

Safer Rigging, Hoisting, and Lifting in Alberta



Tom O'Neill, PhD
Professor



**UNIVERSITY OF
CALGARY**



Rick Sikora
President and CEO



Agenda

15 Mins - Creative Sentence (Tom)

30 Mins - State of Rigging and Hoisting in AB (Rick)

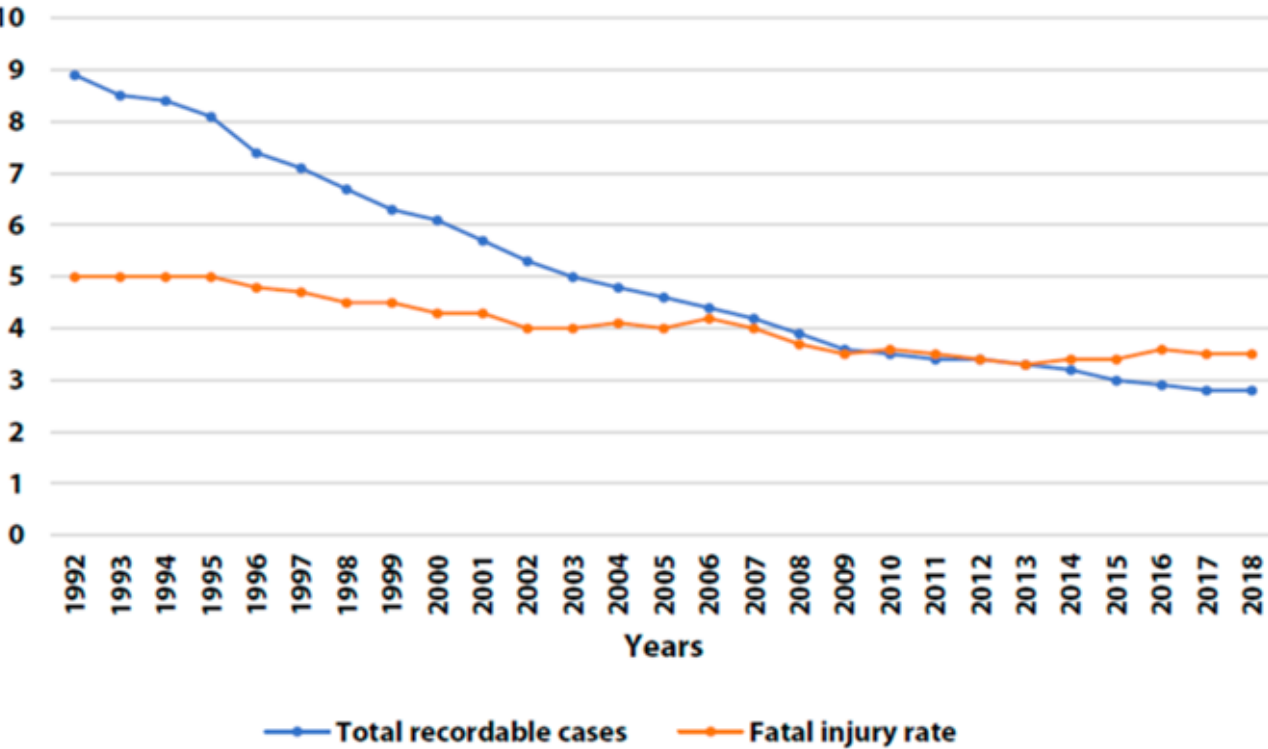
5 Mins - Wrap Up/Summary (Tom)

10 Mins - Q&A (Tom & Rick)

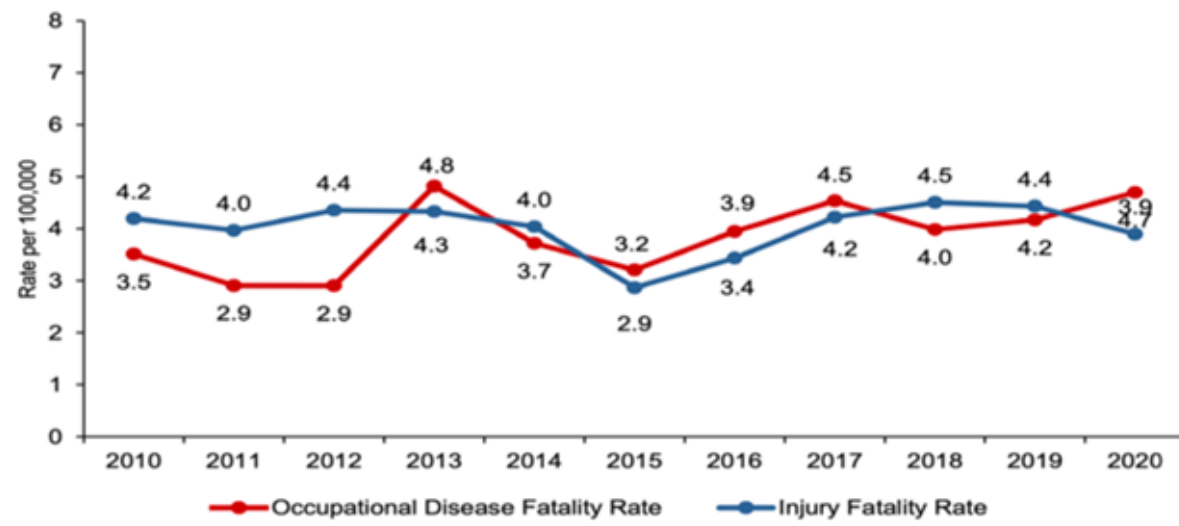
Many industries are doing a poor job of understanding high consequence, low frequency failures

