Petroleum Industry Response to Storms and Sea Level Changes
Williams, Charlie R. (1) Shell International E & P Inc., Houston, TX.

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.