

Petroleum Industry Response to Storms and Sea Level Changes

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Hurricanes Katrina & Rita were unprecedented in the history of O&G production in the GOM. These storms resulted in:

- 211 platforms off production with 190 lost or severely damaged
- Shut-in production of 970,000 BOPD & 5,200 MMCF/D (more than half of the GOM)

The historic differences also included:

- Multiple intense storms in the same year
- Storm paths over all major infrastructure
- Mobile offshore drilling rig mooring failures (24 rigs traveling up to 120 miles)
- Major pipeline & downstream facility damage - including refineries
- Damage to the infrastructure needed for the recovery

It was determined that wave loads exceeded design criteria for structures using older criteria. Also peak wave heights & winds were higher than anticipated and max wave heights were for periods longer than anticipated. As a result, an intense joint industry technical effort to up-grade the industry design standards was successfully executed. This presentation will discuss:

- Tech standard improvements & new repair techniques that resulted from Katrina/Rita
- Current tech standard work addressing the increased requirements of more recent storms
- Evolution of the historic API 2A (specification for structures) to meet increasing storm requirements
- The current technical search for a method that allows hind-casting & storm modeling to better predict future storm technical requirements
- Improved structural design practices for storm resistance and re-certification of older structures
- Industry response to deck height elevations
- Industry response to other storm issues including evacuation, communication, sudden storms, emergency operating centers, etc.