Securing the Use and Manufacture of Hazardous Materials

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ABSTRACT

Throughout the industrial age, and particularly since the mid-1980's, engineers and the public have recognized that hazardous materials can destroy lives and property if handled improperly. Significant progress has been made in improving the process safety performance, resulting in fewer accidents and lessened consequences of these accidents. All progress notwithstanding, fires, explosions, and toxic exposures still result from or cause hazardous material releases many times per year. In practically all instances, these releases are accidental. Preventable, surely, but never, or hardly ever, have releases been caused intentionally with thought to harm.

Since September 11, 2001, however, we have become increasingly aware that global terrorists view the industries that use or manufacture hazardous materials as potential weapons. By destroying critical plants, causing hazardous releases, introducing hazardous impurities into commerce, and theft of explosive and/or pharmaceutical precursors, terrorists could cause death, disruption of commerce, and other major social impacts.

Fortunately, the lessons we have learned from process safety efforts and the tools that we use provide an excellent foundation from which to rise to this new challenge. By integrating the basic principles and practices of process safety and security, both practices are enhanced, making plants safer and more secure.

This paper describes a multi-corporate effort, coordinated with government agencies, to develop methods and tools to integrate process safety and security. The result incorporates and builds on the best practices, policy, and strategic thinking of more than 20 companies, trade associations, and government agencies. The resulting guidelines for process safety and security, and plans for future efforts will be discussed.