The US total recordable incident rate has declined significantly over the past thirty years, yet fatalities have not

Serious incidents and fatalities have not decreased in Alberta either



injury and fatal injury rates in US, 1992-2018
2018 www.bls.gov/iif/soii-data.htm



Total occupational disease and injury fatality rates in AB, 2000-2020
(<https://albertaworker.ca/news/workplace-injury-related-deaths-increased-under-alberta-ndp/>)

Alberta OHS legislation expands options for creative sentencing

Jean Sorensen February 7, 2018



GOVERNMENT OF ALBERTA — Alberta has updated its Occupational Health and Safety Act to push forward more innovative creative sentencing options to the courts when dealing with injury or fatal incidents.

“Tait said creative sentencing is a form of **restorative justice.**”

“It moves away from a traditional punitive model of fines and **seeks to address the causal factors** by putting in place an incident prevention or awareness campaign paid for by the offender.”

“The process attempts to **ensure that an individual’s death or injury did not simply go unheeded** and the public process **provides some peace to the family or victim,** she said.”

Creative Sentences / Enforceable Undertakings

Non-traditional, corrective measures imposed by courts or regulatory bodies as a consequence of violations of OHS code resulting in a serious injury or fatality

E.g.,

- Public awareness campaigns
- Development or purchase of new training equipment, methods, or materials
- Contributions to and participation in safety research



To cite this article: Marina Nehme (2021) Enforceable undertakings' practices across Australian regulators: lessons learned, *Journal of Corporate Law Studies*, 21:1, 283-319, DOI: [10.1080/14735970.2020.1789820](https://doi.org/10.1080/14735970.2020.1789820)

**Patrick Poitrois
(2021)
~\$390,000**



**Bradley Tinskey
(2021)
~\$390,000**

**Brandon
Nelson (2022)
\$1,240,000**



**Zachary Smith
(2022)
\$359,000**

Brandon Nelson

“[He] believed strongly in doing things properly, safely, and with respect for the people around you. Training, standards, and accountability mattered to him because he understood that in this industry, the smallest details make the biggest difference. He cared about the people beside him, and he cared about everyone going home at the end of the day.”



Creative Sentence

May 2025 → May 2028

2 years, 1 month remaining

\$1.24M CAD

What Happened?



