

SAFETY ALERT



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Inadvertent Opening of Valve Under Pressure Causes Injury



The lower left quarter of this photograph shows the twisted drain line tubing after the pressure release occurred. The red arrow indicates the pre-incident orientation of the drain line.

On May 20, 2019, an offshore oil and gas worker was conducting daily rounds, which included checking for fluid in the gas lift fluid slug catcher. The worker noticed that the drain line to the associated containment pan was leaking. The worker attempted to close a ½-inch ball valve that drains to the catcher containment pan, but instead of closing it, the worker inadvertently opened the valve, releasing approximately 1200 pounds per square inch (psi) of pressure. This pressure release caused the drain tubing to dislodge from the containment pan and strike the worker, fracturing the worker's nose.

BSEE determined that four main factors led to the incident:

1. A dump valve system was installed six months prior, making the drain line tubing and ball valves unnecessary; however, these components had not been removed and capped.

2. The Job Safety Analysis (JSA) did not specifically identify and address hazards associated with working with pressurized equipment.
3. The injured worker opened the valve instead of closing the valve;
4. The drain line tubing was only supported by a zip tie, which offered little resistance when pressurized.

Therefore, BSEE recommends that operators consider the following:

- Use a manual control valve (e.g., needle valve) that allows for flow in place of valves (e.g. ball valves) that don't allow for a regulated pressure drop if sampling/bleeding operations are required;
- Verify that JSAs identify potential hazards and mitigate those hazards for the task being performed;
- Ensure that, when changes are made to equipment, all hazards are identified and mitigated through the Management of Change (MOC) process. Update facility information and inform all personnel affected by the change(s);
- Install tubing lines used for draining/bleeding process equipment with a minimum amount of bends/angles to eliminate pressure resistance;
- Do not use drain tubing longer than necessary;
- If extended lengths of tubing are necessary, secure tubing drain lines with appropriately designed materials and techniques to prevent potential movement.
- Verify current platform conditions are reflected on piping and instrumentation diagrams (P&IDs).

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A Safety Alert is a tool used by BSEE to inform the offshore oil and gas industry of the circumstances surrounding a potential safety issue. It also contains recommendations that could assist avoiding potential incidents on the Outer Continental Shelf.