

# Safe Work Practices From Auditing to ~~Enabling~~ Empowering

**Moving from compliance auditing to competency based verification & validation, focused coaching and learning from each other**

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# El Segundo Refinery

- About 1150 Chevron plus 1575 contractors
- On the beach a few hundred feet from expensive homes
- Recordable injury rate (3 year ave) = 0.07
- Winner: Distinguished Safety Award for safest operating petrochemical plant in America in 2015 (about 300 AFPM member sites)



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# “Audit”

- “An official inspection of an individual's or organization's accounts”
- Internal audit of safe work practices – management’s method of observing and measuring conformance to standards or expected behaviors (e.g. lock out tag out, confined space, work at height)
- Historically focused on “**compliance**”
- Why do we audit?



# Auditing for required elements – DROPS example



Barricades



Tethers

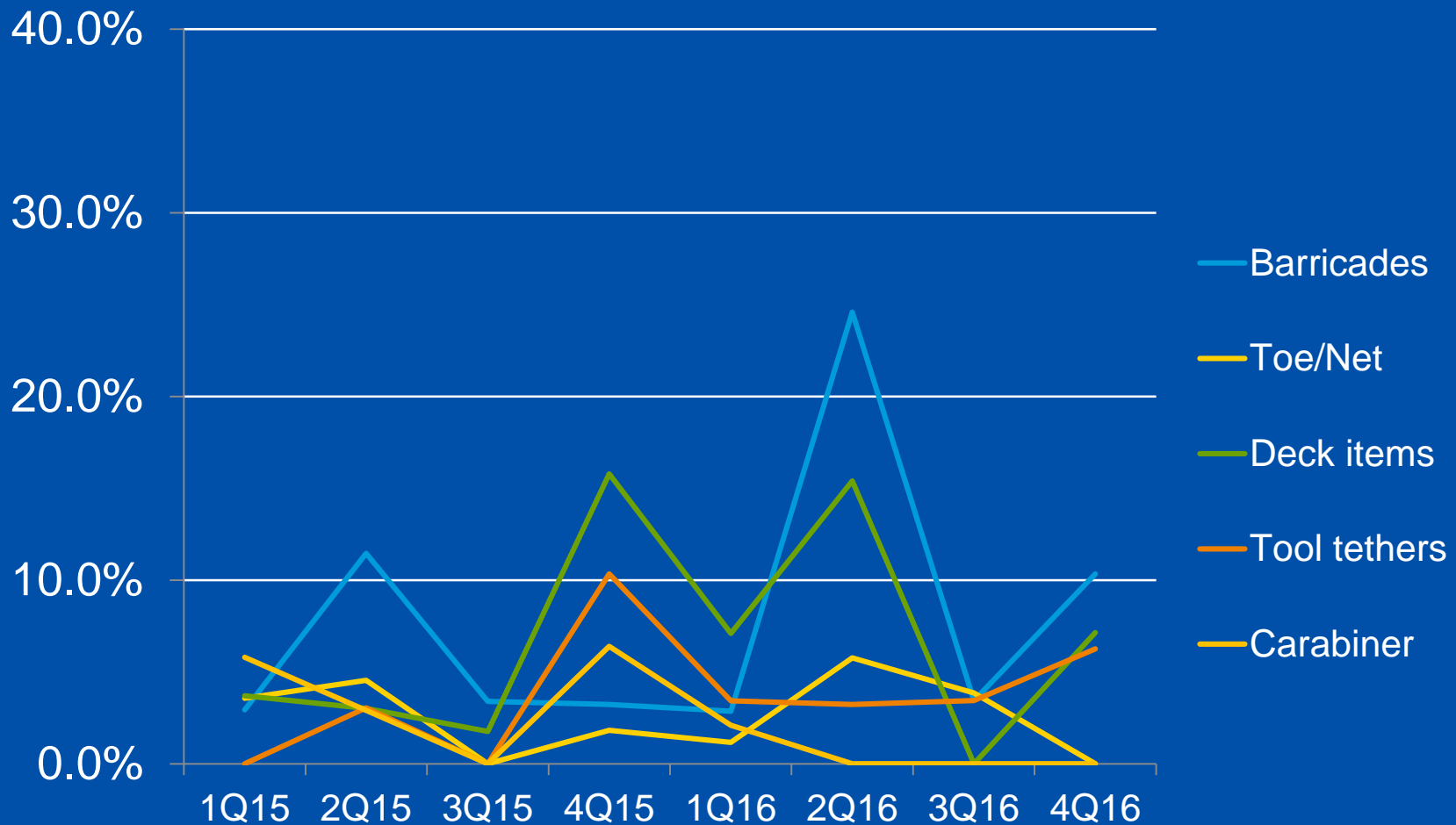
Netting &  
Toe-boards



Eyelet, locking  
carabiner,  
(closing bags)

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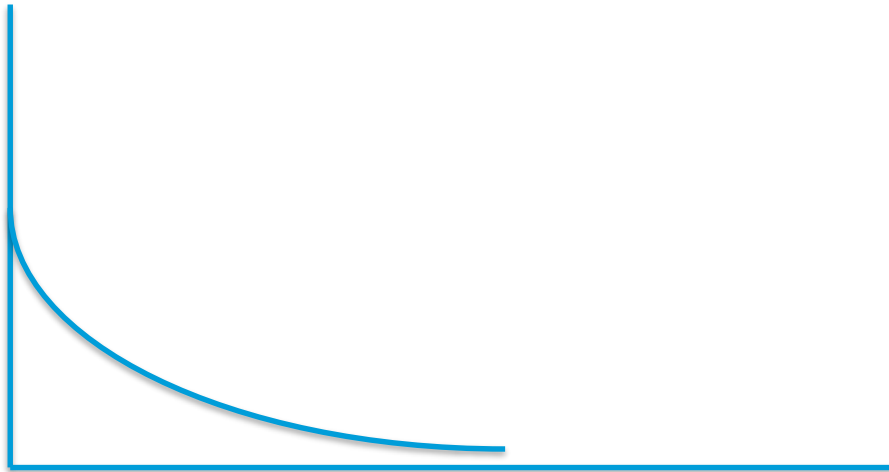
## > 550 field reviews (% non-compliance)



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# Asymptote in Safety

(article by S. Dekker & C. Pitzer, 2016)



six myths of safety (reference Besnard & Hollnagel 2014):

“human error is the major cause of disasters”

