



BP and the Deepwater Horizon Disaster of 2010

Christina Ingersoll, Richard M. Locke, Cate Reavis

When he woke up on Tuesday, April 20, 2010, Mike Williams already knew the standard procedure for jumping from a 33,000 ton oil rig: “Reach your hand around your life jacket, grab your ear, take one step off, look straight ahead, and fall.”¹ This would prove to be important knowledge later that night when an emergency announcement was issued over the rig’s PA system.

Williams was the chief electronics technician for Transocean, a U.S.-owned, Switzerland-based oil industry support company that specialized in deep water drilling equipment. The company’s \$560 million Deepwater Horizon rig was in the Gulf of Mexico working on the Macondo well. British Petroleum (BP) held the rights to explore the well and had leased the rig, along with its crew, from Transocean. Of the 126 people aboard the Deepwater Horizon, 79 were from Transocean, seven were from BP, and the rest were from other firms including Anadarko, Halliburton, and M-I Swaco, a subsidiary of Schlumberger.

Managing electronics on the Deepwater Horizon had inured Williams to emergency alarms. Gas levels had been running high enough to prohibit any “hot” work such as welding or wiring that could cause sparks. Normally, the alarm system would have gone off with gas levels as high as they were. However, the alarms had been disabled in order to prevent false alarms from waking people in the middle of the night. But the emergency announcement that came over the PA system on the night of April 20 was clearly no false alarm.

¹ Testimony from Michael Williams, The Joint United States Coast Guard/The Bureau of Ocean Energy Management, “FUSCG/BOEM Marine Board of Investigation into the marine casualty, explosion, fire, pollution, and sinking of mobile offshore drilling unit deepwater horizon, with loss of life in the Gulf of Mexico 21-22 April 2010,” Transcript, July 23, 2010, pp. 24-25.

This case was prepared by Christina Ingersoll (MBA Class of 2010) and Cate Reavis, Manager, MSTIR, under the supervision of Professor Richard M. Locke. Professor Locke is Deputy Dean of the MIT Sloan School of Management, Head of the MIT Department of Political Science, and the Class of 1922 Professor of Political Science and Management. This case was prepared as part of the MIT Sloan Ethics, Values and Voice Module.

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Moments after the announcement, Williams was jolted by a nearby thud and a hissing sound, followed by the revving of one of the rig's engines. Before he knew it, there were two explosions forcing him and other crew members to abandon ship by jumping into the partially flaming ocean.² Of the 126 workers on board the Deepwater Horizon, 17 were injured, including Williams, and 11 were killed. The rig burned for 36 hours, combusting the 700,000 gallons of oil that were on board, leaving a trail of smoke over 30 miles long. The Deepwater Horizon sank on April 22, taking with it the top pipe of the well and parts of the system that were supposed to prevent blowouts from occurring.³

As of 2010, the Deepwater Horizon disaster was the largest marine oil spill ever to occur in U.S. waters. By the time the well was capped on July 15, 2010, nearly five million barrels of oil (205.8 million gallons) had spilled into the Gulf of Mexico. Federal science and engineering teams revised their estimates on the rate of oil flow several times, and in August they concluded that between April 20 and July 15, 53,000-62,000 barrels per day spilled into the Gulf,⁴ an amount that was equivalent to a spill the size of the 1989 Exxon Valdez every four to five days.⁵ Before the Deepwater Horizon disaster, the Exxon Valdez held the record for the largest spill in U.S. waters.

It was surprising to many analysts how such a disaster could happen, particularly involving a company like BP, which publicly prided itself on its commitment to safety. It did seem clear that, in an effort to close up the Macondo well, several key decisions were made, each involving multiple stakeholders and trade-offs of time, money, safety, and risk mitigation. The public debate began immediately on whether the result of these decisions indicated operational or management problems on the rig, and whether these problems were endemic to the oil industry, or resided within BP itself. To help answer these questions, several task forces were formed to investigate the root causes of the disaster and who among the various players involved with the Macondo well bore responsibility for the disaster and for its resolution.

British Petroleum

The company that would become BP was founded in 1909 as the Anglo-Persian Oil Company (APOC) shortly after Englishman William Knox D'Arcy struck oil in Iran after an eight-year search. In its early years, profitability proved elusive for APOC and, in 1914, Winston Churchill, who was head of the British Navy and believed Britain needed a dedicated oil supply, convinced the British government to buy a 51% stake in the nearly bankrupt company.

