Global Process Industry Initiatives to Reduce Major Accident Hazards

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Abstract

The vapor cloud disaster at Texas City, the ammonium nitrate explosion in Toulouse, a pipeline disaster in Belgium, and three near total loss events in Norway have highlighted that major accident process safety is still a serious issue. Hopes that PSM or Safety Case regulations would solve these issues have not proven true. The Baker Panel, convened after Texas City developed a series of recommendations, mainly around leadership, incentives, safety culture and more effective implementation of PSM systems. Many US-based companies are working hard to implement the Baker recommendations. In Europe, an approach built around safety barriers, especially relating to technical safety systems, is being widely adopted.

DNV has carried out a global survey of process industry initiatives, for both upstream and downstream activities, to identify what the industry itself is planning to enhance process safety in the next 5 – 10 years. This paper presents a summary of some of the major programs and initiatives as apply to traditional oil majors, newer National Oil Companies, and the chemical industry. These are a mixture of Baker recommendations, barrier approaches and tighter integration of process safety and asset integrity. While the factor of 10 improvement seen in occupational safety over the past 20 years seems unattainable for process safety, a factor of 3 – 4 improvement in the next 20 years does seem possible. This would call for significant effort on the part of operators, but the benefits fully justify the effort.