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Hazard Identification of Chemical Process Industry through HAZOP Study

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Abstract: *Hazard and Operability (HAZOP) techniques the best step for identification and analyzing the hazard and operational issues of the system. It is very organized, methodical and structured process to identify hazards of any system or process from the initiating stage till decommissioning of the project. Technology and system possess exposure to undesired events because system can fail or improper work resulting in injury, damage and deaths. Our lives are dealing with a web of different systems, each of which can affect our safety. Each of these systems contains inherent hazard that present unique risk. The major concerned is about eliminating and reducing risk which leads to undesired events. The overall methodology like Failure Mode Effective Analysis, Fault Tree Analysis, Event Tree Analysis, HAZOP, Checklist, inspection, Audit, and What if Analysis presented in this dissertation allows systematic identification of hazards as well as quantification of the risks associated with the operation of chemical process plants. This aids the selection and prioritization of necessary strategies for accident prevention, reduction and limiting their consequences. This dissertation can be used for improving plant safety performance as well as to reduce human and property losses. The result of Hazard identification helps to suggest the control measures in order to prevent deviation and to avoid the consequences. HAZOP technique provides clear and detailed analysis of hazard associated with the process and results are easy to understand.*

Keywords: Hazard identification, Fault Tree Analysis, Event Tree Analysis, Checklist

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