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Strategic Approach to Managing Human Performance (Hu) Risk

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Strategic Approach: Risk-Based*

Safety is what you **DO** to ensure the integrity of **assets**:

1. Control: at **Critical Steps**SM
2. Learn: Land Mines and Latent System Weaknesses



Dr. James Reason

*Woods, D. et al. (2010), *Behind Human Error* (2nd ed.), Ashgate, pp.38-39, 244-246
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99.9%

is good enough most of the time.



Let's Align Our Beliefs*

1. To err is human.
2. To drift is human.
3. Risk is everywhere and dynamic.
4. Safety is a value and adaptive.
5. Systems govern results.



To Err is Human

3 to 4
errors per hour*



* Source: Dr. Michael Frese (2008), "Learning from Errors by Individuals and Organizations." Invited Talk at Association of Psychological Science (APS) Conference, May 28, 2008.
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Video: To Drift is Human





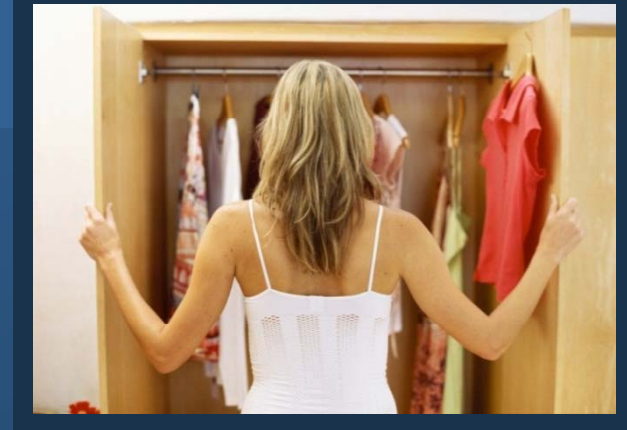
Video: Risk is Dynamic





Safety is a Value*

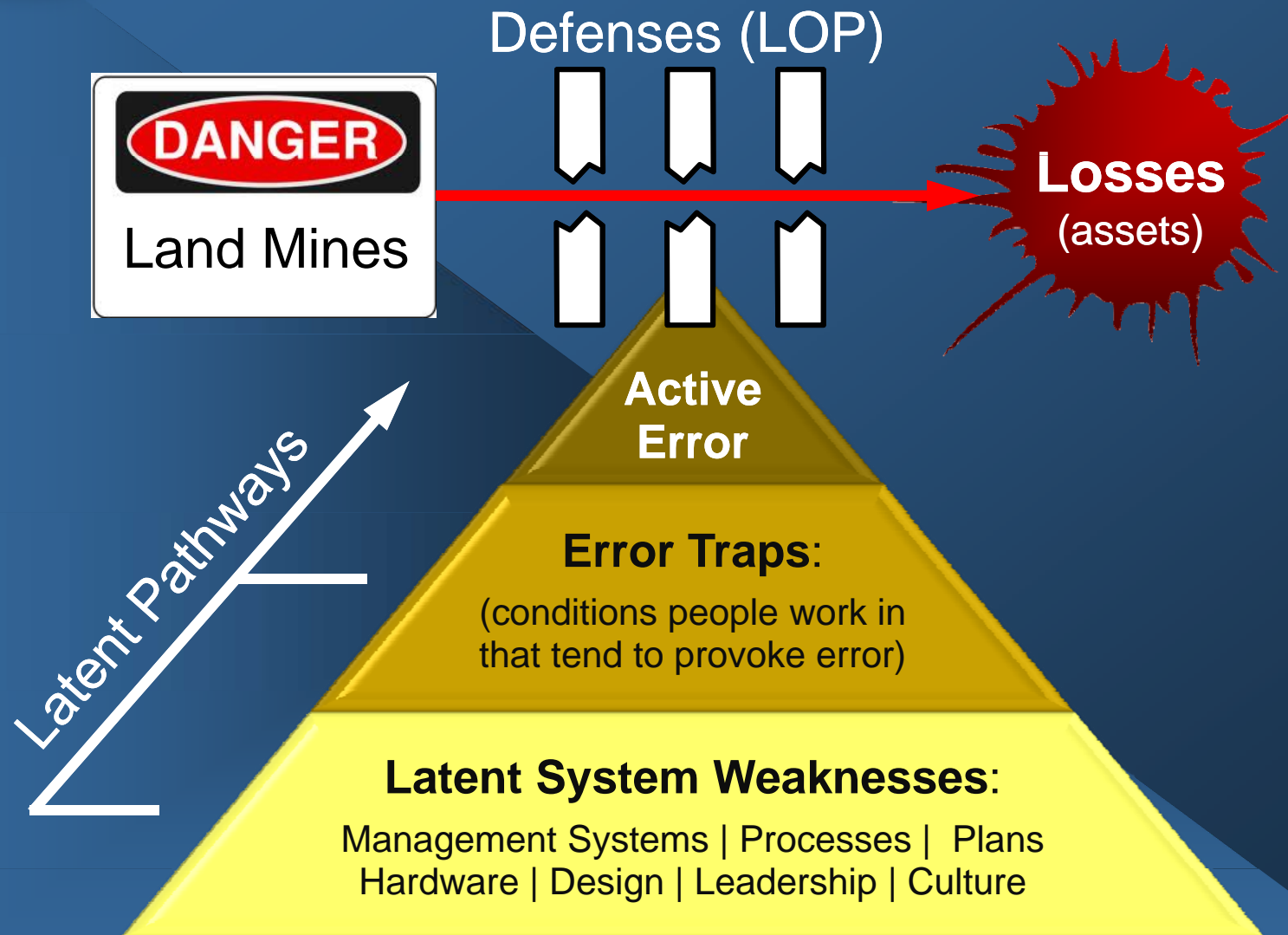
- ◆ Safety is **NOT** the absence of accidents.
- ◆ Safety is the **presence** of defenses in your processes, procedures, facilities, methods, and practices.
- ◆ Safety is what you **DO** to ensure the integrity of **assets** using a variety of controls, barriers, and safeguards



