



Improving the quality of life

FALL PROTECTION – THE BIGGEST CHALLENGE

ASSP Nigeria Chapter: August 2020

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AMERICAN SOCIETY OF
SAFETY PROFESSIONALS
Nigeria Chapter



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BOTTOM LINE UP FRONT

- ◉ We haven't truly addressed the real risks and exposures in fall protection
- ◉ Regulations, standard and equipment advances help, but a new mindset is needed




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ACTION ITEMS

- ◉ Take one of the planning items and make a change
- ◉ During a week (or month), talk about one of the items with as many of your coworkers as you can
- ◉ Incorporate into a toolbox talk



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AGENDA

- Background
- Planning aspects
 - PPE Usage
 - Assessments
 - Roofs
 - Anchorage
 - Inspection
- Closing



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SERIOUS INJURIES & FATALITIES (SIFs)



Falls



Struck by falling/moving object



Collapse/overturn




Hit by vehicle




Electricity

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WE CAN'T DEFY GRAVITY

We all understand gravity...and the related risk of falls



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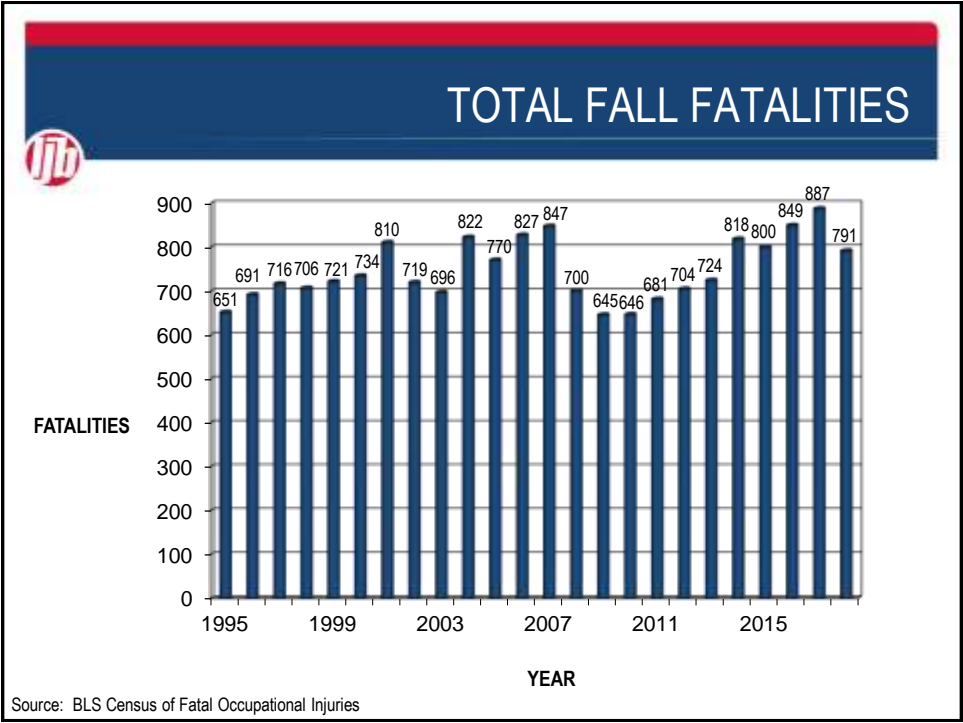


WE CAN'T DEFY GRAVITY

But, do we understand the risks of falls from heights and fall protection?



