Back to the Future: Why are we doing this HAZOP?

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ABSTRACT

Hazard & Operability reviews (HAZOP) and other forms of Process Hazard Analysis (PHA) have been an integral part of the design verification of process plants for several decades. These ubiquitous tools have been used in their various forms for everything from large scale multi-billion dollar projects through to periodic plant safety analyses and to validating the integrity of minor plant modifications. As with many human endeavours these design verification processes have been born in response to significant disasters involving loss of life.

The application of PHA (et al) is almost a reflex action. It is always seen as a critical milestone on the project schedule. The PHA implementation project bulletin is a key document painstakingly developed by the HSE & Process disciplines. Yet the application of PHA can sometimes derail orderly project execution. This paper deals with some of the difficulties in applying PHA and suggests some potential remedies as relevant to executing major projects.

The history and background of HAZOP is used as the framework for exploring how hazard identification is and how it should be undertaken when executing a project. The important difference between the HAZOP meeting and the HAZOP process is highlighted. This then leads into a discussion of how HAZOP should be more carefully linked to the fundamentals of the design process rather than using it as an “after-market bolt-on”.

Elements of this paper, used to highlight the proper application of HAZOP, include:

- What constitutes appropriate training for project personnel
- Linkage to design criteria and design reviews
- HAZOP leaders versus facilitators
- Prerequisites and the project schedule
- Understanding the often conflicting demands on HAZOP