

Alberta Roadbuilders & Heavy Construction Association-2024 Safety Forum

**Evolving Your Safety Mindset
Human & Organizational Performance**

March 14th, 2024

**ENERGY
SAFETY
CANADA**



ENERGY SAFETY CANADA

The National Safety Association for Canada's Energy Industry



WESTRAY COAL
Presenter:
Gordon Walsh

Its time to
evolve our
safety journey

The future successes in reducing serious injury and deaths in the workplace will come through:

- Our engagement and understanding of frontline work and the workforce.
- Our demonstrated commitment to change work to reduce worker exposure to known risks.
- Our ability to focus forward on building capacity to fail safely.

Maximizing Safety

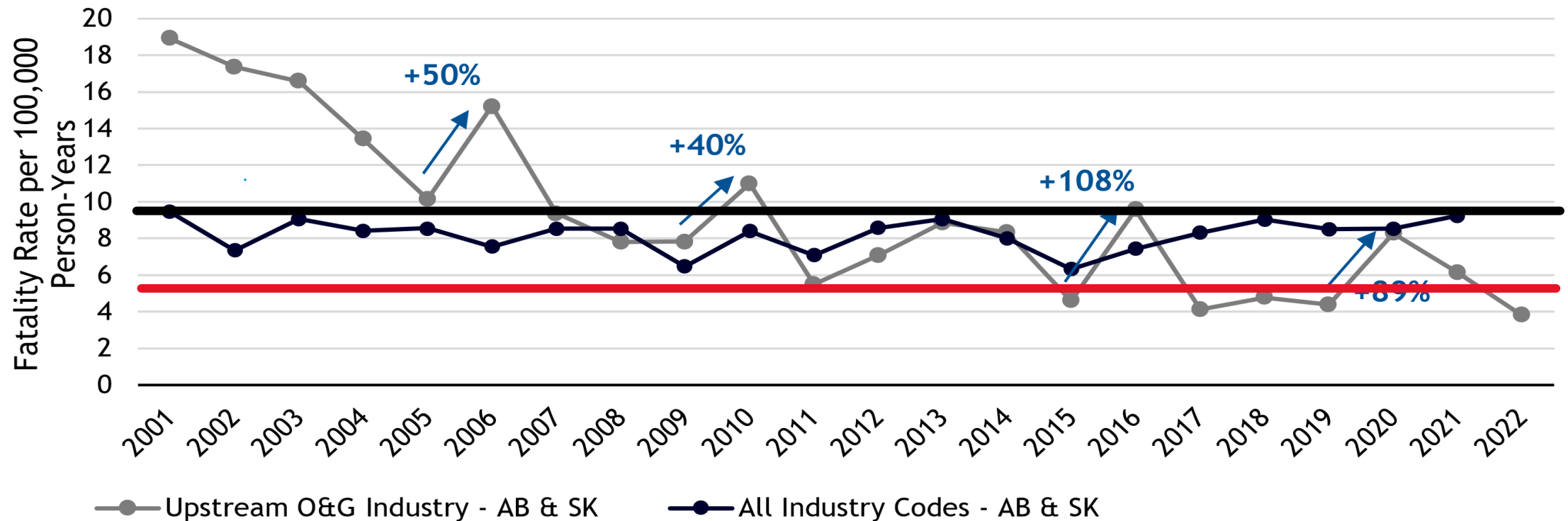
Human & Organizational Performance

Creating Successful Work

- Well planned
- Well managed & executed
- Well resourced
- Safe outcomes!



THE WHY: Oil and Gas Fatality Rates | Over 20 Years



Data Source: WCB Alberta, Saskatchewan WCB, AWCBC, data as of Q4 2022. "All Industry Codes" data retrieved from AWCBC. 2022 data unavailable.

Let's talk HOP

Human and Organizational Performance | HOP

A science-based approach to build systems that are more error tolerant.

The interaction of humans to humans, business processes, technology, environment.

Source: Foundations of Safety Science, Sidney Dekker

Line of Fire

BAD WORKER?

- Worker ignoring rules
- Careless behaviour, risk taker
- Fire him!!

Let's look at the context of this workers reality.





