



**HUMAN
PERFORMANCE**

A NEW VIEW OF SAFETY

LEWIS[®]



HUMAN PERFORMANCE

**To keep the people,
whose lives are entrusted to us,
from being seriously injured.**

www.lewistree.com

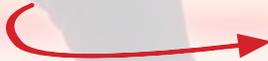
Welcome to a New View of Safety

There is a quote often attributed to Albert Einstein that we've all seen, "Insanity is doing the same thing over and over again and expecting different results." That sentiment perfectly reflects how Lewis approached safety for many years. We made significant improvements in our safety results and then hit a plateau achieving only marginal gains every year. We set zero-tolerance goals to eliminate lost-time incidents that were unachievable and demotivating. We knew that true change was needed: a new view of safety and human performance that could radically shift the direction of our program and our safety culture. Instead of focusing on what we don't want, we're focusing now on what we want by becoming a culture of learning. While it may take years to adopt fully, we know in our hearts it's the right thing to do and we're committed to the journey. **Please join us.**

Tom Rogers, President & CEO
The LEWIS Family of Companies

NEW VIEW SAFETY

Safety is not defined by the absence of accidents.



Safety is defined by the presence of capacity.

Workers aren't the problem.



Workers are the problem solvers.
People are a source of success.

We don't constrain workers in order to create safety.



We ask workers what they need to do work safely, reliably, and productively.

Safety doesn't prevent bad things from happening.



Safety ensures good things happen while workers do work in complex and adaptive work environments.



HUMAN PERFORMANCE

FIVE KEY PRINCIPLES

Error is normal. Even the best make mistakes.

Blame fixes nothing.

Learning and improvement are vital.
Learning is deliberate.

Context influences behavior. Systems drive outcomes.

How you respond to failure matters.

**The aviation industry turns close calls
into learning opportunities.**

DO WE?

**Root cause analysis. Debriefs.
Incident investigations.**

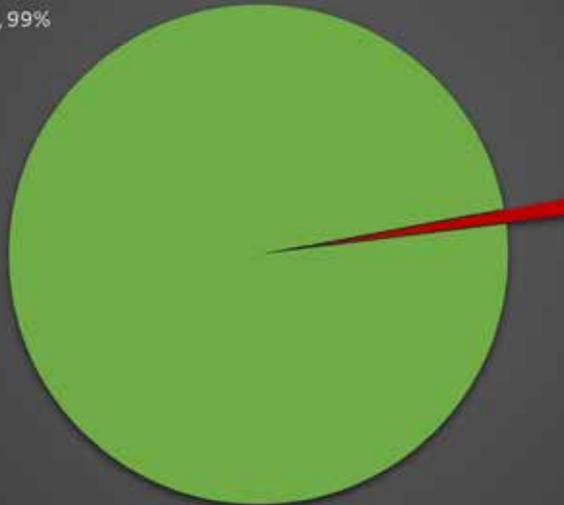
**We think we're
learning from failure
(but are we?)***

*Spoiler alert: The utility line clearance industry has only just begun.

Second-by-second, minute-by-minute, hour-by-hour, day-by-day,
month-after-month, mile-by-mile, span-by-span our crews are

DOING THE RIGHT THING

■ Job Done Right, 99%



● Error, 1%

So let's move away from treating our workers
as the problem and recognize that our

WORKERS ARE THE SOLUTION





**If a team member
is sent home for
disciplinary action,**

HOW DO WE LEARN?

(Especially since people tend to shut down—and shut up—in a culture of fear & blame.)

We can have the best policies and procedures
in the world but **nothing will change** unless . . .

WE CHANGE OUR
ATTITUDE ABOUT
FAILURE.



So what is
FAILURE?

Deviation from an expected outcome.

**An unexpected combination of
normal performance variability.**

Almost always a surprise.

To better understand failure

WE MUST TELL EACH STORY

(and make risk real)



Start at the very beginning: **what happened?**
Why did the actions make sense at the time?
What went right? What went wrong?

Bad things happen to highly experienced people who had no intention of doing anything other than the best job they could do.

1

The Beginning...

“My top removal crew was trimming the overhang on a red oak. This crew had worked together a long time. We were all friends and genuinely liked each other.