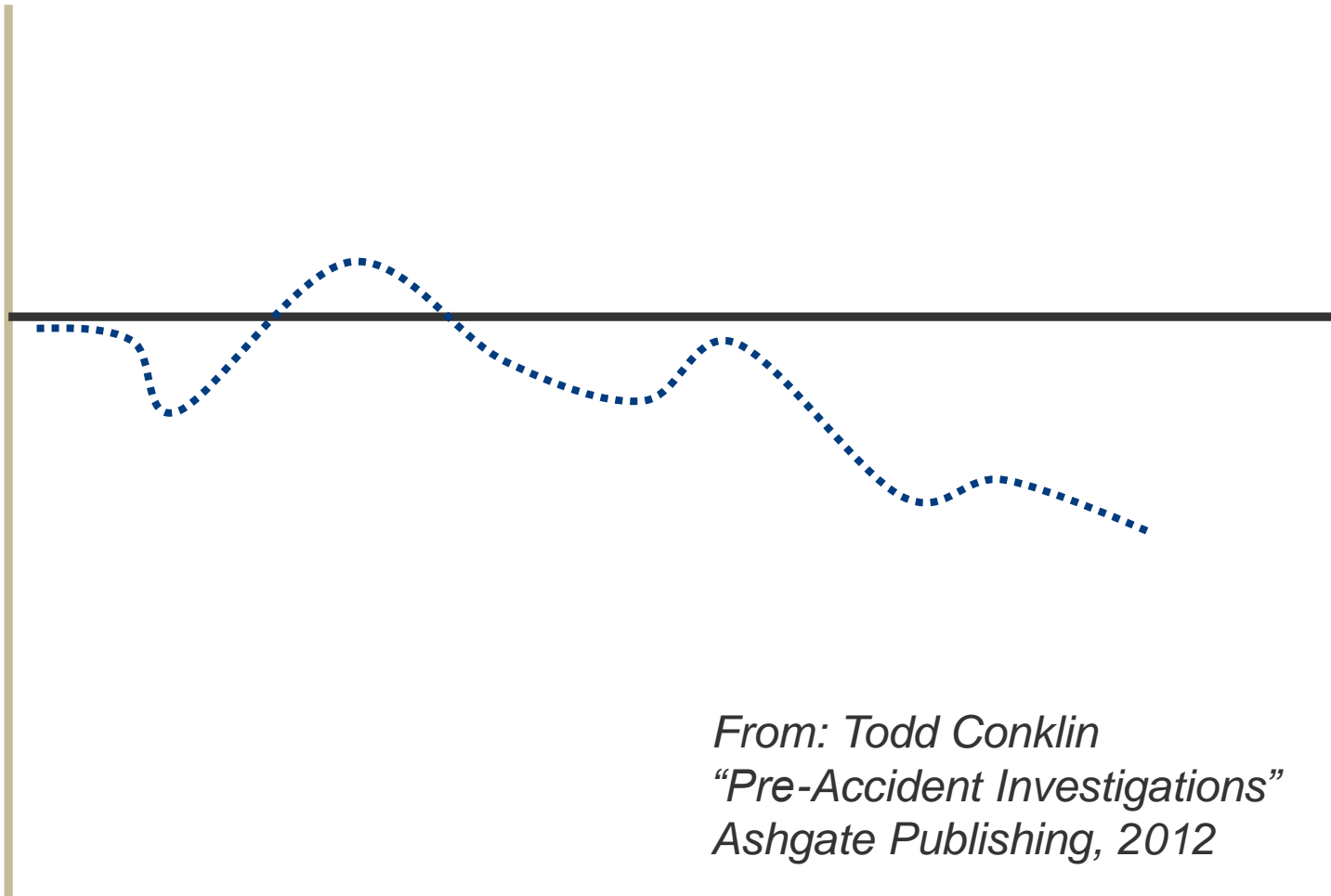
“compliance is key for safety”

“root causes can be found and explain why accidents happen”

*International Journal of Occupational