Macondo: Anatomy of an Oil Disaster

Ferruh Demirmen

Consultant, Houston, Texas, USA

The oil disaster that took place on April 20, 2010 in the Gulf of Mexico (USA) left enduring marks on the history of oil industry. The loss of life, grave environmental impact, harm to health, and economic wounds from fisheries to tourism will long remain as key elements of the disaster in our memories. The disaster happened with explosion of the Macondo-1 exploratory well drilled by British Petroleum (BP) in deep-water Macondo prospect. The well was being drilled from a semi-submersible platform. At the well location the water depth was 1.522 m and the oil-bearing horizons at approximately 5.500 m. The well had heralded an oil discovery. BP’s plan was to temporarily suspend the well and return at a later date for appraisal and production. After abandoning the well, the platform was to move to another location. At the time of explosion, the well was 43 days behind schedule. The explosion (blowout) happened on the night of April 20, 2010 during well abandonment when methane gas reaching the surface caught fire. The 33-ton platform tilted sideways and fell into water in flames. Crude oil and gas started to gush out into the sea. 11 rig workers died, 17 were wounded, and 115 personnel barely escaped. The giant platform was hurled 400 m away from the well. After frantic efforts that continued day and night, the oil spill was brought under control on July 15. But the permanent closure came about on September 19 when one of the two relief wells that were being drilled for backup intersected Macondo at 3.910 m vertical depth and heavy mud was pumped into the well. During the 3 months of spillage, 4.9 million barrels of oil flowed into the sea. It is estimated that some 75% of the spilled oil is still in the environment in one form or another. The New York Stock Exchange value of BP, its image severely damaged, dropped by 90 billion dollars by mid-June. Following various investigations conducted by the Congress and the federal government, it was concluded that the main cause of the accident was shortcuts taken during drilling shortly before explosion. The shortcuts, while reducing cost, also compromised well’s integrity. Most importantly, negative pressure tests were not given due attention. Delay in the completion of drilling meant 43 million dollars extra cost. In addition, the blowout preventer (BOP) had failed. The Macondo disaster spurred the filing of hundreds of lawsuits, more than 300 against BP alone, and seriously interrupted oil exploration and production in the Gulf of Mexico. It became evident that the oil industry was ill-prepared to deal with a major offshore accident. As a result, the industry is undergoing a major transformation. A “zero tolerance” policy that envisages no compromise in drilling safety is being embraced, and new regulations are in place. There are important lessons for Turkey to take.

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