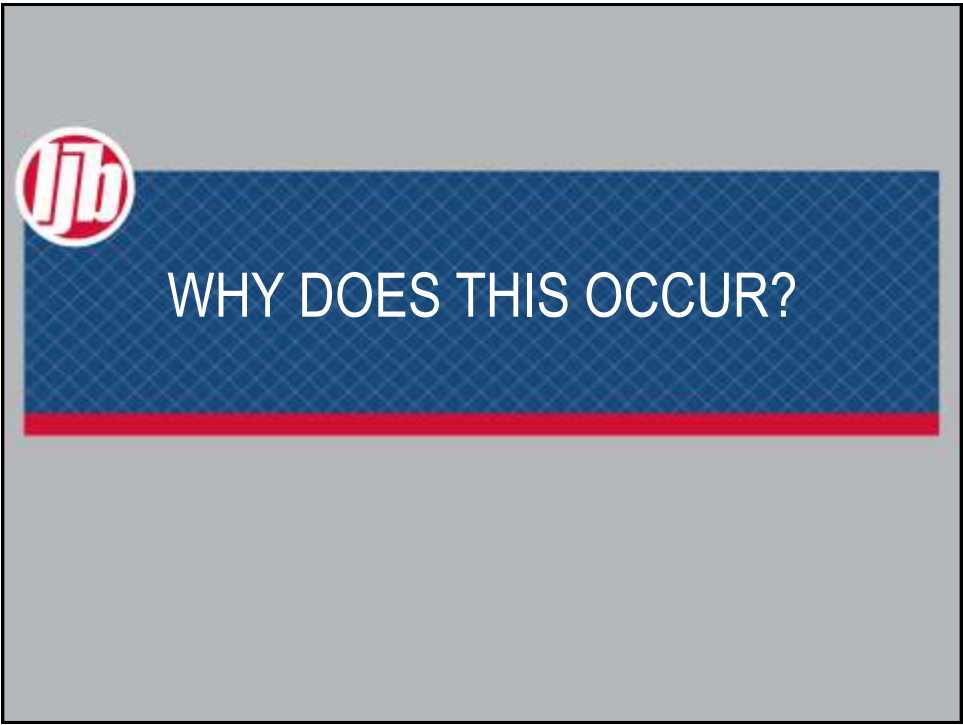
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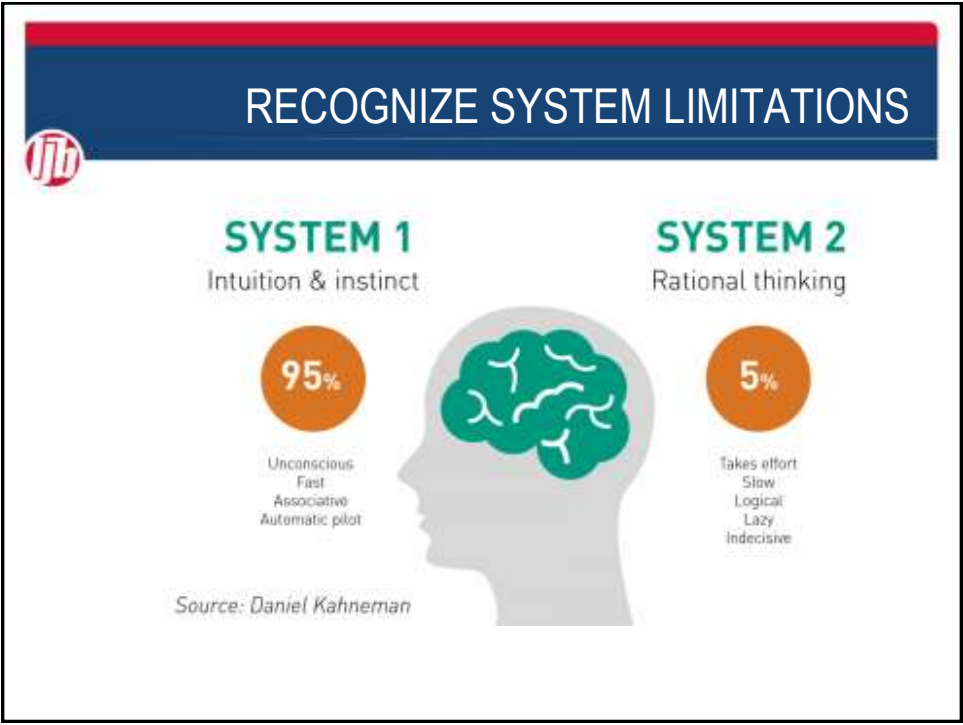
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WHICH ONE ARE YOU?

