

Over Pressurized Piping Causes Line Failure

POTENTIALLY SERIOUS INCIDENT

Description:

A coiled tubing crew was conducting pressure tests of the blowout preventer. Following a successful low-pressure test at 10 Megapascals (MPa) the line was bled down through two-inch diameter blowback piping to an open-top tank. This pressure was bled off without issue, confirming that the line was free of obstructions. At this time, a high-pressure test was conducted at 55 MPa. When the valve was feathered open to bleed off the pressure, a loud bang was heard, and the piping parted. Several workers were in the vicinity of the flying debris, but nobody was injured.

What Went Wrong:

The blowback piping was over pressurized. It was rated for 14 MPa and because it was vented to atmosphere, it was believed that the risk of an overpressure event was low.

Actions Taken/Recommendations:

- The blow-down procedure was modified to step down the pressure from the high-pressure test before going to the blowback piping.
- A pressure transducer was installed on the blowback piping to monitor the line pressure. This has since indicated that overpressure events were likely occurring frequently.
- A pressure safety valve was installed on the blowback piping.
- Piping restraints were added to the blowback lines.
- Equipment layout was modified to shield the manifold operator from the blowback piping.



View of blowback piping and tank on the north side of site prior to overpressure event.



View of where blowback piping (red circle) and fitting (white arrow and star) landed on south side of site.

Industry Resources:

- [Potentially Serious Incidents Program](#)
- [Process Safety Management Awareness Course](#)
- [Process Safety: A Barrier Focused Approach](#)
- [Process Safety Posters](#)
- [IOGP Process Safety Fundamentals](#)
- [Are You in the Line of Fire? Program](#)
- [Life Saving Rules](#)
- [Coiled Tubing Well Servicing Blowout Prevention Course](#)
- [DACC IRP Volume #21 - Coiled Tubing Operations](#)

Help industry by sharing lessons learned from an incident. [Submit your Safety Alert.](#)

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