

## Some mistakes take time to become incidents

June 2022



A company decided to stop making a chemical product. One of the input materials was toxic and corrosive phosphorus trichloride ( $\text{PCl}_3$ ). The lines to the storage tank and the process area were cleared of  $\text{PCl}_3$ . A few years later, an operator found a leak outdoors. The investigation found that the leak was coming from the “empty”  $\text{PCl}_3$  line. No one was injured and the spill was contained.

During the clearing and flushing steps to shut down the  $\text{PCl}_3$  facility, someone missed clearing or flushing that section of line. It took a while, but the material corroded the “empty” pipe and caused a release.

We think of catastrophic incidents as occurring quickly like an explosion. However, many serious incidents have occurred months or even years after a mistake was made.

An operator may have mistakenly opened the wrong valve, realized the mistake, closed it, but never told anyone. Did some material pass through in that short time? What happens or when it will occur is difficult to predict, but it could cause a serious problem.

Or take another example: A maintenance technician is replacing the seal on a pump. The wrong seal is picked up in the stockroom and installed. When put into service, it may take some more time for the incorrect seal to fail. The incorrect seal will probably fail before the correct one.

### Did You Know?

- We are human; we make mistakes. Even highly trained people like pilots and astronauts make mistakes!
- There are two kinds of mistakes:
  - ♦ Not taking the required action or doing it at the wrong time (error of omission).
  - ♦ Knowing the correct thing to do but choosing to do something different (error of commission).
- Safety barriers prevent process safety incidents. It may take time for all the barriers to fail, then an incident occurs.
- However, before then, there may be warning signs of failed barriers – noises, odors, drips, etc. Watching for and responding to those warning signs is how to prevent the major incidents.

### What Can You Do?

- When performing a task, no matter how simple, follow the directions and steps. If there are conflicts or errors, report them to your supervisor.
- If you make a mistake when performing your tasks, report it. Better to be slightly embarrassed than to have someone get injured.
- Watch for warning signs. Review, for instance, the Beacons of September 2012, “What can I do? I’m just the operator”, and December 2015, “Stop! Look! Listen!”.
- When others make mistakes, make the effort to understand their errors so you can learn from them.
- When discussing others’ mistakes, do not focus on blame, focus solely on lessons learned and process improvement. Blaming degrades process safety culture. It deters others from reporting problems, near misses, errors, and mistakes that may develop into severe events at some later time.

**An error now may cause a disaster in the future !**