

Oil Spill Prevention from Ship Wrecks



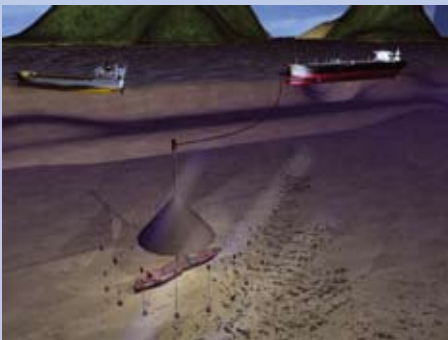
DIFIS - Double Inverted Funnel for the Intervention on Ship wrecks

Project scope

The scope of the European research project DIFIS is the study, design and validation of an EU reference method for the prompt and cost-effective intervention on ship wrecks, able to deal with oil leaking from wrecks even at very large water depths.

The DIFIS system

The envisaged solution relies on gravitational forces to channel the flux of spilt fuel towards the surface. This is achieved by means of a light, deployable flexible structure that should stay in place until all tanks of the wrecks are emptied and the pollution threat is eliminated. The leaking fuel is collected by a kind of inverted funnel, consisting of fabric dome, solidly anchored around and covering the wreck. The collected fuel is channelled, through a long, flexible riser tube (diameter 2,0 m) up to a buffer bell, acting as a separator



and reservoir, located 30-50m below the sea surface, where it is not affected by rough weather. A shuttle tanker is used for periodical offloading of the collected fuel and transport to shore.

Project approach

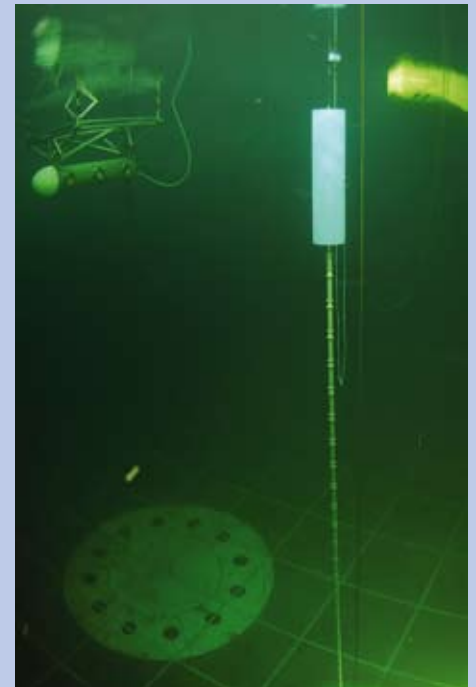
The project is carried out by a consortium of 8 participants, each with their own field of expertise. The Maritime Research Institute Netherlands (MARIN) is the project coordinator. The European Commission's JRC, at the origin of the project, is involved as a scientific and technical advisor.

The total budget is 3.2 M€, of which 1.8 M€ is funded by the European Commission.

Schedule and expected results
The DIFIS project had its kick-off in September 2005 and has a total duration of 3 years.

Design of main parts of the system was achieved in 2009. Concept verification was undertaken. The first task has concerned multi-phase (oil water mixture) time-domain flow calculations and system stability.

Two sets of hydrodynamic scale model tests were performed at the MARIN basin, first one confirming system's behaviour in various weather



conditions, and second series focused on several aspects related to the system deployment.

In connection with the work of definitive design, deployment and operational procedures were carried out, verified and illustrated by kinematics simulations.

Finally, in 2009, economical and logistic aspects will be taken into account.

Contact

More information can be found at <http://www.difis.eu>, or contact :

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