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15/ENG01/008

CHEMICAL ENGINEERING

CHE512

LOSS PREVENTION AND INDUSTRIAL LAW

ASSIGNMENT

1. Briefly discuss hazard operability technique

A hazard and Operability Analysis (HAZOP) is a risk management technique used to identify potential hazards and functional flaws in existing or planned plant systems. It is a structured and systematic examination of a complex planned or existing process or operation in order to identify and evaluate problems that may represent risks to personnel or equipment. The intention of performing a HAZOP is to review the design to pick up design and engineering issues that may otherwise not have been found. It is primarily used to study complex operational hazards and functions in chemical processing plants.

HAZOP is based on the assumption that hazards happen because elements of design and operation can deviate from their original intention. The technique is based on breaking the overall complex design of the process into a number of simpler sections called nodes, which are then individually reviewed.

The HAZOP technique is qualitative, and aims to stimulate the imagination of participants to identify potential hazards and operability problems. Structure and direction are given to the review process by applying standardized guide-word prompts to the review of each node.

A HAZOP study is performed by an interdisciplinary team of experts including engineers, chemists, facilities managers and safety officers to identify procedural risks, process hazards, and design flaws.

2. State the significance of HAZOP Technique

The significance of HAZOP is to investigate how the system or plant deviate from the plant design intent and create risk for personnel and equipment and operability problems. With the investigation, safeguard and improvement recommendations are proposed to lower the risk of identified hazards and operational failure from occurring.

It also looks at processes that might prevent the facility from running as efficiently as it should.

3. With the aid of a block diagram, list the components of hazard operability

