

months to contain the leak, at a spill rate much less than that listed in the contingency plan. The inaccuracies in BP's contingency plan highlight how unprepared the company was for a disaster like the *Deepwater Horizon* spill.

What Caused the Explosion?

The explosion was likely caused by a number of events. Investigations suggest that actions on BP's part made the well more vulnerable. One investigation implies BP cut short procedures and quality testing of the pipe—tests meant to detect gas in the well. Some experts hypothesize that one of the final steps in installing the pipe, which involved cementing the steel pipe in place, could have been the catalyst for the explosion. The cement was not able to hold back the surging oil and gas that led to the explosion. In addition, BP decided to use a less costly well design that some Congressional investigators deemed “risky.” Installation of this design is easier and costs are lower. However, it provides a better path for gas to rise outside the pipe. Although BP did not break any laws by using such a design, it ignored safer alternatives that might have prevented, or at least hindered, the accident.

Another reason why the spill became such a wide-scale disaster is likely due to a faulty blowout preventer. Instead of sealing the pipe completely, the blowout preventer blades stuck in the pipe, leaving enough space for oil to leak out. BP filed lawsuits against the manufacturer of the blowout preventer, Cameron International Corp. There is also some speculation that BP engineers ignored warning signs from safety tests conducted on the rig hours before the explosion. Two BP engineers who conducted negative pressure tests on the drilling rig recorded results they found to be confusing. However, after talking with others on the rig, one of the engineers gave the go-ahead. At the time there were no federal rules that clarified the test procedures.

Repercussions of the Disaster

The BP oil spill has wide-ranging repercussions for BP and the entire industry. An immediate consequence of the disaster was the resignation of BP CEO Tony Hayward. Despite an impressive track record, Hayward became the face of the worst oil spill in U.S. history. Additionally, the firm spent or will spend \$36.5 billion on cleanup costs. In a lawsuit from the Justice Department, BP was ordered to pay a record \$4.5 billion in fines and faced 14 counts of criminal acts, including felony manslaughter.

Drilling contractors and oil service companies also suffered from the spill because of plummeting stock values. The Obama administration issued a six-month moratorium on deepwater and oil gas drilling in the Gulf of Mexico, which shut down 33 deepwater rigs. With one-third of America's oil coming from the Gulf, the repercussions stemming from the spill will be felt for years to come.

The Aftermath

It took nearly three months to contain the oil leaking into the Gulf. In the interim, thousands of marine animals died in the oily waters, oil turned beaches black, and hundreds of people depending on the Gulf of Mexico lost part or all of their income. By the time the leak was sealed in August 2010, more than 640 miles of shoreline across several states

were “tarred” with oil. The Gulf had suffered a massive loss of wildlife and was left with a tremendous amount of oil lurking beneath the water’s surface. Scientists are finding evidence that oil has settled across several thousand square miles of seafloor, posing a potential threat to coral reefs and other marine life.

In an attempt to compensate stakeholders that depend on the Gulf, BP set aside \$20 billion in an escrow fund, and a government-appointed administrator is overseeing the claims. Another issue that concerns the public is safety. Many worry about the safety of consuming seafood along the Gulf coast. It is largely unknown whether the oil and chemicals will have long-term effects on the quality of seafood. This situation demonstrates that it is often not enough for global companies involved in an ethical crisis to pay only for immediate costs like compensation; often they must pay for testing, additional safeguards, and environmental degradation in both the short and long term.

Such efforts are already underway. After the ousting of CEO Tony Hayward, Bob Dudley took over operations. While BP originally downplayed the disaster, Dudley freely admitted the incident was a “catastrophe” and the company was committed to the cleanup. BP hired former Federal Emergency Management Agency chief James Lee Witt and his public safety and crisis management consulting firm to help manage the incident and establish plans for long-term recovery. BP also created a safety organization given authority to stop operations whenever danger is detected.

Fracking: More Beneficial or Harmful to the Environment?

Hydraulic fracturing, or fracking, occurs when water, sand, or chemicals are pumped into shale rock to force natural gas to rise to the surface. Fracking has been around for approximately 60 years. However, only recently has this type of drilling attracted wide-scale media attention. One reason is the recent discovery of large shale gas reserves in the United States. Some scientists estimate that these reserves will last for more than 100 years. New hydraulic fracking techniques made it possible to drill for this gas, which increased 45 percent in a one-year period. This has created an energy boom that could lead the United States to energy independence. It also created more jobs in areas where wells are located, such as Pennsylvania and North Dakota. The Marcellus shale range in Pennsylvania is believed to have gas equivalent to 86 billion barrels of oil.

In addition to the economic benefits of fracking, proponents claim fracking results in greater sustainability than other traditional energy sources. Natural gas releases half the carbon emissions of oil and coal. Supporters claim natural gas is cleaner than coal because it releases less sulfur dioxide, nitrogen oxide, and mercury into the atmosphere. The benefits convinced supporters that fracking represents a revolutionary opportunity to reduce emissions and import natural gas to other countries. While fracking uses chemicals, it is estimated that fracking chemicals only consist of 0.5 percent of drilling fluid.

However, fracking carries significant risks as well. Fracking has been accused of releasing chemicals and methane into water near the drilling sites. Fracking also releases fast-moving gases such as methane into the atmosphere. There have even been accusations that fracking causes small seismic shifts in the area. Fracking also requires large amounts of water, from two to five million gallons per well. This means that while drilling fluid might only contain 0.5 percent of chemicals, the millions of gallons used per well results in a significant amount of chemicals used. While some of these chemicals are harmless, others, including benzene, diesel, and hydrochloric acid, have carcinogenic properties.