While this was a hazard tree, it was routine work for this crew. I wasn't worried. They'd taken down hundreds of trees successfully. I trusted them and was proud of their accomplishments.

The team worked together to get the job done. It was like they could read each other's minds and predict each other's movements without talking; the trimmer and groundman worked in perfect synchrony.

The groundman had done tree work for 20+ years. He was one of the nicest people you could ever meet and was respected very, very much.

The trimmer was making the last cut of the day on a 4-inch diameter, 5-foot-long piece, when the groundman ..”

General Foreman

2

Ask Questions

What might you do in this situation?

What about this situation might make a problem more likely?

What do you think happened next?

What are the pluses and minuses of crews having close relationships?

How do relationships impact how a leader leads a crew?



3

The Event...

“The groundman came into the drop zone to grab some brush and BANG! He sustained a glancing blow to the hard hat and then a serious shot to his forearm. Both forearm bones were broken in half and surgery was required to fix his shoulder and forearm.

The other foremen shared with me afterwards that this groundman routinely came into the drop zone to clear brush while work was happening overhead, but they didn't want to say anything because he was a really good guy and they didn't want to get him in trouble.

The groundman had good intentions of getting the work done and keeping the ground clear. He was careful to time going into the drop zone to get the brush just as the trimmer was starting his next cut. In the 20 years he'd done this work, he'd learned to time it just right. They were an efficient team.

This was too close for comfort: if the piece hit him directly in the head or neck, WE would have been going to a funeral. I couldn't stop thinking about how I would have felt if he'd been killed.

I was forever changed.





4

As a Leader, Ask:

How do you handle situations where a person may be putting oneself at risk?

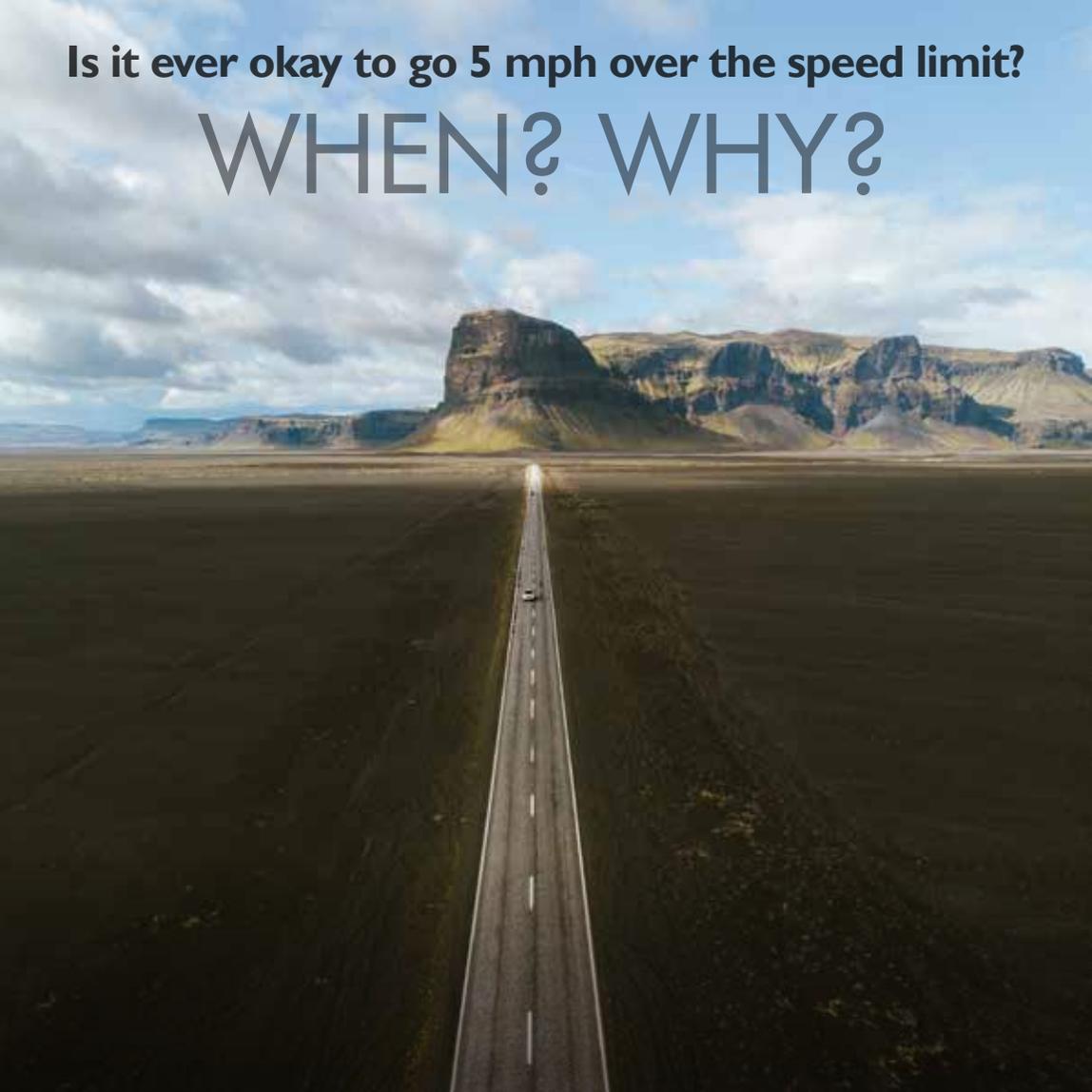
How does the success of the crew or experience of a person influence what you accept as okay?

