

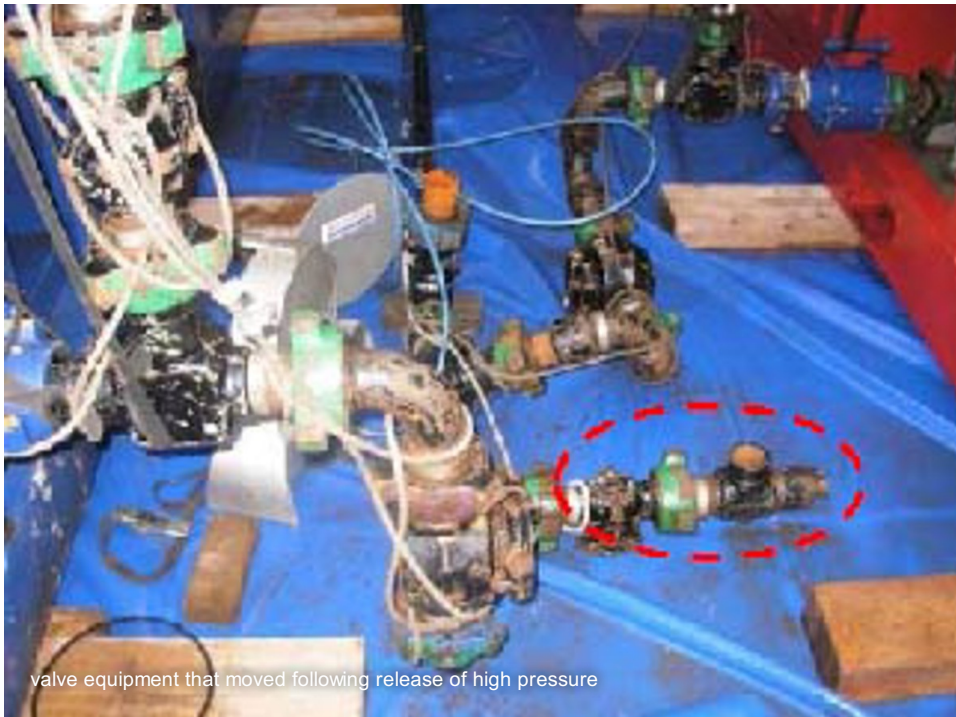
Fatality during pressure test

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A fatal incident has been reported which, while it took place on a drilling rig, is also relevant to many vessel operations.

What happened?

During a pressure test with nitrogen, a pressure relief valve in the treating line vented. The valve was rigged up in a vertical position approximately 60 cm above the height of the line. As the valve vented, the assembly rotated through 90 degrees and hit the deck of the rig. During this rotation the assembly struck a crew member on the temple causing a fatal injury.



valve equipment that moved following release of high pressure

What were the causes?

Following investigation, the following points were noted:

- As the valve vented, the force caused the vertical stack to rotate through 90 degrees until it came into contact with the deck.
- The crew member was in the high pressure area while pressure was being applied in order to check the pressure on an instrument in the vicinity.

Actions

The following lessons were drawn from the incident:

- There should be an exclusion zone around all high pressure equipment under test. No personnel should be in this zone while pressure is being applied. Where authorised personnel do need access, this should be subject to further risk assessment and additional controls or barriers put in place. No further increases in pressure should take place whilst personnel are in the high pressure area.
- As far as possible, instrumentation in a high pressure exclusion zone should have remote viewing or monitoring capability in a low-risk area.
- When working near pressurised equipment personnel should keep clear from likely pressure release points and always out of the line of fire from vents and relief outlets.
- Equipment that could move in reaction to the sudden escape of gas under high pressure should, as far as possible, be properly secured, anchored or immobilised. All fittings and connections on pressure test equipment should be rated for the test pressure and adequately secured.

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