*Woods, D. et al. (2010), *Behind Human Error* (2nd ed.), Ashgate, pp.38-39, 244-246.



System Accidents: Systems Govern Results*



* Adapted from Reason, J. (1998), *Managing the Risks of Organizational Accidents*; p.16-18.
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Video: Fall Through Floor



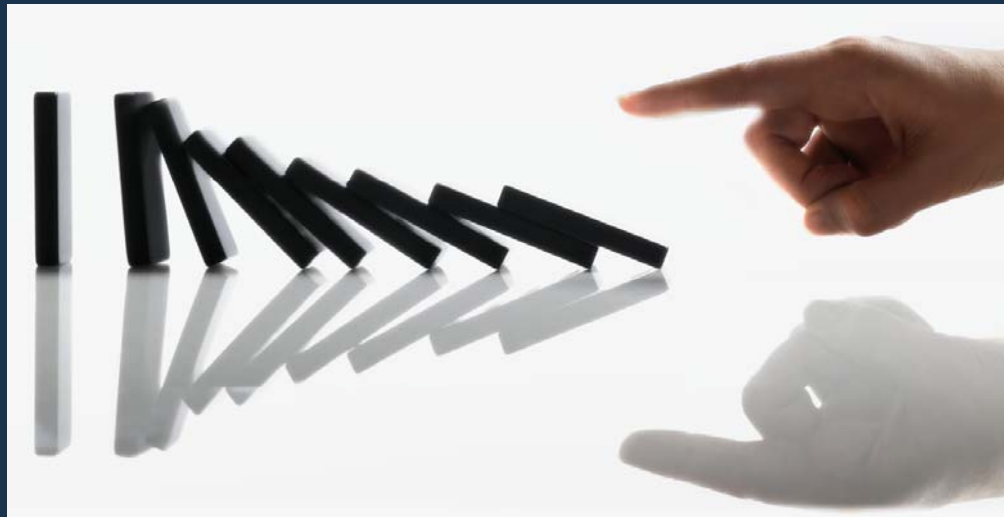
Touching = Risk





TouchPoint

A human interaction with an asset that changes the state of that asset through work



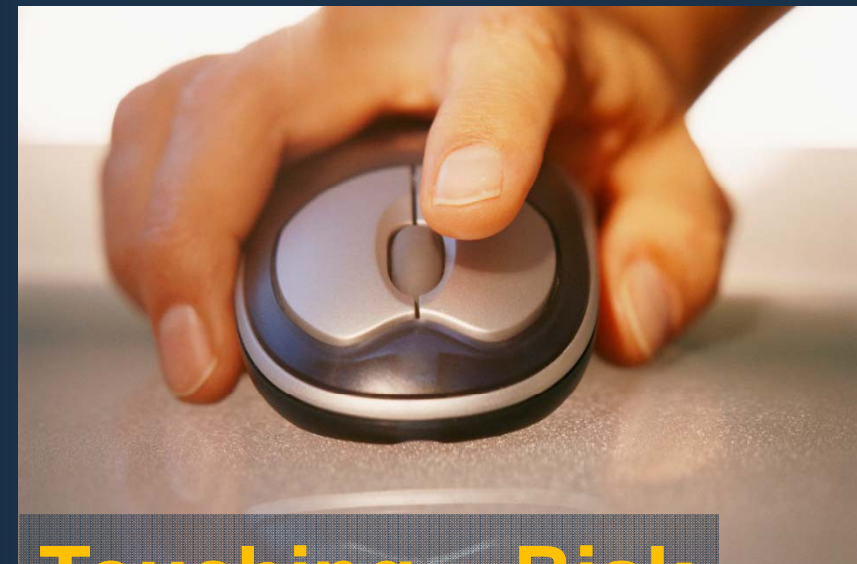
Initiates a transfer of energy, mass, or information



