



Webinars

AND ONLINE EDUCATION



Society of Petroleum Engineers



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Building the Capacity to Fail Safely into Field Operations

WHEN: 8 October 2021
10:00 CST
(15:00 GMT)

Register today here:

<https://bit.ly/2VGqUE4>

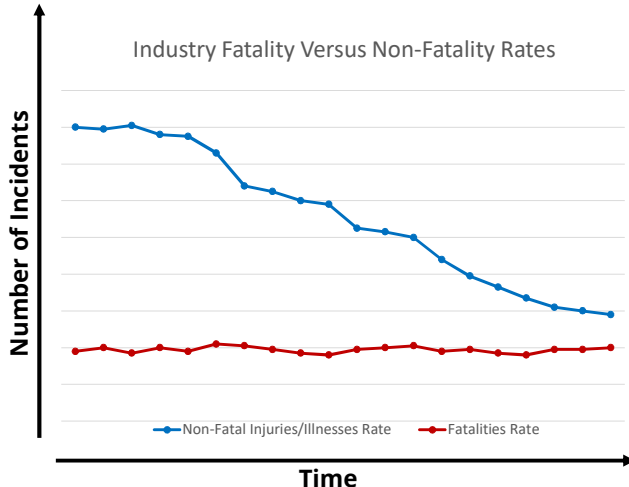
Google: "SPE Human Factors Technical Section"

Contact us: spehfts@gmail.com



Safety Myths Vs. Facts

Industry Fatality Versus Non-Fatality Rates



Time

Myth

If we focus on reducing minor injuries, we'll also reduce major injuries.

Fact

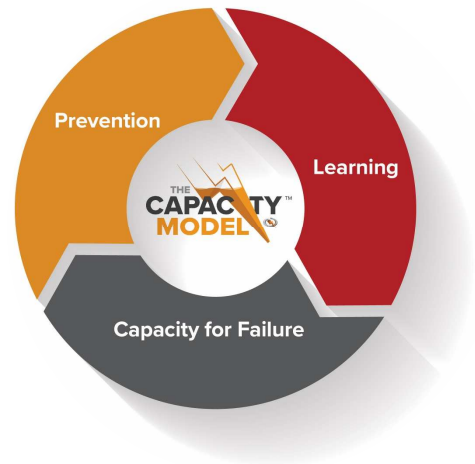
Trends show that reducing minor injuries **does not** change the rate of major injuries & fatalities.

What is The Capacity Model?

LET'S START THINKING ABOUT SAFETY

Differently

A Human Performance Mindset



What is The Capacity Model?

VISION

The elimination of life-threatening, life-altering, and life-ending events.

MISSION

Build the capacity to ensure that when, not if, failure occurs, it will occur safely.

GOAL

Incorporate the concepts and practices of The Capacity Model into every operating unit with a focus on designing the capacity to fail safely into all company systems and work practices.



The Capacity Model: Introduction

The Capacity Model Elements

Focuses on:

1. Human performance principles
2. The Energy Wheel
3. STKY (stuff that kills you)
4. STKY controls framework
5. Operational learning



Human Performance Principles

1

PEOPLE MAKE MISTAKES

Error is normal. Even the best people make mistakes.

2

FAILURES CAN OCCUR SAFELY

It's not **if**, it's **when**. We will always plan and execute our work as if failure is going to happen today.

3

CONTEXT INFLUENCES BEHAVIOR

Workers **do what they do for a reason**, and the reason makes sense to the worker given the context of the situation.

4

VIOLATIONS ARE RARELY, IF EVER, MALICIOUS

Blame fixes nothing.

5

INCIDENTS CAN STEM FROM NORMAL DEVIATIONS

How we imagine work takes place is different from how work **actually takes place**.

6

MANAGEMENT'S RESPONSE TO FAILURE MATTERS

Managers shape how the organization learns by their **reaction to failure**.

7

LEARNING IS A DELIBERATE IMPROVEMENT STRATEGY

Learning is a strategic and operational choice towards improvement.

Poll Question 1

Which principle has the greatest influence on strengthening safety culture?

- a) People make mistakes
- b) Failures can occur safely
- c) Context influences behavior
- d) Violations are rarely, if ever, malicious
- e) Incidents can stem from normal deviations
- f) Management's response to failure matters
- g) Learning is a deliberate improvement strategy

Poll Question 2

By accepting that failures can happen safely, we must assume that:

- a) We can train error out of our workers.
- b) It's not if, it's when. We must expect that we will encounter errors and failure and build capacity around them.
- c) Planning our work thoroughly is key as better planning eliminates deviations.

Podcast



- Hazard identification is important, but not enough

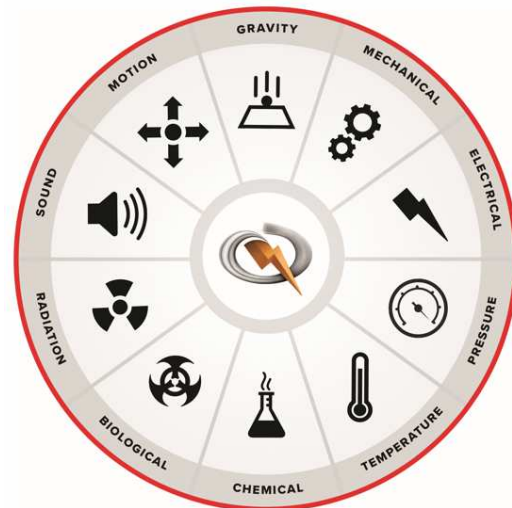
Poll Question 3

On average, workers identify ____ % of hazards at any given time.

