



Improving the quality of life

ADDRESSING FALL RISK: THE GREATEST CHALLENGE

Greater Lafayette Area Safety Council: Oct. 2019

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SERIOUS INJURIES & FATALITIES (SIFs)



Falls



Struck by falling/moving object



Collapse/overturn



Hit by vehicle



Electricity

WE CAN'T DEFY GRAVITY



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



WE CAN'T DEFY GRAVITY



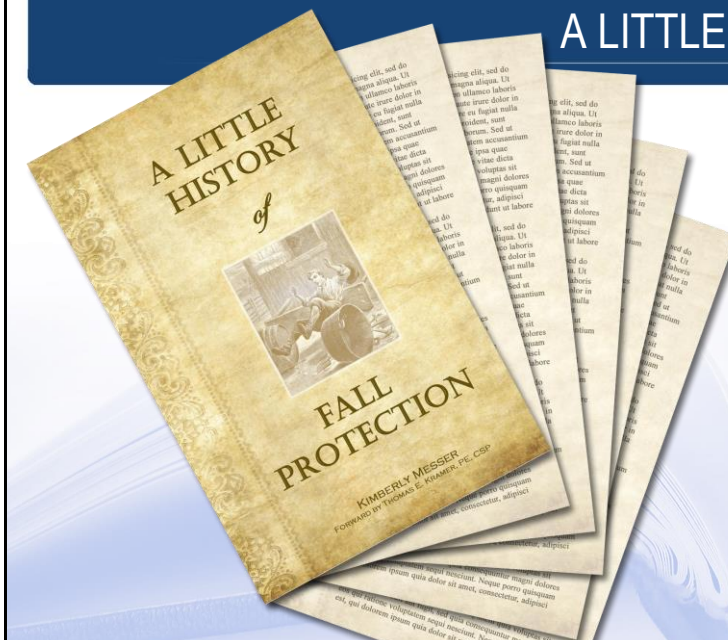
But, do we understand the risks of falls from heights and fall protection?



BOTTOM LINE UP FRONT

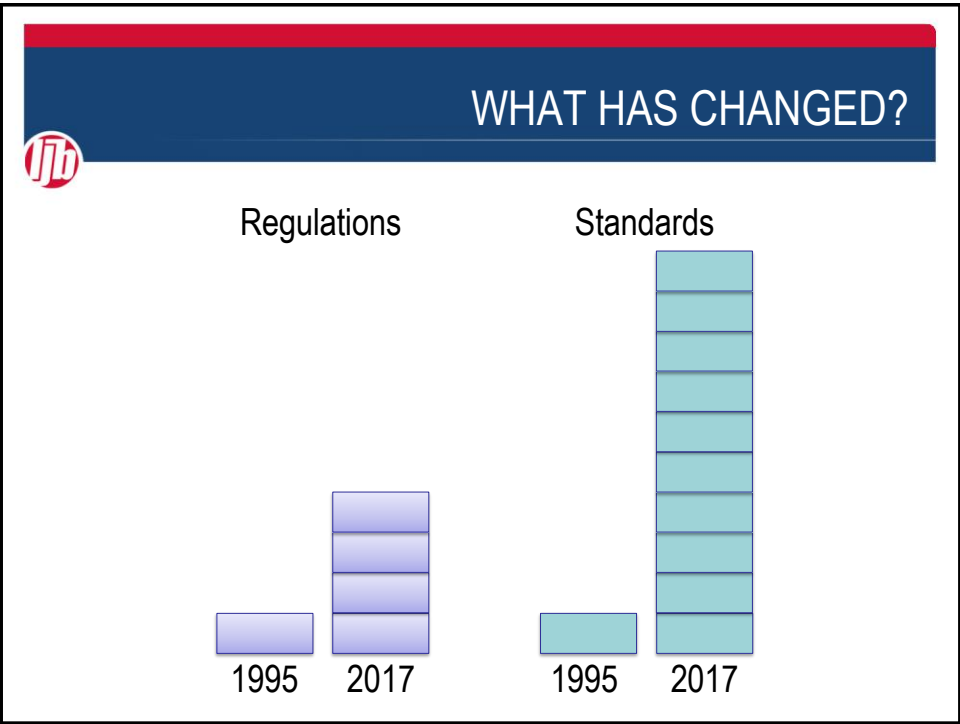
- Reframe the hierarchy of control
- Focus on system redundancies and skills training

A LITTLE HISTORY




A LITTLE HISTORY


“Statistics are like bikinis. What they reveal is suggestive, but what they conceal is vital.”
 Aaron Levenstein



WHAT HAS CHANGED?




