High Value Learning

Step Change in Safety

High Value Learning

Reverse pig movement during shutdown causing pipeline ESD valve to not close on demand.

Who could be interested in this?

Operations teams, shutdown planners, integrity engineers, pipeline engineers, and personnel involved in pigging, valve testing, and simultaneous operations (SIMOPS

What is this all about?

During a planned shutdown, downstream pressure increased due to unrelated testing activities.

Check valves passed sufficiently to create reverse flow, mobilising a cleaning pig backwards from the receiver into a safety-critical valve, preventing full closure.

The hazard—reverse pig transit—had not been adequately considered in procedure development, especially under SIMOPS conditions.

Key learnings relate to understanding system-wide pressure interactions, configuring pig receivers appropriately, and validating pig positions.

Some things to consider.

- Consider whether the risk can be eliminated entirely.

  The most effective way to prevent reverse pig movement is to remove pigs from receivers prior to entering shutdown scopes. While this may not be practicably achievable for all operations, it should be the first consideration during shutdown and SIMOPS planning.

- Where elimination is not practicable, consider reviewing shutdown, pigging, and testing procedures together to capture SIMOPS interactions.

- Consider assuming check valves will pass and designing isolation and pressure control philosophy accordingly.

- Consider placing pig receivers in bypass mode where credible reverse flow exists.

- Consider using reliable pig position detection and validating pig location prior to shutdown activities.

Distributed on [22/04/2026]

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Verification of learnings shared and feedback method

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To ensure this learning leads to meaningful improvement, follow the **Plan Do Check Act** process and **provide your feedback** to **Step Change in Safety.**

Plan

Review the learning and assess how it applies to your organisation, work area or tasks.

Identify any risks, gaps, or required changes to current procedures.

Do

Implement necessary actions - communicate changes, update procedures, and ensure everyone affected understands their responsibility.

Check

Monitor the effectiveness of the changes. Observe work practices, gather feedback, and verify that the learnings have been understood and applied correctly.

Act

Make any needed adjustments based on what you've learned.

Share lessons with your team, document improvements and feedback to Step Change in Safety.

Share your learnings and feedback via the Resource Feedback form.

Your proactive engagement helps create a safer workplace for everyone.

Feedback Form