Creative Thinking and Critical Thinking for Process Safety

Many aspects of process safety require practitioners to think creatively about issues and to critically evaluate their own judgments and the judgements of others.

People are not required to think creatively for many daily tasks and activities. Routine thought works well for most tasks and activities and becomes habitual for many people. Indeed, the educational system largely encourages such thinking.

Similarly, critical thinking often is not practiced. Conventional thinking can be incomplete, unclear, uninformed, distorted or biased resulting in judgments that are false. Important considerations may be overlooked and flawed reasoning often is not recognized.

Creative thinking and critical thinking are essential for PHA study teams. They are also important for other elements of process safety such as incident investigation, managing changes, and auditing. This course teaches the application of these two different but complementary types of thinking.

Objective:

To improve the ability of process safety practitioners to develop solutions to problems and evaluate their own judgements and those of others, for example, in identifying hazard scenarios to improve the completeness and quality of PHA studies.

Target Audience:

Process safety practitioners such as PHA facilitators and participants, incident investigators, and auditors.

Course Topics:

- Key decisions in process safety
- Types of thinking
- Creative versus critical thinking
- Characteristics of creative thinkers
- Characteristics of critical thinkers
- Do's and don't's of brainstorming
- Development of creativity
- Deductive and inductive arguments
- Evaluating arguments
- Addressing cognitive biases
- Assessing the credibility of claims
- Use and abuse of persuasion
- Recognizing fallacies
- Impact of emotion, self-interest, and wishful thinking

Duration:

Two days, 1.4 CEUs awarded

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