² The Joint United States Coast Guard/The Bureau of Ocean Energy Management, "FUSCG/BOEM Marine Board of Investigation into the marine casualty, explosion, fire, pollution, and sinking of mobile offshore drilling unit deepwater horizon, with loss of life in the Gulf of Mexico 21-22 April 2010," Transcript, July 23, 2010, pp. 10-14.

³ U.S. House of Representatives Committee on Energy and Commerce, "Chronology of Deepwater Horizon Events," June 15, 2010.

⁴ Campbell Robertson and Clifford Kraus, "Gulf Spill is Largest of Its Kind, Scientists Say," *The New York Times*, August 3, 2010.

⁵ Calculation based on a spill size of 10.8 million gallons for the *Exxon Valdez*. Justin Gillis and Henry Fountain, "New Estimates Double Rate of Oil Flowing Into Gulf," *The New York Times*, June 10, 2010.

The British government's majority ownership of BP lasted until the late 1970s when the government, under Prime Margaret Thatcher, a proponent of privatization, began selling off its shares in an attempt to increase productivity in the company. When the government sold its final 31% share in 1987, BP's performance was floundering. The company's performance continued to decline as a newly private company; in 1992, BP posted a loss of \$811 million. Nearing bankruptcy, the company was forced to take dramatic cost cutting measures.

Things started to improve measurably in the mid-1990s. With a streamlined workforce and portfolio of activities, BP's new CEO began implementing an aggressive growth strategy, highlighted by mergers with rivals Amoco in 1998, and ARCO (the former Atlantic Richfield) in 2000.

Along with focusing on growth, BP began repositioning itself. In 2001, the company launched the new tagline "Beyond Petroleum" and officially changed its name to "BP." The associated green branding campaign indicated that BP wanted to be known as an environmentally-friendly oil company. Over the next decade, the company launched an Alternative Energy division and was, for a time, the world's largest manufacturer of solar cells and Britain's largest producer of wind energy. BP invested \$4 billion in alternative energy between 2005 and 2009.⁶ BP's total company investment over the same time period was \$982 billion.⁷

In May 2007, Tony Hayward, who had been chief executive of Exploration and Production (BPX), replaced John Browne as CEO. Hayward marked his appointment with a speech pledging to "focus like a laser on safety issues, put the brakes on growth and slash production targets."⁸ Hayward was able to improve corporate performance, in part, by dramatically shrinking the Alternative Energy division and further reducing headcount at both managerial and lower staff levels.⁹ Between 2006 and 2009, BP's workforce fell from 97,000 to 80,300.¹⁰

In addition to cutting four levels of management, Hayward also spoke publicly about his desire to transform BP's culture to one that was less risk averse. He believed that too many people were making too many decisions leading to extreme cautiousness. "Assurance is killing us," he told U.S. staff in September of 2007.¹¹

Despite Hayward's concern about the company's risk averse culture, in a relatively short period of time, BP had transitioned from a small, state-sponsored company to one of the six largest non-state-owned oil companies in the world and, in the month before the Deepwater Horizon disaster, the largest company listed on the London Stock Exchange. The transition required numerous mergers

⁶ "BP Sustainability Reporting 2009: Alternative Energy," *BP Publication*, April 15, 2010.

⁷ BP annual financial statements: 2007 and 2009.

⁸ Tony Hayward, "BP 2008 Strategy Presentation," *BP Publication*, February 27, 2008.

⁹ *Ibid.*

¹⁰ BP.com archive information on employment, for 2006 data; "BP at a Glance" from BP.com, accessed October 10, 2010 for 2009 data.

¹¹ Graeme Wearden, "BP to Take Axe to Management," *The Guardian*, September 25, 2007.

and acquisitions, and strict cost cutting measures. Along the way, BP's organizational structure was also dramatically transformed.