Brandon Nelson

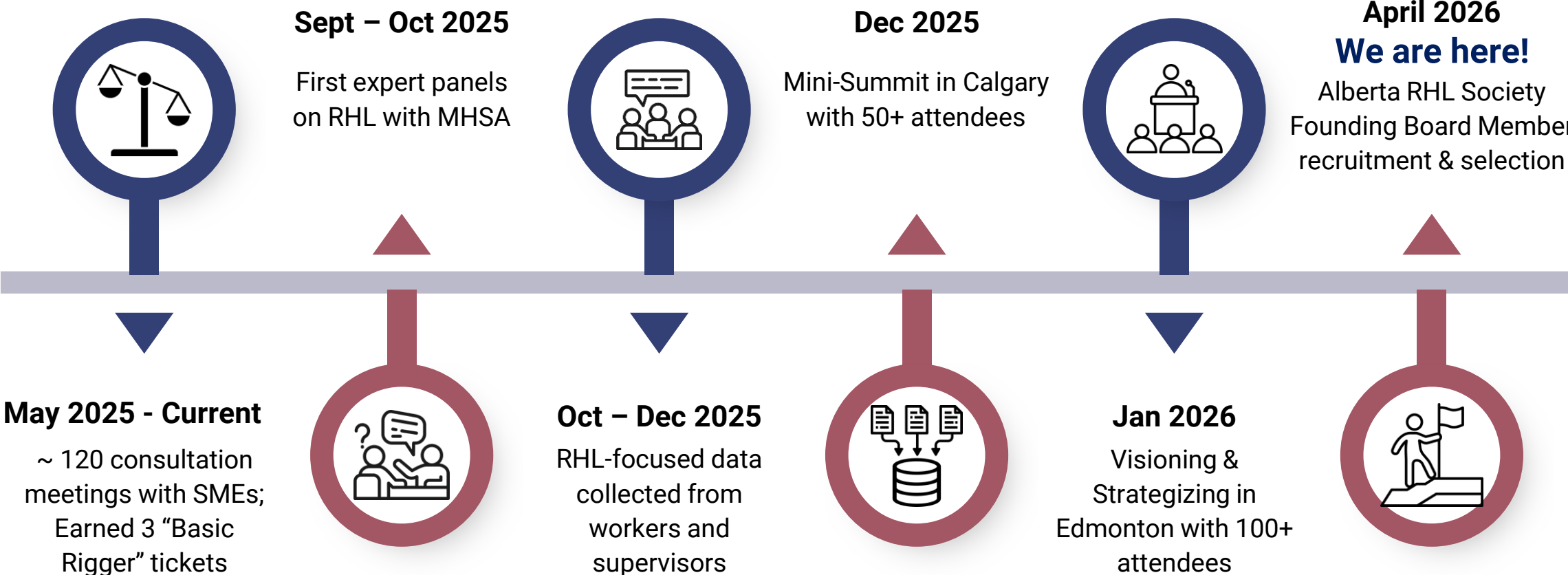
Creative Sentence: \$1.24M

Improve Safe Rigging Practices
in Alberta

Study HOF and Psychosocial
Factors Contributing to SIFs

Launch new Alberta Safety
Research Institute

Timelines & Activities



Insights



Adherence to safe practices of rigging, hoisting, and lifting in Alberta is generally, **poor**.

Training programs vary widely in their quality and duration.

Polytechnics **vary** in their content coverage of rigging, hoisting, and lifting activities within trades, and across trades.

There is strong support from SMEs and industry-leading companies in Alberta to **improve** the state of rigging and hoisting.

There is a lot of energy across Canada

Alberta Society for Safe Rigging, Hoisting, and Lifting

Support from our last event showed a **95%** support in forming an Alberta Society

Purpose

1. Standardize

2. Resource Hub

3. Promote

4. Advocacy



STANDARDIZE

*Make rigging training
consistent across Alberta*



RESOURCE HUB

*Consolidate rigging
resources and subject-
matter expertise*



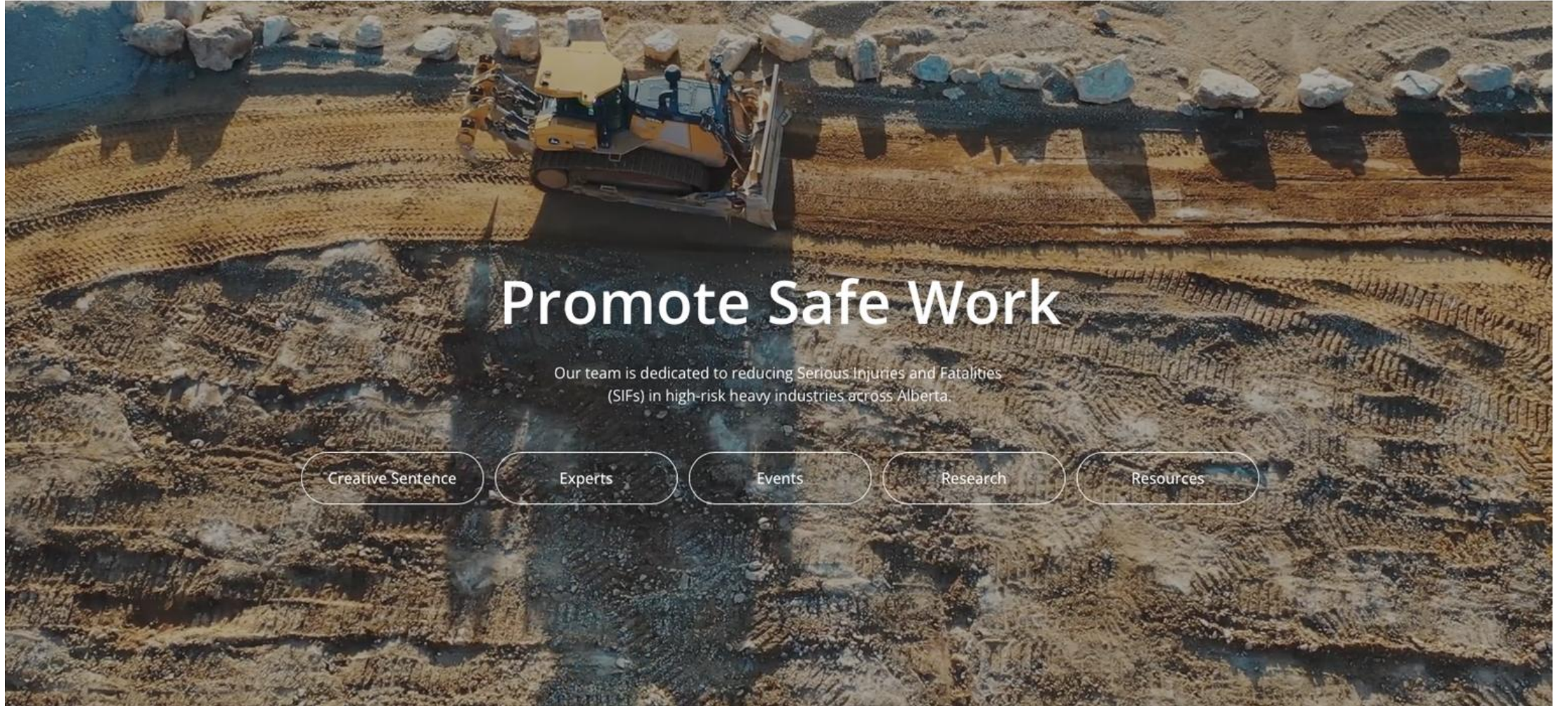
PROMOTE

*Make industry aware of
the need to improve safety
in rigging*



ADVOCATE

*Present a unified voice for
regulatory bodies*



Promote Safe Work

Our team is dedicated to reducing Serious Injuries and Fatalities (SIFs) in high-risk heavy industries across Alberta.

