



U. S. Chemical Safety and Hazard Investigation Board RECOMMENDATION STATUS CHANGE SUMMARY

Report:	BP America (Texas City) Refinery Explosion
Recommendation Number:	2005-04-I-TX-R6b
Date Issued:	March 20, 2007
Recipient:	The United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union (USW)
New Status:	Closed – Acceptable Action
Date of Status Change:	March 30, 2023

Recommendation Text:

Work together (with the American Petroleum Institute¹) to develop two new consensus American National Standards Institute (ANSI) standards. a. In the first standard, create performance indicators for process safety in the refinery and petrochemical industries. Ensure that the standard identifies leading and lagging indicators for nationwide public reporting as well as indicators for use at individual facilities. Include methods for the development and use of the performance indicators.

In the development of each standard, ensure that:

- a) the committees are accredited and conform to ANSI principles of openness, balance, due process, and consensus;*
- b) include representation of diverse sectors such as industry, labor, government, public interest and environmental organizations and experts from relevant scientific organizations and disciplines.*

Board Status Change Decision:

A. Rationale for Recommendation

On March 23, 2005, the BP Texas City refinery experienced explosions and fire in an isomerization unit that resulted in 15 deaths, 180 injuries and significant economic losses. The accident was caused by the overfilling of a raffinate splitter tower during startup that in turn opened pressure relief devices and dumped heated flammable liquid into a blowdown drum with a stack that was open to the atmosphere. The amount of flammable liquid released from the tower exceeded the capacity of the blowdown drum and its stack, and a portion was released into the surrounding area where it ignited, resulting in the explosions and fire.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigation found that the incident was caused by multiple technical, system and organizational deficiencies, which are

¹ This recommendation was issued jointly to the USW and API; however, responses are evaluated separately by the Office of Recommendations. The API response is not a part of this evaluation.

detailed in the CSB final investigation report. The agency issued recommendations to BP at the corporate and facility levels, the Occupational Safety and Health Administration (OSHA), the American Petroleum Institute (API), the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union (USW) and the Center for Chemical Process Safety (CCPS).

Among the most significant findings of the investigation, the CSB concluded that BP and the oil refining and chemical sectors did not have an effective system of indicators to evaluate their performance and use the measures to continually improve the management and control of process safety risks. The company and industry sectors were instead typically using personal safety indicators, such as trends in traditional workplace accidents (i.e., "slips, trips and falls"), rather than indicators capable of preventing the risks of catastrophic failures such as this incident. In some instances, the company collected information that could serve as process safety indicators, but they were not systematically used to drive performance improvements. The investigation further concluded that standardized and demonstrably effective process safety indicators were not available in the refinery and petrochemical industries as a whole. The report placed an emphasis in particular on the preventative impact of leading performance metrics. Moreover, the investigation found that public reporting of the performance of the firms and individual sites in the area of process safety was extremely weak or non-existent.

These findings led the CSB to recommend that the API and USW jointly lead the development of a voluntary consensus standard for leading and lagging process safety indicators for these industries. The API is a national trade association that reportedly represents nearly 400 member firms from all sectors of America's oil and natural gas industry, from very large to small and independent oil companies. The USW is the major union that represents workers employed in the oil and gas industry, though not the sole worker representative.

B. Response to the Recommendation

USW was a strong participant in the development of the first edition of API RP 754, *Process Safety Performance Indicators for the Refining and Petrochemical Industries*. In documentation provided to the CSB by API, USW's participation is clearly demonstrated. Over roughly 24 months in 2008 and 2009, the USW participated in 10 of the 11 meeting and conference calls, as well as hosted a meeting in Nashville, TN. Though USW ultimately withdrew from the Committee, their participation in the first edition of the standard is undeniable.

C. Board Analysis and Decision

As the USW was highly involved in the development of the first edition of API RP 754 the intent of this recommendation was met, and the Board voted to change the status of CSB Recommendation No. 2005-04-I-TX-R6b to: "Closed – Acceptable Action."