Press report
8 March 2007

MARIN Investigates System for the Prevention of Environmental Disasters

The Maritime Research Institute Netherlands (MARIN) is actively involved in the European research project DIFIS ("Double Inverted Funnel for the Intervention on Shipwrecks). The intended purpose of this project is the development of a cheap and flexible system to remove oil from shipwrecks, even when the wreck is located in very deep waters. By applying the DIFIS-system, in case of a naval disaster it is possible to prevent oil from spilling into sea. Major environmental disasters, like the sinking of the tankers Prestige (2002) and Erika (1999), can thus be prevented.

The DIFIS project had its kick-off in September 2005 and will last for 3 years. The total budget is €3.1 m, €1.8 m of which is financed by the European Communion, within the 6th Frame Programme (Project Reference FP6-516306 "DIFIS"). In all 8 participants, companies from The Netherlands, France, Spain, Belgium and Greece take part in the project.

The DIFIS system consists of a *Dome*, a *Riser Tube* and a *Buffer Bell*. The whole construction is light, consists of flexible components and can be applied in water depths up to 4,000 m. The cone-shaped *Dome* is made of a light fabric material and is placed over the shipwreck. The oil leaking from the wreck is assembled under the *Dome* and is led upwards through the *Riser Tube*. The leaking oil does not reach the water surface, but is kept inside the *Buffer Bell*. This cylinder-shaped *Buffer Bell* is placed 30 to 50 m under water, so that it is not influenced by heavy weather conditions at the surface. The *Buffer Bell* contemporarily stores the oil and is regularly emptied by a vessel especially equipped for this purpose. The DIFIS system is not removed until the wreck is completely cleared of oil, and there is no longer a risk for the environment.

At present MARIN is carrying out model tests in one of the test basins in order to investigate the feasibility of this newly developed system. The system's behaviour is tested on model scale in various weather conditions (wind, waves and current), also including heavy weather conditions. The whole unique DIFIS concept (on model scale) can now be seen in a demonstration in MARIN's Offshore Basin on 12 March at 14:00 hrs. Representatives of the Participants will also be present during the tests.

The first preliminary designs of the system are ready. The results of the model tests carried out at MARIN will be implemented in the final plans of the system. In the coming eighteen months the DIFIS project will further develop procedures for the installation and inspection of the system. Furthermore, economical and logistic aspects will be taken into account. In October 2007 MARIN will carry out a second series of model tests, more closely investigating the installation of the system.

MARIN
MARIN, the Maritime Research Institute Netherlands, has been an independent and innovative service provider for the maritime industry and a contributor to the well being of society, since 1932. The services incorporate a unique combination of simulation, model testing, full-scale measurements and training programmes. MARIN provides services to the shipbuilding and

offshore industry and governments. Customers include commercial ship builders, fleet owners, naval architects, classification societies, oil and LNG companies and navies, the world over.

MARIN is always strengthening the link between academic research and market needs. Through this, continuous synergy with the maritime industry is guaranteed. To fulfil its hydrodynamic research services, MARIN has an exceptional range of computer simulations, model testing, full-scale measurements and training facilities.

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