Risk-Based Practices*

AMRL

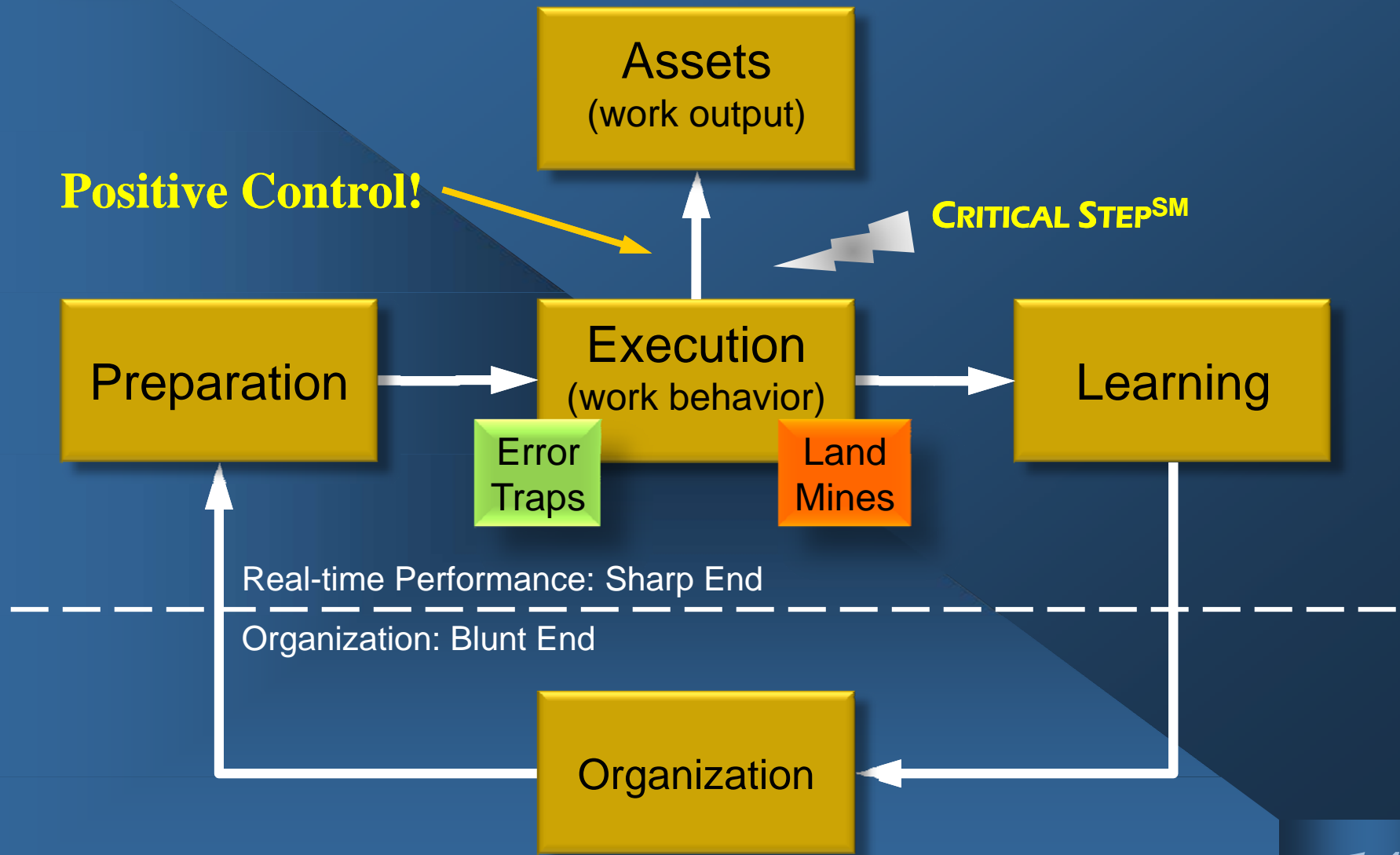
- ◆ **Anticipate** – *know* what to expect
- ◆ **Monitor** – *know* what to pay attention to
- ◆ **Respond** – *know* what to do
- ◆ **Learn** – *know*:
 - what has happened
 - what is happening
 - what to change



