

## **Abstract of Proposed Published Article on “Safety in Design during Piping Engineering” in Feb 2018 issue of Hydrocarbon Processing**

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### **Introduction**

After a process engineer completes his preliminary basic documents, these documents are issued progressively to engineers of other disciplines. The other discipline engineers then get more & more involved in design phase from their respective engineering point of view and add value to these basic documents by including various safety design features in order to finalise them for further engineering.

### **What is Safety in Design**

Safety in design is mitigation of identified risks and hazards early in basic design process, which will enable safe and reliable plant operation throughout the life. Safety in design encompasses all the components / aspect of plant such as layouts, material, equipment, tools, controls, construction, operation, maintenance, product, environment etc. The design team needs to ensure that the safety is embedded in every phase of the lifecycle of project.

### **Role of a piping Engineer**

Pipingengineer has an important rolein selection of proper materials and in preparing design specifications of piping system components from various alternatives. He provides significant contribution to overall plant & piping layouts through coordinating with other engineering disciplines.

This article provides useful insight giving practical examples on important topics which are needed by piping engineers to play their role effectively. These topics include:

- Knowledge of various international, national & company standards and industry practices
- Suitable material of construction & specifications for piping systems
- Importance of Stress Analysis
- Selection of various types of piping components
- Plant layout
- 3-D Model construction facilitating design reviews
- Insulation, Painting and Installation specifications