

# Reassessing and Addressing Post-Katrina Offshore Risks

**IT'S A NEW WORLD FOR OIL AND GAS EXPLORATION** and production operations and the companies that insure these risks. Since Hurricanes Katrina, Rita, and Wilma wreaked havoc on offshore energy facilities, the risks of operating offshore in the Gulf of Mexico are being viewed in a new light—and managed with unprecedented rigor by all parties involved.

## The Harsh Reality

Losses to the offshore oil and gas industry from Katrina alone are estimated at about \$5 billion. This includes losses to the OIL group of insurance companies—essentially a mutual insurance company for the industry, made up of Oil Insurance Limited, Oil Casualty Insurance Ltd., and sEnergy Insurance Ltd.—and to the commercial insurance market, as well as assured retention losses. It's not just the magnitude of the recent storm losses that's driving risk management to new heights. There is also the recognition that more tough times may be inevitable.

Since 1995, there has been a marked increase in the number and intensity of North Atlantic hurricanes. Climate experts point to that year as the onset of a period of heightened hurricane activity that they expect will last for decades. Indeed, in 2004 and 2005, eight U.S. hurricanes that made landfall caused insured losses to Gulf of Mexico oil and gas assets.

Current design and mooring standards for the mobile offshore drilling units (MODUs) that are the backbone of offshore energy operations weren't set with this high storm frequency and severity cycle in mind.

Rather, MODU standards in the Gulf of Mexico at the time of Katrina and Rita were primarily intended to support safe evacuation of personnel, not to withstand major windstorms. Hence, when Katrina's Category 5-force winds blew through, MODU moorings in the path struggled, often hopelessly, to remain in place. Many weren't equipped to withstand even a strong Category 2 storm.

It's also notable that the last multi-decadal period of high hurricane activity occurred during the latter half of the past century and ended in the early 1970s. During this period, large fleets of drilling rigs and multimillion-dollar deep-water installations weren't yet common in the Gulf of Mexico. The valuations of the managed offshore property risks were a fraction of what they are today.

New risk management pressure also comes from reinsurers that were hit hard by the recent storms. Before the 2005 hurricane season, reinsurance capacity for explo-



A crane on top of an oil rig lies toppled over on its side after it was damaged by the passage of Hurricane Katrina.

ration and production risks was virtually unlimited and came with essentially no strings attached. Today, the market has hardened significantly. Sublimits and restrictions on windstorm risk, similar to those used for earthquake risk in exposed areas, are now standard on reinsurance contracts.

Against this backdrop, prudent insurers are managing the accumulations of catastrophe exposure in their portfolios more intensely than ever. Insurers first began modeling accumulations of risk among multi-operator offshore facilities throughout the Gulf of Mexico in the aftermath of Ivan. After Katrina, they're taking portfolio management and modeling to a new level.

Insurers now draw on extensive historical windstorm data to model the impact of storm events. Decades of North Atlantic storm-path data and detailed information on Gulf of Mexico exploration and production risks allow insurers to gain a better understanding of potential loss scenarios. They're using this information to set limits on lines, or to cap available capacity at levels that

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will support long-term prosperity. Prudent energy underwriters now routinely use predictive models to determine how they'll allocate capacity to offshore risks at renewal.

The ongoing refinement of catastrophe risk assessment and modeling will continue. It's essential to the stability of the marketplace and a positive development for insurers and insureds alike. These post-Katrina changes, however, also create a challenging landscape for insurance buyers.

Exploration and production operators who once found insurance capacity plentiful must now compete with their peers for quality capacity from experienced, financially stable underwriters. Insurance prices are rising. Contract limits, terms, and conditions are constricting. Coverage enhancements are being curbed.

### A New Risk Management Paradigm

Energy companies are responding to these post-Katrina market conditions by stepping up catastrophe risk management, or planning to avoid the seasonal hurricane risk altogether. For instance, by moving jack-up rigs out of the Gulf of Mexico during the hurricane season, a company can dramatically mitigate its exposure and no doubt win points from its insurance underwriters.

Companies with offshore operations are also investing in mechanical upgrades to help equipment withstand severe events—specifically, Category 4 or Category 5 storms. One drilling contractor is upgrading its semisubmersibles (floating oil rigs capable of drilling in very deep water) by increasing the number of moorings and creating mooring lines strong enough to weather a Category 5 storm. The company is also adding new, higher-strength systems designed to withstand a 1-in-100-year hurricane. The company has completed dynamic analysis on the design to ensure that it meets applicable Ameri-

can Petroleum Institute safety standards. It also tested the new structure under wind speeds of 157.5 miles per hour.

This is no cheap or quick fix. What's needed is a major investment in long-term risk management. This company estimates that it will cost approximately \$20 million to fix and retrofit each of its semisubmersibles. Since this also involves 60 days of lost productivity at \$200,000 a day per unit, the total cost per semisubmersible is \$32 million.

This company is fortunate by post-Katrina standards. It has ordered the equipment it needs and booked shipyard space so it can make the changes quickly. Other contractors will find that backlogs on supplies and shipyard space have grown to 18 months or more in Katrina's aftermath.

Offshore drilling platforms pose particular risk management challenges. One company that had 12 older platforms located in the Main Pass lease blocks in the Mississippi Delta lost all of them to Katrina. Newer facilities suffered as well. These facilities are supposed to withstand storms better because of a larger "air gap," or space between the platform and the water level that helps to diffuse wind impact.

According to the Minerals Management Service (MMS), however, nearly one-fifth of the 113 platforms destroyed by Katrina and Rita were less than 10 years old and built to new, higher standards. In the wake of Katrina, MMS is sponsoring research to help improve industry standards for platform structures and deck height.

### Insurance Renewal Preparation

In this environment, energy companies must be meticulous in preparing for insurance renewals. Data are key and insurers are encouraging energy companies with Gulf of Mexico exposure to provide as much information as possible to differentiate their risks and give underwriters the

comfort level they need to devote their carefully managed capacity to it.

Underwriters want large amounts of detail on exploration and production exposures. Thorough, up-to-date, and accurate valuations are a must, and they need submissions well in advance of underwriting to allow plenty of time for scrutiny.

What are insurers considering in particular?

- *The company's investment in catastrophe risk management.* This includes strategies both to avoid the risk where possible and to undertake mechanical changes to mitigate risk.

- *The company's risk profile.* This includes the latest information on asset location, age, design, function, and depth, as well as the number of producing and drilling wells. They'll most likely examine information and analysis from available modeling tools as well.

- *The company's willingness to share the risk.* Underwriters will be expecting companies to assume higher retentions going forward.

Now more than ever, insurers are encouraging energy companies to collaborate with them in managing catastrophe risk. In the long term, both parties will benefit from a business relationship built on open communication and sharing information and risk.

What's ahead for offshore energy operations and the companies that insure them? Understanding of offshore exposures will continue to improve, as data, modeling, and experience all advance. The risk management practices deployed by exploration and production companies to manage catastrophic windstorm risk will continue to march forward as well.

Meanwhile, the value of a strong insurer-insured relationship is even more apparent. Exploration and production companies that invest in risk management—and in a relationship with the right insurer—can thrive. ●