What situations are happening now on your teams that concern you?*

** If you can't answer this question, you need to know more about how your teams work! Ask the Lewis safety team about "work as done." They can help.*

Is it ever okay to go 5 mph over the speed limit?

WHEN? WHY?

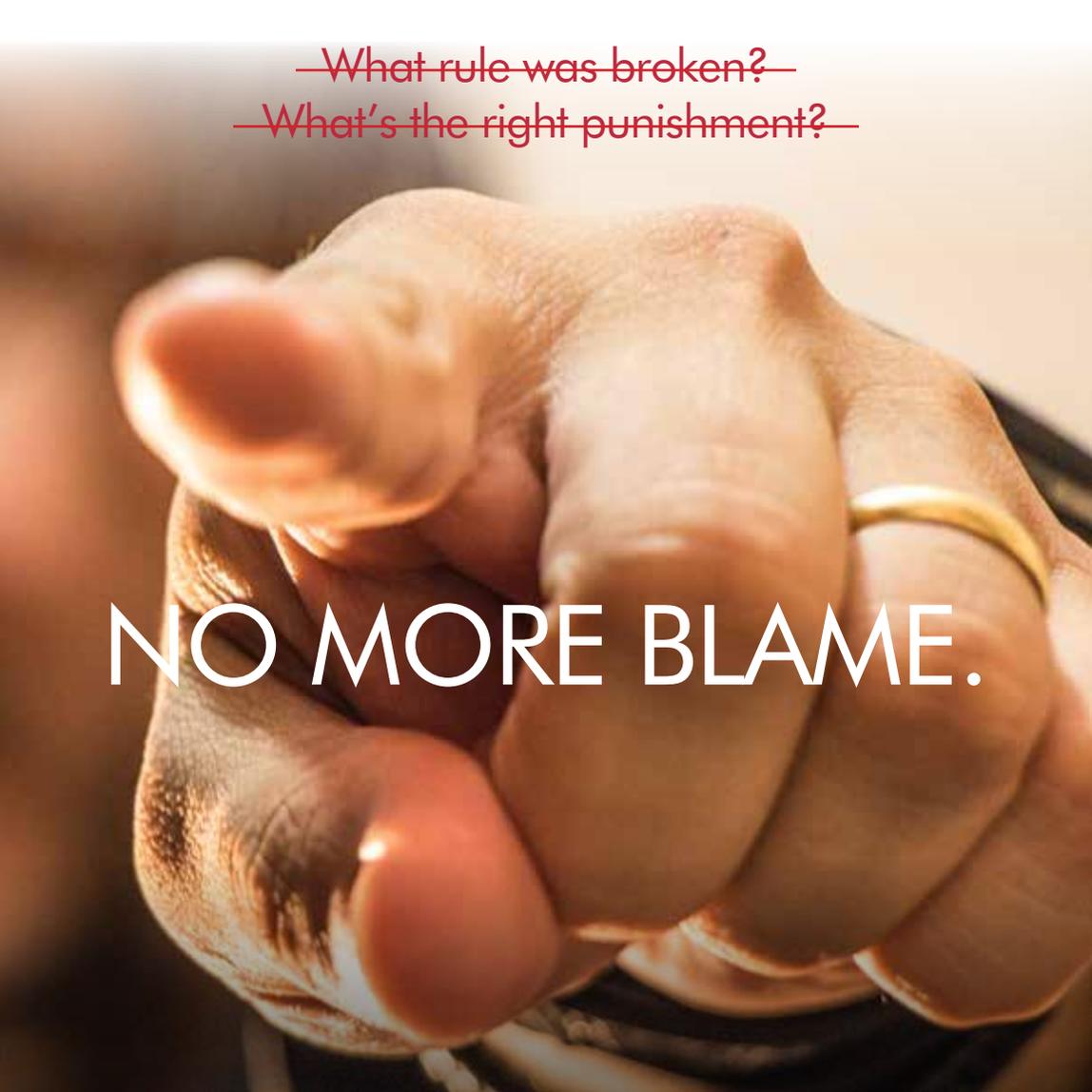


