Hand crushed during coiled tubing reel handling

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Workers hand crushed during the final stages of a coiled tubing operation.

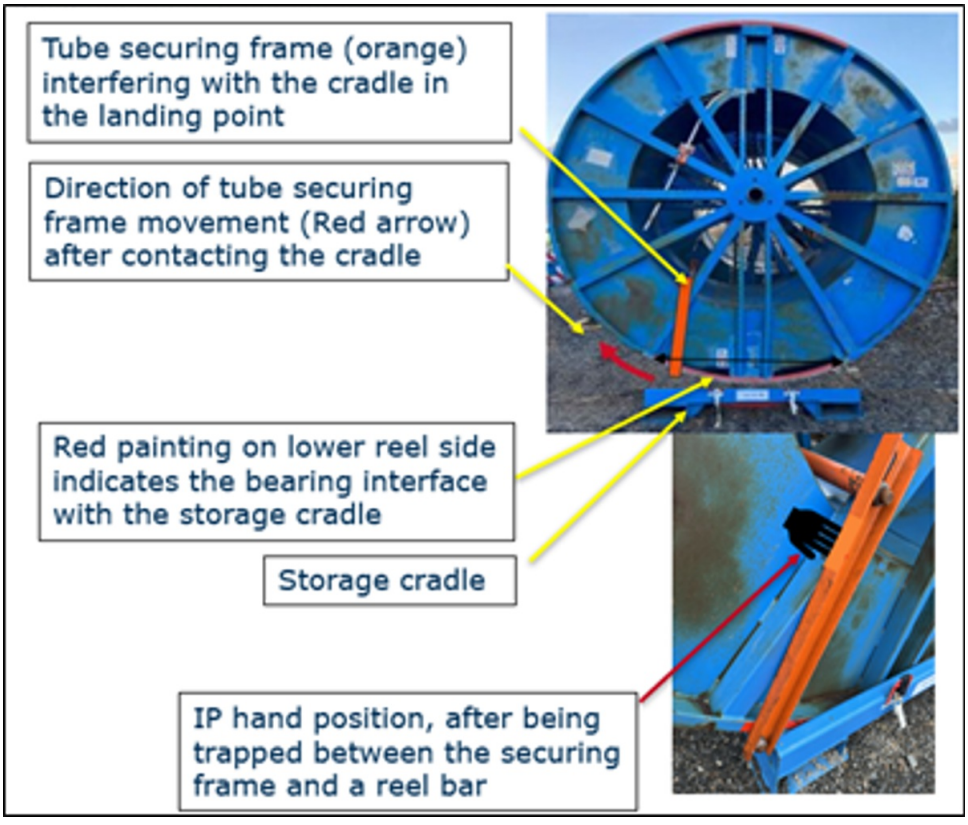
IOGP Life Saving Rules:

- Bypassing safety controls
- Line of fire

What happened?

During the final stages of a coiled tubing operation, a completed reel was being lifted from the spooler and lowered into a support cradle. The reel, weighing 2600 kg (without tubing), was being aligned manually by the injured person, who placed their left hand on the reel to assist with positioning.

As the reel was landing, the tube securing frame on the reel contacted the side of the support cradle and shifted. This movement trapped the worker's hand between the tube securing frame and a reel bar. The lift was immediately halted, and the securing frame was released. The worker was transported to a local hospital, and treated for severe crush injuries, resulting in partial amputations of three fingers of the left hand.



What went wrong?

- The injured person used a tag line but also placed a hand on the reel for alignment.

- The design of the tube securing frame allowed the potential for the entrapment of body parts.
- There were inadequate instructions or specifications regarding the safe operation of this securing frame which was supplied equipment.
- Capturing the risks:
  - The hazard identification and risk analysis did not fully identify risks associated with lifting the reel;
  - The Toolbox Talk (TBT) didn't fully cover the lifting operation.

Lessons learned

- Safer by design: review design of equipment for potential entrapment hazards;
- Risk Assessment: update hazard identification and risk analysis to include all operational phases, including lifting and alignment;
- Training & Awareness: Reinforce the importance of hands-free load guiding and proper use of tag lines/push pull poles;
- Communication:
  - Ensure all equipment-specific instructions are requested and reviewed before operations;
  - Ensure there is a clear process for, and full understanding of, new equipment familiarization.
- Toolbox Talks: Quality of Toolbox Talks can be improved by the adoption of 'Useful HOP Questions'.

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