		
No tolerance	Low tolerance	High tolerance


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WHICH ONE ARE YOU?

		
Rooftoppers	Adventure sports	Ziplines

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NOT YOUR AVERAGE PPE


Fall protection PPE is not intuitive

> Hats, glasses and boots are worn in other aspects of life

> Proper harness fit is not easy



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NOT YOUR AVERAGE PPE

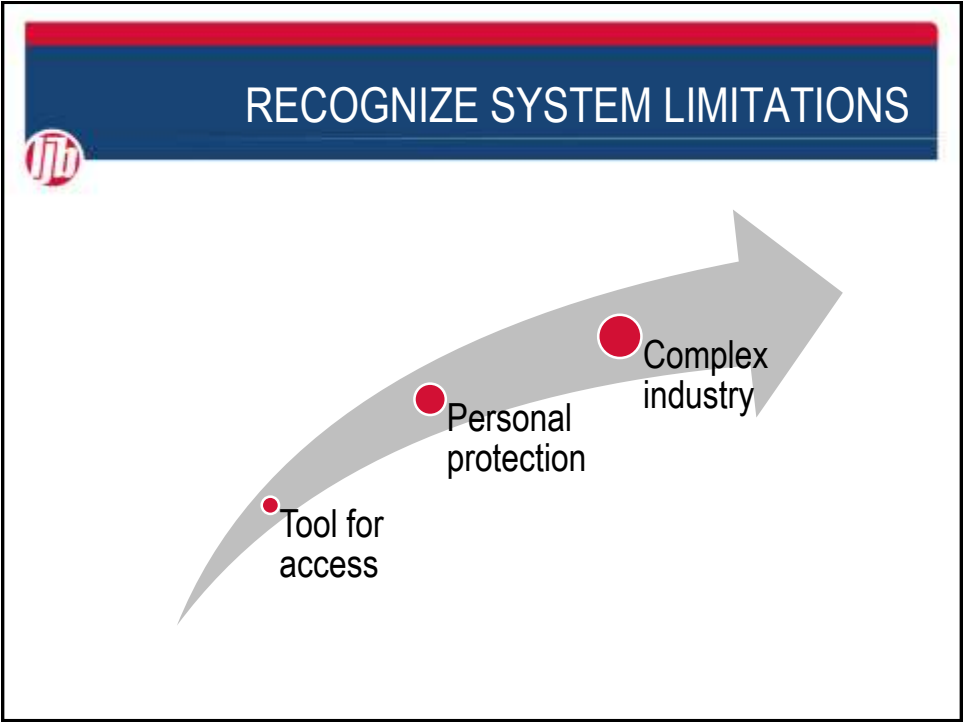
Fall protection PPE is not intuitive

> Hats, glasses and boots are worn in other aspects of life

> Proper harness fit is not easy



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OPERATIONAL IMPROVEMENTS

AMERICAN NATIONAL STANDARD

ANSI/ASSE Z359.2-2017

Minimum Requirements for a Comprehensive Managed Fall Protection Program

Part of the Fall Protection Code





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ASSP MANAGED FALL PROTECTION

90+ Safety Courses

96% Recommendation Rate

Earn 5.6+ CEUS

February 13-20 Las Vegas, NV



Managed Fall Protection Course

> <https://store.assp.org/PersonifyEbusiness/Events/ASSPEducationalEventsCalendar>

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FALSE SENSE OF SECURITY

- The question is: are you good or just lucky?





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PLANNING – PPE USAGE

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FULL-BODY HARNESSES - BLUF

- ② Change fall protection culture
 - > Choosing the correct type
 - > Ensuring proper fit and adjustment
- ② Advantages of requiring a suspension in training
 - > confidence in their equipment.
 - > create awareness around prompt rescue


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WHAT'S WRONG WITH THIS PICTURE?




