

## **DEVELOPMENT OF SAFETY MANAGEMENT SYSTEM**

### **USING HYBRID MCDM METHODS**

Safety is to be ensured in each and every step of the process industries. Safety is of greater importance and got an effective impact in augmenting nation's resources and it demands the attention of various stakeholders. Increasing technological advancement and complexity along with the rapid growth of industrialization have made it necessary to develop more effective approaches to safety. This necessity is particularly strong in the design, operation and maintenance of process industries. Safety management studies are standard practices in process industries, and much of the information produced would be of benefit to all stakeholders.

In India, mandatory legislations, practices, code and policies are followed and enforced. As incidents (or near hits) are inevitable it is necessary to conduct safety and risk assessment to ensure safe working practices in the working environment. To deal with this problem, many risk analysis methodologies were developed by industrialists and competent authorities. Recent safety and risk management systems have reached a very high level of development and application based mainly on the development of the MCDM and soft computing techniques.

In the research work, an appropriate safety and risk assessment studies have been proposed using various risk management techniques along with hybrid MCDM approaches for effective safety management of identified technical critical system in process industry. The outcome of the proposed study will be used to support and guide the safety officials and the plant operators for risk based decision making during the time of safety related problems.