Touching = Risk



Operations: Work Execution Process

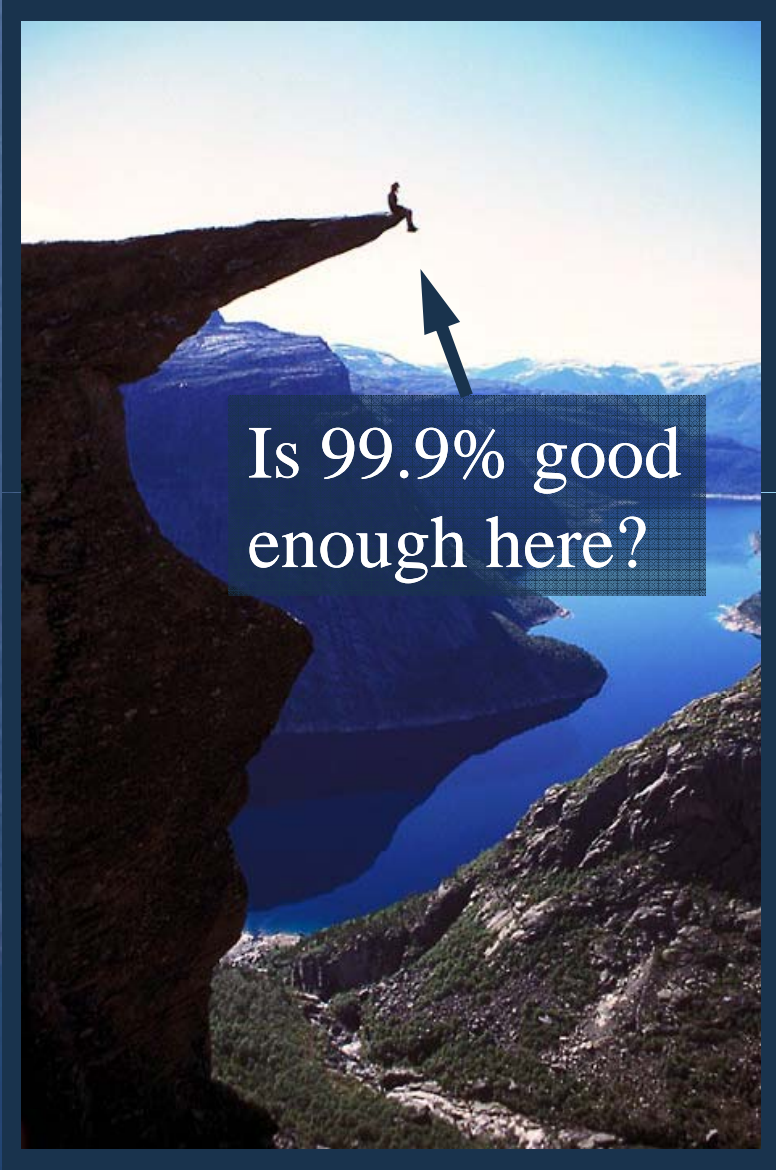
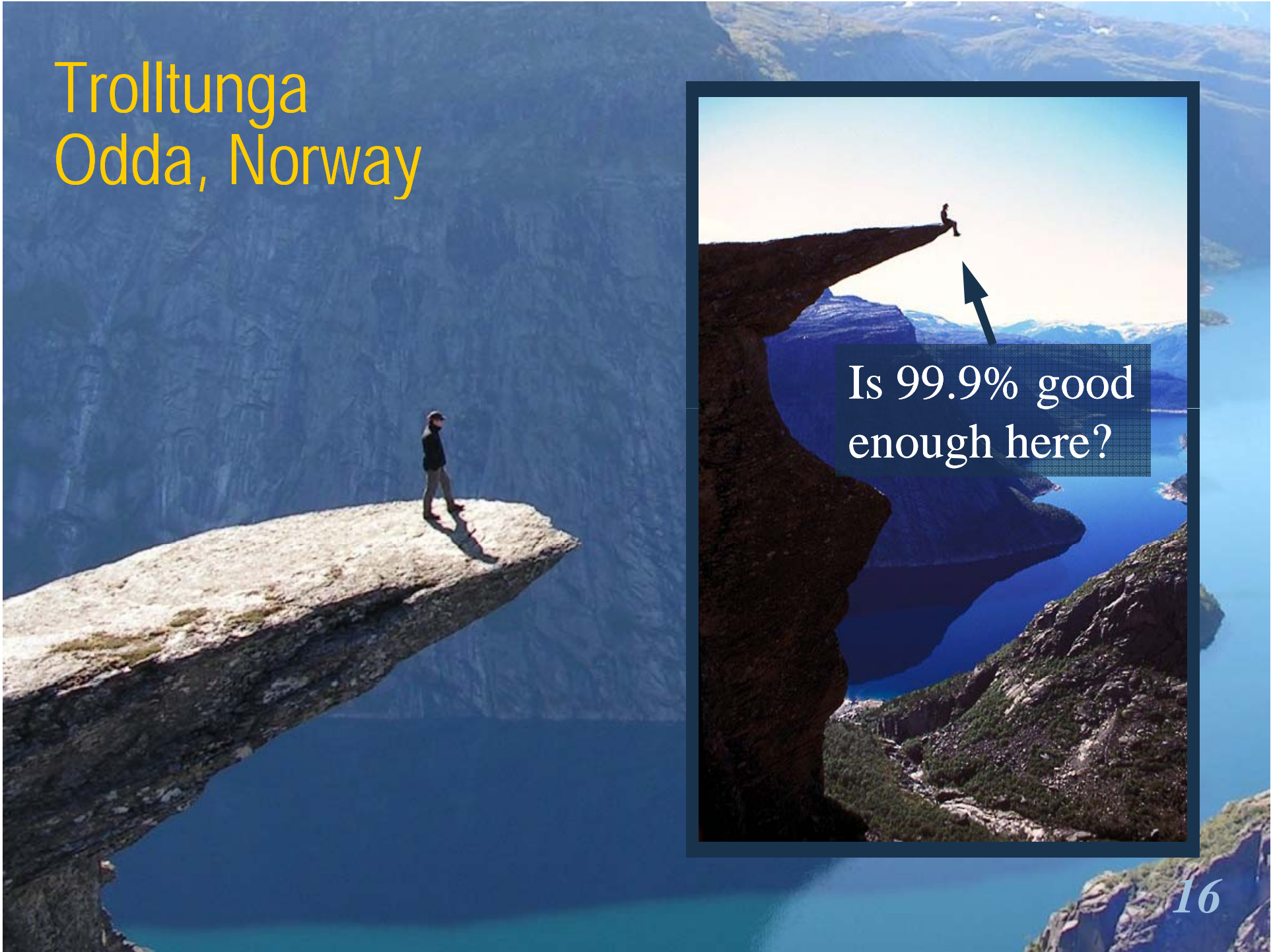