Money spent on equipment





Spending up 160% in last 20+ years

Citations

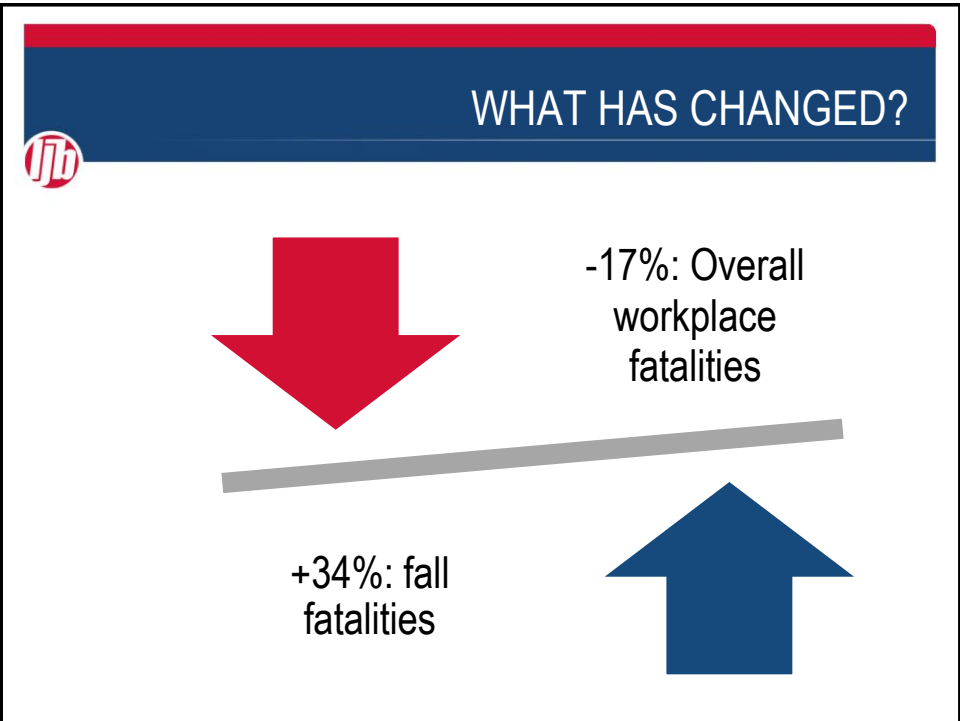
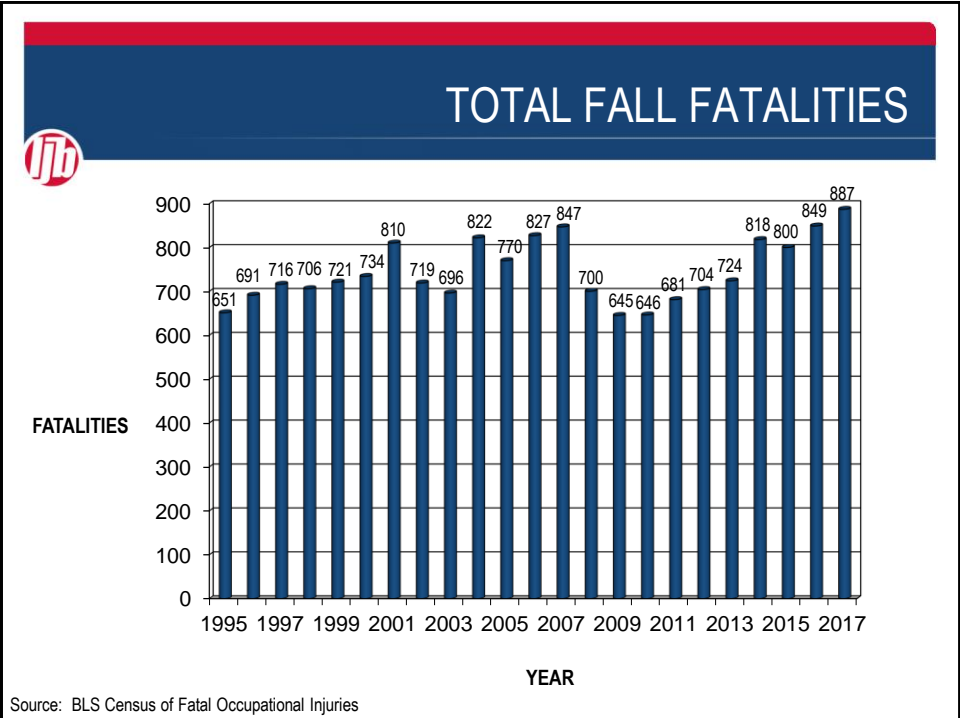


Top OSHA citation 9 years straight

WHAT HAS CHANGED?



