

Failure to Properly Bleed Tubing Hanger Void Results in Injury

Prior to well temporary abandonment operations, the surface controlled subsurface safety valve had been isolated and replaced with a subsurface controlled safety valve. During the abandonment operation, pressure was bled off the top of the wellhead and the casings, and the 2-7/8 inch tubing was cut below the wellhead when the injured person (IP) began backing the tubing hanger pins off the tubing hanger during wellhead dismantling. During removal of the fifth tubing hanger pin the entire tubing hanger pin and packing nut were ejected from the tubing hanger head, striking the IP on the shin.

A BSEE investigation revealed the following:

- Based upon wellhead drawings it was determined that it was not necessary to remove the tubing hanger pins from the tubing hanger in order to dismantle the wellhead.
- The IP did not isolate the packing nut to prevent its turning with the stem when removing the pin.
- The IP was standing in direct line of the pin and nut assembly's ejection point.
- There were no supporting documents to indicate that the subsurface controlled safety valve control line was bled to zero prior to removing the tubing hanger pins.
- The wellhead bleeder plugs were not used to check for trapped pressure in the void space of the tubing hanger adapter prior to the IP removing the tubing hanger pin and nut assembly.
- During proper wellhead dismantling in the shop, using the bleeder valve tool on the tubing head adaptor void space, trapped control line hydraulic pressure was confirmed at the seal sleeve located at the top of the tubing hanger.
- During the shop wellhead dismantling, the ¼ inch tubing to safety valve assembly fitting was found to have gouged threads on both the fitting and nut, and the ferrule was not fully compressed on the ¼ inch tubing. These initial installation defects allowed hydraulic fluid pressure to enter the void space.
- This trapped hydraulic fluid pressure in the tubing head and tubing head adaptor ejected the tubing hanger pin and nut since they were improperly backed off of its compression ring.
- There was a lack of supervision to ensure that all workers were properly trained on the wellhead dismantling procedure.
- The Job Safety Analysis (JSA) failed to recognize all hazards associated with the wellhead dismantling.

Therefore, the BSEE recommends to the Lessees, Operators, and their contractors that:

- Proper supervision should be employed to ensure personnel dismantling a wellhead are properly trained, and that proper bleed-down tools are used to verify any tubing head void space has been properly bled.
- The JSA should recognize wellhead dismantling hazards; e.g., the tubing head void space trapped pressure hazards, position of personnel, etc.
- When working on hanger pins, the operator should ensure a backup wrench is used on the packing nut so the nut does not back out with the pin.
- It is of the utmost importance to recognize that just because the wellhead reflects zero pressure, there could be other wellhead component void areas that can store trapped pressure.
- When in doubt during wellhead dismantling operations, consult with the wellhead manufacturer representative.

--BSEE--GOMR--

www.bsee.gov/Regulations-and-Guidance/Safety-Alerts.aspx

A Safety Alert is a tool used by BSEE to inform the offshore oil and gas industry of the circumstances surrounding an accident or a near miss. It also contains recommendations that should help prevent the recurrence of such an incident on the Outer Continental Shelf.