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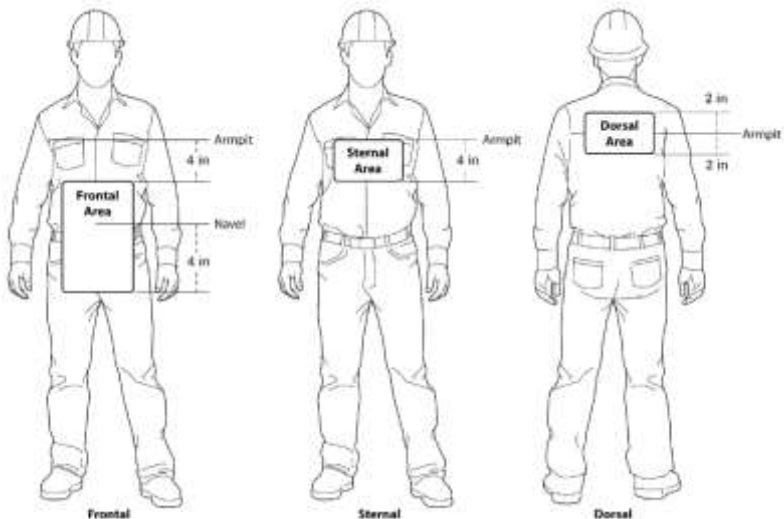
DEMONSTRATE

- Focus areas:
 - Dorsal dee-ring location
 - Chest or sternal strap location
 - Sub-pelvic straps – location and how tight
- BONUS:** Use of suspension trauma straps
- How long can your workers safely suspend and will they react when it occurs?

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DRING LOCATIONS




Frontal


Sternal

Dorsal

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ASSP WEBINAR SERIES



AMERICAN SOCIETY OF
SAFETY PROFESSIONALS


Training

Full Body Harness


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YUP.



YUP.



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ANCHORAGE CONNECTORS




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TELL ME


- What will you now be doing differently?

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PLANNING – ASSESSMENTS


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THREE “TYPES” OF HAZARDS



Integrity of surface
1910.22
1926.501(a)(2)