New approach

- Change the way H&S systems are designed, delivered & managed

Instead of blaming workers

- Understand context & learn from success *and* failure

Recognize complex interactions

- Between people, technology, environment & systems

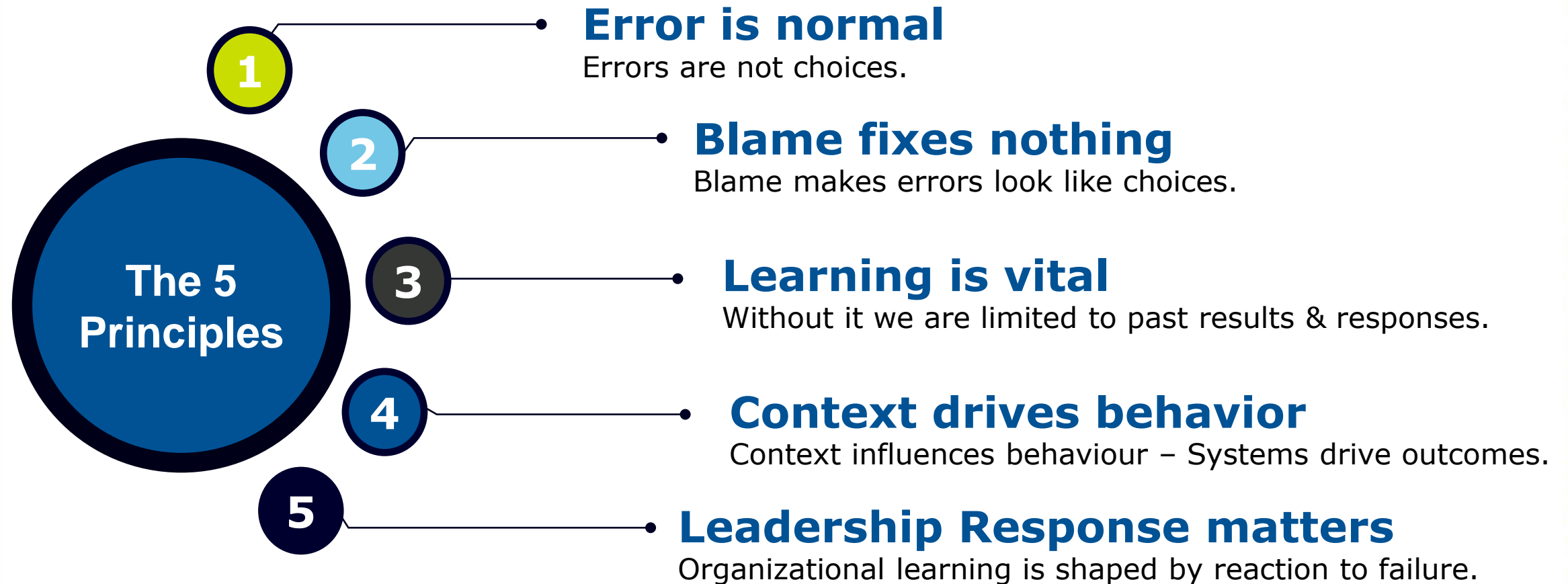
Encourage & foster

- Frontline problem solving & innovation

Redefining safety

Not the absence of incidents, but the capacity to fail safely

Five Principles of HOP



Benefits of HOP

- Identifies & amplifies existing expertise
- Brings transparency to normal work & capacity thresholds
- Brings clarity to operational challenges & successes
- Uncovers hidden barriers & pain points

- Creates a platform to learn & listen from employees
- Capitalizes on worker expertise to sustainably solve problems
- Utilizes an inclusive approach to break down silos
- Engages & empowers the workforce

Real World Challenge

“We can't build a system that demands the people perform perfectly every time they do the work”

Dr. Todd Conklin

Pre-Accident Investigation Podcast

Building trust & psychological safety

- Focused & consistent leadership engagement with frontline
- People feel they can speak up without fear of embarrassment or retribution
- People know they can ask questions when they are unsure
- People trust & respect their colleagues