-17%: Overall workplace fatalities




WE CAN'T DEFY GRAVITY



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




UK VS. US STATISTICS – 2016



	US	UK
GDP	18.6 tn USD	2.62 tn USD
New construction	1.23 tn USD	0.14 tn USD
Total workplace fatalities	5,190	137
Construction fatalities	991	30
Total fall fatalities	849	25

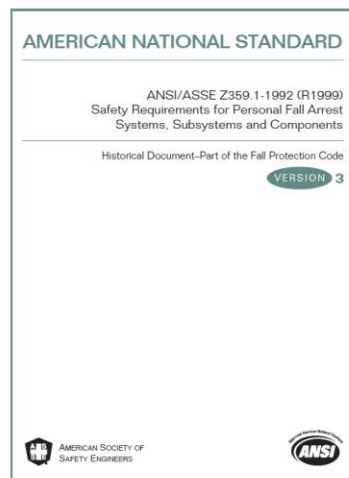
UK VS. US STATISTICS – 2016			
		US	UK
7.1x	GDP	18.6 tn USD	2.62 tn USD
8.8x	New construction	1.23 tn USD	0.14 tn USD
37.9x	Total workplace fatalities	5,190	137
33x	Construction fatalities	991	30
34x	Total fall fatalities	849	25

AUS VS. US STATISTICS – 2016			
		US	AUS
15.4x	GDP	18.6 tn USD	1.21 tn USD
	New construction	1.23 tn USD	
28.7x	Total workplace fatalities	5,190	181
	Construction fatalities	991	
34x	Total fall fatalities	849	25

OUR FOCUS

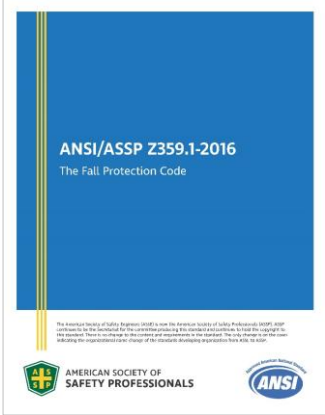
A LOOK BACK SINCE....

- 2006 – ten+ years ago
 - > ANSI Z359.1
 - > Fall arrest system and equipment focus
 - > Non-construction
 - > 100+ pages



A LOOK BACK SINCE....

- 2019
 - > Program management
 - > Design
 - > Testing
 - > Components – harnesses to anchorage connectors
 - > Construction industry included
 - > Getting to 1,000 pages



CAUSES AND CONSEQUENCES OF FALLS

Culture

Behavior

Competence



CAUSES AND CONSEQUENCES OF FALLS

Culture

Behavior

Competence

Equipment


Failure




Staying Alive:
Preventing Serious Injury and Fatalities while Working at Height
All-Party Parliamentary Group on Working at Height
Inquiry report February 2019

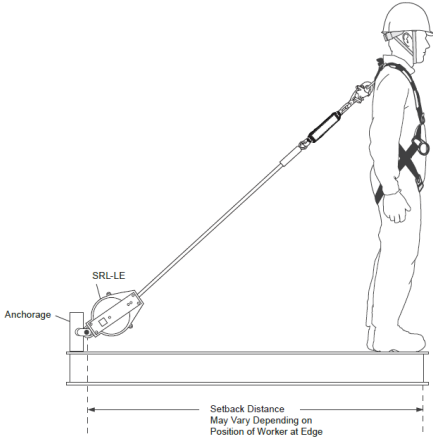
EQUIPMENT FAILURE

1992



2007



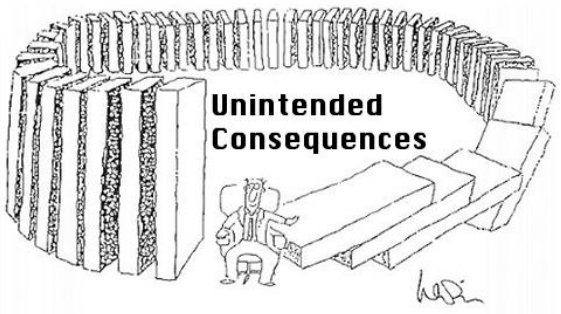


2012

LOOKING AHEAD...