Duty to have fall protection
1910.28
1926.501



Systems criteria
1910.29
1926.502

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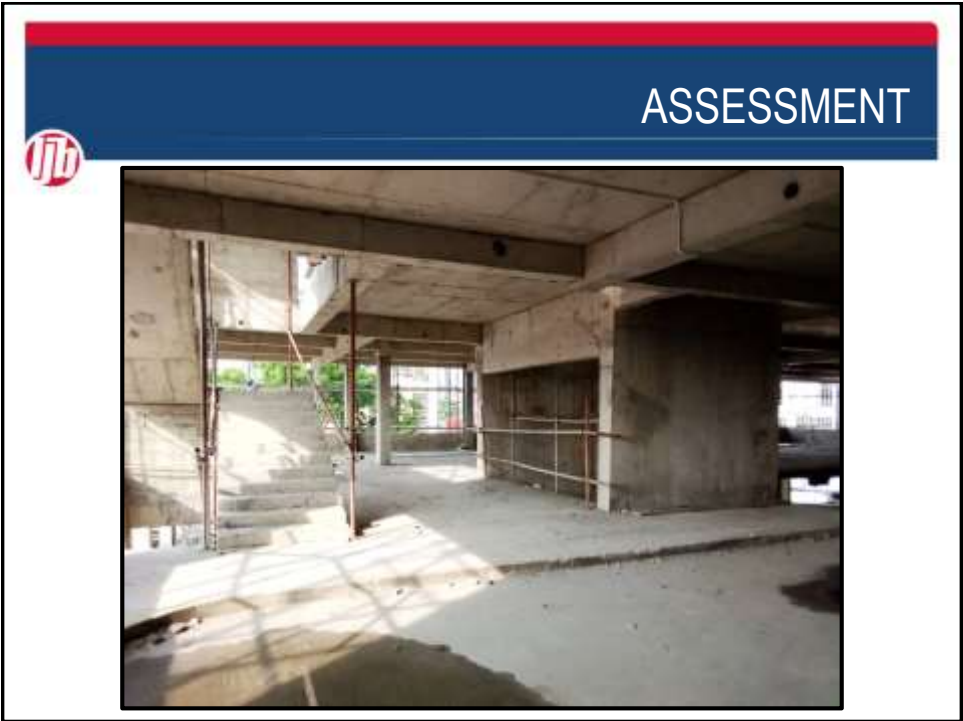
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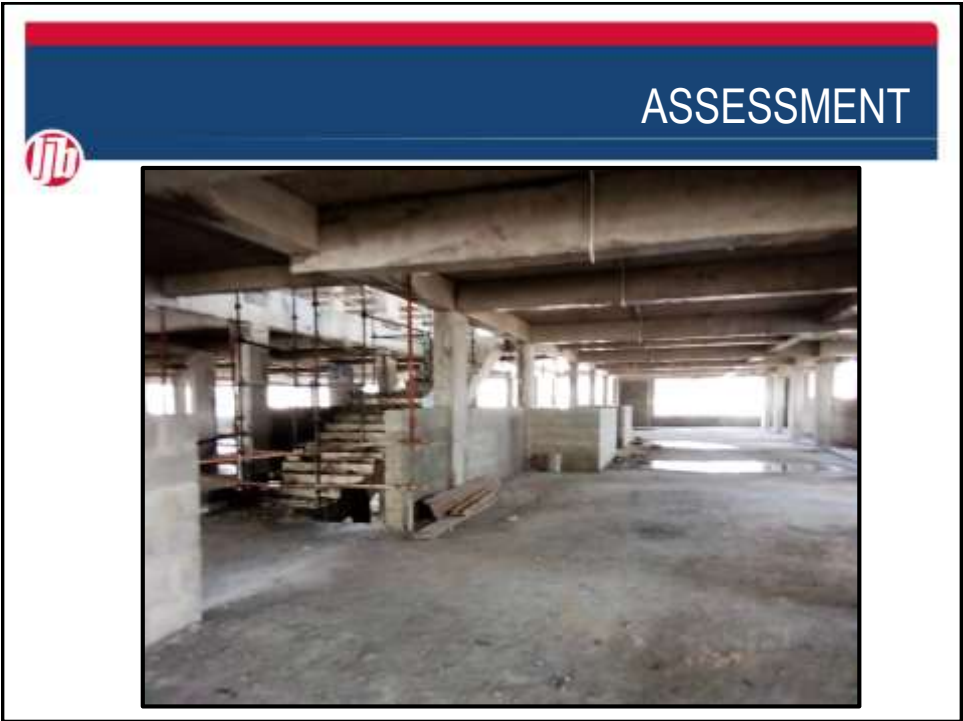
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TELL ME

- What will you now be doing differently?

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PLANNING – ROOFS

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ROOF EDGE




What Six-Foot Rule? OSHA Construction Fall Standard Forces the OSH Review Commission to State It Does Not Exist

> <https://bit.ly/2WpbVvQ>

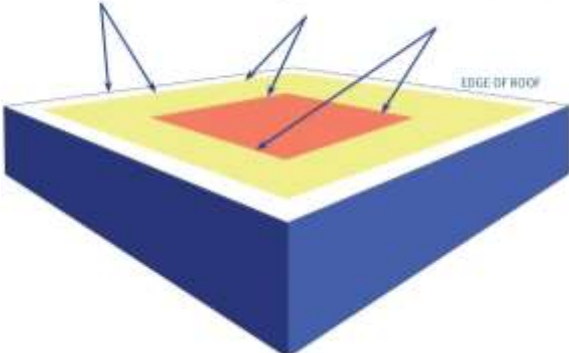
- “To protect workers, construction industry employers may want to make certain—regardless of the distance from the unprotected edge—that it is not reasonably predictable that an employee will fall over the edge. It may be helpful in this regard for employers not only to know where their employees will be, but to also know what they are expected to do. “

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ROOF EDGE (INFREQUENT & TEMP.)



