



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

<b>Report:</b>	Pryor Trust Fatal Gas Well Blowout and Fire
<b>Recommendation Number:</b>	2018-01-I-OK-R11
<b>Date Issued:</b>	June 12, 2019
<b>Recipient:</b>	Patterson-UTI
<b>New Status:</b>	Closed – Acceptable Action
<b>Date of Status Change:</b>	December 19, 2024

### Recommendation Text:

*Update the Patterson metrics program to track leading and lagging indicators to measure the effectiveness of the overall safety management system. Specifically focus on measuring the effectiveness of the following safety management system components:*

- (a) The effectiveness of the flow check policy, including the frequency that flow checks are performed when required by Patterson policy;*
- (b) The frequency that flow checks are documented and approved as recommended in 2018-01-OK-R10;*
- (c) The effectiveness of the management of change program, for both equipment and procedural changes, including real-time procedure changes;*
- (d) The frequency that alarms are set at the required set points;*
- (e) The frequency that drilling rig alarm horns or the entire alarm system is turned off; and*
- (f) The frequency that trip sheets are filled out properly.*

### 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 (Patterson-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 Patterson-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 to Patterson-UTI to address these issues. This status change summary addresses CSB Recommendation No. 2018-01-I-OK-R11.

#### B. Response to the Recommendation

Patterson-UTI updated their metrics program to track leading and lagging indicators to measure the effectiveness of the overall safety management system in accordance with the recommendation. Patterson-UTI made changes to their program which satisfied subparagraphs (a), (b), (c), and (f) and provided supporting documentation shortly after the issuance of the recommendation.

Their efforts to address subparagraphs (d) and (e) of the recommendation also began shortly after the issuance of the recommendation but were complicated by the need to work with third party service providers and difficulties associated with the COVID-19 pandemic. Patterson-UTI has now successfully addressed subparagraphs (d) and (e) of the recommendation. Upon review of the relevant procedures and information provided, the CSB concluded that Patterson-UTI's actions satisfy all elements of the recommendation.

#### C. Board Analysis and Decision

The Board appreciates the cooperation and professionalism demonstrated by Patterson-UTI's leadership and staff throughout the recommendation closure process. Based upon the information above, the Board voted to change the status of CSB Recommendation No. 2018-01-I-OK-R11 to: "Closed – Acceptable Action."