

Accidents

Two Down In Three Weeks



Gulf of Mexico

About sixty percent of world's energy need is met through hydrocarbons. Drilling oil and gas wells in deepwater is risky and costly process. Time and again, the hydrocarbon industry has witnessed accidents that have not only resulted in huge financial losses but also had a deep impact on the environment.

Rig disasters are not new to the offshore industry and volatile nature of hydrocarbons makes this industry prone to such disasters. Bad weather, metal fatigue, loss of towline, human error and equipment failure are common factors that result in loss of rigs at sea.

Two rig disasters in less than a month have once again put a question mark on safe rig operations.

BP's Deepwater Horizon sank into the Gulf of Mexico following a massive explosion on April 22nd, killing 11 workers. The energy giant had leased the semi submersible drilling rig from Transocean, Houston based contractor. The semi submersible drilling unit was built by South Korea's Hyundai Heavy Industries Shipyard in 2001. The oil company had chartered the USD 600 million rig to drill an appraisal well on Missisipi Canyon Block 252 offshore acreage. Transocean was operating the

rig on part of Macondo prospect on 1500 m (5000 feet) of water. According to company's website it measured 396 feet by 256 feet and weighed 8816 tonnes. The giant floating rig was designed to operate in waters up to 8000 feet deep and drill as deep as 30,000 feet.

In an official report, BP has termed this as a complex accident caused by unprecedented combination of failures and that the responsibility for the incident belonged to all the companies who were involved at various levels. BP has released the sequence of events that happened prior to the event and according to the company the sequence



of events that preceded the rig explosion were

- 51 minutes before the explosion, more fluid began flowing out of the well than was being pumped in.
- 41 minutes before the explosion, the pump was shut down for a “sheen” test, yet the well continued to flow instead of stopping and drill pipe pressure also unexpectedly increased.
- 18 minutes before the explosion, abnormal pressures and mud returns were observed, and the pump was abruptly shut down.

BP has said that multiple failures led to multiple explosions that killed 11 people and started off the huge Gulf of Mexico oil leak. The rig sank after two days resulting in huge oil spill into the ocean. Company is focused on carrying out the investigations at seven levels before submitting the investigation report that include, cement that seals the reservoir from the well; the casing system, which seals the well bore; the pressure tests to confirm the well is sealed; the execution of procedures to detect and control hydrocarbons in the well, including the use of the Blow-Out Preventer (BOP); the BOP Emergency Disconnect System; the automatic closure of the BOP after its connection is lost with the rig; and features in the BOP to allow remote

control vehicles to close the BOP after a blow out. Explosions have resulted in discharge of huge amount of oil into the gulf and emergency crews, had started work immediately to prevent the oil slick spread into delicate wetlands of Louisiana. US authorities also evacuated an oil platform in the gulf near where another oil rig sank after an explosion. Conservation experts say that the oil as the potential to damage beaches, barrier islands, wetlands and wildlife reserves along hundreds of miles of coastline in four US states.

Gulf of Mexico witnessed yet another rig disaster on May 13th when Aban Pearl, semi submersible rig sank into the Caribbean to the east coast of Venezuela. Venezuela has huge offshore natural gas reserves that are yet to be tapped. The rig was drilling the Dragon Gas Field, a part of PDVSA’s Mariscal Sucre offshore gas production / liquified natural gas initiative. Dragon field is scheduled to start commercial production of at least 600 million cf/ d by end November 2012.

Dragon Field is expected to contain huge gas reserves and PDVSA began talking about getting a semisubmersible rig for the Mariscal Sucre project in 2008. Aban Pearl is owned by Aban Offshore, Chennai based Indian company. Fairmount Marine, Netherlands based company towed the rig during the last days of 2009 to Campo Dragon

Venezuela from Trinidad where it had been lying for sometime reported Dow Jones Newswires. Same report stated that the rig had been sitting in Trinidad “for a long time,” and that Fairmount had originally towed it from Singapore.

The Aban Pearl rig was operating at a depth of 160 meters, according to data from PDVSA’s website. The Aban Offshore website says the rig can operate at a depth of 1,250 feet, or about 380 meters. The rig had been installed after necessary repairs inspection and certification just one week prior to the mishap that happened on May 13th.

President Hugo Chavez broke the news of rig disaster that had taken place and that all the workers were rescued. Rig had started showing the signs of collapse one day prior to sinking when a failure was detected on rig’s floatation system. The alarm systems were triggered immediately, however the rig sank the next day finally after a natural gas explosion.

PDVSA President Rafael Ramirez, who is also country’s oil minister, stated that the connections between the rig and the well were immediately disconnected to avert environmental risks. Officials stated that unlike Deepwater Horizon, Aban Pearl sinking did not pose any environmental risk. PDVSA is currently looking at hiring another rig to continue its operations in the Dragon Field. ■