Organizational Strategy

BP in the late 1980s comprised several layers of management in a matrix structure that made it difficult for anyone to make decisions quickly. In some cases, simple proposal changes required 15 signatures. At the same time, the company was overleveraged and its overall performance was suffering.¹² Robert Horton, who was appointed CEO in 1989, started a radical turnaround program in an effort to cut \$750 million from BP's annual expenses. He removed several layers of management and slashed the headcount at headquarters by 80. Horton also intended to increase the speed of managerial decision-making and, thereby, the pace of business in general. Horton transformed hierarchically structured departments into smaller, more flexible teams charged with maintaining open lines of communication.¹³

Horton transferred decision-making authority away from the corporate center to the upstream and downstream business divisions. While deep cuts were made to capital budgets and the workforce, employees at all levels were encouraged to take responsibility and exercise decision-making initiative. In 1992 David Simon was appointed CEO replacing Robert Horton. Simon continued Horton's policy of cost cutting, especially in staffing.

The biggest changes during this period occurred in BPX, which was led by John Browne. Building upon his predecessors' efforts, Browne, who envisioned creating a spirit of entrepreneurship among his staff, extended decision-making responsibilities to employees at more levels in the organization. Under the new strategy, decision-making authority and responsibility for meeting performance targets was no longer held by BP's regional operating companies, but by onsite asset managers.¹⁴ Asset managers contracted with BP to meet certain performance targets and extended this practice among all employees working on a given site. Employee compensation was tied to asset performance and the overall performance of the site. The model, which was known as an "asset federation," was later applied across the company after Browne took over as CEO in 1995.

One tradeoff with the asset federation model was that because each site manager managed their "asset" autonomously and was compensated for its performance, there was little incentive to share best practices on risk management among the various BP exploration sites.¹⁵ There were also downsides to a system in which a centralized body had little oversight over the setting of performance targets, particularly in an industry where risk management and safety were essential to the long-term success of an oil company. And BP had had its shares of safety breaches.

¹² John Roberts, "Organizing for Performance: How BP Did It," *Stanford Business*, February 2005.

¹³ "BP After Horton," *The Economist*, July 4, 1992.

¹⁴ Each physical well site was called an asset and the site managers were "asset managers."

¹⁵ David Apgar, "Time to Break BP Up," *The Globalist*, June 22, 2010.

Safety Issues at BP

In the mid-2000s, disaster struck BP twice within a 12-month period. The first happened on March 23, 2005 when an explosion at BP's Texas City Refinery killed 15 people and injured another 180, and resulted in financial losses exceeding \$1.5 billion. BP commissioned James Baker, a former U.S. secretary of state and oil industry lawyer, to write an investigative report on the Texas City tragedy. One of the key findings highlighted in the *Baker Report* was that the company had cut back on maintenance and safety measures at the plant in order to curtail costs, and that responsibility for the explosion ultimately rested with company senior executives.¹⁶

Another concern outlined in the report was that while BP had emphasized personal safety and achieved significant improvements, the company "has mistakenly interpreted improving personal injury rates as an indication of acceptable process safety, creating a false sense of confidence."¹⁷ The report goes on to state the following:

The Panel's refinery-level interviews, the process safety culture survey, and some BP documents suggest that significant portions of the U.S. refinery workforce do not believe that process safety is a core value at BP. As many of the refinery interviewees pointed out, and as some BP documents and the process safety culture survey seem to confirm, one of the reasons for this belief is that BP's executive and corporate refining management have not communicated a consistent and meaningful message about the importance of process safety and a firm conviction that process accidents are not acceptable. The inability of many in the workforce to perceive a consistent and meaningful corporate message about process safety is easy to understand given the number of "values" that BP articulates:

- BP's 18 "Group values," only one of which encompasses health and safety—the company's broad, aspirational goal of "no accidents, no harm to people, and no harm to the environment."
- Four "Brand values," which BP claims, "underpin everything we do": being performance driven, innovative, progressive, and green.

None of these relates to safety.

These messages to the BP workforce on so many values and priorities contribute to a dilution of the effectiveness of any management message on process safety. This is consistent with a recent observation from the organizational expert that BP retained under the 2005 OSHA settlement relating to Texas City: There appears to be no one, over-arching, clearly-stated worksite policy at Texas City, regardless of respondents' answers. The BP stated policy on health and safety, "no

¹⁶ James Baker et al., "The Report of the BP U.S. Refineries Independent Safety Review Panel," January 2007. pp. 82-85.

¹⁷ *Ibid.*, p. 72.

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