

SAFETY ALERT



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Improper Use of Equipment Results in Shock Loaded Crane and Damaged Tension Packer



A Model MAD-1 Tension Packer

While performing Plug and Abandonment operations, an operator attempted to set a 7 5/8" Model MAD-1 Tension Packer on a 2 7/8" tubing work string by using the platform crane. After four attempts, the emergency release shear ring on the packer sheared, which caused the crane to be shock loaded.

BSEE identified the following causes that led to, or may have contributed to, the incident:

1. The crane was used on four separate occasions to apply upward tension to the packer without changing the shear ring after each event. The manufacturer tech sheet states, "The shear ring is designed to only take a tension load once and it is recommended that the shear ring is changed out after each run."
2. The operator did not know the operating rating or tolerance for the shear ring on the packer.
3. Risk/Hazard Analysis was not thoroughly performed before the job. The Job Safety Analysis written prior the incident stated that casing jacks would be used for pulling operations; however, a crane was used.
4. The platform crane was used to lift a tension packer that was not free to be lifted. API Recommended Practice 2D, Operations and Maintenance of Offshore Cranes (Appendix B.3.2.3) states, "Before starting a lift, the following conditions shall be verified: ...2) The load is free to be lifted."

Therefore, BSEE recommends that operators and contractors consider the following:

- Refer to Original Equipment Manufacturer design specifications when unsure of equipment tolerances;
- Consider using a load cell data recording device when making lifts;
- Use the dynamic load chart when entering the well bore to mitigate dynamic forces applied to a load that a crane operator may have little to no warning to correct;
- Adhere to Standard Operations Procedures/Safe Work Practices prior to performing crane operations;
- Determine if a load is free prior to initiating crane operations to lift a work string during a well abandonment;
- Refrain from attempting to use a crane to pull/lift a work string or load not free to be lifted; and,
- Always review job specific Job Safety Analysis and Hazard Analysis prior to performing work.

--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.