

Case 2-5

British Petroleum and the Delay of Maintenance

On March 23, 2005, a massive explosion rocked the British Petroleum refinery located in Texas City, on the Gulf of Mexico, just outside Galveston. At that time, this refinery was one of the largest in the United States; it employed 1,800 people, covered 1,200 acres, and converted 460,000 barrels of crude oil a day into gasoline and high-value petrochemical products. The explosion occurred in a unit of the refinery that produced one of those petrochemical products. Naphtha, an exceedingly volatile component of crude oil, was isolated by distillation and converted to a more usable form through isomerization (a rearrangement of the individual atoms within each molecule that changed the physical properties but not the chemical composition of the gas) in high-pressure vessels using high-temperature processes. The resultant output was then used to raise the octane level of the gasoline that was the major output of the refinery. The naphtha, the isomer derived from the naphtha, and the gasoline with the isomer additive were all highly combustible products.

The blast was strong enough to rattle windows in downtown Galveston, 20 miles away, and was even felt in Houston, 35 miles distant. Local emergency services responded quickly, but early reports indicated that 15 people had been killed and well over 150 injured, many of those seriously burned. A BP spokesperson explained that the explosion had occurred while the isomerization unit was being brought back "on stream" to full production after having been shut down for annual inspection and repair. Start-up periods were always a dangerous time, the BP spokesperson continued, especially for the high-volatility "additive" products that are an inherent part—and problem—of petroleum refining.

The immediate reaction throughout the region was, of course, sympathy for the families of those killed and offers of help to the individuals who were injured, together with pledges by BP of a "long and intensive investigation to determine the cause of the explosion" (*New York Times*, March 24, 2005, p. A14).