Casing Operations Best Practices Guideline

Table of Contents

1 Purpose

Casing operations presents a unique risk as it involves numerous companies playing specific roles in those operations. This document is intended to provide guidance and recommend practices to companies in the energy sector with a goal of improving safety for casing operations. This document was created by the IADC HSET committee and is intended to be updated regularly to reflect changes in technology and processes. Please ensure the latest revision is utilized by referencing the document directly from the IADC website.

2 Guideline Development Participants

Company	Participant
4-Star	Pedro Rios
Devon	Laura Wright
Devon	Lane Frank
Ensign	Jason Jensen
Ensign	Jason Adams
EOG	Clint Anderson
H&P	Micah Backlund
H&P	Ken Bailey
H&P	Josh Muniga
H&P	Kenneth Pesek
H&P	Rachel Nolen
Independence Contract Drilling	Mike Truitt

Company	Participant
Independence Contract Drilling	Phil Dalrymple
Independence Contract Drilling	Matthew Law
OES	Ross Dudney
OES	Andy Montemayor
OES	Bill Hobson
Patterson-UTI Drilling	Ryan Smallwood
Precision Drilling	Ryan D'Aunoy
Precision Drilling	Jay Brosseau
Precision Drilling	Dan St. George
Tenaris	Reese Wachel
Tenaris	Michael Zuri
Tenaris	Tim Poff

3 General Best Practices

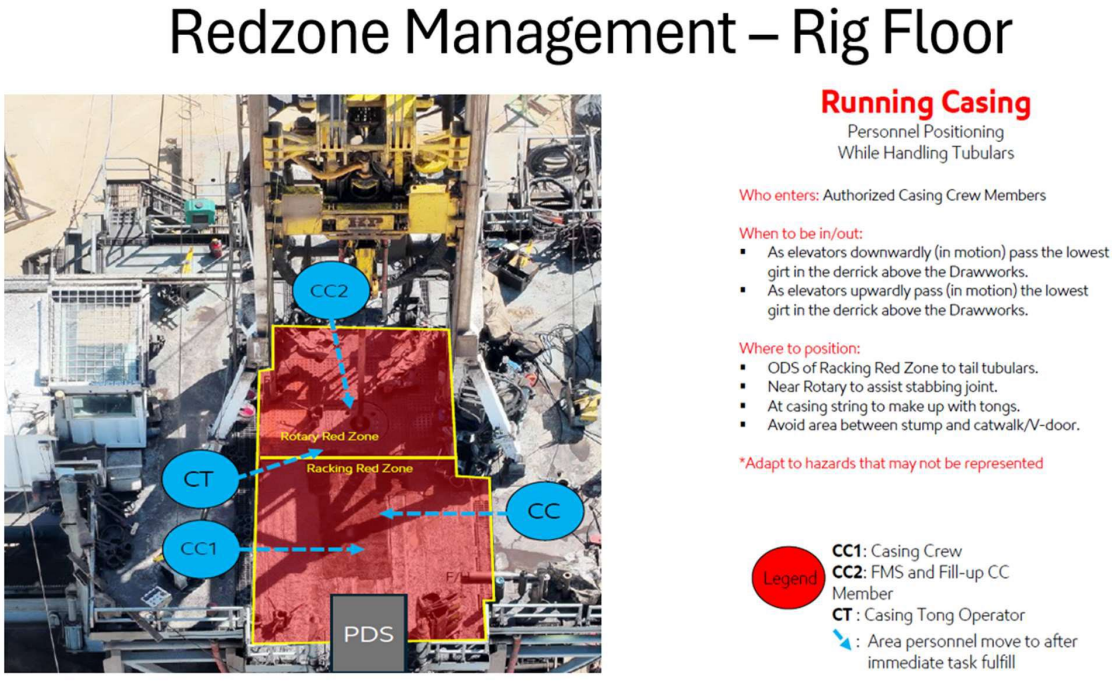
Equipment can fail and parts may fall. Use these best practices to prevent injuries, incidents and fatalities by maintaining awareness of your surroundings. When failures happen, these practices will help everyone fail safely. Apply the following recommendations consistently throughout the casing running process.

