CASE 4

Sustainability Challenges in the Gas and Oil Industry*

Despite the many controversies surrounding the economic and environmental effects of drilling for oil and gas, there is no denying the world's dependence on these commodities. It is estimated that total global demand for natural gas will reach over 4 trillion cubic meters by 2017. Global crude oil demand is already at 90 million barrels per day. While petroleum products are most often associated with machines or factories, they are also used to produce commercial products including plastic, pesticides, fertilizers, and even certain pharmaceuticals.

Unfortunately, the world's dependence on oil and gas has created significant challenges. The demand for oil depletes the world's oil reserves at an alarming rate; while there appears to be little agreement on when the world's oil reserves will be completely depleted, fears that demand is quickly outstripping supply have increased the drive toward investigating alternative energy sources. Additionally, the oil and gas industry has many risks. Safety is a large concern, and major accidents have caused the gas and oil industry to be highly criticized.

However, one of the greatest concerns of the oil and gas industry is the environmental risks associated with it. Drilling operations are accused of contributing to water pollution and the release of air contaminants into the atmosphere. These greenhouse gases in turn contribute to the warming of the Earth's atmosphere, leading to greater risks of polar ice cap melting, flooding, and other environmental damages. Yet what attracts the most attention are when oil and gas companies experience major disasters leading to massive environmental damage—namely, oil spills. Because many of the world's oil reserves are located beneath the ocean—requiring petroleum companies to use drilling rigs to extract the oil from beneath the surface of the ocean floor—any leak has the potential to create serious harm in a quick amount of time. Petroleum companies must guard against these industry-specific risks.

As a result of these risks, the oil and gas industry adopted safety procedures and processes meant to reduce their environmental impact and prevent these disasters from occurring. However, ethical lapses on the part of these companies have led to major environmental mishaps. The first oil spill that gained widespread attention in the United States was the *Exxon-Valdez* spill, important not only for its environmental impact but also for increasing the liability and responsibility oil companies have for cleanup and restoration. Despite the lessons learned from the *Exxon-Valdez* spill, two decades later an accident on

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the *Deepwater Horizon* oil rig managed by BP led to the worst oil spill in U.S. history to date. Both disasters took place as a result of the companies ignoring ethical risk areas and, in some cases, taking risks that directly led to the disasters.

This analysis highlights the environmental risks of the oil industry by examining specific cases that have impacted stakeholder views on the industry's responsibility for sustainability. We begin by examining the *Exxon-Valdez* oil spill and the negligence that caused the disaster. Next, we describe some of the risks and causes of the BP *Deepwater Horizon* oil spill in 2010. However, our analysis would not be complete without considering the sustainability concerns of an emerging industry quickly gaining traction within the United States: hydraulic fracturing, or fracking, for shale gas. We conclude by emphasizing how oil and gas companies need to improve their safeguards to protect against environmental catastrophes. Ethical leadership and ethical responsibility at all management levels is needed to manage the risks of the industry.

THE WRECK OF THE EXXON VALDEZ

On March 24, 1989, the *Exxon Valdez* was under the command of Third Mate Gregory Cousins, who was not licensed to pilot the vessel through the waters of Prince William Sound. The ship's captain, Joseph Hazelwood, slept below deck. In an effort to dodge floating ice in the sound, Cousins performed what officials later described as an unusual series of right turns. The ship ran aground on Bligh Reef, spilling much of its cargo through the ruptured hull. According to the transcripts of radio conversations between Captain Hazelwood and the Coast Guard immediately after the accident, the captain tried for an hour to rock the tanker free from the reef. The Coast Guard claims that Hazelwood ignored their warnings that rocking the ship might make the oil spill much worse. The spill spread rapidly during the next few days, killing thousands of sea birds, sea otters, and other wildlife; covering the coastline with oil; and closing the fishing season in the sound for several years.

The Prince William Sound area was home to abundant wildlife. More than 200 species of birds had been reported there, including one-fifth of the world's trumpeter swans. The fishing industry derived annual sales of $100 million from the sound's abundant fish species, as well as crabs and shrimp. The world's largest concentration of killer whales and about one-fourth of the total U.S. sea otter population inhabited the sound at the time of the wreck. Later tests revealed Captain Hazelwood had a blood-alcohol content of 0.061, although it is a violation of Coast Guard regulations for a person operating a ship to have a blood-alcohol level in excess of 0.04. Exxon officials later admitted they knew the captain went through an alcohol detoxification program, yet they still gave him command of the *Exxon Valdez,* Exxon's largest tanker.

Response to the Disaster

From the onset the situation went from bad to worse. Alyeska Pipeline Service Co., one of the companies that operated the Trans-Alaska pipeline and the shipping terminal in Valdez, Alaska, was supposed to arrive shortly after the disaster to help contain the spill. After being notified of the accident, Alyeska Pipeline Service sent an observation tug to the