

**ASSIGNMENT
ON
LOSS PREVENTION AND INDUSTRIAL LAW
CHE 512**

**BY
ADEYELU TEMITOPE OPEMIPO
16/ENG01/023**

**SUBMITTED TO THE

DEPARTMENT OF CHEMICAL AND
PETROLEUM ENGINEERING, COLLEGE OF ENGINEERING,
AFE BABALOLA UNIVERSITY,
ADO-EKITI, EKITI STATE, NIGERIA.**

**IN PARTIAL FUFILLMENT OF THE REQUIREMENT FOR THE
AWARD OF THE BACHELOR OF ENGINEERING (B.ENG)
DEGREE IN CHEMICAL ENGINEERING**

26TH APRIL 2020

QUESTION ONE

A Hazard and Operability (HAZOP) technique is a structured and systematic examination of a planned or existing process or operation in order to identify and evaluate problems that may represent risks to personnel or equipment, or prevent efficient operation.

The HAZOP technique was initially developed to analyse chemical process systems, but has later been extended to other types of systems and also to complex operations and to software systems.

A HAZOP is a qualitative technique based on guide-words and is carried out by a multi-disciplinary team (HAZOP team) during a set of meetings.

QUESTION TWO

The HAZOP technique offers a number of significance and it is hardly surprising that it is the most widely used tool for identification of hazards and operability problems in the process industry.

1. The multidisciplinary approach helps identify a whole range of issues (safety, operations, maintenance, design, construction)
2. It is a powerful medium of communication of the designer's intent to the operations personnel, and helps to accommodate operational requirements at design stage
3. It identifies both linear and complex interactions between various subsystems in the system, and between systems, and functions
4. It highlights hazardous events that could occur from a combination of causes (complex interactions) and provides input for detailed hazard analysis.
5. For new projects and extensions to existing plants, the review is conducted on paper before the design is complete and hence offers the flexibility to make the necessary design changes.

6. It provides for smooth commissioning of the plant and equipment, and continued smooth operation thereafter, avoiding costly shutdowns and modifications at a later stage.
7. When a HAZOP study is conducted on an operating plant, it reveals not only the appropriate action to be taken to prevent a recurrence of previous incidents that may have occurred, but also a whole range of other actions to prevent potential incidents that may not have occurred.
8. The HAZOP study can be used to define operating limits and safety limits (upper and lower bounds) on critical operating parameters such as temperature and pressure. Defining the operating and safety limits is a specific requirement of process safety management in many.

QUESTION THREE