[Creative Sentence](#)

[Experts](#)

[Events](#)

[Research](#)

[Resources](#)

promotesafework.com

Rigging



Story of Brandon Nelson



- Brandon was a young man that had passion for mechanical work and was apprenticing as a Heavy Duty Mechanic
- His life was cut short while working on an Oilsands Shovel. Mechanical work on these shovels requires the use of cranes and rigging equipment to lift and support most of the components of these machines.
- A large cable was being suspended by a mobile crane using a synthetic sling wrapped through a hole of a steel sheave supporting this cable. The mobile operator lowered the cable until the cable made contact with the ground and then stopped. It was at this point that Brandon along with another worker approached the area where the cable was being suspended. While working in this area what happened next could have happened to anyone one of us.
- The sling supporting the load snapped, dropped the cable ultimately taking the life of this young man



Definitions

- “COMPETENT”
- In relation to a worker, means adequately qualified, suitably trained, and with sufficient experience to safely perform work without supervision or with only a minimal degree of supervision;

What has doing 100,s and 100,s of site audits in all
industry sectors
taught me:

there is NO consistency or agreed upon Standard
TO DETERMINE RIGGING COMPETENCY
That is our job as industry to fix













Quarterly Inspections

Quarterly inspections are mandatory.
Color Coded Tape will be as follows:

Jan - Mar: Yellow

Apr - June: Green

July - Sept: Red

Oct - Dec: Blue

NFG
CABLE/HOOKS
RIGGING















Explore







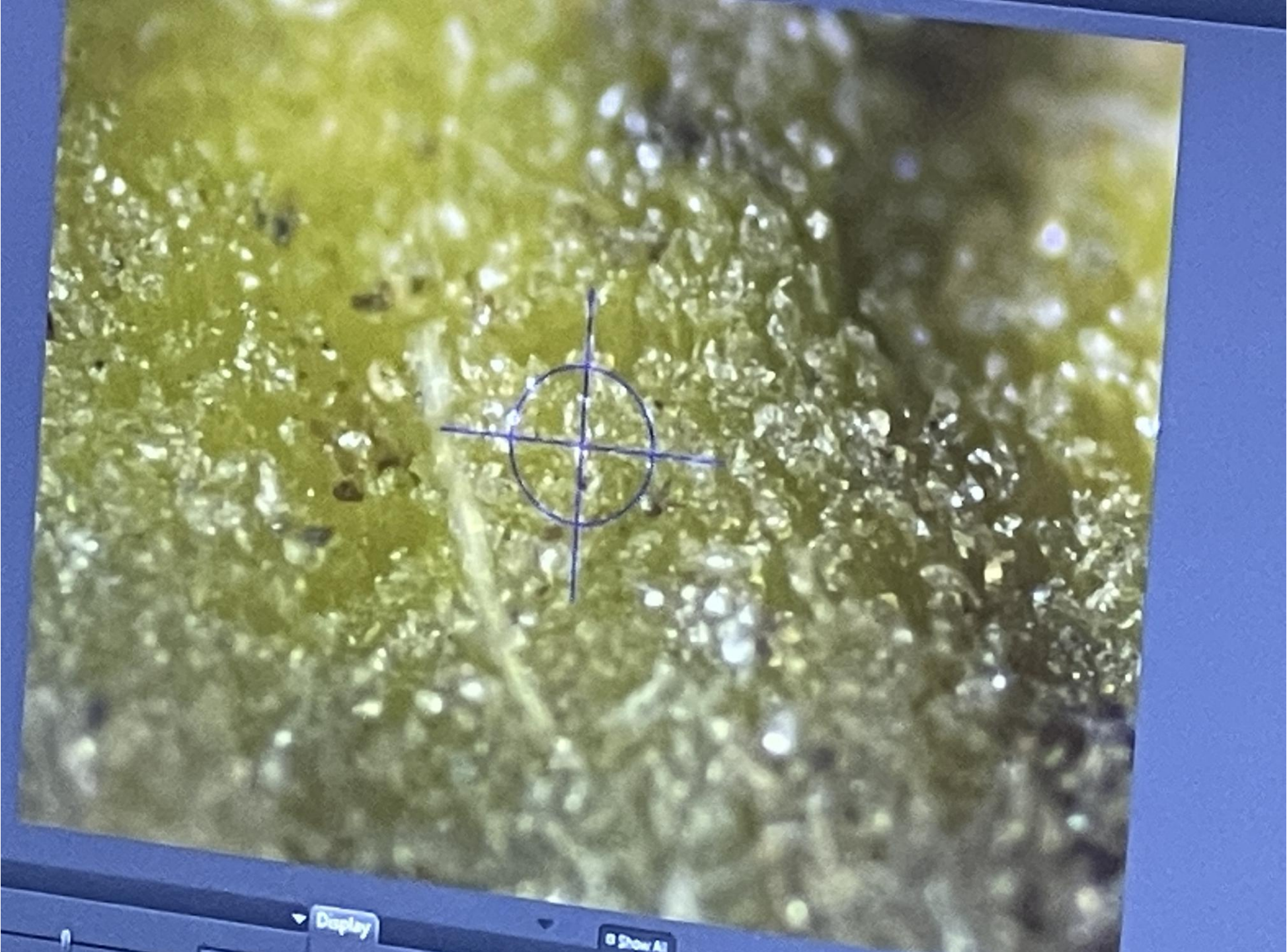
- What does line of fire mean?
- What does stored energy mean?
- What does fail safely mean?











