

Current Meter Trials Reveal Best Solution for Port Monitoring

Working with NOAA's CO-OPS Division (Center for Operational Oceanographic Products and Services), Fugro GEOS has just completed a study comparing two current monitoring devices near the Freeport Entrance Channel in Texas.

The study focused on the comparison of a traditional seabed-mounted current meter and a buoy-mounted device. It was undertaken alongside a program to obtain profiles of current speed and direction for Freeport LNG Development LP, which is designing and constructing an LNG receiving terminal at Freeport, Texas.

Current measurement solutions are important to the Port of Freeport, as it plans to install a real-time current monitoring system off the port entrance to assist pilots bringing in ships. When the LNG receiving terminal is built, the volume and size of vessels entering and leaving the port will increase and an understanding of currents around the channel will be critical for the safe navigation of vessels. A real-time solution will also assist the Port's decisions about vessel admission at night (which is not possible currently) and this will improve port efficiency by maximising tonnage.

Initially, Fugro GEOS installed an RDI Workhorse Acoustic Doppler Current Profiler (ADCP) seabed mooring to obtain vertical profiles of current speed and direction during a six-month period from November 2003 to April 2004. This period had been chosen to cover the most severe conditions, outside of tropical cyclones. There are a number of limitations with this configuration for a permanent system, including the relatively high costs to install and maintain the mooring and cable, with divers often required, and the risk of damage to which the cable is exposed. If the frame is too light in weight, strong currents may move it, but if it is too heavy, it can be prone to sinking. Burial or cover by fine sediments can also be a problem.

This trial project has involved close cooperation and partnership between the Government, Industry, the Brazos Pilots Association and the US Coast Guard. Fugro GEOS and NOAA hope to continue their collaboration efforts in the future to further refine the Clamparatus system. The full results of the trial will be published and available at a later date.

<https://www.hydro-international.com/content/news/current-meter-trials-reveal-best-solution-for-port-monitoring>