0 to 6 Ft. = Conventional Fall Protection 6 - 15 ft. = Designated Area Warning Line 15 ft. or more = Administrative Control




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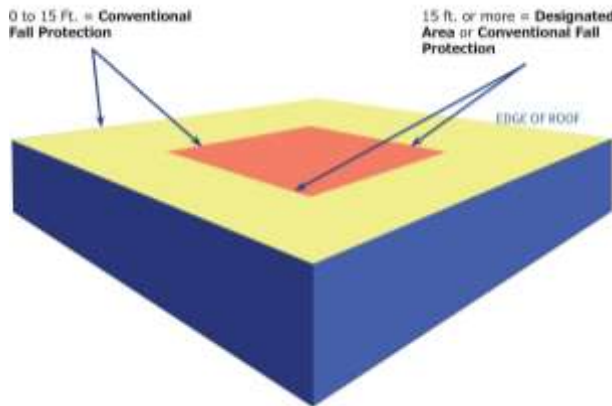
ROOF EDGE

- Temporary
 - > “Brief” - Performed in less time than set up of fall protection
 - > “Simple” – No significant equipment, personnel or resources
 - > “Short-term” – Doesn’t require multiple days/shifts
- Infrequent
 - > Only on occasion
 - > Not routine part of job

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ROOF EDGE (OTHER SITUATIONS)




0 to 15 ft. = Conventional Fall Protection

15 ft. or more = Designated Area or Conventional Fall Protection

EDGE OF ROOF


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TELL ME

- What will you now be doing differently?

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PLANNING – ANCHORAGES

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ROPE DESCENT SYSTEMS



- ⦿ OSHA's 1910.27(b)(1)(i)
 - > ...before any rope descent system is used...building owner has identified, tested, certified, and maintained each anchorage
 - > Certification of anchorages – November 20, 2017




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IS ANCHORAGE TESTING REQUIRED?



- ⦿ Does not explicitly require 100% field testing of the anchorages post installation
 - > Testing to 5,000 pounds could damage anchor or structure
 - > Depends on documentation for design and installation



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OSHA REGULATIONS

- ⦿ Anchorages shall be:
 - > Capable of supporting at least 5,000 lbs. per attached worker
 - > Or designed, installed and used under the supervision of a Qualified Person as part of a complete personal fall protection system maintaining a safety factor of at least two

OSHA 1926.502 (d) (15)
OSHA 1910.140 (c) (13) (i & ii)

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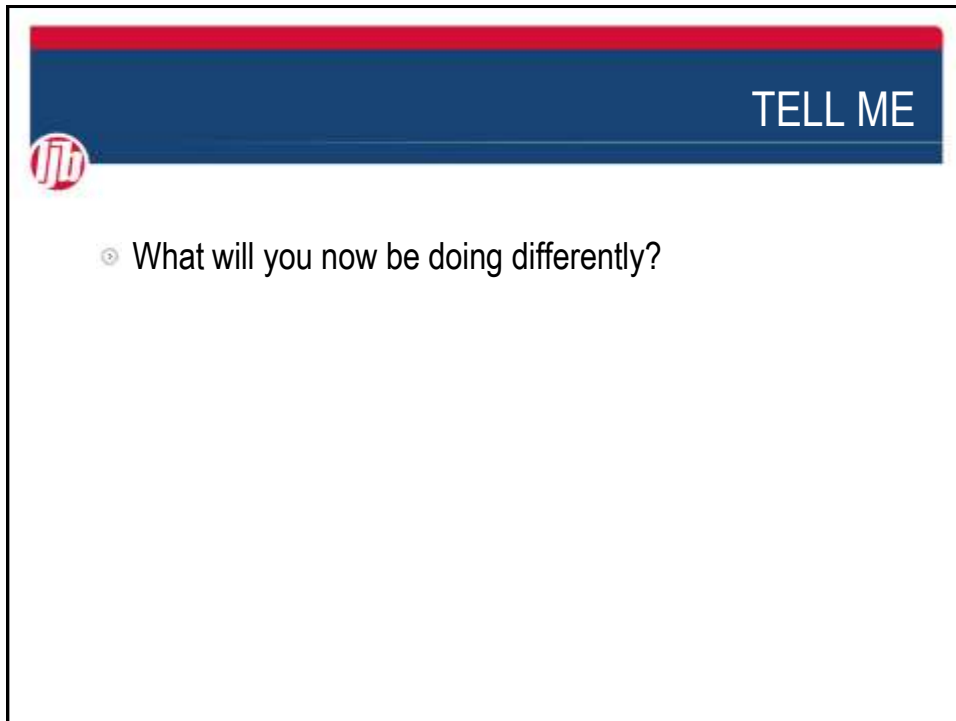


