Inherent Safety and Reliability in Plant Design

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ABSTRACT

Inherent safety principles apply at all stages in a process life cycle. While the biggest gains are achieved early, through the selection of inherently safer process technology, there are many opportunities for enhancing the inherent safety and reliability of a plant at the detailed design stage. Specific examples will be discussed, including examples of pump and compressor selection, piping design, vessel design, human factors in equipment design, and design modifications to reduce the frequency of plant startup and shutdown. We will also discuss the connection between the inherent safety of a plant and plant reliability.