Display

Show All



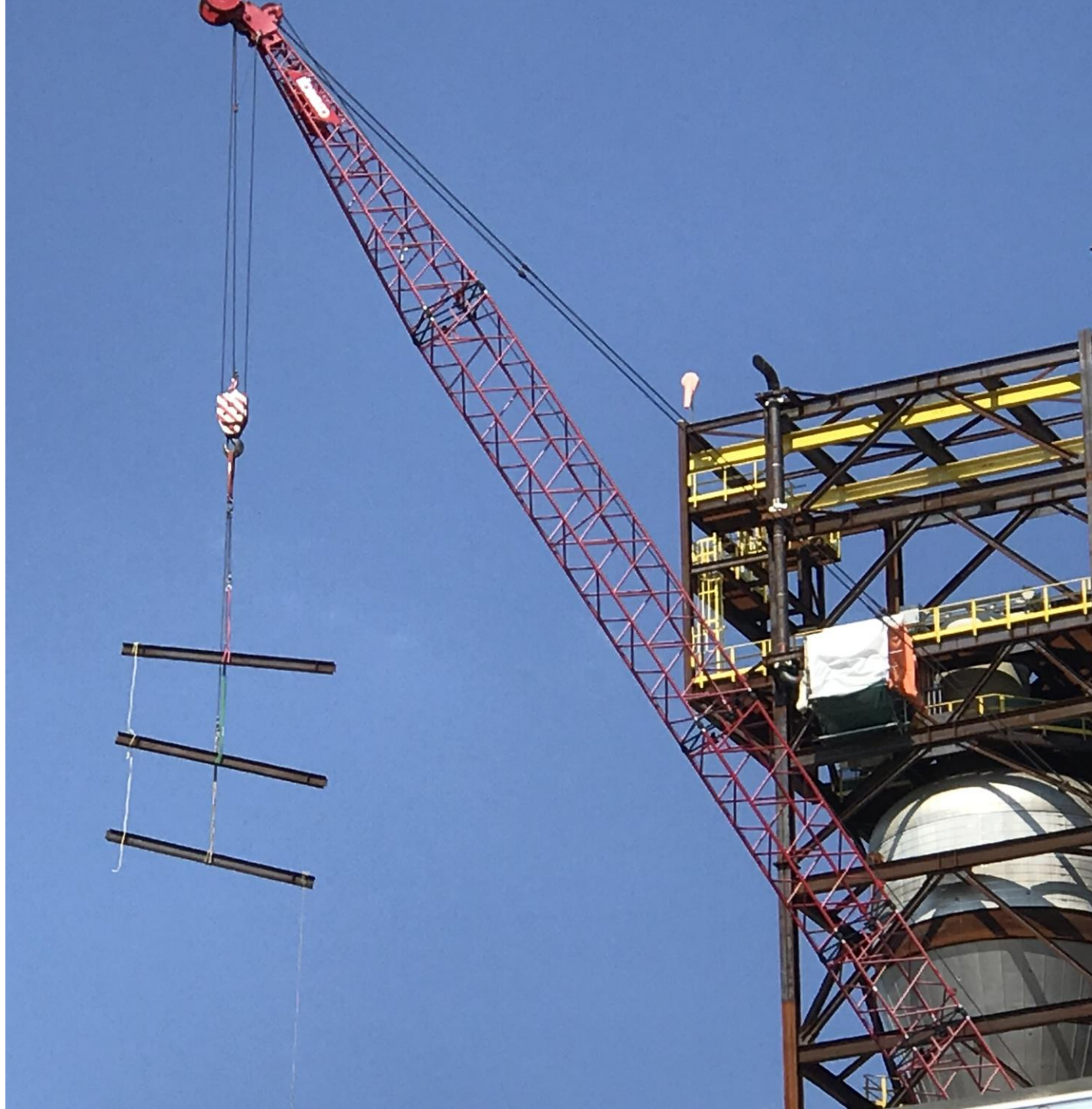
























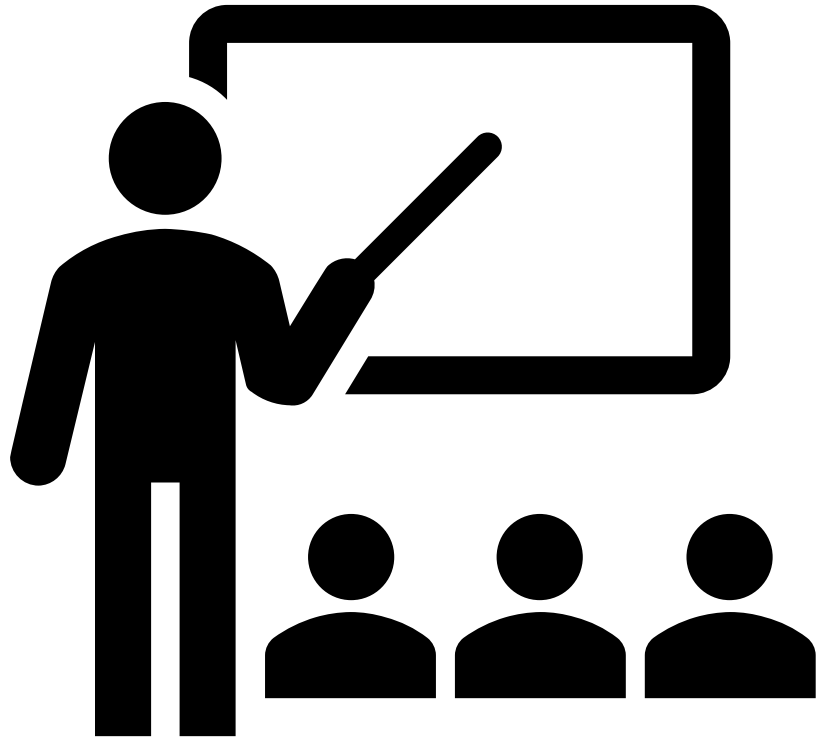








NEVER
PUT YOUR HAND
ON A SUSPENDED LOAD



- WHAT TYPE OF RIGGING TRAINING
 - In Person
 - Online
 - Virtual
 - Level 1,2,3
- Intermediate, Advanced
 - HOW LONG

Rigging Policies

- All company's Rigging policies are different
 - 1) Brand types
 - 2) Flagging tagging
 - 3) Equipment type
 - 4) Standard, Critical, Engineered Lifts
 - 5) FLRA,s

Lift PlaNS