SOURCE: The Fearless Organization - Amy Edmondson

Critical Factors for HOP Success

Operational Learning

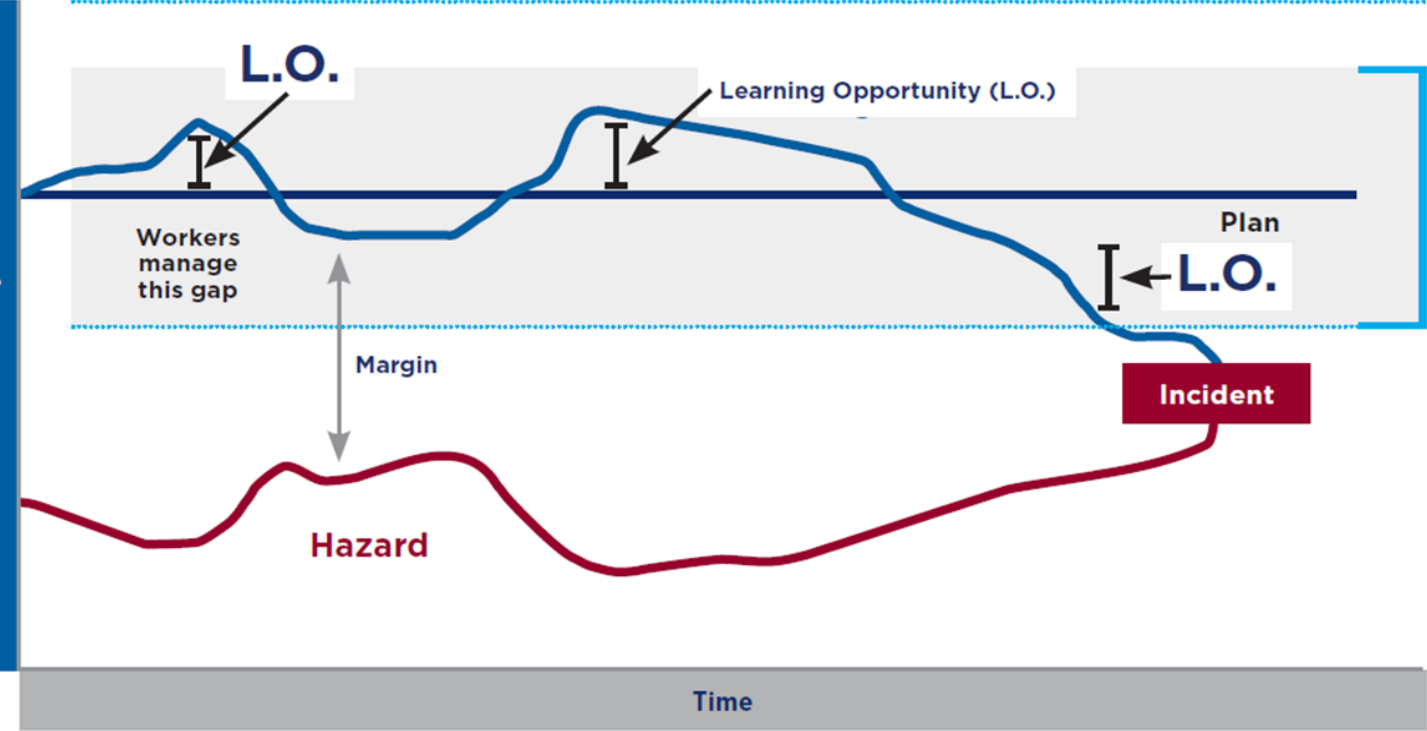
- Understanding work from the worker's perspective
- Goal to have a deeper understanding of normal work
- The black line, blue line concept (WAI vs WAD)
- End goal for planner & worker to work together

1. Get a more holistic view of how processes are working
2. Remove unacceptable goal conflicts
3. Reduce error traps
4. Expand on what creates success
5. Build stronger & more sustainable defenses to improve reliability & resilience