- Stay out from under suspended loads.
- Honor barricades and buffer zones.

- Use hands-free tools/techniques when available.

- Use purpose-built master bushing pullers to remove master bushings from the rotary table, and remove the inner bushings before pulling the outer bushings to mitigate hazards.

- Keep off rig floor unless necessary.

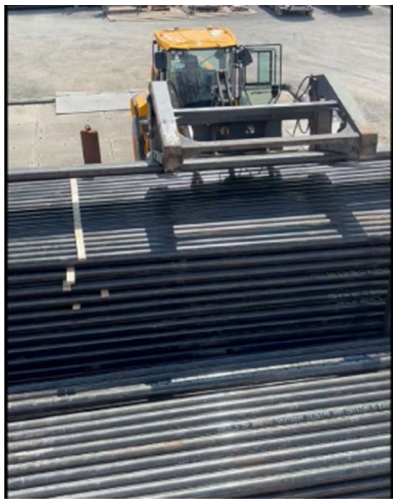


- Don’t turn your back to the v-door or moving equipment.

4 Staging and Preparation

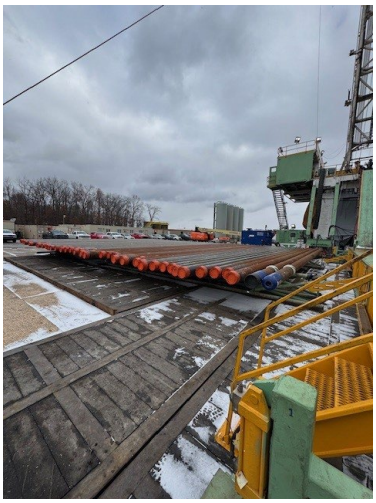
- A straight line painted on the ground or other visual indicator to ensure the casing is offloaded and aligned with the PDS to reduce or eliminate the need to manipulate the casing by hand.

- For external casing running tools, scribe pipe as early as practically possible.
- Forklifts utilize top grip loader (grapple). This is the preferred method.



- Downward angle of rack (1st load should be nice and easy to roll) shim and adjust from there.

- Casing not racked higher than the shortest available pipe stop (shortest racks possible).



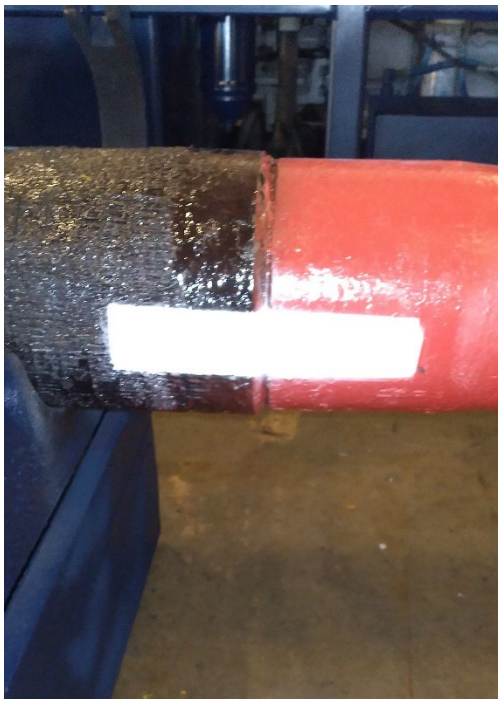
- Hands-free when rolling (provided examples).

- Establish buffer zone & barricades.
- Fully make-up thread protectors.

