



Safety Alert No. 463

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Adaptation and Modification of Tool Results in Injury



Wrench in vise with hacksaw.



Modified wrench.

A worker was recently injured while attempting to install a hydraulic line on a pipe handling machine during offshore energy operations. The worker determined the combination wrench on hand was too long for this particular use and attempted to alter the tool by placing the wrench into a vice to

manually shorten the length by using hacksaw. During the wrench alteration process, the worker cut a gloved hand with the sharp edge of the altered wrench handle, resulting in a laceration requiring sutures.

Upon investigating the incident, the operator's Incident Investigation Team identified the following causal factors:

- The worker did not pause or stop work to consult with a supervisor when the job scope changed and/or the proper tool was unavailable. The decision to modify the combination wrench was not discussed with the supervisor before modifying the tool.
- The worker did not explore the potential for other avenues and/or options for locating the proper tools (i.e., checking with other work groups).
- A proper wrench that would fit in the tight area was not readily available on the rig floor.
- When the worker decided to alter the hand tool, the worker chose a readily available hand saw versus a more appropriate/potentially safer method, i.e. a bandsaw.

After the incident, the operator and rig manager implemented corrective actions to prevent similar incidents from happening in the future. The actions include:

- Rig managers will order close radius hand tools.

- Rig managers will conduct a high-level overview of the incident with all crewmembers onboard to emphasize the importance of proper pre-job planning and hazard assessment.
- Rig managers will stress the importance of any lone worker applying the option to ask for assistance when reviewing a hazard identification and mitigation card / compass card.
- Rig managers will set expectations to all crew members that the alteration of Original Equipment Manufacturer (OEM) tools, equipment, etc. is unacceptable and discuss potential consequences.

BSEE Review:

The operator's incident report stated that prior to modifying the hand tool, the worker reviewed a hazard identification and mitigation card / compass card. However, there was no apparent findings that the worker potentially used the compass card to circumvent the requirement of modifying the Job Safety Analysis when the scope of the job changed.

Therefore, BSEE recommends that operators and their contractors consider the following (where appropriate):

- Reviewing safety alerts with all relevant employees.
- Reviewing the corrective actions implemented by the operator.
- Ensuring proper tools are available.
- Reviewing all Hazard Analysis policies and procedures to ensure hazard identification and mitigation card / compass card is utilized and understood and used to circumvent the regulatory requirements of 30 CFR 250.1911.

– BSEE –

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.

Category: Personnel Safety, Hand Injuries, PPE