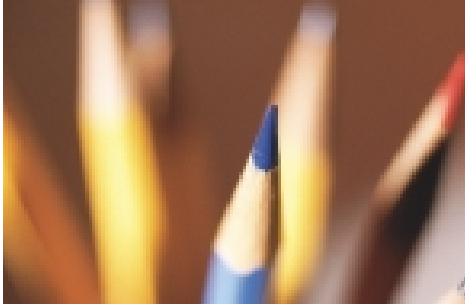

Safety, first and foremost

Negative publicity has probably plagued the chemical process industries (CPI) since its inception. Take for instance the 1999 movie, *A Civil Action*, starring John Travolta, adapted from the nonfiction bestseller authored by Jonathan Harr. In this case, the CPI companies were accused of allegedly contaminating the drinking water in Woburn, MA, resulting in the deaths of innocent children. However, if we take a look at the flip side, it is highly unlikely that a movie will be made based on the fact that there has been a decrease, from 19% in 1993 to 8% in in 1998, in the percentage of children living in areas served by public water systems that had any violation of drinking water standards, as reported in the U.S. Environmental Protection Agency's (EPA) January 2001 report, "America's Children and the Environment: A First View of Available Measures." While we would all like this percentage to drop to zero, this downward trend is a step in the right direction.

There is some justification for this stigma though. It is the direct result of the CPI's less-than-stellar safety record when the industry first started up in the 1950s. But, things are changing for the better. Unlike in the past, the CPI does not have free reign to do as it pleases. Instead, it must abide by the rules and regulations of government agencies, most importantly, the EPA and the Occupational Health and Safety Administration (OSHA).

Today, the public has access to information about CPI activities and the possible dangers they are being exposed to. One key piece of legislation is the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), which requires industrial facilities to annually report the quantities of toxic chemicals released into the air, water, and land. All of these data are then analyzed by the EPA, and made available to the public.

An offshoot of EPCRA is the annual Toxic Release Inventory (TRI), which offers data on the amount of toxic releases discharged by facilities throughout the country. Overall, the TRI includes information on releases and other wastes for 644 toxic chemicals and chemical compounds. The TRI for 1999, the year of the most recent data, was just released in April. It showed continued decreases in emissions in several industries. "This inventory is a powerful tool for helping to protect public health and the environment. I am pleased at the significant progress being made as trends continue downward," said EPA Administrator Christie Whitman. "Americans are reaping considerable benefits from the TRI program. We're seeing constant decreases of emissions to air, land and water, especially in the manufacturing industries, where there has been a 46% decrease [about 1.5 billion pounds] over the 12-year history of the program." The one-year decrease from 1998 to 1999 was 2.5%.

The CPI is also taking a proactive stance in ensuring public and employee safety. This not only comes in the form of industry initiatives, such as Responsible Care, but also in better process and equipment design. For example, in this issue of *CEP*, our cover story is about ensuring the accuracy of your simulation program (p. 42). Simulations have helped the CPI to optimize processes, while factoring in environmental, health, and safety issues. Also, under our "Safety" heading we cover proper sizing of relief valves (p. 56).

Although nothing can excuse the CPI for past mistakes, we can clearly see that progress is being made to ensure the safety of the public and the employees of the CPI. And while we would all like to someday see zero emissions, the reality is that innovation comes at a price.

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