Accidents may represent a lack of safety, but a lack of accidents does **NOT represent safety.**

**"I'VE DONE THIS
A MILLION TIMES
BEFORE AND
NOTHING BAD HAS
EVER HAPPENED."**

Surprise happens.

~~—What rule was broken?—~~
~~—What's the right punishment?—~~



NO MORE BLAME.



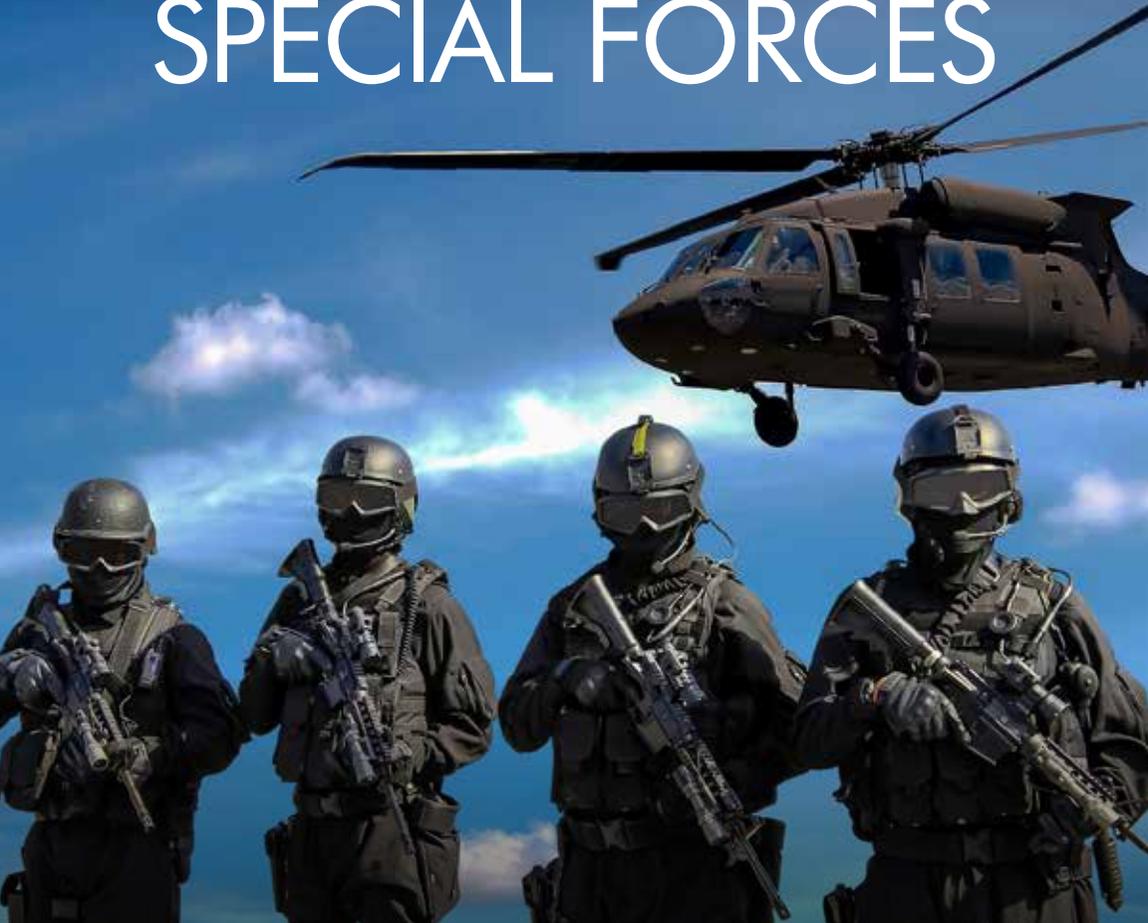
Who is hurt?
What do they need?

