Anatomy of Human Error and Reliability in Modern Age Plants

Subject: Human Error and Reliability

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ABSTRACT:

Human performance has been a key component of incidents and accidents in many industries. Recently, the role of human error was documented in a number of well-studied, high-profile events in the petrochemical and nuclear power industries. The most recent data within BASF shows that greater than 2/3 of most incidents (whether attributed to Process Safety Incidents involving fires, explosions, and releases or occupational accidents) involve some form of human error or human reliability that was miscounted or flawed, respectively, at various points in the lifecycle process. This paper details the approach taken for 1) Identifying important factors for analyzing Human Error during a Hazard Analysis in Modern plants, 2) Evaluating key probability of failure on demand considerations for assessing risks involving Human Error, 3) Evaluate how Human (PSFs) performance Shaping Factors and system interaction can potentially lead to accidents and 4) Provide insight on how culture and human factors Engineering can play a significant role in reducing human error.