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Safety First and Foremost

I once took my car to have the muffler replaced and, when I returned to pick it up, I found that the mechanic had set the car on fire. A trainee had started to remove the old muffler with a blowtorch. When a fire broke out, one worker attempted to put it out with the shop's fire extinguisher, but that quickly ran empty. Then someone grabbed a hose and began spraying water on the flames. Luckily, a gasoline delivery truck was passing by, and the driver stopped to put out the fire with the large-capacity extinguisher on his truck. Although the manager claimed there must have been a tiny hole in the gas tank and the leaking gas caught on fire, my own mechanic later discovered that a hole had been burned into the side of the tank that faced the muffler.

As a chemical engineer, I was appalled when I learned the circumstances surrounding my car being totalled and some of the root causes of the incident: inadequate operator training on the procedures and tools involved in performing the job; inadequate supervision of a trainee; inadequate fire-extinguishing equipment; inadequate training on the proper way to put out a gasoline fire … All of these were especially critical because the task was an inherently unsafe process.

That incident came to mind when I reflected on this issue's emphasis on safety. We're concentrating on safety because this month marks the 25th anniversary of the toxic release in Bhopal, India, which killed more than 3,000 people and injured more than 50,000. Shortly after that, 17 industry executives requested that AIChE launch a major initiative to improve the practices of process safety. In March 1985, the Center for Chemical Process Safety (CCPS) was established to:

- advance state-of-the-art process safety technology and management practices
- serve as a premier resource for information on process safety
- foster process safety in engineering and science education
- promote process safety as a key industry value.

The article "Remembering the Past to Create a Safer Future" (pp. 20–21) kicks off a new contribution by CCPS to *CEP*, a quarterly column called Spotlight on Safety. In it, Roxy Schneider recalls the Bhopal incident and an explosion at a chemical plant in Flixborough, U.K., ten years earlier. She points out that "lessons learned from all process safety incidents are vitally important to both the creation and implementation of effective and sustainable process safety programs." CCPS offers many resources for practicing engineers and students to learn about process safety, including books, courses, conferences, and more; for information, go to www.aiche.org/ccps.

This month's Process Safety Beacon (p. 19) also reflects on the Bhopal tragedy, and offers suggestions to help manufacturing personnel prevent similar reactive-chemistry incidents.

In another article on process safety in this issue, "Should Your Organization Fly Warning Flags?" (pp. 22–26), Ian Sutton discusses the role of a company's safety culture in maintaining high levels of safety. He explains six indicators — or warning flags — that can alert an organization to impending safety problems.

I wish there had been a warning flag flying over that repair shop, and I hope the company learned from the incident and changed its facility designs, work practices, and training programs.

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