HOW CAN WE HELP?

WHAT WE'RE FINDING

Tree work is one of the most variable, dynamic work environments—second only to the

SPECIAL FORCES



**Compared with factory safety,
there is little a tree worker
has control over. The level of
variability is extraordinary.**

**And, most of our incidents
are the unintended result of
“friendly fire.”**

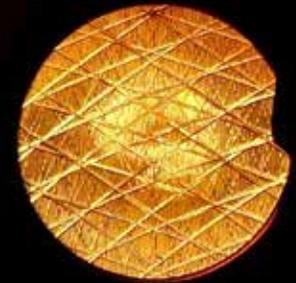
(Accidentally hurting one’s own team.)



VARIABILITY IS INEVITABLE.

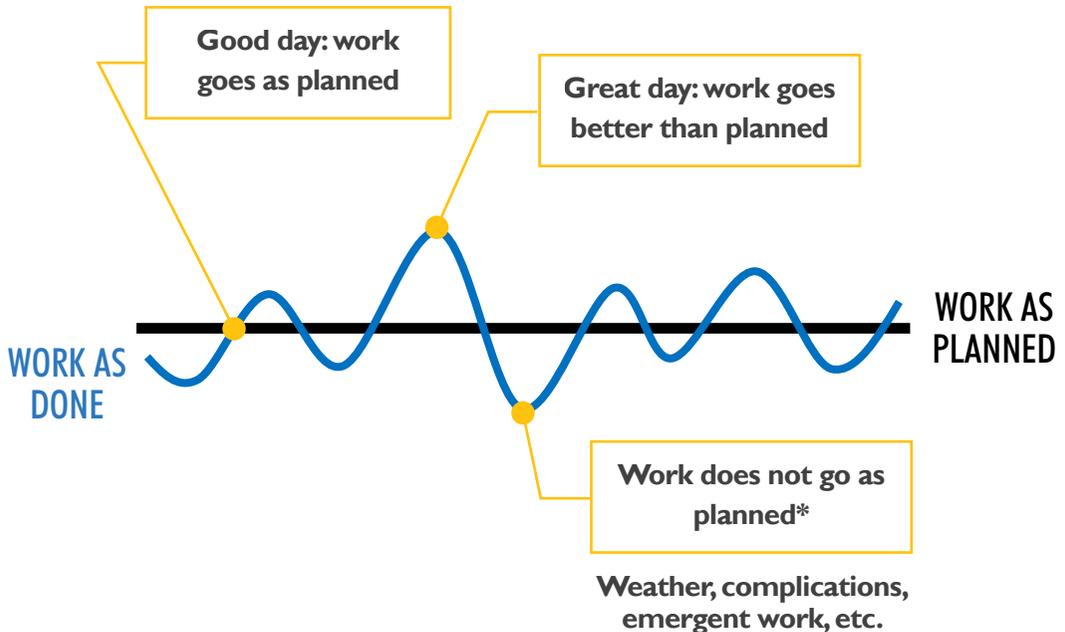
Factors that indicate increased risk:

- Changing phases of work (e.g., making the last cut when others think we're already done)
- Workers are inexperienced or new to the team and don't notice the cues
- It's just before a break or the end of the day
- Something is hung (e.g., limb, piece of tree, saw)
- The tree has a heavy lean or is in poor condition
- Dead or decayed wood is present
- There are heavy vines or entwined canopies
- The crew member is in an awkward position (e.g., bracing to make a cut on an incline)



There are 100 ways to take down a tree.