- Every company's Lift plans are different

- 1) The Primes
- 2) The Crane Company
- 3) The Sub Contractors
- 4) ASME P30

- Who's do we Follow?

Hazard Assessments

FLRA

JHA

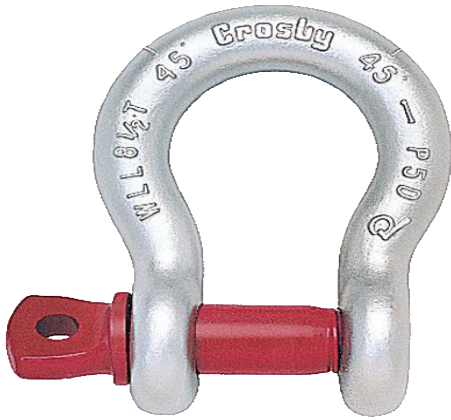
- Who's do we follow

- LIFE SAVING RULES
- Every company has their own life saving rules
- Let's develop consistency

SOP Safe operating procedure

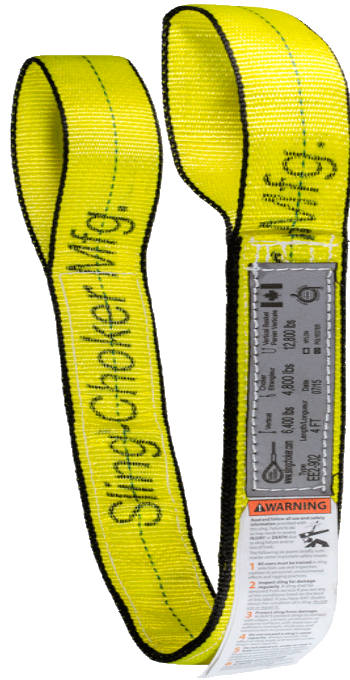
- Industry needs guidance on how to develop them and what to be considered

