



U. S. Chemical Safety and Hazard Investigation Board RECOMMENDATIONS STATUS CHANGE SUMMARY

Report:	Gas Well Blowout and Fire at Pryor Trust Well 1H-9
Recommendation Number:	2018-01-I-OK-R7
Date Issued:	June 12, 2019
Recipient:	Patterson-UTI Drilling Company, LLC (Pat-UTI)
New Status:	Closed – Acceptable Action
Date of Status Change:	July 29, 2020

Recommendation Text:

Develop either corporate or rig-specific tripping procedure(s) that detail the required equipment configuration for tripping operations. Require that rig personnel visually verify that equipment is lined up as specified in the procedure before beginning the tripping operation. In the procedure(s), specify well-monitoring requirements for wet versus dry tripping operations.

Board Status Change Decision:

A. Rationale for Recommendation

On January 22, 2018, a blowout and rig fire occurred at Pryor Trust 0718 gas well number 1H-9, located in Pittsburg County, Oklahoma. The fire resulted in the fatalities of five workers, who were inside the driller's cabin on the rig floor. They died from thermal burn injuries and smoke and soot inhalation. The blowout occurred approximately three-and-a-half hours after removing drill pipe ("tripping") out of the well. The cause of the blowout and rig fire was the failure of both the primary barrier—hydrostatic pressure produced by drilling mud—and the secondary barrier—human detection of influx and activation of the blowout preventer—which were intended to be in place to prevent a blowout.

As a part of its investigation, the U.S. Chemical Safety and Hazard Investigation Board (CSB) examined the well drilling practices and procedures of the Patterson-UTI Drilling Company, LLC (Pat-UTI), a land-based drilling company that was contracted to conduct drilling and well control operations at the Pryor Trust well. The CSB identified issues with Pat-UTI's rig tripping procedures, alarm philosophy, well control practices, flow checks and the effectiveness of the company's safety management system. Consequently, the Board issued five recommendations (e.g., CSB Recommendation Nos. 2018-01-I-OK-R7 through R11) to Pat-UTI to address these issues. This status change summary only addresses the CSB recommendation pertaining to rig tripping procedures (e.g., 2018-01-I-OK-R7).

B. Response to the Recommendation

In March of 2020, Pat-UTI responded to the CSB that it had completed a number of steps to address this recommendation, namely:

- Revised and updated its corporate drilling procedures and trip sheets to ensure that equipment is lined up properly before drilling begins and that well monitoring requirements for both wet and dry tripping operations are specified and documented
- Redeveloped the company's management of change (MOC) procedure to integrate it with the revised tripping procedures
- Updated its well control procedures to reflect the changes in both the revised tripping and the MOC procedures
- Developed a *Driller's Handbook* and other job aids to ensure consistent application of the new tripping procedures
- Conducted extensive training for its employees on these revised procedures
- Established monitoring and metrics to ensure that trip sheets and MOCs are submitted in accordance with established timeframes and are being appropriately reviewed.

Relevant documents related to the above items were provided for the CSB to review.

C. Board Analysis and Decision

Based on the above actions taken by Pat-UTI, the intent of the CSB recommendation was satisfied and the Board voted to change the status of CSB Recommendation No. 2018-01-I-OK-R7 to: "Closed – Acceptable Action."