5 Pre-Inspection/Rig Up/ Rig Down

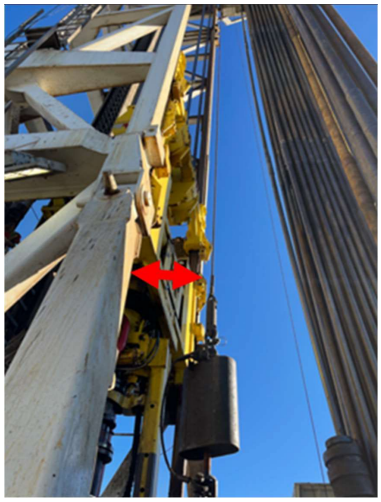
- Subject Matter Expert (SME) responsible for that specific piece of equipment to inspect all casing equipment per applicable inspection requirements prior to staging for hoisting to the floor.
- Inside Diameter/Outside Diameter (ID/OD) Ensure sizing matches.

- Use appropriate pick points and laydown line to transport casing equipment to rig floor to minimize damage.
- The use of a Pick Up/ Lay Down line should be utilized when hoisting or lowering equipment from the Pipe Delivery System (PDS) deck or catwalk. Don't drag equipment up or down the v-door.
- All connections between the saver sub and the Casing Running Tool (CRT) will be torqued and scribed.

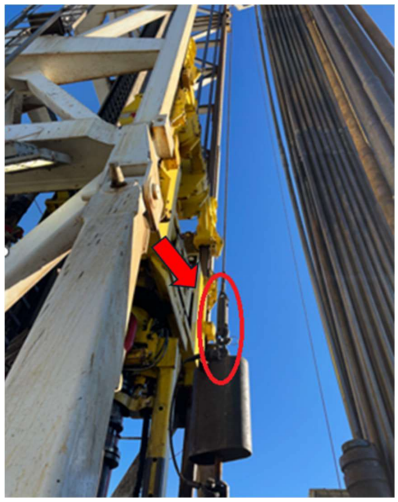


  - CRT securement- consult with your operator and casing tool provider to ensure proper retention according to Original Equipment Manufacturer (OEM) specifications.

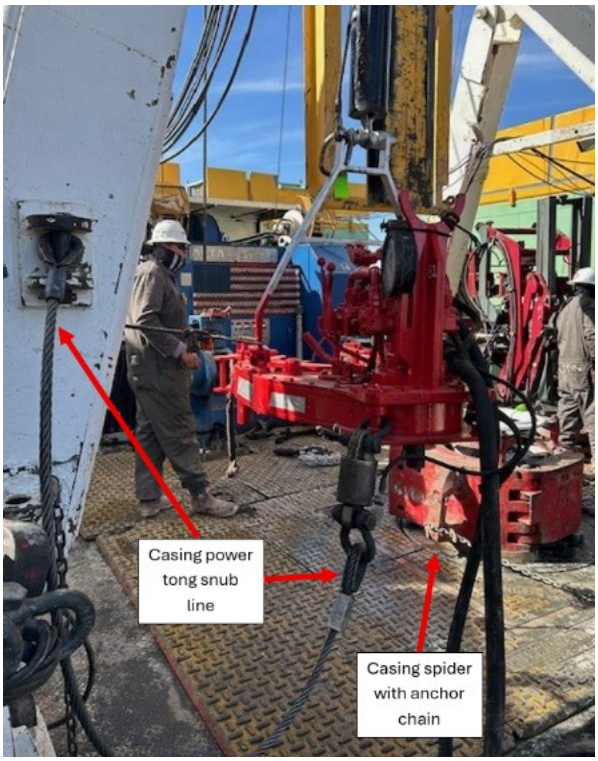
- Rig up tong hang-off lines outside the travel path of the traveling equipment.



- Connect the swivel directly to the tongs to prevent being struck by tongs due to trapped torque.

