

Gulf of America

Temporary well abandonment system stays intact for nine years, despite hurricane

RTTS® packer and SSC I valve provide reliable, long-term barrier and solution during emergency situation

CHALLENGE

Temporarily plug and abandon an offshore well in case of rig damage from an oncoming hurricane

SOLUTION

Halliburton RTTS® packer and SSC I subsurface control valve combination for well control

RESULT

Rig was knocked off location but well was controlled until tools were retrieved nine years later

Overview

Hurricane season in the Gulf of Mexico adds a layer of complexity and preparation. In addition to daily drilling and personnel operations, rig operators must also prepare the logistics of an emergency evacuation. Storm evacuation planning includes personnel lodging, helicopter contracts, equipment preparation and evacuation time estimates.

While personnel evacuation is the priority, the risk of equipment damage is also a significant concern. Leaving drillpipe in the derrick during a storm can cause damage to the structure and other rig equipment.

According to the US Department of Energy, oil and gas refineries in the paths of Hurricanes Katrina and Rita accounted for approximately 29% of US refining capacity. These refineries were shut down in the wake of the hurricanes, which also destroyed 115 platforms and damaged 52 other rigs and 535 pipeline segments in the Gulf of Mexico alone. The long-term impact of these storms was also devastating. Nine months after the storms passed, 22% of federal oil production and 13% of gas production remained shut in, which resulted in the loss of 150 million barrels of oil and 730 billion cubic feet of gas from domestic supplies.



Rig was knocked off location but well was controlled until tools were retrieved NINE years later



Challenge

Less than one month after Hurricane Katrina caused extensive damage, Hurricane Rita entered the Gulf of Mexico and forced drilling operations to shut down and rigs and platforms to be evacuated. Operators had to act quickly to secure wells and equipment. For one operator, Halliburton recommended a temporary abandonment system to seal the well without tripping the workstring.



Solution

Halliburton proposed running an RTTS® packer with an SSC I subsurface control valve to seal the well being drilled. This combination, known as a storm packer, allows the workstring to remain in the hole while the well is evacuated. This capability helps save precious time and costs during a storm evacuation because the downhole equipment is protected in the well, and the hazard of drillpipe sitting in the derrick is avoided.

Just eight days after Halliburton installed the temporary well abandonment system on the operator's jackup rig, the rig was found beached in West Cameron, Louisiana. Without the temporary abandonment system, the workstring that was secured inside the well would have remained standing in the derrick and likely would have blown away with the rig.

Result

In September 2005, the RTTS packer and SSC I valve combination was installed at 492 ft with more than 7,000 ft of drillpipe hanging below. The tools remained intact inside the well for more than nine years, despite the rig being blown off location and destroyed by Hurricane Rita. The system was successfully retrieved in February 2015 without any problems. Upon inspection, the system was observed to be in excellent condition.



RTTS® packer which remained in well for nine years

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