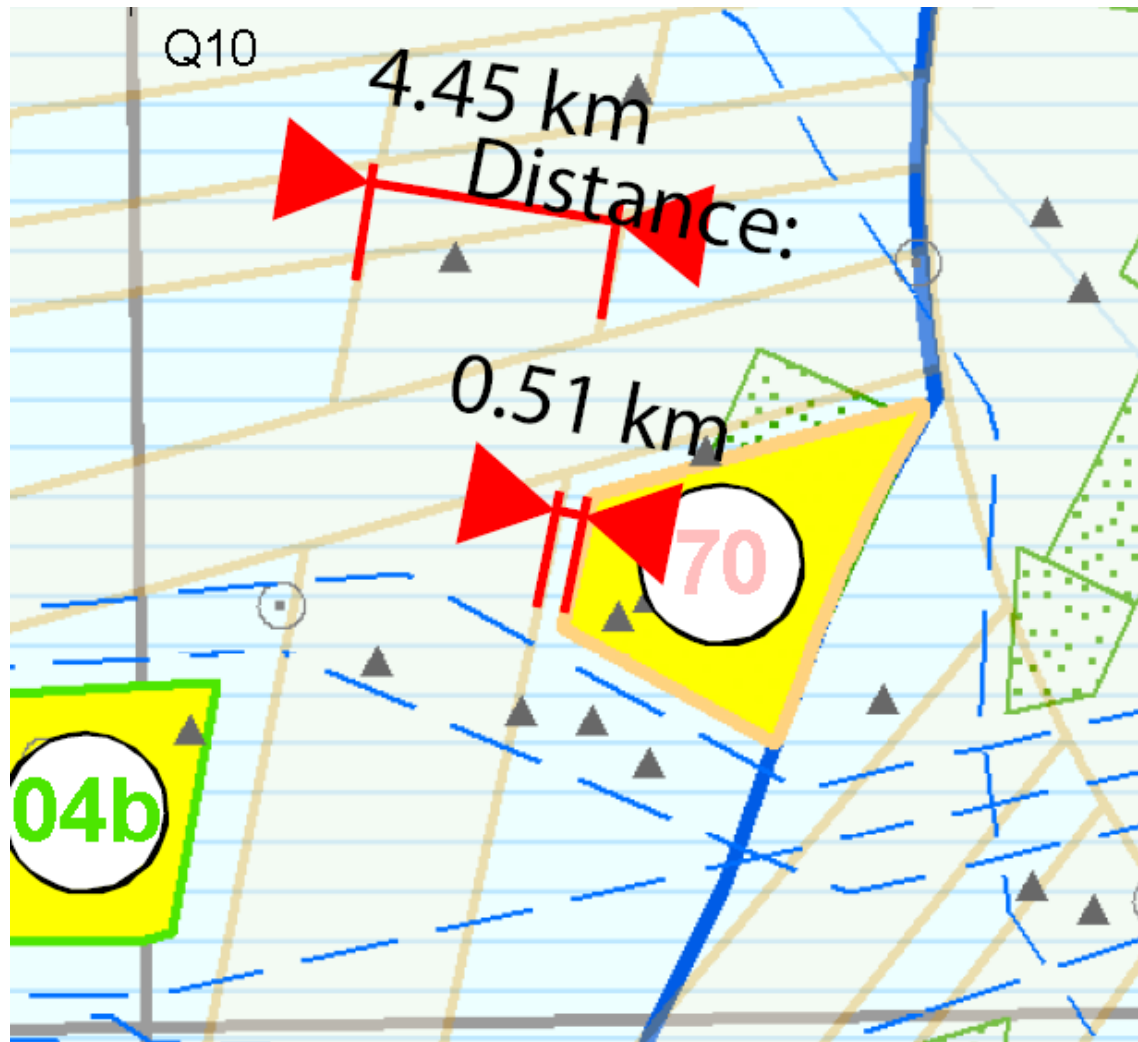
Expert opinion as regards the probability of accidents in vicinity of Wind Turbine Parks

- OTHER ASPECTS SHIPPING SAFETY AND WIND PARK
 - Proper seamanship
 - Probability of a black out
 - Drifting during a black out
 - Radar and visual observation
 - Probability of collision with Shipping Safety measure
- MITIGATING MEASURES

