

Oceanengineering develops and delivers rig-based acoustic doppler current profiler (ADCP)

Integrated rig services save operator costs



In November 2017, a customer operating in the U.S. Gulf of Mexico approached Oceanengineering for additional rig-based services as we were the incumbent ROV provider and were already providing remotely operated survey (ROS) services through our survey services business unit. The customer needed to meet the Bureau of Safety and Environmental Enforcement (BSEE) requirement for provision of current monitoring data, and requested that Oceanengineering develop an appropriate, rig-based acoustic doppler current profiler (ADCP).

Issues

Pursuant to BSEE regulations, lessees must consider the environmental conditions at all floating platforms and mobile offshore drilling unit (MODU) locations in water depths greater than 400 meters (1,312 feet). This data is used for planning, operating, and designing MODUs, platforms, and risers, for fatigue evaluation, and to allow for tracking of loop and eddy currents.

Traditionally, customers have used multiple vendors and contractors to complete varied

rig services. More frequently, however, customers want to integrate services under a single contract as much as is practicable. This reduces the administrative burden of handling multiple contracts.

The Oceaneering Solution

Oceaneering Survey Services designed, sourced, and managed the rig-based ADCP system. The system consists of an over-the-side deployment frame, air-tugger winches, the current monitoring sensor, and a processing and display computer. Additional



services were also added to the scope to ensure compliance with NTL 2009-G02-Ocean Current Monitoring.

Execution Plan

In this particular case, the customer requested we mobilize ADCP systems on three rigs. Oceaneering committed to a six to eight week turnaround of delivery of the fully-operational systems. The customer was tasked with removing existing contractor-provided set-ups. The Oceaneering scope of work included:

1. Acquiring current setup of deployment frame, engineering drawings, and interfacing details from all three rigs.
2. Creating new, site-specific engineering drawings, per client requests/needs.
3. Achieving customer approval of the installation plan which included frame design, power, and interface specifications.
4. Fabricating deployment frames.
5. Completing land-based factory acceptance testing (FAT) prior to shipping.
6. Mobilizing the ADCP systems and installation technicians.
7. Conducting on-site ROV personnel training for system launch and recovery operations.
8. Managing reports to the National Data Buoy Center (NDBC) as the rig moves and deploys the ADCP system.

Challenges

The primary challenge was to meet the customer's tight deadline given that we were developing the system from scratch.

Results

We delivered the ADCP systems safely and on time. The customer was able to benefit from an integrated solution provided under a single contract and using a single point of contact that bundled ROV services, ROS, and the ADCP system.

As the ROV personnel are trained to complete launch and recovery operations and basic troubleshooting, the customer also benefited from the systems' requirement for no additional personnel. The ADCP system also includes additional safety features that are added to the deployment system and eliminated the need to interface bridge or dynamic positioning and heading feeds. The system is operated remotely and current meter data is uploaded to the National Oceanic and Atmospheric Administration (NOAA) National Data Buoy Center (NDBC) website every 10 minutes when deployed.