

## Some Mistakes Take Time To Become Incidents

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▲ A leak occurred in a process pipe years after it was shut down and “emptied.” It is likely that someone made a mistake during the clearing and flushing steps.

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.

An operator may have mistakenly opened the wrong valve, realized the mistake, closed it, but never told anyone. In that short time, some material may have passed through that section of pipe. It is difficult to predict what or when something may happen, but it could cause a serious problem.

We typically 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.

Consider 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 not fail right away. However, 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 (*i.e.*, error of omission) and knowing the correct thing to do but choosing to do something different (*i.e.*, error of commission).
- Safety barriers prevent process safety incidents. It may take time for all of the barriers to fail, allowing an incident to occur.
- However, before then, failed barriers may have warning signs — noises, odors, drips, etc. Watching for and responding to those warning signs can help 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. It is better to be slightly embarrassed than to have someone get injured.
- Watch for warning signs. For more information, review the September 2012 and December 2015 Beacons.
- 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 and 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!