

Valve Leak Results in Pressure Release

POTENTIALLY SERIOUS INCIDENT

Description:

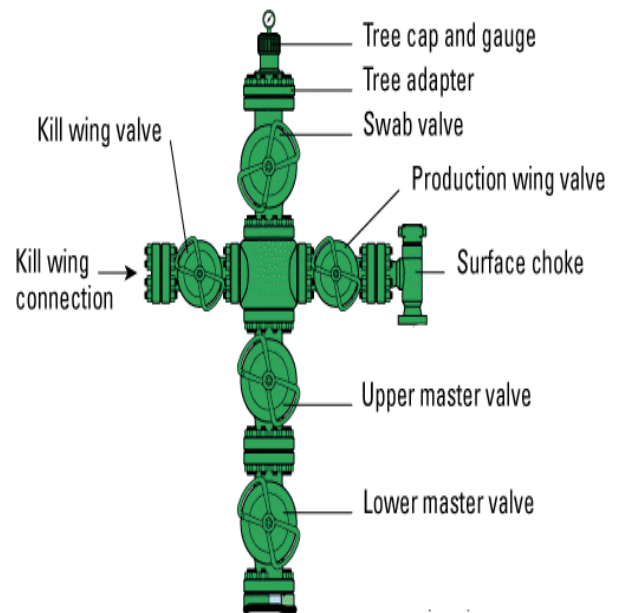
During a wellbore service in the winter months, a high-pressure gas release occurred. The work plan included pumping down the kill line when the downhole operations were completed. The kill line valves appeared in the closed direction, and no movement was found. This, along with the valve handles being absent, led the workers to believe the valves were closed. The kill line was pressure tested and a valve began to leak. Operations were shut down to change the valve at which point an uncontrolled pressure release occurred. The investigation revealed that the valves had been stuck open by ice. No workers were injured.

What Went Wrong:

- Wellhead valves were left in operating position.
- Valves were not fully functioned and adequately oriented prior to pressure test.
- Sub-zero temperatures resulted in ice plugging the wellhead valves.

Actions Taken/Recommendations:

- Prior to conducting work, the wellhead's unique structure and condition should be reviewed including the isolation procedure, valve orientation, and ensure positive confirmation of isolation.
- The work authorization process (e.g. safe work permit) must include on-site hazard assessment, hand over documentation and verification.
- Safe Operating Procedures should be reviewed before each task and include evaluation of on-site hazards, such as weather impacts like ice, valve and wellhead status and clearly outline responsibilities of workers and supervisors.



Typical well head schematic

Industry Resources:

Life Saving Rule | Energy Isolation



- Identify all energy sources
- Confirm that hazardous energy sources have been isolated, locked and tagged
- Check there is zero energy and tested for residual or stored energy



[Watch the video.](#)



SAFETY ALERT

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Energy Safety Canada Resources

[DACC IRP Vol 5 Minimum Wellhead Requirements](#)

[Process Safety Awareness Course](#)

[Process Safety Maintaining Isolation Poster](#)

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

SHARE AND COLLABORATE

Energy Safety Canada (ESC) works collaboratively with industry to share information aimed at helping companies of all sizes improve safe work performance.

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