Safety and Ergonomics, 2015 (Taylor & Francis)*

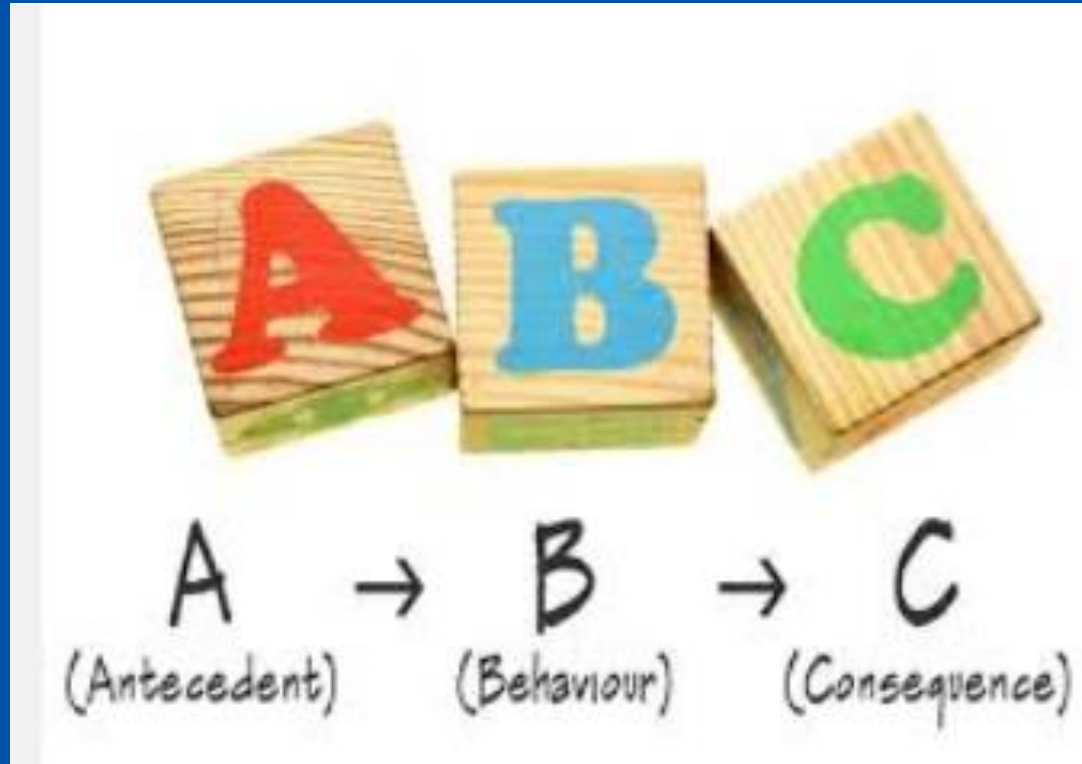
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# How work actually gets done



