Learning from Past Performance – Using Human Factor Data to Guide and Drive Process Safety Improvements

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ABSTRACT

Process Safety Management regulations were adopted to reduce the frequency and severity of accidents in the process industries. In the most basic sense, PSM is intended to provide a foundation of risk management that goes beyond the standard OSHA regulations. Like with any risk management program, PSM requires (in part) that risks be identified and evaluated, that procedures are put in place to ensure the safe completion of activities associated with the PSM-covered processes, and that incidents are investigated to identify causes so corrective measures can be implemented. What is missing from the PSM regulations is a basis for learning from past performance. As an example, the incident investigation requirements outline the collection and analysis of data that pertain to a specific event but do not require a comparison to other incidents which may have occurred within the same unit, the same plant, or even the same company. As a result, companies can demonstrate compliance with PSM but are missing opportunities to identify (and respond to) multiple underlying causes that may be contributing to accidents within their organizations. This paper will discuss how companies can learn from past performance by evaluating human factor data from multiple incidents within their operations and using these data to guide and drive process safety improvements. In addition, we will discuss how these data can be organized into a management system that provides a basis for continual improvements in process safety performance.

Key Words
Process Safety, Risk Management, Safety Metrics, Human Factors, Continual Improvement