Using Human Factor Data to Evaluate Risk Controls
and Identify Areas for Improvement

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Abstract

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It is generally accepted that employee and contractor behavior is a significant source of risk in industrial operations and contributes to the majority of incidents and accidents. To reduce these risks, companies strive to manage employee and contractor behavior through a variety of controls, including:

- The development of company culture, leadership and high level policies
- Systematic and disciplined risk identification and assessment
- Project planning and budgeting
- Development of procedures, work instructions and practices
- The hiring of qualified personnel, proper training and supervision, and
- Performance monitoring, auditing and verification

When incidents and accidents occur as a result of employee or contractor behavior, it’s often because one or more of these controls has failed or was insufficient for the current risk environment.

There is no doubt that companies are interested in controlling these risks and improving safety performance. The challenge they face, however, is determining which controls have failed or are missing and what improvements are needed.

This paper will discuss how companies can employ a human factor analysis of incidents and accidents to evaluate their current layers of risk controls and identify areas needing improvement and/or creation. In addition, we will provide a case study showing how these data can be integrated into the existing management system, providing a basis for continual improvements in process safety performance.