Where do we go?

- Consequences
 - > Intended
 - > Unintended
- Results
 - > Good
 - > Bad



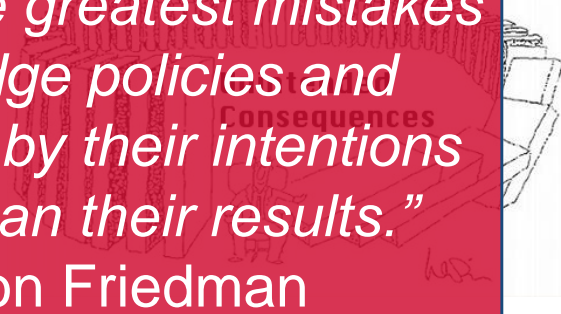
LOOKING AHEAD...

Where do we go?

“One of the greatest mistakes is to judge policies and programs by their intentions rather than their results.”

Milton Friedman

- Consequences
 - > Intended
 - > Unintended
- Results
 - > Good
 - > Bad



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

AMERICAN SOCIETY OF
SAFETY ENGINEERS

FALSE SENSE OF SECURITY






The question is: are you good or just lucky?

©M.B.J.

"Can I swap you for a fool hardy lack of concern?"

WHICH ONE ARE YOU?


		
No tolerance	Low tolerance	High tolerance

WHICH ONE ARE YOU?

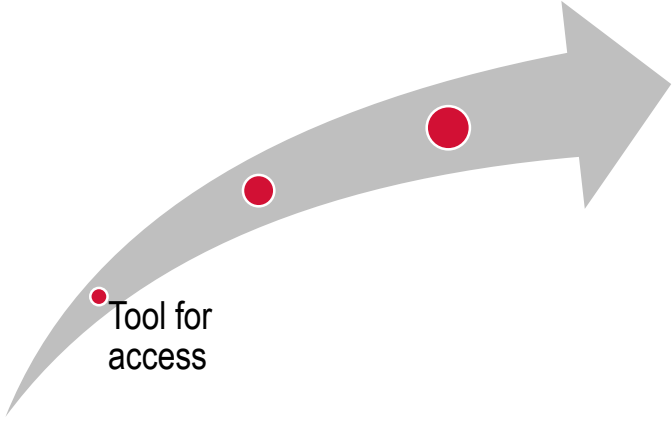
		
Rooftoppers	Adventure sports	Ziplines

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



RECOGNIZE SYSTEM LIMITATIONS



• Tool for access

RECOGNIZE SYSTEM LIMITATIONS

Tool for access

Personal protection

Complex industry

RECOGNIZE SYSTEM LIMITATIONS

SYSTEM 1
Intuition & instinct

95%

Unconscious
Fast
Associative
Automatic pilot

SYSTEM 2
Rational thinking

5%

Takes effort
Slow
Logical
Lazy
Indecisive

Source: Daniel Kahneman

RECOGNIZE SYSTEM LIMITATIONS



“Safety is not the absence of accidents. Safety is the presence of defenses, stop seeing safety as an outcome and start seeing safety as a capacity.”

Todd Conklin

Source: Daniel Kahneman

CULTURE

Fall protection is not...