If 99% was Good Enough

370%

Trolltunga Odda, Norway



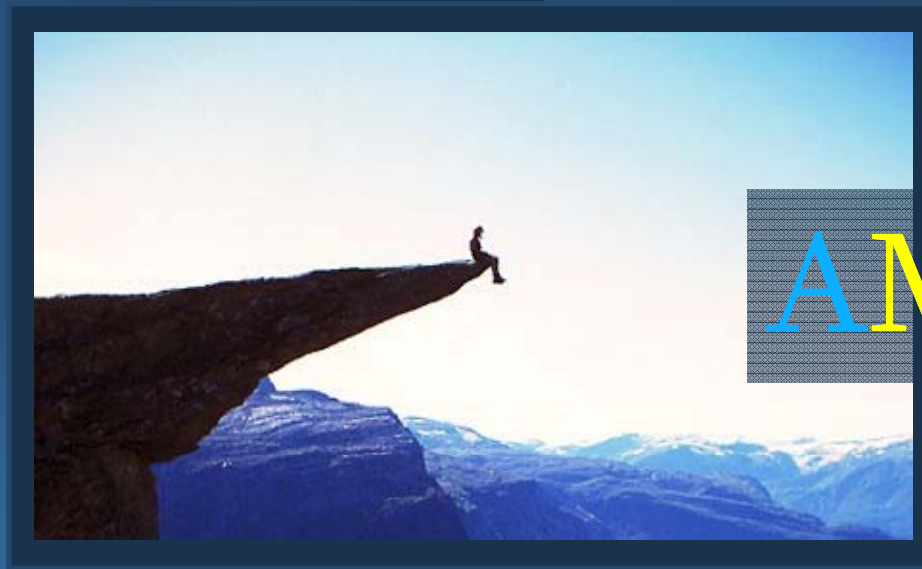


CRITICAL STEPSM

– Point of No Return | What **MUST** Go Right

Single-Error
Vulnerability

Any human action that **will** trigger **immediate, irreversible, intolerable harm** to an asset (if that action or a preceding action is performed improperly)



AMRL



Hu Tools



1. Pre-Job Briefing
2. Take a Minute
3. Self-Checking (STAR)
4. Stop When Unsure
5. Peer-Checking
6. Three-Part communication
7. Procedure Use & Adherence | Placekeeping
8. Conservative Decision-Making
9. After Action Review | Reporting

Carving out
“time to think”

