Migrating an Organizational Incident Reporting System to a CCPS Process Safety Metrics Model

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ABSTRACT
A major chemical company established a formal incident investigation and reporting system several years ago. The original system focused heavily on worker-related injuries, illnesses, and near misses and was used primarily to track OSHA reportable statistics. This OII (Occupational Injury and Illness) approach has been recognized to be an ineffective tool for measuring, predicting, and preventing process safety incidents. The CCPS recently published guidelines on how to establish safety metrics for the measurement and reduction of process safety incidents. The process safety metrics approach relies upon leading and lagging metrics to improve organization process safety. This paper is a case study of the analysis of one organization’s incident database, which represented approximately 5 years of data from over a dozen facilities. The aim of our investigation was to extract useful process safety metrics pertinent to the types of process units and process functions at these facilities from the incident investigation and reporting system. This paper will discuss the approach taken to extract process incident information from an OII-based database and present the difficulties of performing an analysis on such a database. This paper provides guidance on how to migrate an existing OII-based reporting system to a program that includes process safety metrics in accordance with industry best practices.