DeepWater Horizon spill gives rise to OSR vessel surge

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The recent DeepWater Horizon incident has brought into sharp focus the requirement for current, up to date contingency planning, the correct mix of anti-pollution equipment and well practised recovery techniques and crews. Across the globe, this focus has promoted planning, gap analysis, training and a wide range of equipment orders, from the very basic boom to complete oil spill response vessels (OSR vessels).

On the latter, organisations have been looking for vessels that can undertake a wide variety of anti-pollution activities and also be an effective multi-role craft outside the OSR operations. The requirements are for simple, robust and reliable boats with a variety of features that can withstand the rigours of the marine environment. Typically, many companies now prefer and opt for steel built boats because they can withstand the everyday bruising of multi-role operations better than other, lighter material builds. In addition, steel can be easily repaired without the need for specialist equipment or skills, making it ideal for remote operations.

Wide and open platform

Due to the variety of roles the vessel will be called upon to perform, catamaran hulls have edged to the forefront of the standard design and build. Catamarans can offer the beam and stability demanded in both OSR activities and multi-roles. For example, the vessel should be able to deploy and recover a wide range of boom systems. Ideally, this should also be from the stern of the boat, offering a stable, wide and open platform. Other requirements include, but are not limited to integral or built-in skimming systems; dispersant spraying; debris collection; the operation of other OSR equipment; onboard oil or chemical storage; a jib crane for general lifting duties, and propulsion systems that are not overly burdened by electronics.

The Pollcats

The range of DESMI Ro-Clean Pollcats (POLLution - CATamarans) has been specifically designed and manufactured to meet the above demands. With a range of steel boats from 10 meters to 24 meters in length, the Pollcats offer a variety of platforms which can be custom outfitted as required.

By utilising the catamaran hull, DESMI has integrated a dynamic rope mop oil recovery system that can be raised and lowered between the hulls. This feature allows for the vessel to travel up to five knots while maintaining near zero relative velocity between the rope mops and the water. Typical boom or cusp recovery systems are restricted to below one knot recovery speeds, which can be easily upset by currents, tides, and even the speed of the vessel at tickover on the main engines. The DESMI mop system overcomes these issues and can operate at a claimed five times the speed of conventional OSR vessels.

The recovered pollutant can be stored in the high capacity tanks mounted in each hull. The tanks are linked and an onboard, positive displacement pump allows for tank to tank and ship to ship operations. The Pollcats can also carry a quantity of DESMI Ro-Clean temporary storage tanks which can be deployed, filled and marked ready for other vessels to recover, allowing the Pollcat to remain on station. The DESMI Ro-Clean Pollcat is usually fitted with 6.5 meter dispersant spray arms with in-built pumps

A Pollcat at sea.

The command center and bridge of a typical Pollcat.

and dispersant tanks. This allows the operator to use either neat or dilute dispersant and deploy over an impressive swath. The system can be operational within minutes, making a quick, first response a reality where dispersant use is approved.

Below decks, the Pollcat is offered with Doosan diesels as standard, with power ratings up to 480 horsepower. With an engine in each hull, the owner has choices of operational modes. In addition, a 160 horsepower diesel driven hydraulic power pack not only powers the unique mop system but the jib crane and capstan. Sufficient capacity is available to power other skimmers, pumps and booms through deck connections controlled either through a bridge mounted console or by a remote unit also mounted on deck. The Pollcat bridge is mounted some 2.5 meters above the deck, making for an excellent command center during all activities. The Pollcat can also recover surface debris. By lowering a discreet debris basket sitting below deck and between the hulls, the vessel can simply scoop and recover into the basket. The latter can be emptied and positioned by the onboard jib crane.

The future

DESMI Ro-Clean has delivered five vessels to destinations as diverse as West Africa and South America. Despite the disaster, Deepwater Horizon has produced some positive effects. It has returned focus sharply toward oil spills, on everything from planning and equipment to disposal and logistics. The industry as a whole has enjoyed something of a revival, with the importance of having the correct range and combination of robust and reliable equipment systems available greater now than it ever was.

One of the 360HP, 6 cylinder main engine powering the Pollcat.

Looking forward, DESMI Ro-Clean is hoping to expand its market even further. Innovations over the last 18 months include single point boom inflation through the reel, a speed sweeping system using the Ro-Boom containment boom, an offshore umbilical skimming system, and the Arctic Range designs. There are intended specifically for the environmentally harsh but ecologically delicate polar climates. Listening to its clients, DESMI continues this train of smart engineering as well as supplying clients with custom products where appropriate. With this, over the next few years, DESMI are moving to the next level in which they will promote all the products, services and segments that sit under the DESMI name.

ABOUT THE AUTHOR

Andrew Nash is a qualified Mechanical Engineer and holds a Diploma in Management Studies. He has been involved in the design and specification of equipment, including pumps and oil spill equipment to the oil and gas market for over 30 years. Andrew also has vast experience in the overseas markets. He has lived in South Africa, Saudi Arabia and the UAE. While overseas, Andrew also qualified as a rescue diver where his interest with the environment began.

ABOUT THE COMPANY

DESMI Oil Spill Response has a pedigree that can be traced back to over 180 years of operation and is the proven and trusted product of the industry. Weather the requirement is for the offshore or the shoreline area; the arctic or equatorial environment. DESMI Oil Spill Response Equipment delivers proven solutions including oil spill recovery vessels, for all spill conditions.

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