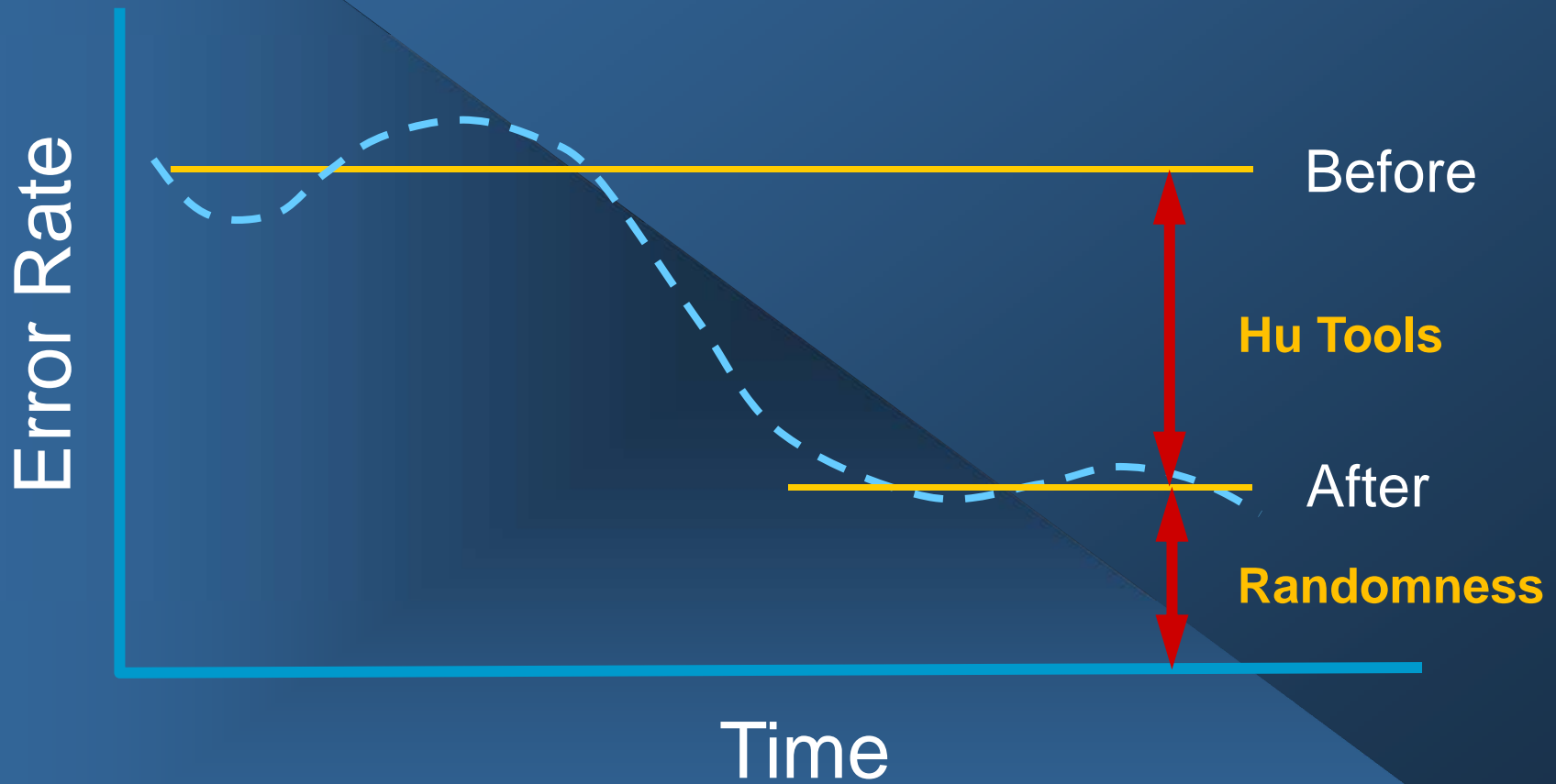


RU-SAFE: Pre-Job Briefing

1. Review Task Purpose / Accomplishments.
2. Identify Asset(s) to Protect:
 - **Recognize** assets to protect and related hazards
 - **Understand** lessons learned from experience
 - **Summarize** critical steps and related risk-important actions
 - **Anticipate** errors traps and errors for each critical step
 - **Foresee** consequences of errors at each critical step
 - **Evaluate** Hu Tools, defenses, contingencies, and STOP work criteria
3. State “End of Briefing.”