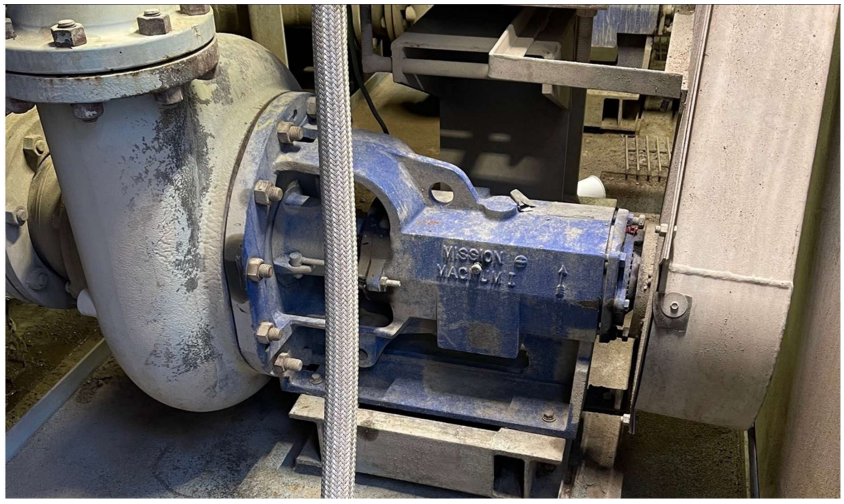


- Verify proper snub lines for tongs (ensure proper snub line length, rating, and condition).



- Agree on the best placement for securing/positioning the tail rope.

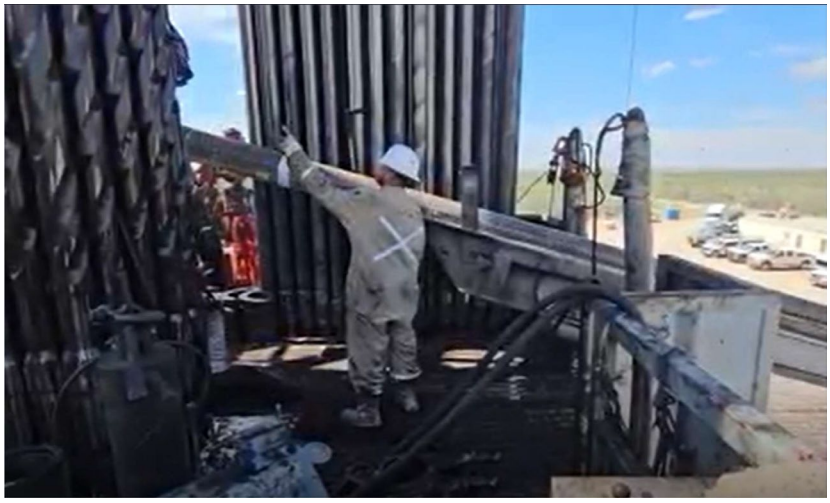
- Use low pressure centrifugal pump to fill-up when not using a CRT (with proper fitting). Ensure all related hoses and fitting are rated for the pump output.



6 Running Casing

- Driller, Casing Supervisor, and Company Man must confirm OD/ID casing and elevator compatibility at the v-door before latching the first stand.

- Perform a secondary visual check from the rig floor after latching the first joint.
- Maintain line-of-sight and communication with personnel latching pipe, the catwalk operator, and the driller. Establish a flagger, if unable to maintain clear line of sight.



- Driller will receive confirmation that the elevators are properly latched prior to hoisting.
- Remain out of line-of-fire from casing tongs and rig tongs.

- Transport thread protectors off the rig floor in a controlled manner to prevent dropped objects; never throw them off the rig floor.

Appendix A: Examples of CRT Securement

NOTICE

This document was designed by the IADC HSE&T Committee for the purpose of providing members guidance in best practices for casing operations.

This document is designed for the end user, with no intention for it to be used by those offering fee-based consulting or other services.

The information contained in this document is a compilation of research, members' views, and success and failures in casing operations. The content represents the views of IADC member companies who contributed to the content's development.

INTERNATIONAL ASSOCIATION
OF DRILLING CONTRACTORS

3657 Briarpark Drive, Suite 200
Houston, Texas 77042

PHONE: +1.713.292.1945
WEBSITE: *http://www.iadc.org*