Offshore

New remote monitoring tool commissioned for integrity management

With the threat of an active hurricane season and the anniversaries of hurricanes Katrina and Rita approaching, offshore operators and owners have a new tool available to help protect, monitor, and restore equipment damaged by violent storms. This Texas-pioneered tool is a remote monitoring system called RigStat.

The prototype for the system was commissioned on a semisubmersible drilling rig prior to the start of the 2005 storm season. Nearly every month during the season, a storm necessitated the evacuation of the rig and a focus on the unit's critical operating components. Hurricane Katrina skirted approximately 90 mi (145 km) to the east of the rig; Rita's path proceeded directly over it.

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During Rita, the prototype system measured and logged the rig's locations, rig tilt, and wind speeds (winds were in excess of 130 mi/hr [209 km/hr] for over five hours). The archived sensor data was communicated and rig location plotted, assisting the client in its practice of integrity management.

"The RigStat system is specifically designed with durability and staying power in mind," explains Russel L. Roy, president of RigStat LP. "It can operate during an entire storm event on its own batteries. It has redundant power supplies, tilt, weather, and wave height sensors, data storage, and many are equipped with anchor tension interfaces. We want our clients to know the condition of each of their offshore assets long before the first plane or helicopter takes off for inspection. RigStat allows operators to allocate resources needed to return a production platform or drilling rig to operational condition sooner. That saves our clients money."

Application

Noble Corp. has installed customized RigStat systems on all of its semisubmersible rigs in the Gulf of Mexico. This allows the company to closely monitor the effects of major storms on its drilling and marine systems offshore. "During any major storm event, we monitor the condition of our offshore assets at all times," says Mark Burns, vice president, US Gulf of Mexico, Noble Corp. "With RigStat, we can stay in communication with the rig and better understand the effects of key environmental loading factors, including wind speed, wave height, and associated anchor wire tensions."

RigStat can be used anywhere in the world with low Earth orbit satellites, Inmarsat, and other communication systems. Each system processes and transmits information from monitors to onshore servers. Authorized personnel can access information on all their offshore equipment through a secure, dedicated website. Platforms and other drilling sites are displayed on a map with their positions shown relative to tropical storm and hurricane tracking, other offshore sites, pipelines, and underwater navigational hazards.

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One of the critical benefits of these systems is the ability to continuously operate on a standalone basis when offshore sites and equipment are shut in and evacuated to avoid the threat of an impending storm, the company says. If damage occurs, the operator is able to examine electronic instrumentation and review footage shot by on-site cameras, which streamlines the decision to deploy restoration and construction equipment and personnel.

The offshore energy industry is moving toward more detailed information delivery to internal company departments and government agencies. RigStat is positioned to transmit non-proprietary information to Mineral Management Service, the US Coast Guard, NOAA, and other governmental agencies. Since the system can interface with hundreds of sensors and data streams, internal departments can access operational data across a variety of disparate systems. Users can also receive customized feeds based on predetermined conditions, the company says.

To learn more, visit www.rigstat.com

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