

Research Note

The Gulf Oil Spill of 2010

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Applicable Sectors: Emergency Services, Disaster Management.

The Gulf oil spill of 2010 started with the catastrophic explosion and subsequent fire on the Deepwater Horizon offshore oil drilling platform situated about 40 miles southeast of the Louisiana coast. The explosion killed 11 platform workers while 17 others were injured. This resulted into the sinking of the Deepwater Horizon and resulted into the start of the largest oil spill in US history.ⁱ More than just an oil spill, it is also known to be a great environmental disaster.

Analysis of Risks and the Precautions Taken Prior to the Explosion

Drilling rigs are huge and complex mechanical machines which have to operate under adverse weather conditions where possibility of human errors is high. The records of Mineral Management Service (a

branch of the US Department of the Interior that oversees offshore drilling) show that there have been 39 incidences of fires or explosion in the Gulf in the first half of 2009. The number is an astonishing 858 if the fires and explosions since 2001 are taken into consideration. BP had filed a 52 page exploration and environmental impact plan with the Mineral Management Service in 2008. BP's plan stated that it was "unlikely that an accidental surface or subsurface oil spill would occur from the proposed activities". The plan stated that even if an accident takes place, it would have no adverse impacts since the well was situated 48 miles away from the shore and the implemented response capabilities were very effective. The Department of the Interior exempted BP's Gulf of Mexico drilling operation from a detailed environmental impact study after concluding that a massive oil spill was unlikely. In addition, following a loosening of regulations in 2008, BP was not required to file a detailed blowout plan.

The Rig Explosion and the Oil Spill

The fire aboard the Deepwater Horizon started on the night of April 20, 2010. The interviews with platform workers conducted as part of BP's internal investigation revealed that the event was basically a

blowout. A bubble of methane gas escaped from the well and shot up the drill column, expanding quickly as it burst through several seals and barriers before exploding.ⁱⁱ According to officials, 126 individuals were on board, of whom 79 were Transocean employees, six were from BP, and 41 were contracted. Of these, 115 individuals were evacuated and 11 other were reported to be dead.ⁱⁱⁱ

On the afternoon of April 22, 2010, a large oil slick began to spread at the former rig site. BP initially estimated that the wellhead was leaking 1,000 barrels (42,000 US gallons) a day. However, this estimate was later revised by BP at 12,000 to 100,000 barrels (500,000 to 4,200,000 US gallons) per day.^{iv} The exact spill flow rate is uncertain because BP has refused to allow independent scientists to perform accurate measurements. The resulting oil slick covers a surface area of at least 6,800 km², with the exact size and location of the slick fluctuating from day to day depending on weather conditions. BP has started working on different short and long term methods to stop the oil spill. However, none of the attempts till now have succeeded. Experts fear that the spill will result in an extensive impact on the marine and wildlife habitats in the region. The spill has also damaged the Gulf of Mexico fishing and tourism industries.

Questionable Risk Management Practices

Many experts consider the oil spill of 2010 to be remarkably similar to what happened during the 1979 Ixtoc I explosion and the subsequent oil spill. Even the measures taken in 1979 are similar to what is being done to stop the 2010 oil spill. The 1979 oil spill which lasted for more than 10 months (3 June 1979 – 23 March 1980) had resulted into a loss of 3 million barrels of oil and oil spread of 2800 km².^v The methods tried to stop the oil spill in 1979 were also similar to what is being tried for the 2010 oil spill. Even in 1979, the dome method was tried and it had failed horribly. This is the prime reason why the use of dome method again for the 2010 oil spill is being questioned by experts. The thing that helped stop the spill in 1979 was the drilling of relief wells which took several months for implementation.^{vi}

The oil industry's technological advancement and the lessons learnt from previous oil spills are questionable. It is not really necessary to compare the oil spill with something that happened 30 years back. Less than a year ago, there was a catastrophic oil spill, known as the Montara Oil Spill in the Timor Sea (between Indonesia and Australia). In that oil spill, a Thai company's well blew out in a similar fashion. The

amount of oil wasted in the Montara Oil Spill is estimated anywhere between 1.2 to 9 million gallons. Similar methods to stop oil spill were tried and had failed drastically. It took ten weeks and a total of five attempts at drilling relief well to stop the Montara oil spill.^{vii}

As repeatedly stated by experts in media reports, the oil spill has definitely exposed the inadequacy of BP's disaster prevention processes and contingency planning. "The only thing that's clear is that there was a catastrophic failure of risk management," said Nansen Saleri, a Houston-based expert in oil-reservoir management. Oil industry experts have also questioned why it took the company so long to come up with possible solutions, and why it didn't have possible solutions to use in hand. "There should be technology that's pre-existing and ready to deploy at the drop of a hat. It shouldn't have to be designed and fabricated now, from scratch," said one former Transocean executive. BP's general spill plan, which was updated in summer of 2009, indicates that BP's claimed abilities to handle a spill were overestimated. BP had stated in the plan that the worst spill from a mobile drilling operation would come from a lease called the Mississippi Canyon 462, about 33 miles off the Louisiana coast. A blowout of that lease could discharge 250,000 barrels a day which is 50 times the estimated flow of the

current leak. Yet BP claimed to have sufficient equipment in place to deal with a spill far in excess of the volume it is struggling to handle.

BP's executives and media spokesmen have been defending the actions. BP spokesman Andrew Gowers said, "The unthinkable has become thinkable, and the whole industry will be asking searching questions of itself. We moved very rapidly to implement the approved response to the accident. The evidence for that is the huge containment effort on the surface and onshore."^{viii} BP also said that the accident "was brought about by the failure of a number of processes, systems and equipment". It added: "There were multiple control mechanisms, procedures and equipment in place that should have prevented this accident or reduced the impact of the spill."^{ix} These did not succeed.

The Deepwater Horizon disaster may or may not have been preventable, but a better contingency plan surely should have been in place to deal with the disaster. It also seems that if all the "what if" questions had been asked prior to the explosion, speedier answers to the problems would have been available. As BP continues to work on stopping the oil spill, it has pledged \$500 million for an "open"



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investigation into the spill, and to research better ways of tracking oil spills with technology.

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<http://www.bp.com/bodycopyarticle.do?categoryId=1&contentId=7052055&nicam=USCSBaselineCrisisJune&nisrc=Google&nigrp=Non Branded General&niadv=General&nipkw=oil spill 2010>

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<http://www.bp.com/bodycopyarticle.do?categoryId=1&contentId=7052055&nicam=USCSBaselineCrisisJune&nisrc=Google&nigrp=Non Branded General&niadv=General&nipkw=oil spill 2010>

iii http://en.wikipedia.org/wiki/Deepwater_Horizon_oil_spill

iv http://en.wikipedia.org/wiki/Deepwater_Horizon_oil_spill

v <http://www.miamiherald.com/2010/05/23/1644742/spill-has-perfect-precedence-in.html>

vi <http://news.gather.com/viewArticle.action?articleId=281474978263199>

vii <http://www.miamiherald.com/2010/05/23/1644742/spill-has-perfect-precedence-in.html>

viii <http://online.wsj.com/article/SB10001424052748704307804575234621987007784.html>

ix http://www.cio.com/article/595620/BP_Oil_Spill_Slows_but_Serious_IT_Failures_Come_to_Surface