Overpressure Protection Assurance through Management of Change

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Abstract

Pressure relief analysis and design basis integrity are paramount to the safe operation of any facility handling a highly hazardous chemical or operating a process system under potentially hazardous conditions. As one of the process safety information elements of the OSHA 1910.119 Process Safety Management mandate, facilities handling highly hazardous chemicals must establish and maintain their overpressure protection design basis. “Relief systems” and “Blowdown Drums and Vent Stacks” are also on OSHA’s National Emphasis Program Static List of Inspection Priority Items, which was implemented in June, 2007.

Data from numerous pressure relief analysis efforts provide evidence that deficiencies continue to exist in overpressure protection systems, including pressure relief devices and effluent handling systems. One of the primary reasons for these deficiencies is the shortage of technical personnel with sufficient experience to identify when the pressure relief analysis design basis must be reviewed and perhaps modified as changes to the process are made. The authors contend that comprehensive integration of pressure relief analysis expertise with a facility’s management of change (MOC) program is necessary to establish and preserve overpressure protection integrity.

This paper shows how to achieve accelerated MOC program improvement when modifying existing processes and equipment by including key questions regarding pressure relief design aspects of the change under review. The focus is on developing an assessment checklist for the project design team. Responses to the checklist provide guidance regarding potential involvement of a pressure relief analysis subject matter expert as an integral element of the proposed modification.