*From: Todd Conklin  
“Pre-Accident Investigations”  
Ashgate Publishing, 2012*

# ABC of behavior



A = Stimulus before    B = Behavior    C = +/- Stimuli after (reward or punishment)



# Behavior is always rational (to the performer)

- Behavior – what people say or do
- When people don't do what they've been told – we judge them as incompetent, lazy, troublemakers, etc. They seem unreasonable.
- They are not **unreasonable** – their behavior ALWAYS makes sense to them. You have to make the behavior you want the “rational” thing to do.
- People (including LEADERS) won't continue behavior that they can't see as getting them anywhere (following a rule or auditing compliance)

# Human Performance Principles

DOE Human Performance Improvement Handbook DOE-HDBK-1028-2009

1. People make mistakes.
2. Error likely situations are predicable, manageable and preventable.
3. Individual behavior is influenced by org processes and values.
4. People achieve high performance because of reinforcement by leaders, peers, and subordinates.
5. Incidents can be avoided through understanding of reasons mistakes occur and application of tools.
6. How leaders respond to failure matters

1 -5 DOE Human Performance Handbook, 6 – Dekker et al

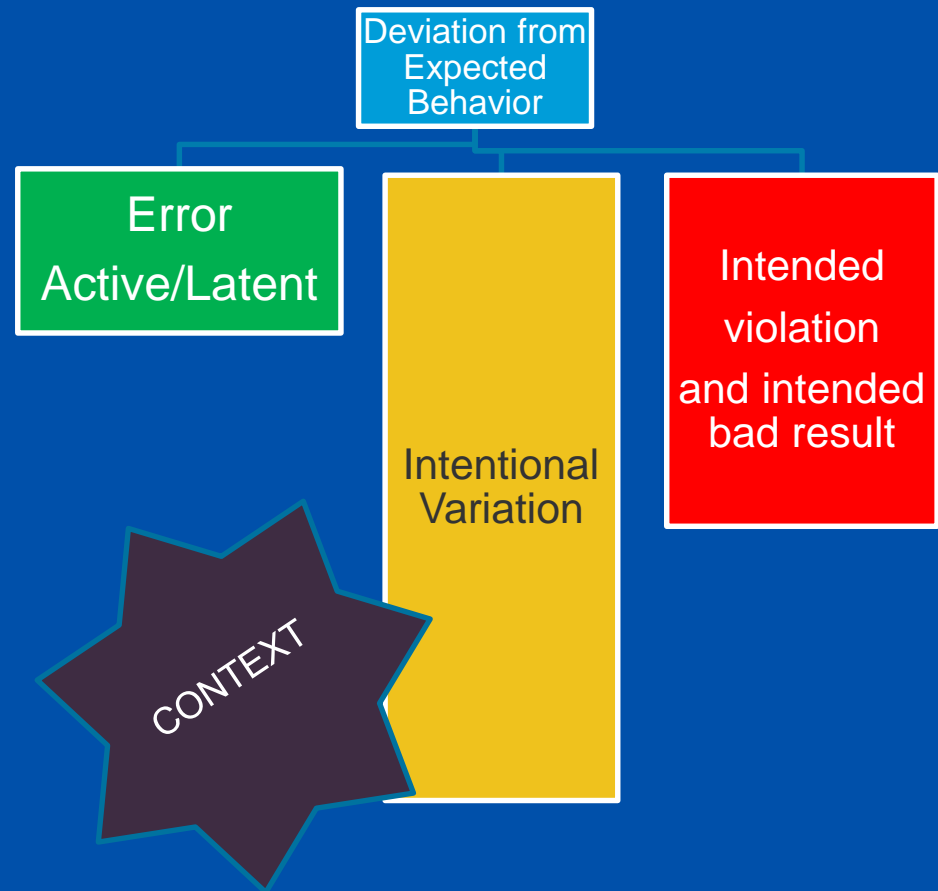
# Error v Violation (deliberate variance from rule)

