Incident Database and Macroanalysis to Help Set Safety Direction

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ABSTRACT

This paper describes the framework of an incident database and how incident data can be used to help set safety direction. It includes history, database design, and data collection and utilization. Examples illustrate how macroanalysis of incidents revealed inherently weak systems. These systems suffered disproportionate losses. Analyzing data from incident investigations improved the understanding of the risks associated with the processes. In partnership with the product category, corporate process safety organizations initiated equipment design modifications and procedural changes. These changes significantly reduced both the likelihood and consequences of incidents.

When safety incidents occur, most organizations conduct investigations and prepare reports. These reports generate much information. What happens to the collected information? Is the data reviewed frequently? Are incidents in similar systems analyzed on a macro basis? If incidents occur in similar systems, do reviews reveal lessons learned? Answers to these questions may depend on how easily the data can be accessed.

Databases offer an effective option for managing large amounts of information. Used to study process safety trends and underlying causes of incidents, databases can be powerful and effective risk management tools. Macroanalysis of incident data can reveal process safety weaknesses and help risk managers determine where to focus effort and resources.