HARDWARE – standards **we have**



1. ASME B30.26
2. Occupational Health and Safety
3. Manufacturer's Specification

Slings – standards **We Have**



1. ASME B30.9
2. Occupational Health and Safety
3. Manufacturer's Specification

Manual Hoists

STANDARDS



1. ASME B30.16 – HAND CHAIN HOISTS

2. ASME B30.21 – LEVER HOISTS

70

3. OCCUPATIONAL HEALTH AND SAFETY

4. MANUFACTURER'S SPECIFICATION



SPREADER BARS

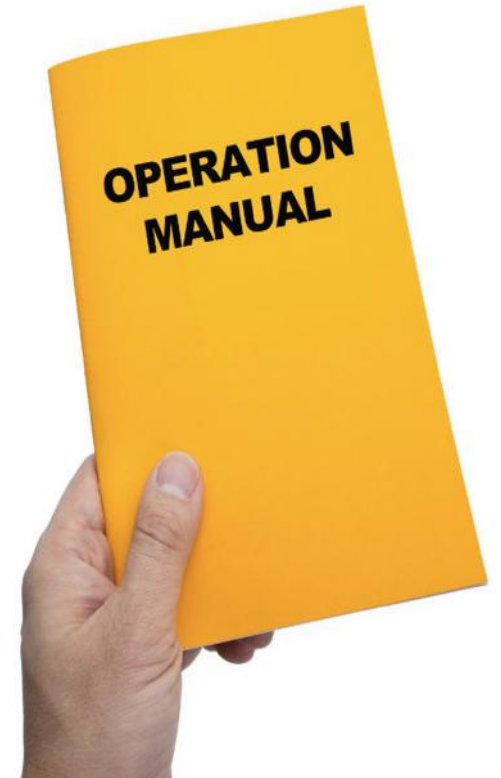
Standards **WE Have**

1. ASME B30.20
2. Occupational Health and Safety
3. Manufacturer's Specification



Availability of information

- Duty to provide information
- (6) Every supplier shall, as far as it is reasonably practicable for the supplier to do so,
- (a) ensure that any equipment is supplied with a written copy of the manufacturer's specifications and any other instructions for safe use, as applicable, if such specifications and instructions exist



Softeners

abrasion Protection vs

edge protection

- “Abrasion protection will not prevent damage from cutting. If protection against cutting is necessary, use only protection that has been designed, tested, and rated by the manufacturer.”
 - (WSTDA Safety Bulletin)

Regulatory requirements

- **ASME B30.9 states**
- “Slings in contact with edges, corners, protrusions, or abrasive surfaces shall be protected with a material of sufficient strength, thickness, and construction to prevent damage”

Regulatory requirements

- **WSTDA (WS-2) states**
- “Synthetic web slings shall always be protected from being cut by corner, edges, protrusions, or abrasive surfaces.”

WSTDA (RS-1) states

“Polyester round slings shall always be protected from being cut by corner, edges, and protrusions.”