- Error

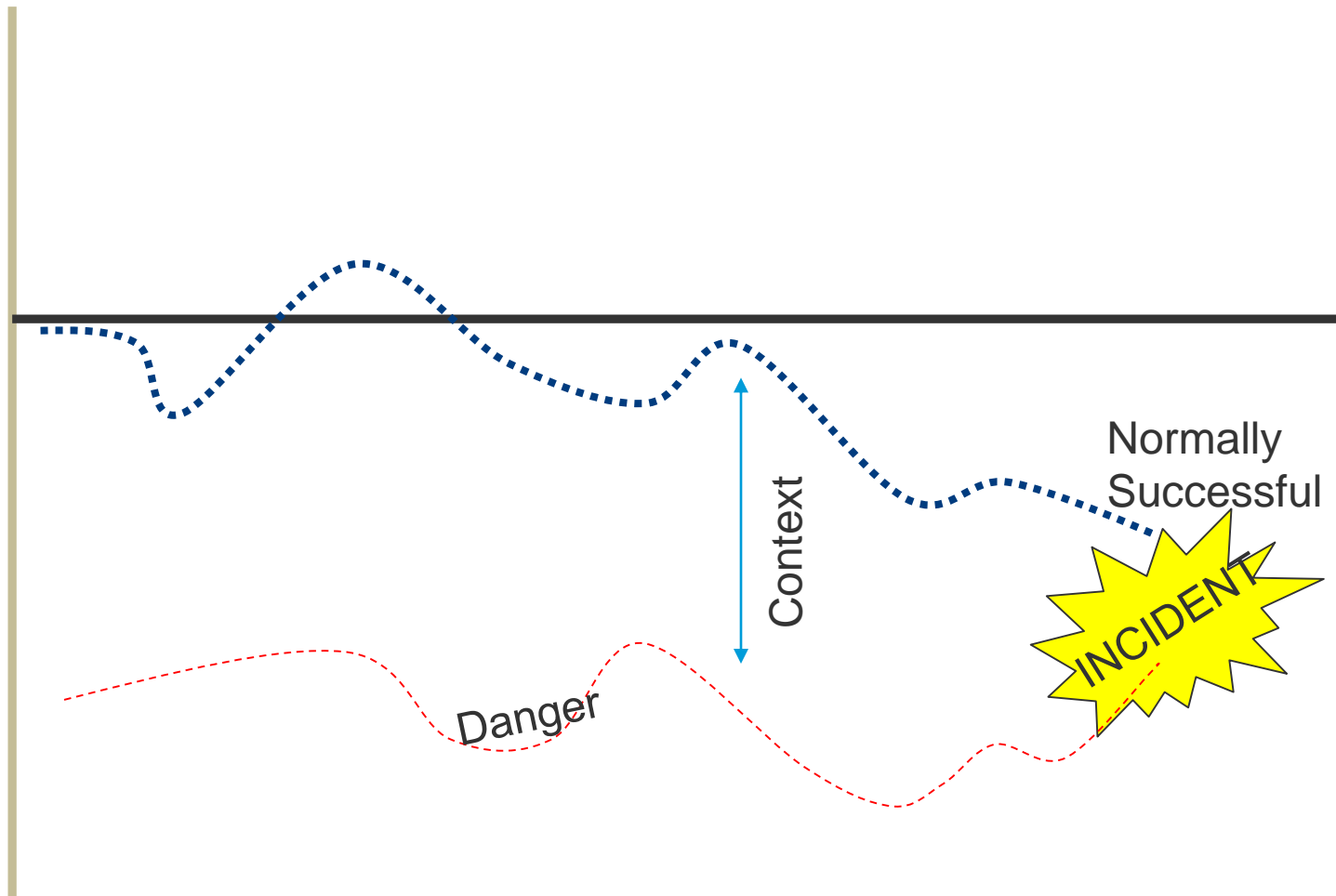
- Active

- Latent

- Violation



# Black Line Blue Line



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# What is the end state?

## Controls/safeguards in place and functioning

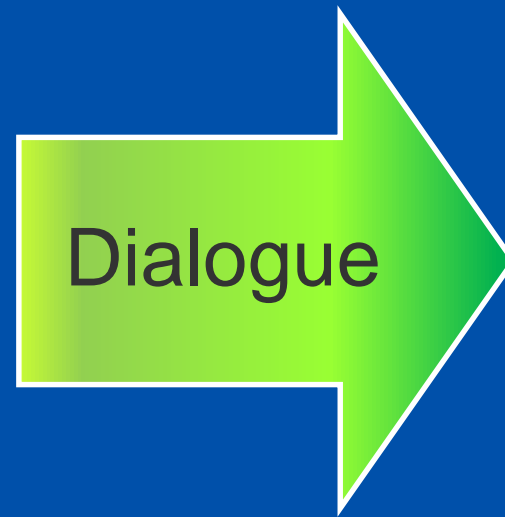
- People know / use the essential safeguards for high consequence work (work that can get someone killed)
  - Competence: people understand how to apply these safeguards
  - Safeguards are embedded in your processes standards & tools
  - Capacity: workers can apply in a dynamic hazardous environment
- Leaders provide clear direction and reinforcement
  - Understand the blue line & context (how work gets done)
  - Reinforce correct engagement around critical safeguards
  - Learn from incidents and engagements to improve, not blame

