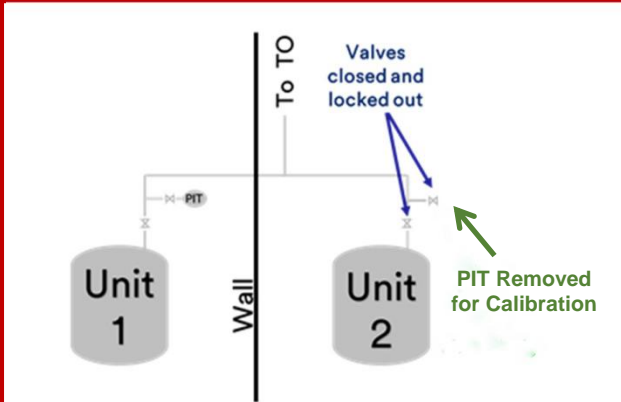
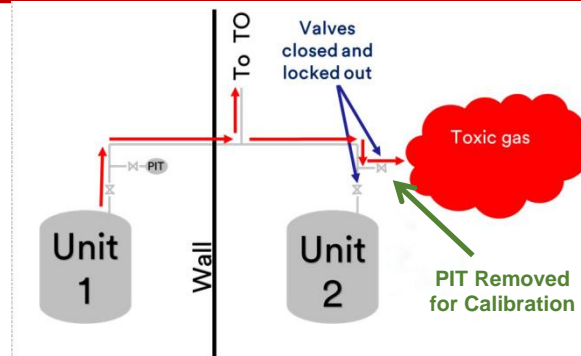


Undetected ball valve failure

March 2019



Units 1 and 2 share a common line to the thermal oxidizer (TO). Calibration was due on several instruments on unit 2. A hand valve was closed and locked out, and a pressure transmitter (PIT) was removed for calibration.



A day or two after unit 2 was locked out, unit 1 began venting toxic gas through the shared line to the thermal oxidizer. The material venting from unit 1 flowed through the vent line toward unit 2. However, the material exited through the valve where the pressure transmitter had been removed.

Valve handle in closed position



No blind on open line

Valve handle failed and allowed handle to turn without closing the valve

Ball in open position

Upon investigation, it was discovered the ball inside the valve was in the open position, even though the valve handle was in the closed position. (*Note: When moved, the valve handle "felt" like a properly operating valve.*) Fortunately, there were no injuries, but had this event happened on another system, injuries could have occurred

Did you know?

- Any valve can fail, and there are many ways it can fail!
- Valve handles may not always indicate the actual position of a valve. A failure of the handle, stem, ball, or seat can cause a problem
- What happens in one system can affect another and must be considered when altering a system, even temporarily.

What you can do

- Use blinds, plugs or caps when piping will be open, even temporarily.
- Use the line break/opening procedures for those operations, and if line break procedures are not accurate – get them corrected
- Consider the effects of interconnected systems and always 'walk the line' before transferring material.

All valves can fail. Consider double isolation.