

# Loss of Primary Containment (LOPC) events start an incident December 2025



January 2014



October 2021



May 2023

Process safety incidents occur in operations of all sizes, in the petrochemical industries and many other operations that handle chemicals. One thing many process incidents have in common; they start with a Loss of Primary Containment (LOPC) event. Here are 3 past Beacons that demonstrate this fact:

Corrosion can be hidden cause of LOPC. The January 2014 Beacon shows how insulation can hide and promote corrosion under insulation (CUI). (<https://ccps.aiche.org/resources/process-safety-beacon/archives?page=3>)

Poor isolation of piping and equipment is a frequent cause of LOPC events. The Beacon from October 2021 covers an incident where poor isolation fatally injured 2 people. (<https://ccps.aiche.org/resources/process-safety-beacon/archives?page=2>)

Releases of hazardous material can also be caused by mixing incompatible materials. The May 2023 Beacon points out an example of where adding the wrong material to a tank can have huge impacts.

(<https://ccps.aiche.org/resources/process-safety-beacon/archives?page=2>)

## Did You Know?

- A Loss of Primary Containment is an unplanned or uncontrolled release of material from primary containment.
- Loss of Primary Containment events often have warning signs such as severe corrosion or terminal valves in hazardous service not capped or plugged.
- LOPC is caused by many factors other than those listed above such as: vehicle strikes, mechanical damage, vibration, mis-operation, wrong material of construction, temperature or pressure changes, among others.
- Damaged insulation allows water into the insulation and can cause CUI;
- LOPC events are preventable!

## What Can You Do?

- While making rounds watch for leaks and promptly report them.
- Place barricades around leaks until the leaking material is identified and the leak is stopped.
- Report missing or damaged insulation.
- Point out leaks that occur in the same place or with the same material. They may indicate a weak point in the system or a bigger problem.
- Share LOPC events during Process Hazard Analyses (PHAs)

# Prevent LOPC - keep hazardous materials in the right place!