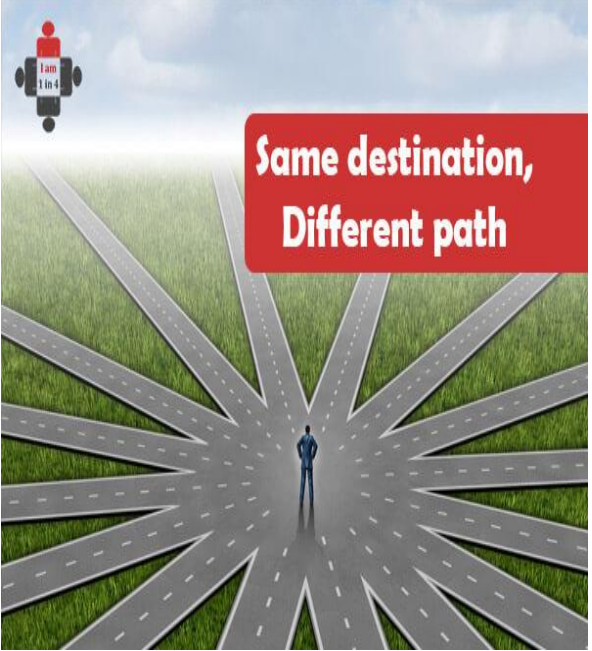
WAI vs WAD | Operational Learning



Normal variability of work



Successful Outcomes



SOURCE: CHEVRON Human and Organizational Performance Field Guide

Learning Teams

What are learning teams?

- An opportunity for small teams to proactively come together to break down and analyze incidents, near misses or normal, day-to-day work tasks.
- Teams discuss the complex and variable nature of their work, along with the dynamic trade-offs and goal conflicts, which are inherent in all work processes and systems.
- The discussion focusses on work-as-done, rather than the work-as-imagined to pinpoint what keeps them safe, and what exposes them to danger.
- The team then agrees what learnings can be shared across their team, their group, or across the organization.

Decluttering

What is safety clutter?

"The accumulation of safety procedures, documents, roles, and activities that are performed in the name of safety, but do not contribute to the safety of operations"

Rae, Provan & Weber (2018)

Experiment with a single area of your business where workers find it difficult to follow all the rules and procedures as written.

Critical Factors for HOP Success

BE MINDFUL OF WHAT YOU MEASURE AS SUCCESS

Zero-harm mindset sees all incidents as avoidable

It's an oversimplified view of a complex work environment

Safety is not about the number of incidents

It's about outcomes & what we can learn from them

Build capacity & resilience in people, processes & systems so when things fail, they fail safely

Investigations in Practice

STOP:

- Treating investigations like criminal events
- Treating workers like they intentionally got themselves hurt
- Creating more rules and procedures to solve design and system issues

START:

- Looking upstream from the incident, and ask how did this person find themselves in this situation, at this point in time? Be curious.
- Considering information gathering techniques, use learning teams to gain frontline perspective

BLAME or LEARN?

Investigations/Event Learning Perspective

Retributive	Restorative
What rule was broken?	Who is hurt?
How bad is the breach?	What are their needs?
What should the consequences be?	Whose obligation is it to meet those needs?
Who is responsible?	What was responsible?
Blame and punishment	Forward-looking accountability



Prepare for and acknowledge error modes

Error: An action or inaction that unintentionally

- Results in an undesirable or unwanted condition.
- Leads a task or system outside of the limits.
- Deviates from a rule, standard, or expectation.

Active error: Immediate cause and effect

- Driver accelerating

Latent error: consequences delayed from action

- Worker misses weight bearing bolt install, floor joist fails later

Mistake: Intentional action, results in unintended outcome

Understanding Performance Error Modes

Baseline error Rates (validated by research)

**Skill-Based
Performance
Error Mode**

1:1000

When a skill becomes a habit

**Rule Based
Performance
Error Mode**

1:100

When you know a rule or process exists.

**Knowledge
Based
Performance
Error Mode**

1:2 – 1:10

When you don't know what you don't know about a task or system.

Critical Factors for HOP Success

Critical Risk Management, Control and Assurance

- Have you defined areas/activities of Critical Risk in your organization?

What is Critical Risk?