ANSI Z359.2 STANDARD

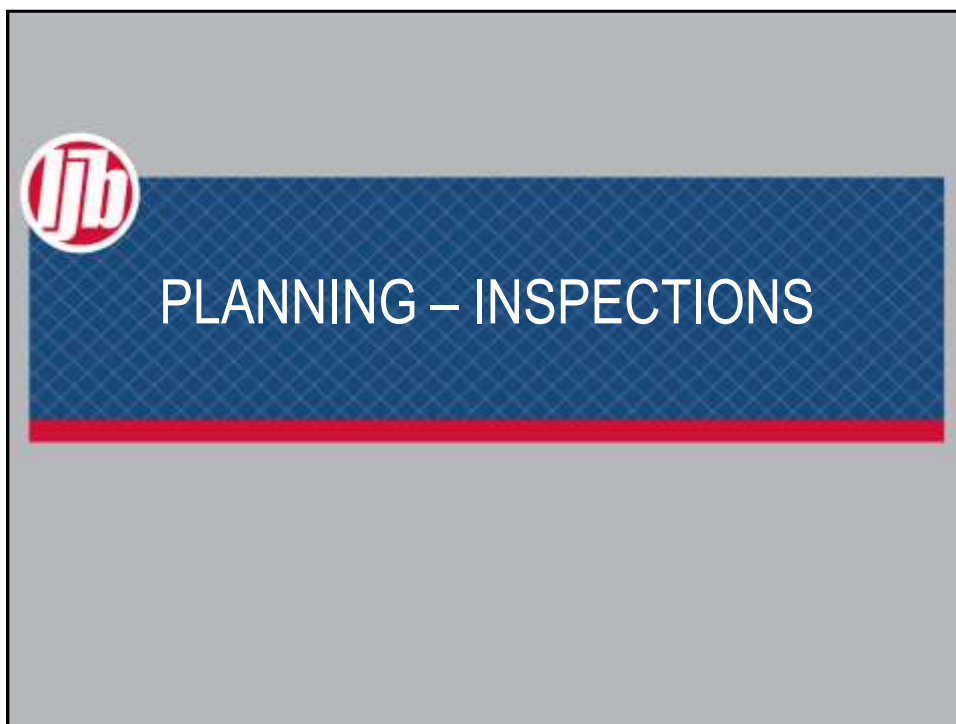
- ⦿ Non-certified fall arrest anchorages shall be capable of supporting at least 5,000 lbs.
- ⦿ Certified anchorages:
 - > Shall support two times the maximum arresting force
 - > Be designed, installed and used under the supervision of a qualified person as part of a complete system maintaining a safety factor of at least two

ANSI Z359.2-2017 Section 5.4.2.2


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MILLER STUDY

- Field observations
 - > 100 % did not pass visual inspection criteria
 - > 6% were previously deployed but still in active service
 - > 9% had webbing that was knotted
 - > 42% had hardware with visible defects
 - > 6% the webbing actually broke
 - > 9% over 1,800 pounds
 - > 9% had snaphooks that opened during testing
 - > 24% elongated over the 42-inch standard
 - > 85% of the product samples FAILED standard safety tests (in accordance with ANSI standards)

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HOLE IN WEBBING




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NYLON WEBBING CUTS

- 5% Center cut = 7.8% reduction of original strength



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NYLON WEBBING CUTS

- 10% Center cut = 23.1% reduction of original strength



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NYLON WEBBING CUTS

- 1% Edge cut =
4.9% reduction of
original strength



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NYLON WEBBING CUTS

- 2.5% Edge on
each side cut =
23.3% reduction of
original strength




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TELL ME

- What will you now be doing differently?

