ExxonMobil Production HAZOPs: A Valuable Risk Assessment Tool to Improve Process Safety

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ABSTRACT

The paper will provide an overview of ExxonMobil Production Company’s (EMPC) HAZOP (Hazard Review and Operability) process for Upstream operating facilities. It will describe the background, drivers and process used for conducting HAZOPs in EMPC as well as key results from the HAZOPs.

HAZOPs are a key vehicle for improving process safety through identification of process related hazards and reliability/operability issues in operating facilities such as gas plants, LNG facilities and offshore production facilities. The process used for conducting HAZOPs is a unique approach called the ExxonMobil "Knowledge Based" approach. It utilizes the HAZOP Leader's and Team's technical and operational knowledge along with a Safety & Environment Reference List built from ExxonMobil's Global Practices. In addition to identifying process hazards, potential actions to prevent/mitigate the hazards and operability issues are developed in the HAZOP, and then prioritized using a risk based approach. As a result, the operating unit is left with a clear list of action items, which should help minimize risks and improve the reliability of the facility.

Knowledge-based HAZOPs are being conducted on existing facilities that meet a minimum criteria threshold, as well as on major new facilities about one year after start-up. Critical items for conducting a successful HAZOP will be discussed such as planning, Team make-up, documentation, etc. Some of the key learnings from conducting Knowledge-based HAZOPs will also be discussed.