- > “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."**

CAUSE AND CONSEQUENCES OF FALLS

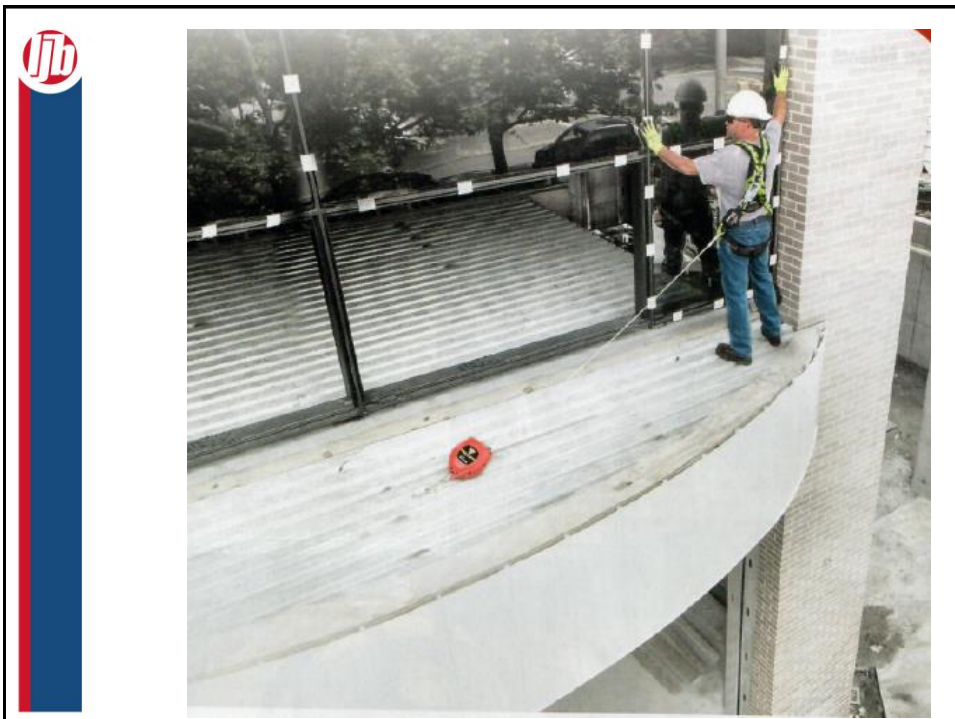
- Culture
 - > Z359 National Work at Height Task Force
 - > Z359.2 Certificate Program