Any work activities that can relate to serious injury, illness & fatalities & in some cases can include other unwanted material events...e.g. plant shutdown, environmental damage

- Inventory activities and tasks that carry a ‘critical risk’ designation
- Develop and implement a process to manage your inventory

[GH and SL Safety Guide 2018 WEB.pdf \(healthandsafety.govt.nz\)](#)

[GHSL-Risk-Maturity-Improvement-Roadmap-March-2021-FINAL.pdf \(healthandsafety.govt.nz\)](#)

Critical Controls

Focusing

- Engage workforce to get feedback on controls development
- Prioritize what key controls need to be implemented
- Create a change management process to ensure controls are documented when changes are made to controls or new ones implemented.

Controls Assurance

Embedding

- Establish a process to assign ownership for critical controls to specific roles/parts of the org..
- Establish activities to confirm critical controls implementation and effectiveness
- Report forward on Critical Risk Program and Critical Risk Control assurance activities

Identifying 'Critical Steps'

Define: A human action that will trigger, immediate, irreversible, intolerable harm to an asset (if that action or a preceding RIA (Risk important action) is performed improperly).

- Discharging a firearm
- Jumping from an aircraft



Source: Critical Steps and Risk Based Thinking, Tony Muschara // www.muschara.com //

Critical Controls-Building Capacity to Fail Safely



Assuring the efficacy of controls

- Are your controls as solid as imagined?
- Have you ever conducted an audit of critical controls?
- Has your company completed an assessment of critical activities (those things that can kill or upset your business)?
- HECA - HIGH ENERGY CONTROL ASSESSMENT