# Field Validation vs Audit

Treating symptoms by inspection vs  
Discovering causes and learning through dialogue



Lots of closed questions  
Abrupt topic shifts  
Observer talks a lot











Questions/Topics flow from dialogue  
Open ended  
Worker explains how

# The process

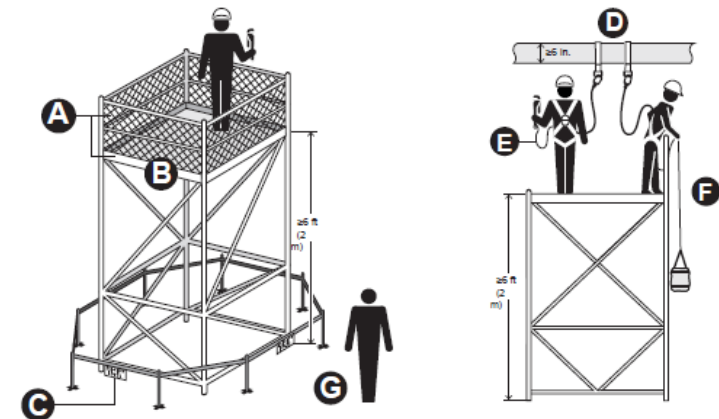
1. Engage / get buy-in
2. Observe
  - a) Establish a protocol sheet balanced between checking conditions and evaluating competency & capacity
  - b) Everyone needs to know the key safeguards or controls
  - c) Objective (focus on behavior, not the person)
3. Feedback – specific, timely, objective, right amount
4. Note your learnings
5. Follow up on any commitments (“I’ll look into that for you...” “Safety dept will make sure the PPE cabinets are stocked with that.”)