 - > All systems “designed” by professional
 - Design out hazards
- Behavior
 - > Require capacity through redundancy

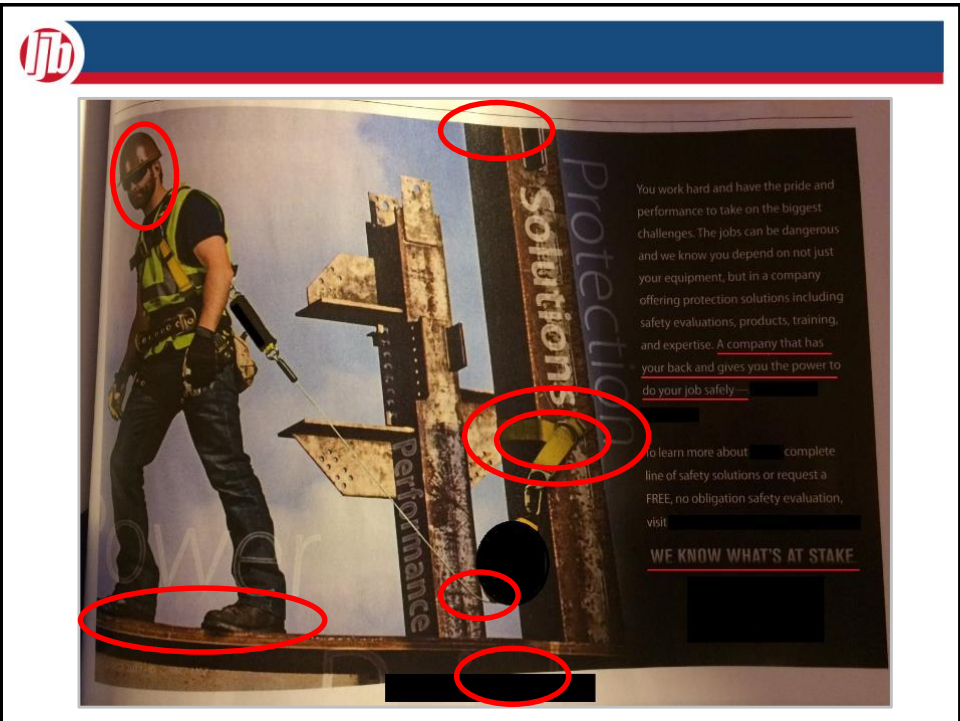
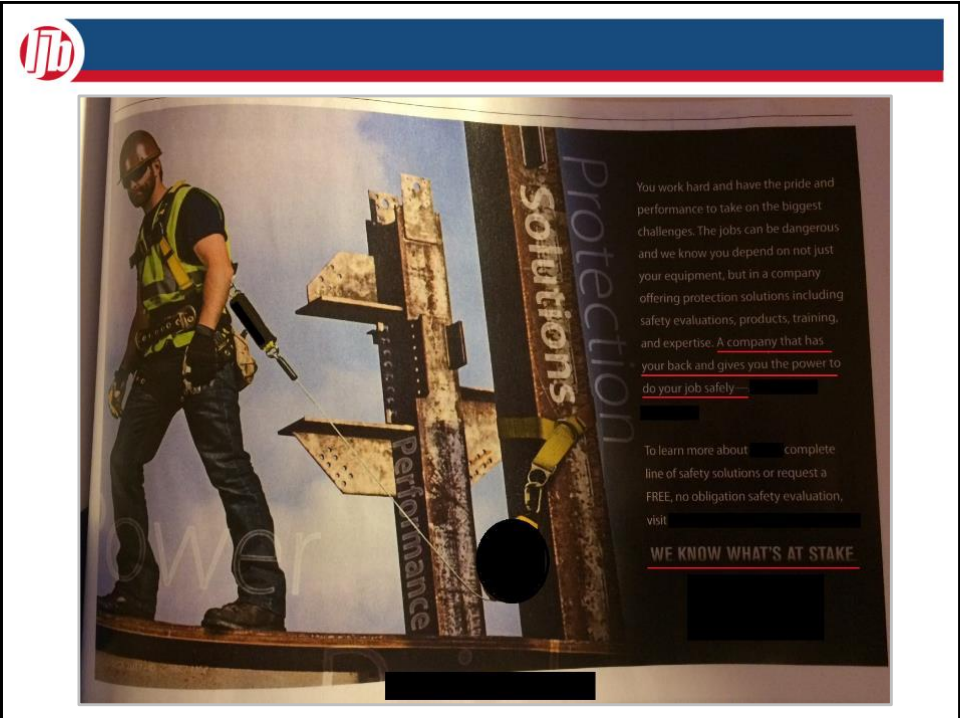
CAUSE AND CONSEQUENCES OF FALLS