HOP in Action | Field Ready Activities

Learning Teams

After Action
Reviews

4Ds

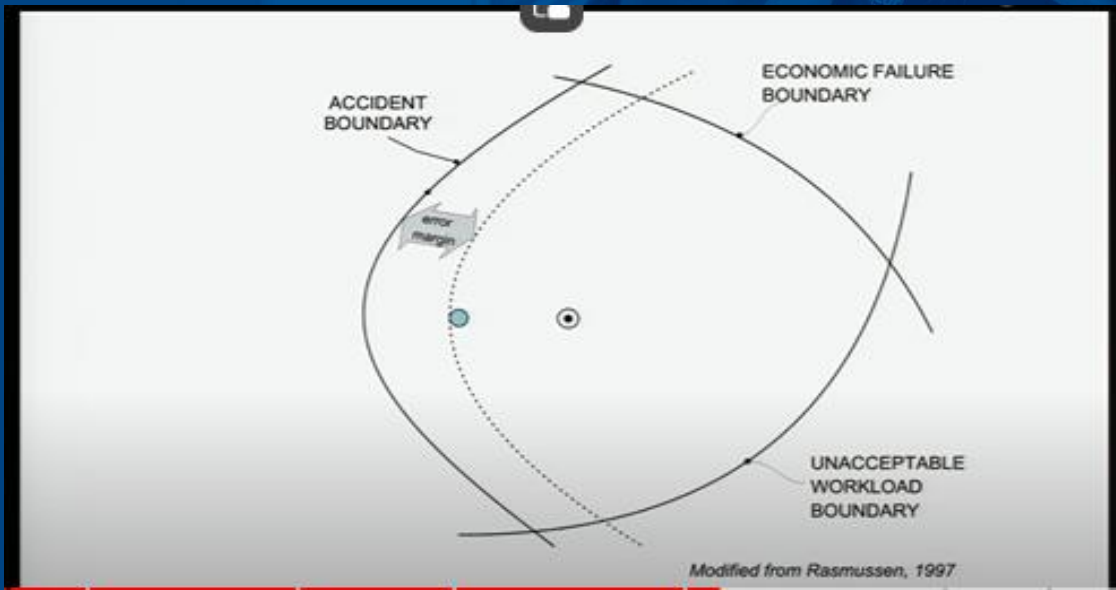
STKY
Conversations

Energy Wheel

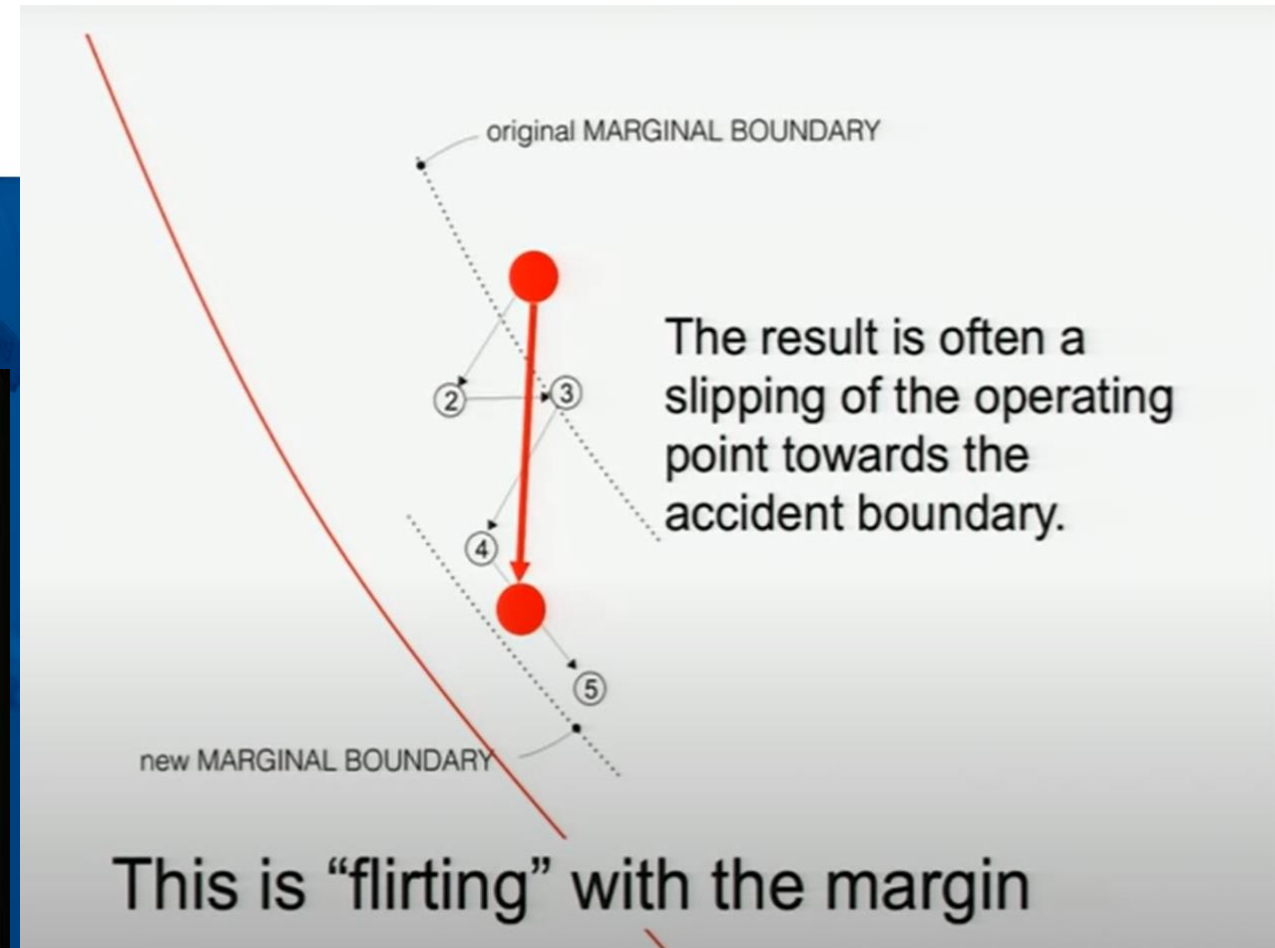
High-Energy
Control
Assessments

Managing Drift

Success brings confidence, confidence accelerates drift, drift increases risk!



Original: Rasmussen, 1997- Dr. Richard Cook 2013



Energy Safety Canada HOP Resources

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[ESC - Human and Organizational Performance](#)

[HOP - The Five Principles in Action Video](#)

[Building Capacity to Manage Pressure Video & Course](#)

[ESC Energy Wheel Awareness Video](#)

[ESC Line of Fire - Energy Wheel Video](#)

[Leadership for Safe Workplaces](#)

Safety doesn't clock in
and it doesn't punch out

HOP FORWARD AND EVOLVE