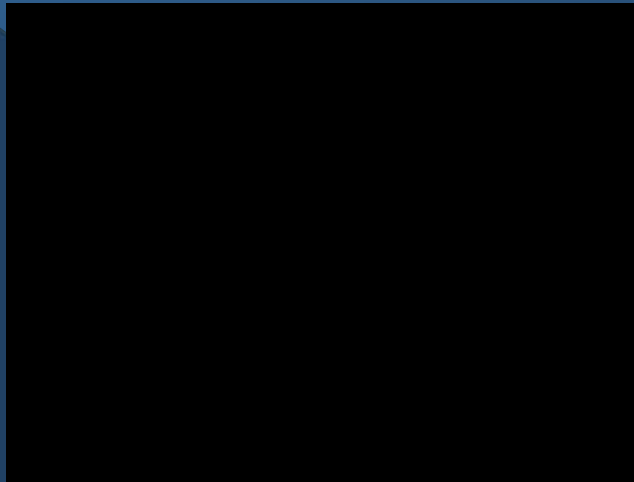


Error Rate Reduction





Video: Highline Walker





Chronic Sense of Uneasiness*

A Preoccupation with Failure

Mindfulness
toward assets:

- 1) one's capacity to err, i.e., **error traps**
- 2) the presence of hidden threats, i.e., **land mines**



how you **perceive**, **think**, and **feel**
about assets and their hazards

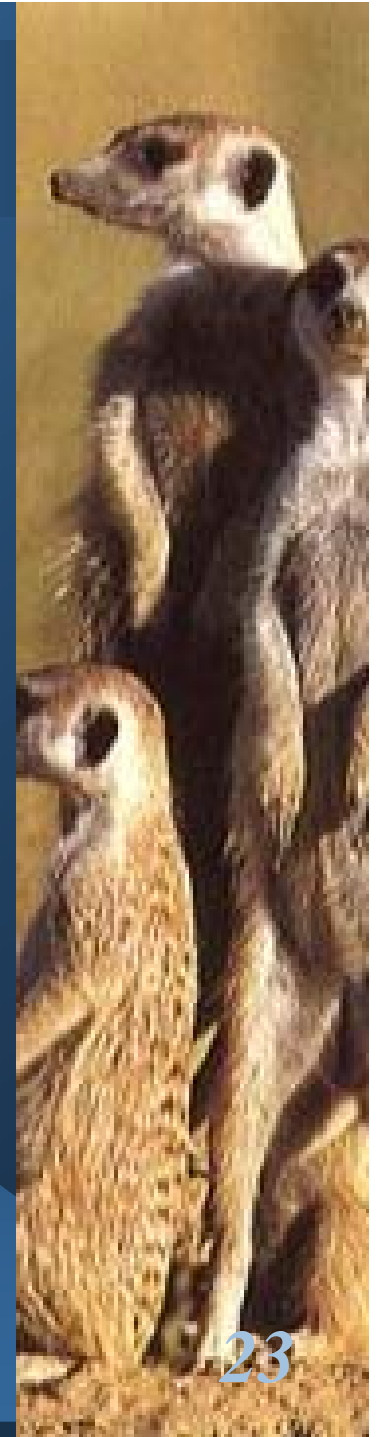
“What else can I do to rise above my circumstances to get the results I desire?”

-- The Oz Principle



Workers' Role – Control

1. Acknowledge human fallibility (**hazard**).
2. Know and understand the technology.
3. Know the assets to protect – the Business.
4. Know **CRITICAL STEPS**SM – Positive Control!
5. Be wary of error traps and land mines.
6. Stop when Unsure – Get the Facts!
7. Avoid unsafe and at-risk practices.
8. Ask for and give feedback – Don't know what ...
9. Report – Don't live with problems!
10. **Prove it Safe** – practice **AMRL** (hero).