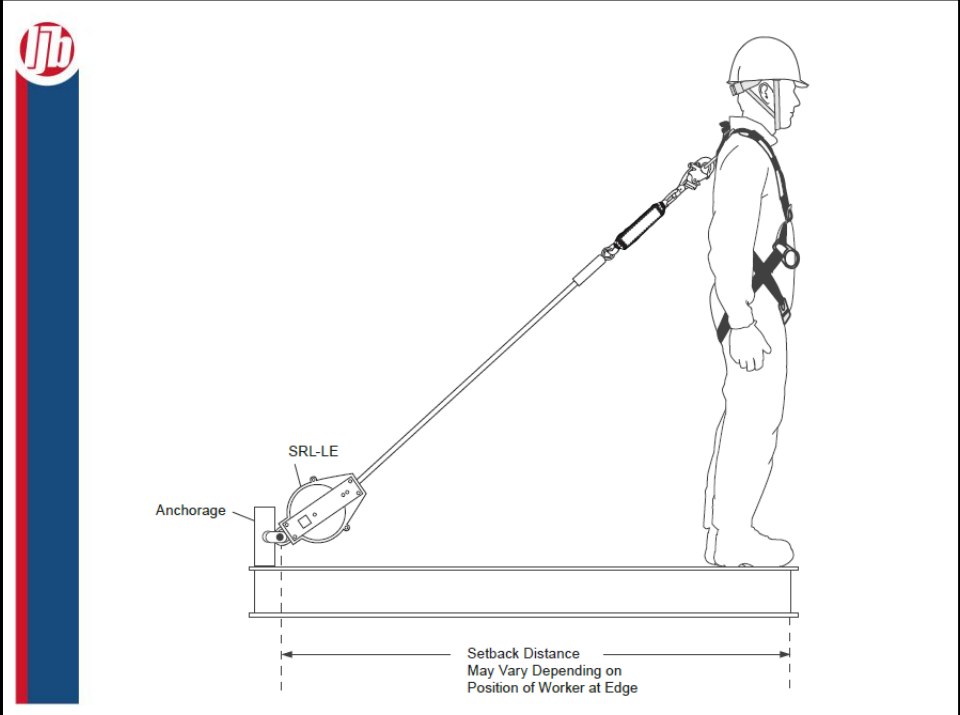
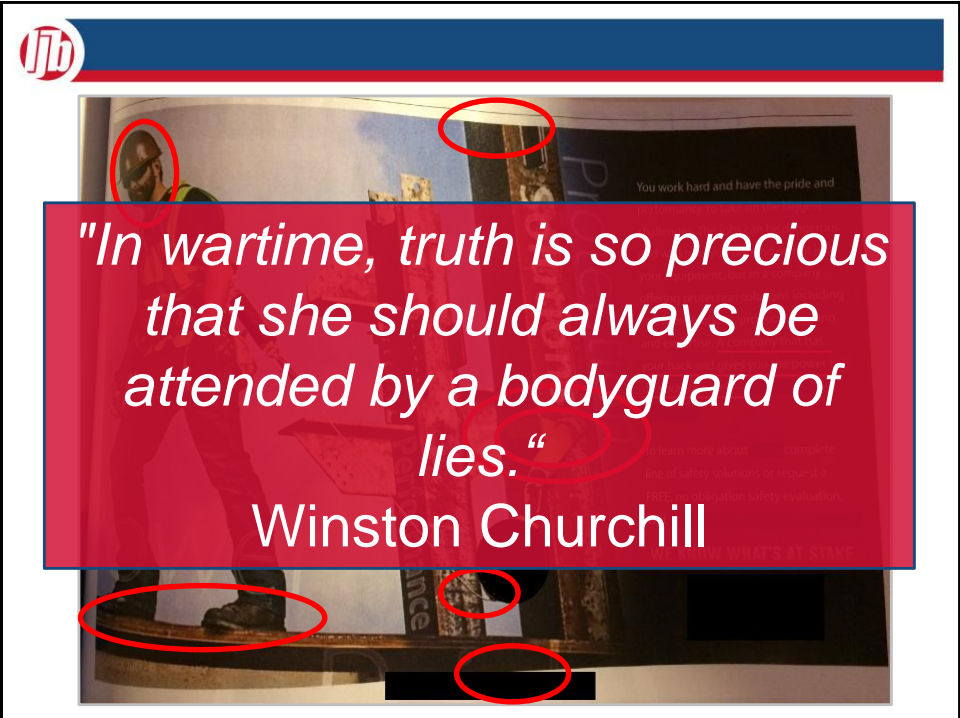
- Competence
 - > Define skill-based scenarios
- Equipment failure
 - > Relate tests to use in field