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CLOSING

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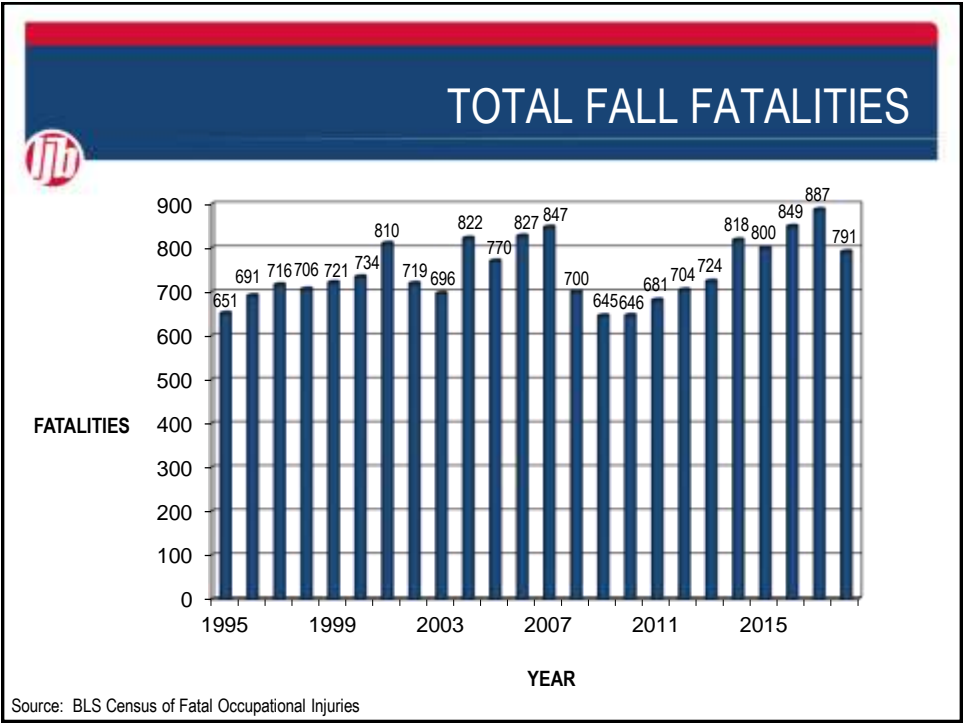


SOCIAL INFLUENCE


- “I’ll be careful”
- “I’m not that high”
- “It will only take a minute”
- “I’ve got a harness on”
- “I’m tied off”

**Repeat the lie
loudly and
frequently...and it
will become "true."**

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CLOSING EXERCISE: IMAGINE!



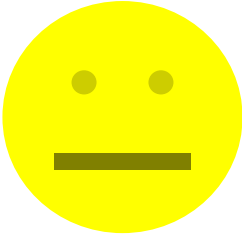
Imagine every year on May 22nd at precisely 10:15 am, all of your workers simultaneously “tested” their fall protection systems.

What would happen? Are you good, or just lucky?

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GAP ANALYSIS





Current State

Desired/Required State




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Falling for Work: A Story of Death & Determination

- > Fall protection fiction book

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CASE STUDY #1

Just because it meets ANSI...

- > Doesn't mean it's indestructible
- <http://bit.ly/2yXMjbu>
- <http://bit.ly/2y1c3pi>



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CASE STUDY #2

<https://www.seattletimes.com/seattle-news/eastside/worker-dies-in-fall-at-sound-transit-light-rail-construction-site-in-bellevue/>



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CASE STUDY #3

- <https://docuvision2020.com/index.php/2019/01/21/brien-james-daunt/>




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CASE STUDY #4

- Just because it meets ANSI...
 - > Doesn't mean it's indestructible
 - <http://on.freep.com/2xhvFI6>



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CASE STUDY #5

- ② Make an emotional connection
 - > https://www.youtube.com/watch?v=14gsJd_HrQQ
 - > <https://www.youtube.com/watch?v=ffC9FfMYpW4>
 - > <https://www.youtube.com/watch?v=ABZcf0Uiplw>
 - > WorkSafe Victoria (<https://www.worksafe.vic.gov.au/>)

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