Moving Towards a Learning Organization: Integrating Human Factor Investigation Data into the Analysis of Process Safety Incidents

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Abstract

The need to measure both leading and lagging indicators for the continual improvements in process safety has long been recognized and has been recommended by both U.S. and international organizations, including but not limited to the Chemical Safety Board, the Baker Panel, the UK’s Health and Safety Executive and more recently, the Center for Chemical Process Safety. However, the collection of process safety metrics by themselves is only part of the solution to improved process safety. Companies must also employ a systematic and disciplined process to analyze these metrics and integrate the resultant information into an effective process safety management system. In doing so, these companies can move towards what has been termed a “learning organization”.

Human factors investigations provide a systematic process that companies can employ to further analyze process safety metrics, specifically PSI. The results of these investigations, especially when aggregated, yield a set of leading indicators which can be used to monitor process safety performance. These data have proven to be very useful for the identification of improvement opportunities across many elements of a process safety management system. This presentation will provide an overview of the CCPS-proposed metrics and examine how a human factors investigation process can be integrated into the analysis of process safety incidents. In addition, we will discuss how human factors investigation data can be used within a process safety management system to achieve continual performance improvements.

Key Words: Human Factors, Process Safety, Leading Metrics, Lagging Metrics, Learning Organization