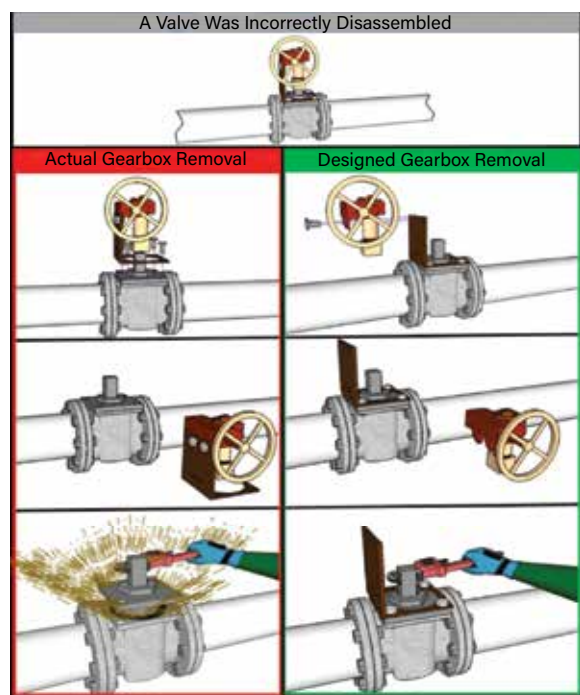


Situational Awareness Is Key to Avoiding Errors

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▲ A chemical release and fire occurred when a valve was incorrectly disassembled. Image source: U.S. Chemical Safety and Hazard Investigation Board Report No. 2016-02-I-LA.

Two operators were sent to change valve positions and bring a pump on-line during routine maintenance at a refinery in Baton Rouge, LA. When the valve would not open, the operators decided to remove the gearbox to access the valve stem directly and open the valve with a wrench. On most valves of this type, removing the gearbox would not affect the valve top cap. However, this valve was a different model. When the operators removed the gearbox from this valve, they also removed the mounting bolts that secured the valve top cap. When the operators manually opened the valve, it released a flammable vapor cloud of isobutane that ignited and seriously injured four workers.

Did You Know?

- Situational awareness is recognizing where you are and what is needed to perform a task safely.
- Inadequate situational awareness is a major factor in accidents that are caused by human error.
- Equipment with several configurations in an area or unit can be confusing and create an error trap, making it easier for someone to make a mistake.
- Having a second person to observe the operation is sometimes called the four-eyes principle. However, this practice improves safety only if the observer knows how to perform the task and is willing to intervene if an error is made or an unsafe situation develops.

What Can You Do?

- Prepare for an activity by reading the procedure before going to the field.
- Take two minutes before doing a task to ask yourself “What could go wrong?” and review that you have the procedures, personal protective equipment (PPE), and equipment needed to perform a job safely.
- If you observe an error trap (*i.e.*, a situation that could cause an avoidable error if not mitigated), notify your supervisor and file a safety report.
- If an error trap cannot be corrected quickly, tag the device to alert others.
- To reduce errors, ensure that all valve positions, the status of the equipment, and expected process conditions are identified in the task procedures.
- If asked to perform a task that you have not done in a while, review the procedures and ask a coworker if anything has changed.
- Read the February 2020 Beacon for more information:
www.aiche.org/resources/publications/cep/2020/february/process-safety-beacon-not-sure-ask

Situational awareness — check before you act!