

# HURRICANE PREPARATIONS

## THE OIL AND NATURAL GAS INDUSTRY



**Louisiana's oil and gas industry is committed to protecting its employees, contractors, facilities and the environment from the impacts of hurricanes. This includes efforts to minimize environmental releases caused by potential storms and a commitment to safely and quickly bringing operations back to normal.**

*Industry is continuously striving to improve hurricane preparation and response plans to lessen storm impacts and shorten the time it takes to recover. Each industry sector starts preparations at different times prior to landfall and these activities are addressed below.*

### OFFSHORE EXPLORATION & PRODUCTION

Offshore exploration and production is the first industry sector to react to a possible storm event. Prior to a storm's arrival, offshore facilities are secured and all personnel are evacuated in stages.

Since evacuation of offshore facilities can only be accomplished by boat or helicopter, all non-essential personnel who are not required to operate and shut-down rigs and platforms are removed first when a storm threatens the Gulf of Mexico.

Drilling Rigs cease operation and all rig personnel are evacuated. Rigs that can be moved are relocated out of the storm's path. With proper notification of a projected storm track, drillships can be relocated to a safe location out of a hurricane's path.

Fixed production facilities are then evacuated. Oil and gas production is ceased, sometimes remotely by computer control from onshore facilities. Producing wells are "shut-in" by valves required by the

government that are located well below the sea floor. These "subsurface safety valves" are designed to prevent pollution if the hurricane damages the producing rig.



Even with the intensity of the active 2005 hurricane season, there were no injuries and no loss of life on offshore facilities.

### ONSHORE EXPLORATION, PRODUCTION & PIPELINE FACILITIES

Preparation for onshore, production and pipeline facilities is not much different than that for offshore facilities, with the exception that they can continue to operate longer than offshore facilities. The same evacuation, safety and environmental protection controls are employed.

*Louisiana Mid-Continent Oil and Gas Association, founded in 1923, is a trade association exclusively representing all sectors of the oil and gas industry operating in Louisiana and the Gulf of Mexico. LMOGA serves exploration and production, refining, transportation, marketing and mid stream companies as well as other firms in the fields of law, engineering, environment, financing and government relations.*

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### REFINERIES

Each refinery acts based on their individual local risk assessments. Refineries will be asked by state and federal government officials to continue fuel production to ensure local citizen evacuation efforts have the maximum amount of available fuel. This ensures that our city and state can operate safely before, during and after a storm.



Refineries need three days to shut down normally before a storm. Unfortunately, a hurricane's path often changes in this period and therefore a shut-down is some-

times a late decision. Storage tanks are filled to prevent capsizing due to wind forces and other lighter materials are secured. During a normal shutdown, there will be flaring of gases but this is minimized. Flares are safety devices designed to burn waste gas in a safe, controlled manner.

Refineries have two options regarding their shut-down method. All will try to go into a "hot" shut-down to keep all processes warm and near operating temperatures. This allows a faster re-start after the storm, usually 3-5 days. If a total shutdown or a "cold" shutdown is required, it will take 5-10 days to

accomplish a total re-start. The time it takes to bring operations back after a storm depends on many factors, most of which are not under the control of the individual refinery (e.g. electricity).

During past major storms, our Louisiana Refineries were able to supply the state and emergency responders with enough fuel to operate efficiently to get through these storms safely. Through collaboration with government officials at the local, state and federal levels, the industry was able to effectively communicate about operations and fuel needs for the state's critical agencies.

### MARKETING

Terminals that supply fuel to gasoline stations will continue to operate even if the refinery is shut down. However, operations will cease once conditions become unsafe and/or storage tank levels reach the level that must



be kept to prevent tank damage due to high winds. Once a storm has passed, these facilities are the first to return to operation.

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