# Work at Heights

Step		Question	Response
		Critical step – failure to perform correctly may result in <u>death</u> or <u>serious injury</u>	
1		<b>Before starting any task, consider the potential for falling objects:</b>	
A		Even if not working at height, consider where you will be working and any other work that may be going on around you.	Yes <input type="checkbox"/> No <input type="checkbox"/>
B		Before work starts, inspect the work area for loose items and debris	Yes <input type="checkbox"/> No <input type="checkbox"/>
C		Check the equipment and structures in the work area to ensure bolts, fasteners, covers, etc. are properly secured	Yes <input type="checkbox"/> No <input type="checkbox"/>
E		Perform a Job Hazard Analysis before starting work.	Yes <input type="checkbox"/> No <input type="checkbox"/>
2		<b>For All Work:</b>	
A		If conditions change, perform an LPSA to ensure it is safe to continue to work?	Yes <input type="checkbox"/> No <input type="checkbox"/>
B		If conditions are unsafe, stop the work and involve the right people to correct the problem	Yes <input type="checkbox"/> No <input type="checkbox"/>
3		<b>When Working at Height:</b>	
A		Use only tools and equipment approved for work at height – including appropriate lanyards.	Yes <input type="checkbox"/> No <input type="checkbox"/>
B		Use toolbags to lift tools and small parts to the working height	Yes <input type="checkbox"/> No <input type="checkbox"/>
C		Set up barriers below the work area and ensure the size of the barricaded zone is appropriate to the work height.	Yes <input type="checkbox"/> No <input type="checkbox"/>
D		Ensure deck grating is secure and use mats where there is the potential for small objects to drop through gaps	Yes <input type="checkbox"/> No <input type="checkbox"/>
E		Ensure there are toeboards on all scaffolding platforms	Yes <input type="checkbox"/> No <input type="checkbox"/>
F		Are those involved in the work aware of and using the “Grab and Twist” method when objects are being passed to ensure a safe hand off?	Yes <input type="checkbox"/> No <input type="checkbox"/>
G		Remain vigilant of other work going on above, around, and below you	Yes <input type="checkbox"/> No <input type="checkbox"/>
4		<b>When Task Involves Lifting or Scaffolding:</b>	
A		Ensure the lifting equipment is appropriate for the task and in good order	Yes <input type="checkbox"/> No <input type="checkbox"/>
B		Check piping and scaffold tubes for items left inside & use end caps where	Yes <input type="checkbox"/> No <input type="checkbox"/>

## working at heights

### Essential Safeguards



- A** Side netting and toe boards
- B** No open holes on decks
- C** Barricade with signage
- D** Tied off to suitable anchor point
- E** Tool lanyard
- F** Facility approved lifting devices
- G** Workers shall not work alone when tie off required.



# Power of Questions

## 3 C's

- Open Ended: prompts more discussion, provides insight, confirms understanding (yours and theirs), builds ownership
- Closed Ended (yes, no): restrict answers, narrows conversation (sometimes helps limit rambling on), can threaten
- What are we working on today? Why is control X in place? What are the most important controls or safeguards for this task? How could we make this work safer? What could happen if this control were not in place? When can't you use this control?...What do you do instead?
- CONTEX, COMPETENCY and CAPACITY

