CCPS CENTER FOR CHEMICAL PROCESS SAFETY
An AIChE Industry Technology Alliance

Process Safety Beacon

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Messages for Manufacturing Personnel

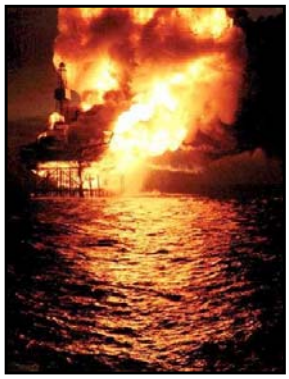
Sponsored by CCPS Supporters

Process Safety Culture

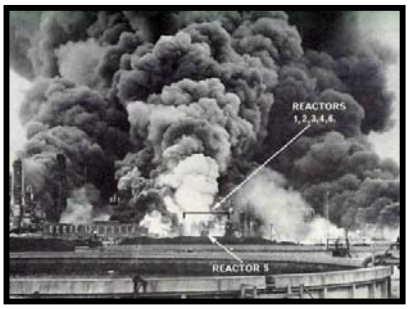
June 2007

January 1986, Space Shuttle *Challenger* explodes during launch

February 2003, Space Shuttle *Columbia* breaks up during re-entry



July 1988, Piper Alpha Oil Platform destroyed by fire and explosion



June 1974, Flixborough, England chemical plant explosion

March 2005, Texas City, Texas oil refinery explosion

What do these incidents, which were all major failures of complex technical systems, have in common? In all of them, the incident investigations identified problems in the organization's "safety culture" as an important contributing factor. But, what is "safety culture"? The United Kingdom Health and Safety Executive defines safety culture as " ... the product of the individual and group values, attitudes, competencies and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety programs." It sounds pretty complicated, and CCPS suggests a simpler definition: "Safety culture is how the organization behaves when no one is watching." While management has a key leadership role in establishing a good safety culture in an organization, everybody must contribute. In this Beacon, we will focus on one important aspect of safety culture – ***maintaining a sense of vulnerability*** – and cover others in future issues.

Since catastrophic accidents are not very common, it is easy to begin to believe that nothing bad can happen. People can become complacent, and have a false sense of security. Good operations can be compromised. Critical protective systems and procedures may not be maintained, or may be changed without proper understanding of the possible consequences. Eliminating serious incidents requires constant attention to the potentially catastrophic results of hazardous activities.

What You Can Do?

- Be vigilant about the hazards of the materials and processes in your plant.
- Recognize "near miss" events to remind you of what could have gone wrong.
- Use incidents which occur in other facilities, such as the incidents reported in the Beacon, to remind you of the possibility of similar problems at your plant.
- Always operate within safe operating limits, and established operating procedures. When this isn't possible, notify your supervision immediately.
- Use approved procedures for authorizing changes to established procedures, including thorough risk evaluation and approval by knowledgeable authorities.

A good safety culture depends on everyone!

The Beacon is usually available in Chinese, Danish, Dutch, English, French, German, Gujarati, Hebrew, Hindi, Italian, Japanese, Korean, Malay, Persian, Portuguese, Spanish, Swedish, and Thai.