LEARNING FROM WORK AS DONE



***Work does not go as planned BUT most of the time is still successful.**



WHAT WE'RE FINDING

RISK HIDES.

(We have mental models. We make assumptions.)

Need an example? Diseased ash trees look exactly like healthy ash trees but behave differently. They're like trees made of glass. Even the vibration of a saw can make pieces come shattering down. We need to be hyperaware of our assumptions. If you're thinking, "this is the same as . . ." or "it's just . . ." it may be a red flag. Ask yourself: What's different? What else could it be?

BRING IN A FRESH SET OF EYES.

**Problem solvers with diverse perspectives will outperform experts.
Every perspective will notice something new.**

On-the-job concern? Stop and ask your team. Call your GF. Use a different vantage point.
The power of perspective: Bring in team members from other regions, functions, and levels.



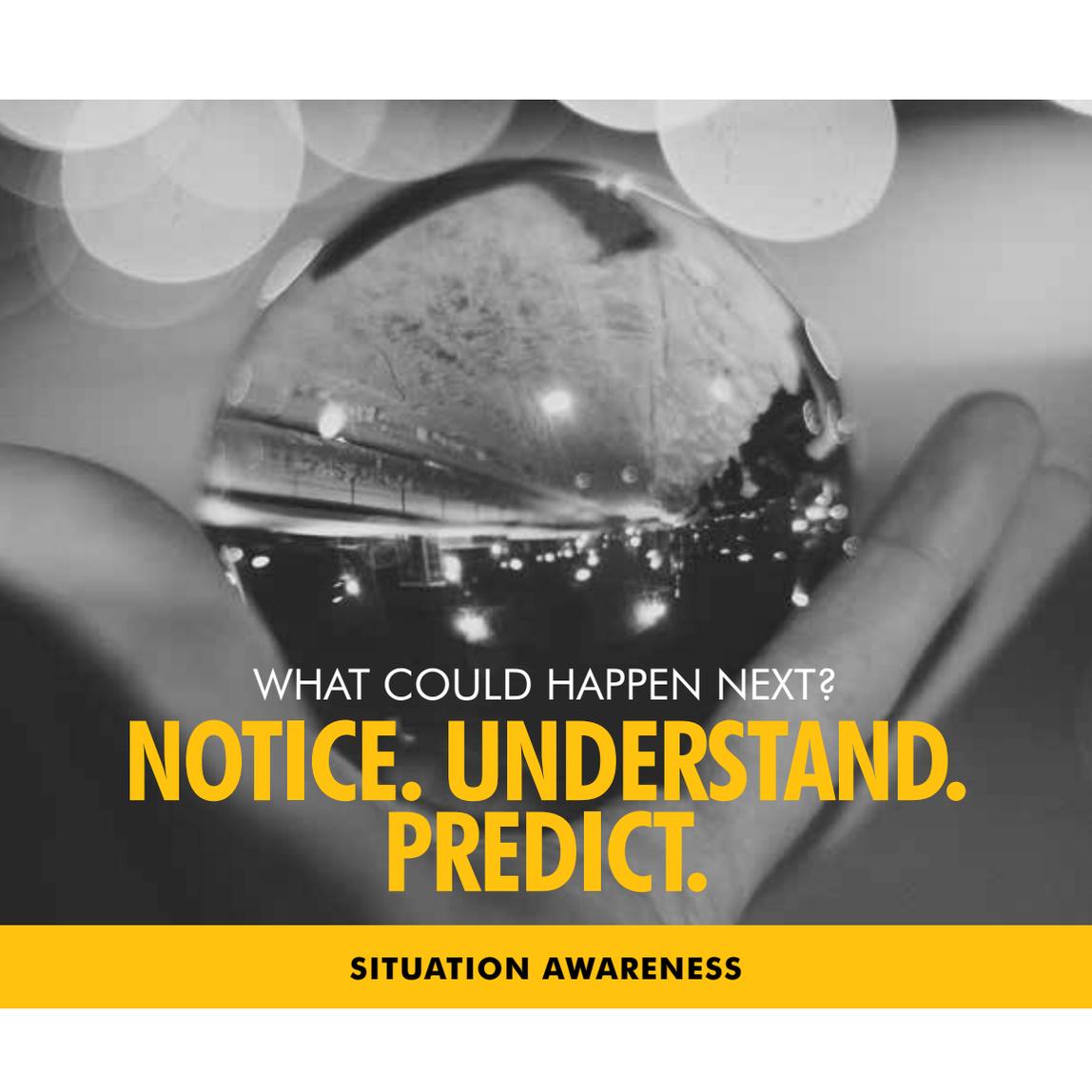
WHAT WE'RE DOING

FOCUSING ON

SITUATION AWARENESS
STRUCK-BY RISKS
LINE OF FIRE RISKS

We're breaking our big goal—to reduce Serious Injury Potential (SIP) events—into small parts so we can improve on each and get an even greater overall gain.





WHAT COULD HAPPEN NEXT?

**NOTICE. UNDERSTAND.
PREDICT.**

SITUATION AWARENESS



**WHAT ARE MY
TEAM MATES
DOING NOW?**

WHERE ARE THEY?

WHAT ARE MY TEAM MATES DOING NEXT?

WHERE ARE THEY
GOING TO BE?



WHAT WE'RE DOING



GROUND TO
CROWN.
AND ALL AROUND.

SCAN PATTERNS → WEAK SIGNALS
→ SITUATION AWARENESS & RISK AWARENESS

WHAT WE'RE DOING

A man in a grey hoodie and high-visibility vest is speaking to a group of workers in high-visibility vests. The scene is outdoors, possibly at a construction site, with a cloudy sky in the background. The man is gesturing with his hands as he speaks.

TRAINING FOR OVER- COMMUNICATION

“I’m getting ready to make a cut.”

“I need you to stand over there.”

WHAT WE'RE DOING

CREW VISITS = LEARNING

Curious

Suspend
judgment

Caring

Look for what people must
overcome to get work done

**Commit
to helping**

Search for ways to
support people

**What do you struggle with?
What do you need to help work be safer?**

WHAT WE'RE DOING

STORYTELLING = LEARNING

I'll never
forget...

Once, when I
was a young
climber...

What is the one jaw dropping, real life story you tell new crew members to emphasize “what not to do”?

Questions

SAFETY NEW VIEW

1

Where will our next accident happen?

2