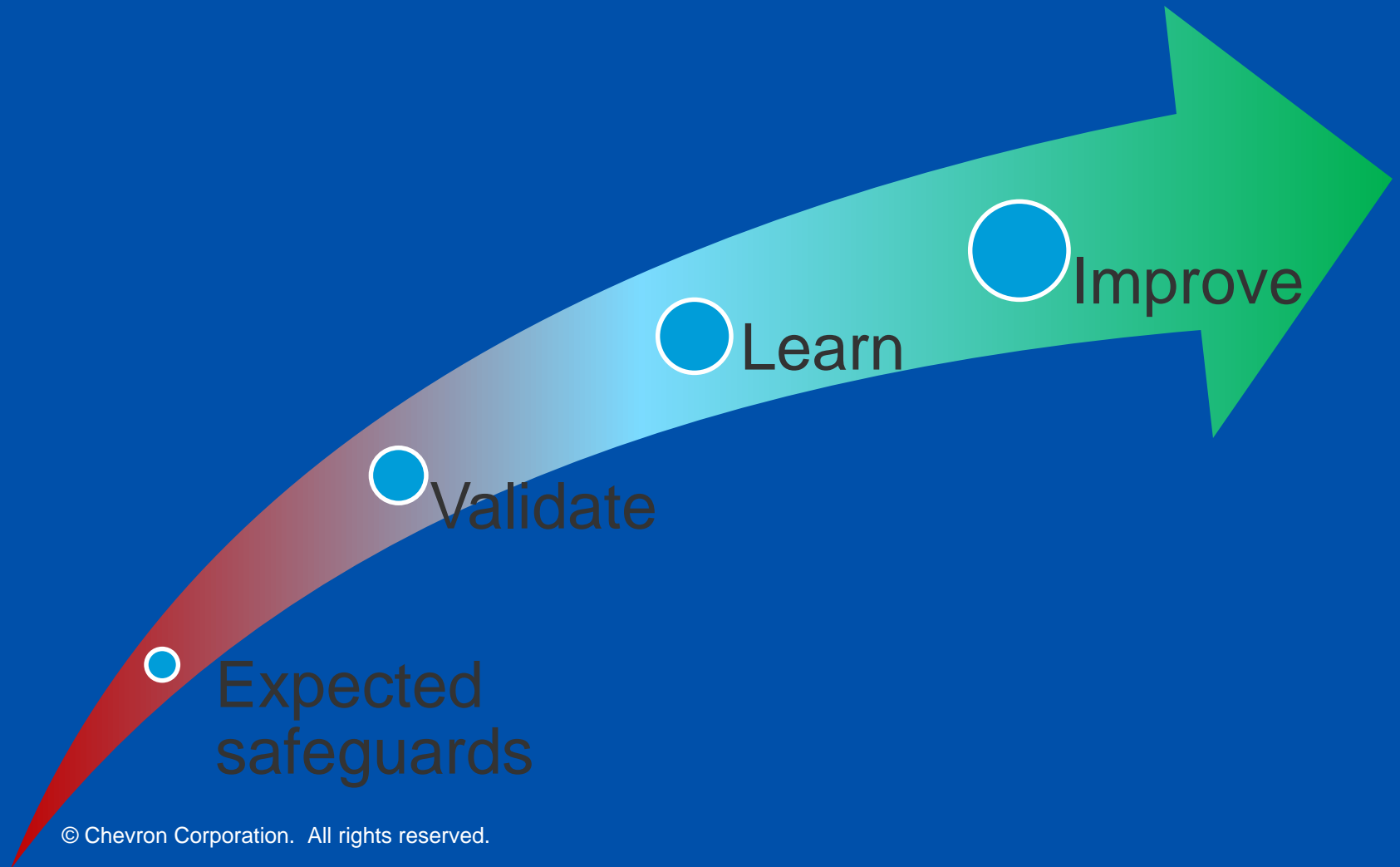
# Power of listening

- FOCUS on what they are saying – block out distractions
- Listen for the meaning behind the words
- Do NOT focus on collecting data for YOUR solution
- Determine what is important to the speaker (energy, pitch, rate of speech, etc.)
  
- SILENCE – power of silence:
  - Silence is uncomfortable and people feel compelled to break it
  - Pause for 20 seconds and do NOT answer your own question!
  - Maintain engaged posture (eye contact, etc)

## Question examples

- What are the most important safety controls for this work today?
- How are you going to keep this job safe? What helps you do that?
- What could happen if this control (cite one) is not in place?
- When can't you use this control – is there a time or reason when you would not or could not?
- What do you do instead?
- Does that work? (Tell me about when it hasn't worked well.)
- Have you seen any close calls with this type of work?

# The results



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