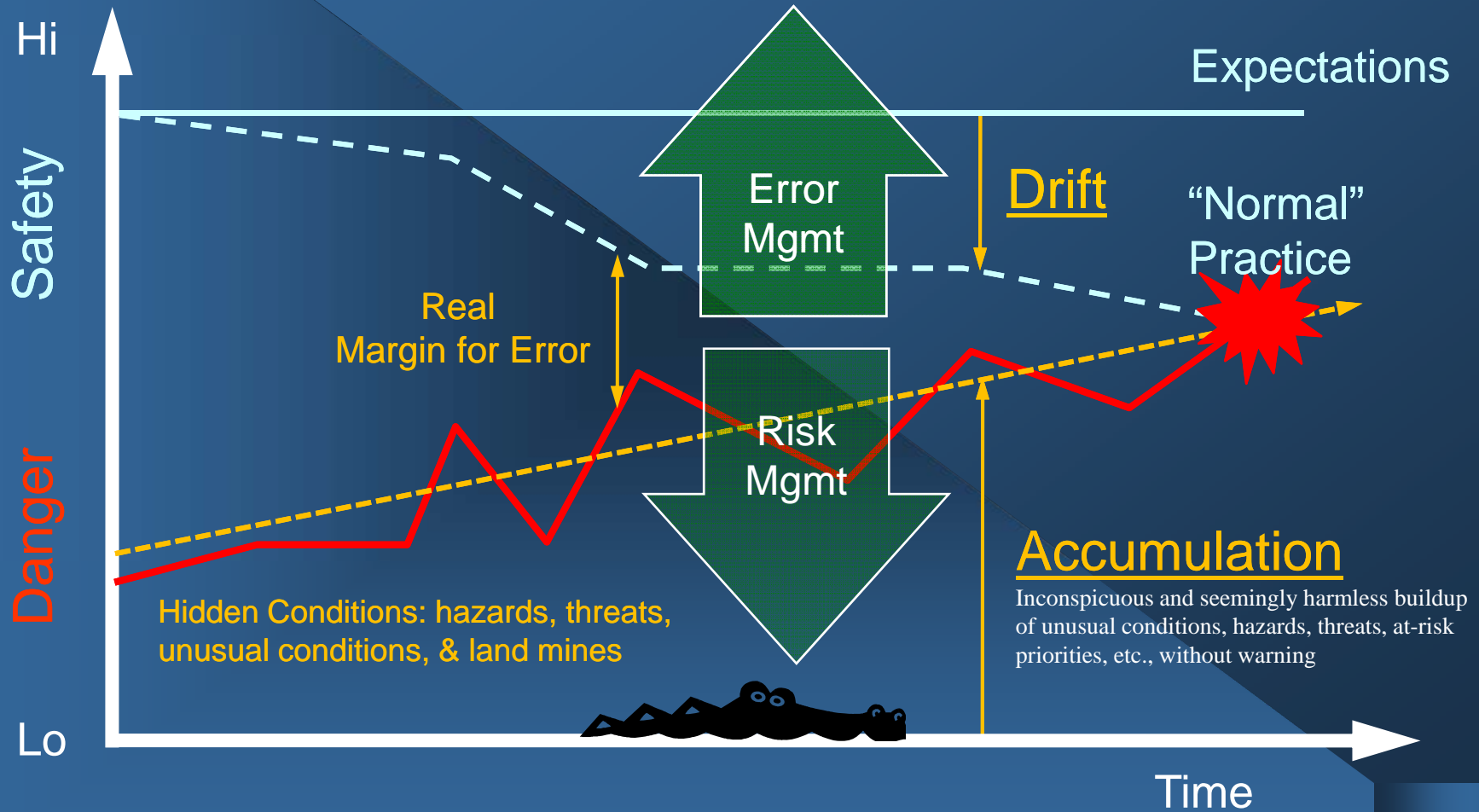




Managing Drift and Accumulation*

Expectations: Work as Imagined

Normal Practice: Work as Done



* Adapted from Dekker, S. (2007), *The Field Guide to Understanding Human Error*.
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Managers' Role – Learn

1. **Manage** – integrate **AMRL** into systems; align around *proactive accountability** (assets)
2. **Lead** – inculcate key *beliefs* into the culture; create reinforcing experiences
3. **Organizational** – minimize *accumulation* of LSWs / land mines; integrity of defenses
4. **Operational** – control: avoid *active errors* at critical steps; minimize drift
5. **Oversight** – monitor: eliminate gaps between *work as imagined* and *work as done*



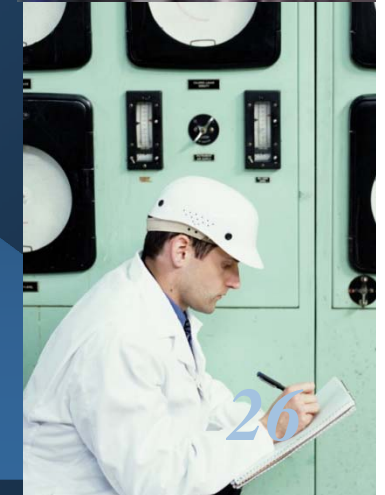
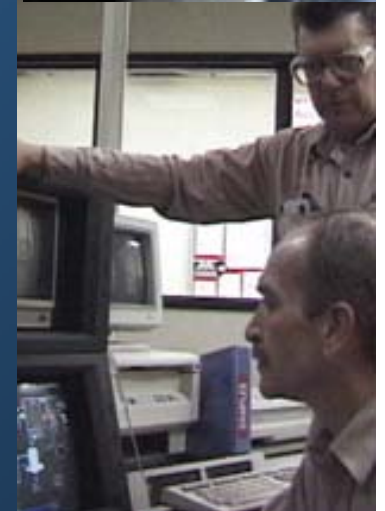


Managing Hu

“You cannot **manage**
what you do not **understand.**”

-- Elliot Jacques,
The Requisite Organization

Human performance is not common sense.





Strategic Approach*

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The Passion