How do you, as leaders, make sure as much as possible goes WELL?

3

What's one thing your teams do that if other teams did it, they would be safer?

Questions

RESPONSE TO FAILURE

1

What is the difference between reacting to failure and responding to failure?

2

What's the most useful question you've ever asked after an event?

3

Does a policy of automatic suspension without pay make work more or less safe?

Questions

ACCOUNTABILITY

1

When you punish, you risk getting a sanitized version of what happened (meant to deflect or minimize blame) but knowing less hurts our ability to create safety.

How will you manage this tradeoff?

2

What is the most important thing leadership is accountable for after an incident occurs?

3

As a leader, how do you reflect, and solicit feedback, on something we could have done better after an event?

Questions

HUMAN PERFORMANCE

1

Have you made an error and know it's only a matter of time before the next person makes the same one? Where?

2

How do you influence consistent, important operational practices within your teams?

3

How do you know when your teams need more support? What are the early warning signs?

WE CAN SAVE LIVES.

And we will gladly share our learnings.



Want to learn more? Send us a note!

Beth Lay, Director of Safety and Human Performance
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Beth has over 25 years of experience in the energy industry starting at Duke Energy and later holding roles in engineering, risk management, safety, and human performance at Westinghouse, Siemens, and Calpine Corporation. She brings significant expertise in the fields of Resilience

Engineering, High Reliability Organizations, Safety II, Human Performance, and Operational Risk Management.

At Lewis, we are working on a world-class safety management system for the tree industry and utility vegetation management. We are also a proud industry partner with The Ohio State University Cognitive Systems Engineering Lab, the preeminent safety research lab and have an OSU safety researcher embedded in our team.

Helpful Resources:

Black Box Thinking, Marginal Gains and the Secrets of High Performance, Matthew Syed, John Murray (Publishers), 2015

Just Culture: Balancing Safety and Accountability, Sidney Dekker, CRC Press, 2018

Pre-Accident Investigations, Todd Conklin, CRC Press, 2012

The 5 Principles of Human Performance, Todd Conklin, PreAccident Media, 2019



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