Abrasion protection

- To protect the sling from abrasion against the load or rough surfaces

CUT PROTECTION

To protect the sling from being cut by an edge or corner of the load



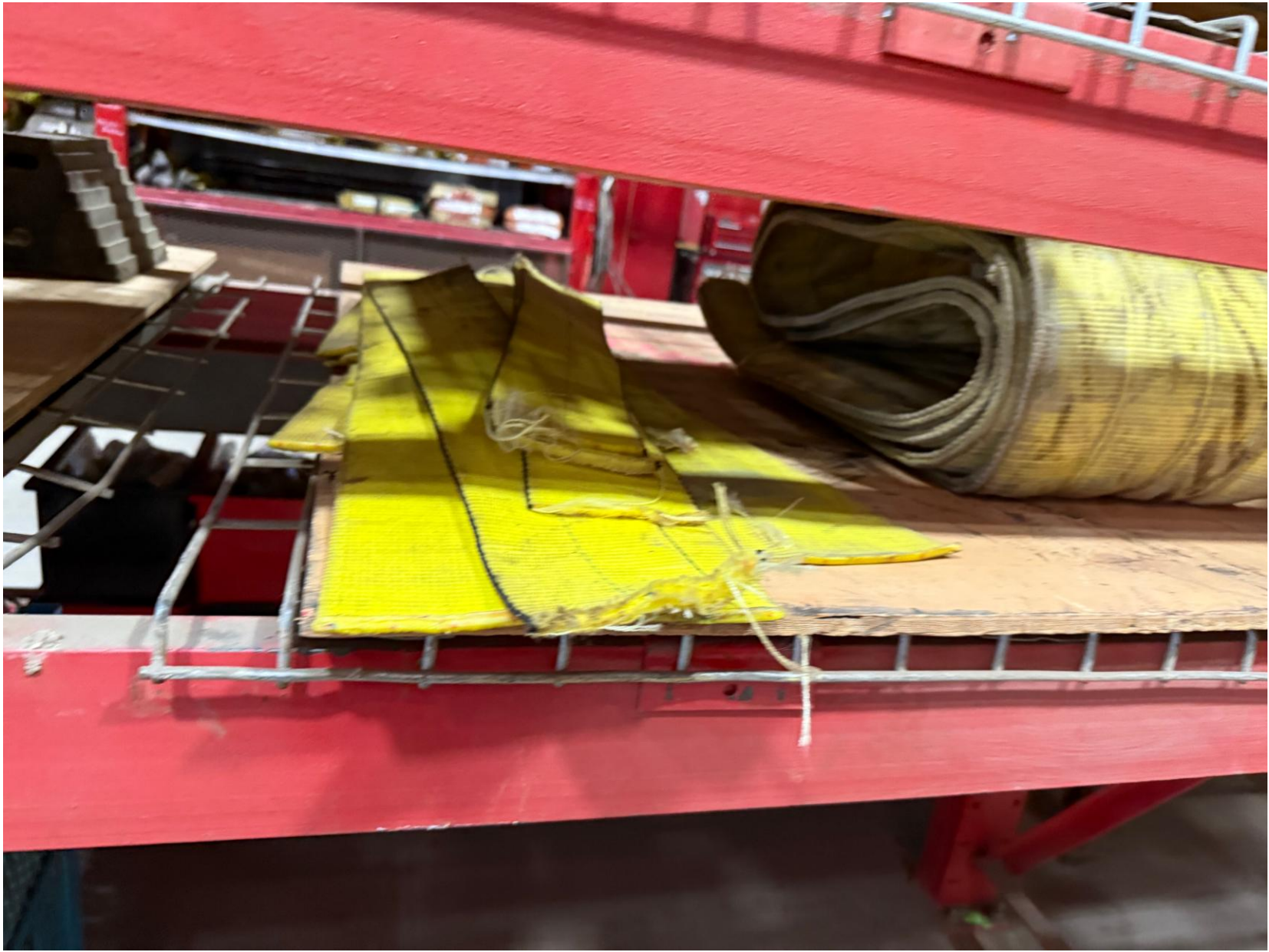




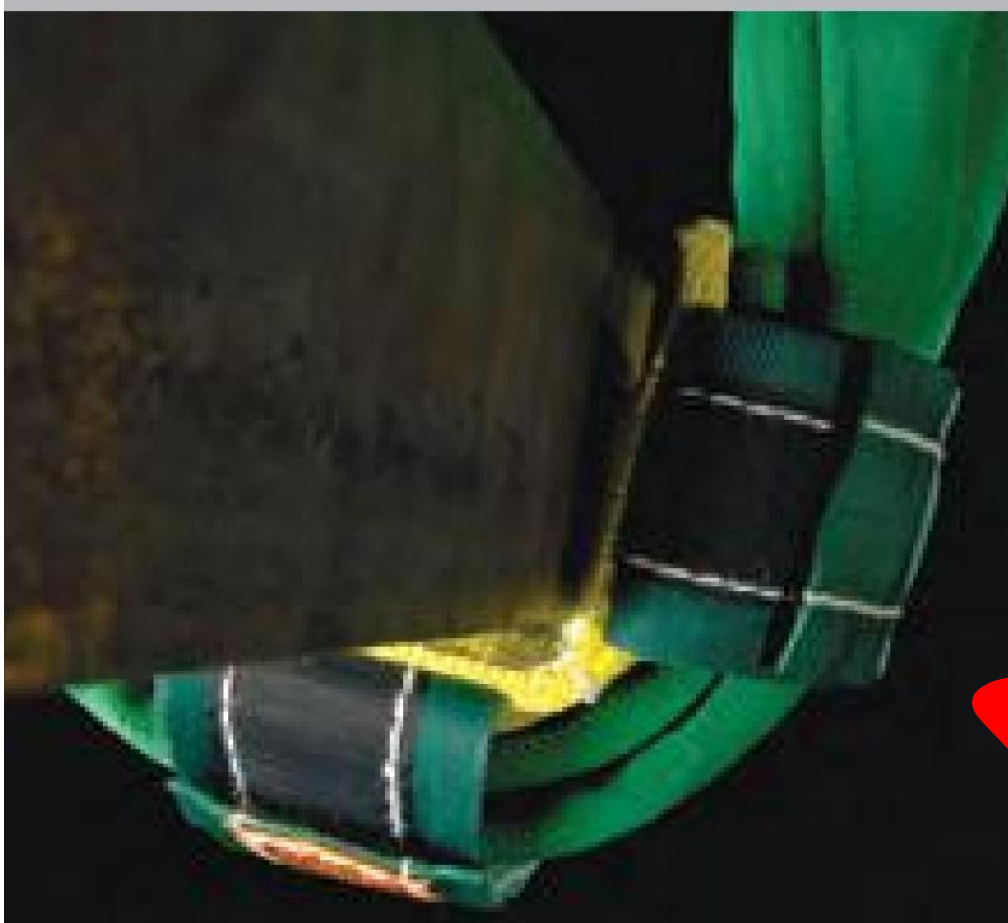






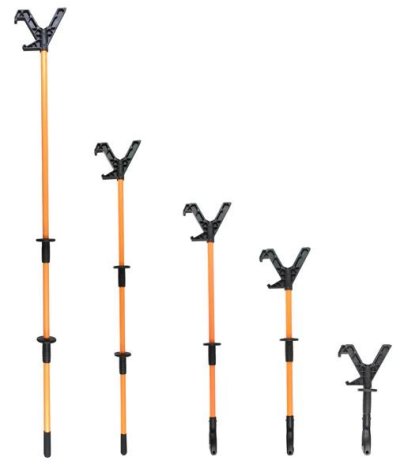


LOAD RATED CUT PROTECTION



LOAD RATED CUT PROTECTION





SHOVE IT



HOOK IT



GRAB IT



GRATE IT



SNARE IT



HOLD IT



MAGNA-GRAB ANCHOR



MULTI-GRAB MAGNET



SAFE-T-STICK MAGNET



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