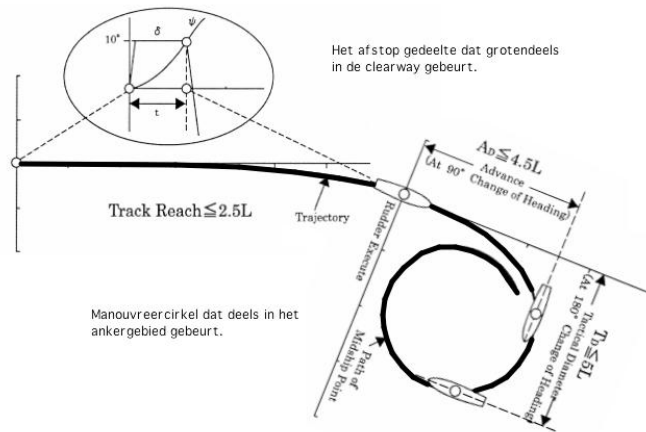
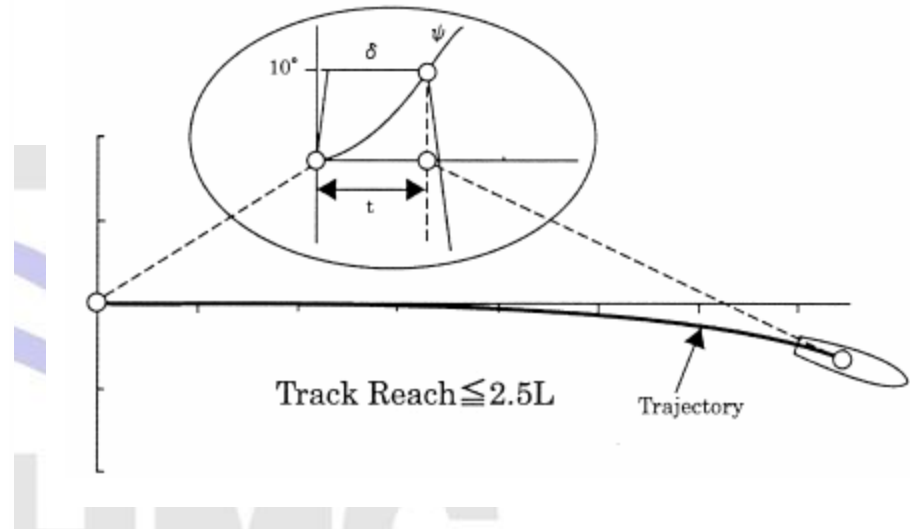
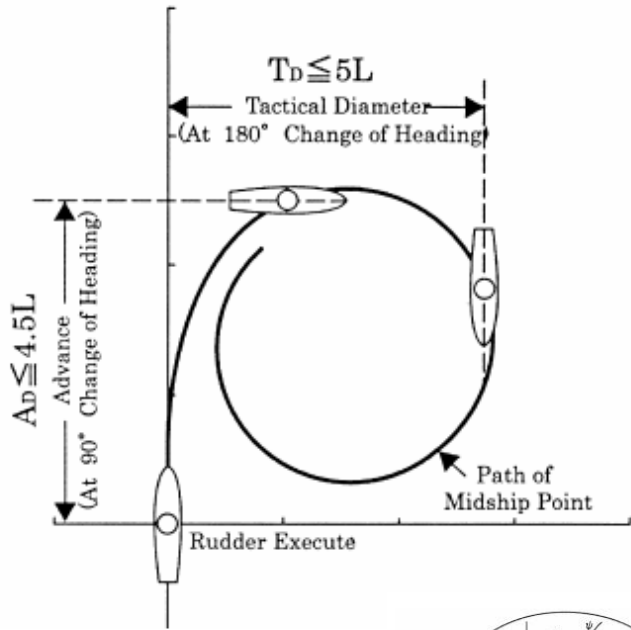
Risk analyses wind turbine farm



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Risk analyses wind turbine farm



JU Vessels



MS Bestevaer Multi functional Offshore support vessel

