Database Management Systems for Process Safety

Abstract

Several elements of the process safety management regulation (PSM) require tracking and documentation of actions; process hazard analyses, management of change, process safety information, operating procedures, training, contractor safety programs, pre-startup safety reviews, incident investigations, emergency planning, and compliance audits. These elements can result in hundreds of actions annually that require tracking and documentation. This tracking and documentation commonly is a failing identified in compliance audits, and is difficult to manage through action lists, spreadsheets, or other tools that are comfortably manipulated by plant personnel.

This paper discusses the recent implementation of a database management system at a chemical plant and chronicles the improvements accomplished through the introduction of a customized database management system. The system implemented modeled the normal plant workflows, provided simple, recognizable user interfaces, and resulted in a dramatic improvement in program effectiveness.