Safety Audits at Oil & Gas Installations – A Supervisory Activity

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ABSTRACT

Handling large inventory of petroleum which is highly inflammable has made the Hydrocarbon Industry inherently hazard prone & complex. Operations are subjected to high temperatures and pressures in Refinery and Petrochemical installations. In early Hydrocarbon / Chemical Industry, processes were relatively simple and societal expectations regarding safety were low by today’s standards. As technology evolved & increased dramatically in complexity, and, simultaneously, societal expectations for safety in all Industrial activities increased.

Any loss of containment during handling and processing would result in Process Safety incidents such as fire and explosion. A sense of vulnerability is therefore the driving force for the need to have increasingly specialized expertise & knowledge in Process Safety, Asset integrity and loss prevention for the Hydrocarbon Industry which focuses on ; engineering & management activities, in the areas of Design & Engineering of facilities, Prestart up safety review, Facility Operation, Mechanical integrity & Maintenance, Process Control, Training & Procedures, Hazard & risk identification, Management of change, Technical Risk & abnormal situation management & adopting risk reduction measures.

Safety Audits in any Industry is one of the Supervisory Activity which is used as a tool to verify the true implementations of Safety Management System (SMS) of an Organization. It is one of the Leading indicators for preventive safety & provides valuable insight into personnel & management system performance.

Although most organizations that handle hazardous materials & the operation is complex, have implemented Safety management systems, they are still having incidents/accidents. There is a requirement of doing both

- Compliance Safety Audit as well as
- Quality Safety Audits.

A company can have a SMS programme that meets regulatory requirements but is not effective in preventing accidents. The problem is that the quality of many Safety Audits is poor and in many audit programmes the mechanisms to identify Quality issues do not exist.

The paper addresses the Safety Audits in the areas of management & engineering activities covering; Leadership and Management Commitment, Risk Identification, Risk Management and Review & Monitoring to verify the true implementation of SMS. Auditing & Safety condition monitoring identifies the conditions of systems and takes corrective measures before accidents, harm, damage or failure occurs. This paper shares the knowledge & the approach of auditing to control risks and prevent accidents focusing the areas that have the potential to cause an accident /incident, before the incident itself is realized.