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HAZARD OPERABILITY TECHNIQUE

Hazard and Operability (HAZOP) technique is well-known in the chemical and oil and gas industries. This technique was introduced for ICI Chemical company engineers in 1970 to prevent process deviation. It consists of a very structured methodology, which provides a guideline to assess process deviation, causes, consequences, and whenever possible to propose recommendations to mitigate risk.

HAZOP technique is mainly carried out during the basic project phase to have enough time to implement the recommendations during the project. HAZOP can also be carried out for plants during the operational phase, but this is unusual because it is not expected to be implemented or to perform modifications in the plant during this phase.

HAZOP methodology consists in defining which are the consequences of process deviation and tries to mitigate the risk by implementing recommendations as layer protection. This is a good structural analysis, with specific process deviation, guide word and concepts.

To perform a well-done HAZOP, it is important to have complete and updated drawings as well as updated information regarding processes, products and equipment. Additionally, it must have a multidisciplinary team with experienced people in dissimilar areas in order to perform a risk analysis with quality assurance.

SIGNIFICANCE OF HAZOP

- It helps companies significantly increase the safety standard by allowing the safety professionals to identify and then either control or eliminate hazards. It can thus save lives and decrease employee injuries.
- It attends to the process operability conditions by providing insights to improve the process controls.
- It helps justify the cost and time investment.
- It is ideal for large and complex systems. Breaking these systems down into their component parts and assessing each in turn gives safety professionals a more fine-grained look at potential hazards that may otherwise be overlooked.

COMPONENTS OF HAZOP OPERABILITY

- HAZOP review by team
- Documentation
- Table
- Follow-up

