Identifying the Underlying System-based Causes of Human Errors in Major Chemical Incidents

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ABSTRACT

Media coverage of major chemical incidents almost always concludes that human errors caused these incidents. The mistaken belief that human errors are the root causes of industrial incidents reflects, in part, a national emphasis on individual responsibility coupled with society’s desire to assign blame and hand out punishment. Effective human factors programs recognize that the blame game is an obstacle to the prevention of chemical incidents.

A properly conducted investigation of chemical incidents should focus primarily on systems performance, not individual performance. By concentrating on safety system problems and needed improvements, opportunities for prevention of similar incidents are maximized.

Human error is indeed a factor in most chemical incidents. Human errors, however, are most often the symptoms of problems in underlying safety systems. The elements of process safety management outlined by organizations such as OSHA and the Center for Chemical Process Safety constitute a minimum framework for managing chemical safety. Effective prevention of major chemical incidents requires the establishment of comprehensive human factors programs. This presentation will convey the initial experiences of the new Chemical Safety Board regarding human factors safety.