LEADING EDGE ISSUES







TWIN LEG SRL-LE (PERSONAL MOUNTED)

1. TRIP HAZARD

2. FORCE

3. FALL CLEARANCE

4. SHARP EDGES

Sharp Edge Rated!

LEADING EDGE TESTING

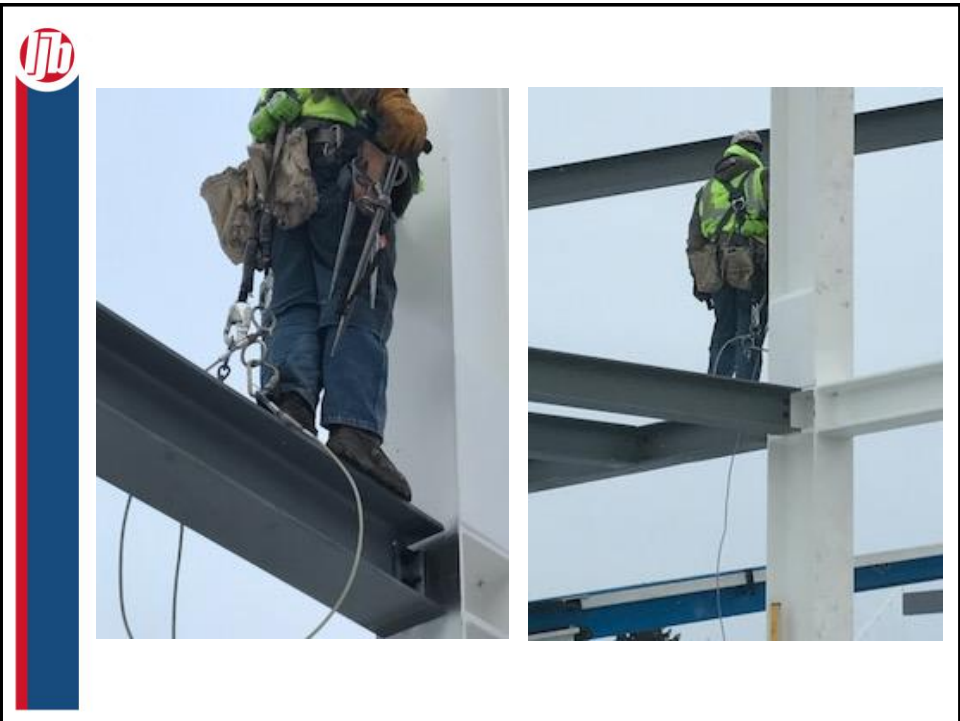
TMPGEnc 4.0 XPress

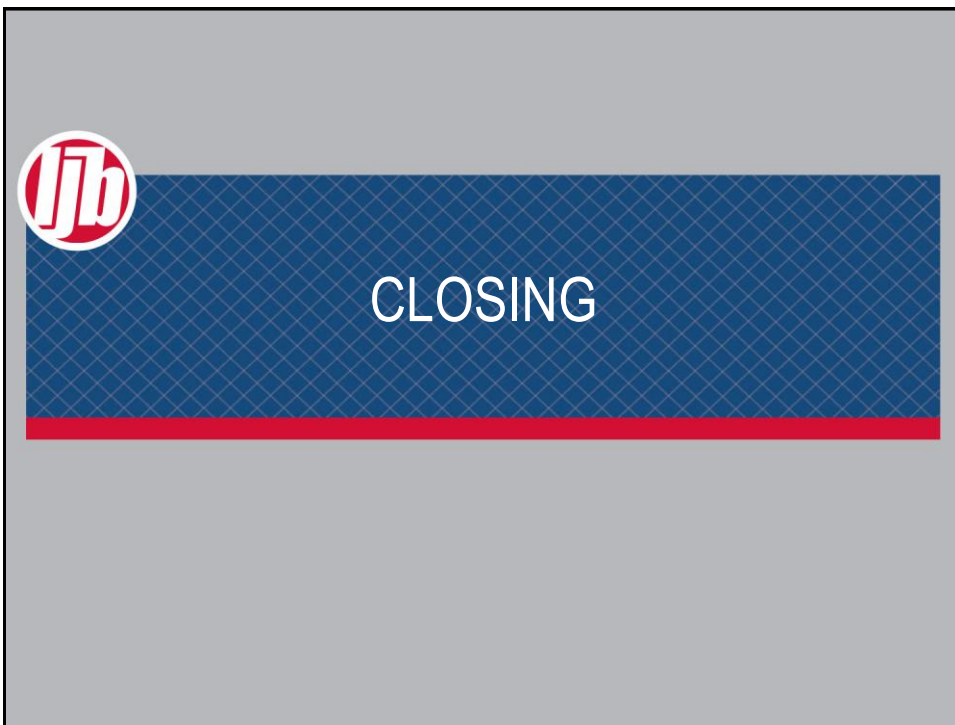
0.5 m


0.5 m

VER 008

VER 008








IN THE FIELD....

Visualize the outcomes


- > Find safer ways to do work



IN THE FIELD....

Visualize the outcomes

- > Find safer ways to do work
- > Harness fitting



IN THE FIELD....

Visualize the outcomes

- > Find safer ways to do work
- > Harness fitting
- > Anchorages
 - Higher is often better
 - Documentation



WHAT CAN WE LEARN FROM HISTORY?



Joe Arrants
Age 34
Medina, Washington
March, 2015



Walter Burrows
Age 63
Bellevue, Washington
May, 2018



Brien James Daunt
Age 45
Bakersfield, California
January, 2019



CLOSING EXERCISE: IMAGINE!

Imagine every year on April 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?



CLOSING EXERCISE: IMAGINE!

Imagine that two Boeing 777's loaded with passengers and crew fell out of the sky every year on December 24th.

What happens next?

CLOSING EXERCISE: IMAGINE!



We have over 849 fatal falls each and every year, and this has been the case for decades, despite our best efforts. That does not include life-changing injuries or recordables.

Have we become numb to the BLS data?



90+ Safety Courses
96% Recommendation Rate
Earn 5.6+ CEUS

February 13-20 Las Vegas, NV

safety
FOCUS2020

**ACTION
PLAN**

- › Fall Protection Certificate Workshop: Feb. 17 to 19
- › For more information:
 - > The home page: <https://safetyfocus.assp.org/>
 - > The courses: <https://safetyfocus.assp.org/education/courses/>
 - > Or the schedule: <https://safetyfocus.assp.org/schedule-tool/>



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CASE STUDY #1

- Just because it meets ANSI...
 - > Doesn't mean it's indestructible
- <https://bit.ly/2OClu7x>



CASE STUDY #2

- ◉ Just because it meets ANSI...
 - > Doesn't mean it's indestructible
 - <http://bit.ly/2yXMjbu>
 - <http://bit.ly/2y1c3pi>



CASE STUDY #3

- ◉ Just because it meets ANSI...
 - > Doesn't mean it's indestructible
 - <http://on.freep.com/2xhvFl6>



CASE STUDY #4

- ◉ Tell convincing stories
 - <https://bit.ly/2zRuf1K>
 - <https://bit.ly/2Rqt2sD>

