Application of Critical Thinking Concepts to Determining the Most Likely Scenario

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ABSTRACT

Chemical process incidents are typically accompanied by a complex chain of events involving multiple breakdowns of existing safeguards in “tightly coupled” systems. When identifying and determining the most likely scenario(s), there are several critical thinking skills essential for success of the investigation. This paper presents recognized critical thinking tools / techniques for developing, proving, disproving and evaluating potential hypothesis. This paper examines common avoidable mistakes in scenario determination and will use typical process incidents to demonstrate an more effective approach. This paper includes concepts that should be incorporated in the skillset for the investigation team.