- a) 25
- b) 45
- c) 65

Hazard Identification with The Energy Wheel

- The Energy Wheel is:
 - A tool to help visualize and identify hazards
- Use it for:
 - Identifying STKY
 - Pre-job planning
 - Tailboard briefing
 - Hazard awareness throughout the day



STKY: Stuff That Kills You

STKY Discussions in the Field

STKY DISCUSSIONS

Who has them?

Crew leaders, management and/or safety professionals

What are they?

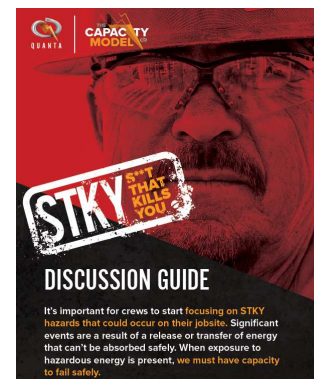
Conversations meant to generate an understanding of how to identify STKY using the Energy Wheel

When do they happen?

Before the start of a job and as conditions change that may impact worker safety

STKY DISCUSSION QUESTIONS

1. **What is STKY on this jobsite?**
 - a. The Energy Wheel is a tool to help identify hazards
2. **When a STKY event happens, what will protect you and the crew?**
3. **Is that enough or do you need more?**



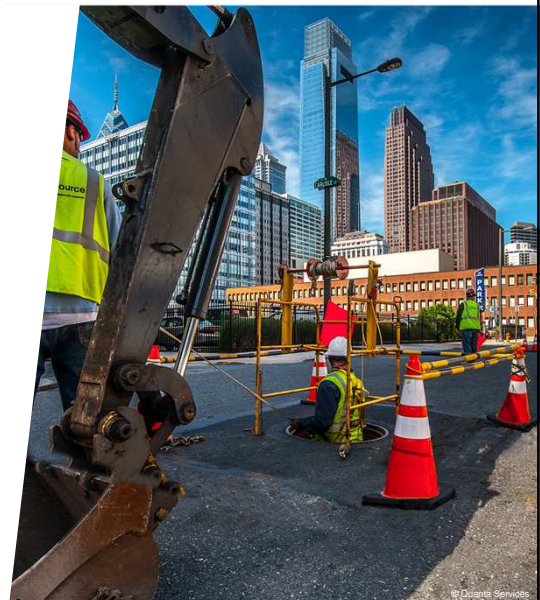
STKY Controls Framework

The STKY controls framework builds capacity for failure by providing a consistent, disciplined approach to identifying controls. The framework identifies the critical tasks that organizations perform and the minimum controls that must be in place before work begins.



STKY Controls Framework

- Critical tasks
- Hazards
- Unwanted events
- Controls
- STKY controls



Controls	
An Act	Requires we do something
Or An Object	Works automatically & independently
Or A System	Work in combination
Intended to prevent or mitigate an unwanted event	

Controls	
• Is it an act, object, or system? • Does it prevent or mitigate an unwanted event? • Is it reliable? Will it perform the same way every time? • Can it be specified, meaning, can it be clearly defined? • Can it be verified through observation?	

NOT a Control

- Stop-work authority
- Making the right decision
- Knowledge and experience
- Using “common sense”



STKY Controls

- Controls that prevent or mitigate a **STKY** (life-threatening, life-altering, life-ending) **event**
- Defined alongside critical work activities, specific to the hazard
- Verified as in place and functioning

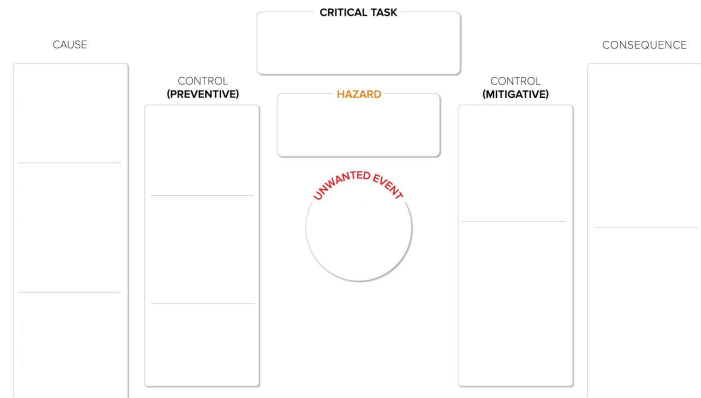


STKY Controls Framework: Application

Identify Critical Task



Complete Visual Analysis Tool



Integrate into Existing Processes

STKY Controls: Verification

STKY controls verification is the process of objectively testing that STKY controls are in place, functioning, and effective before work begins.



Poll Question 4

What type of control reduces the consequences of an unwanted event?

- a) Soft Control
- b) Preventive control
- c) Mitigative control

Operational Learning

Operational Learning

- Conducted in small teams, comprised of people who do the work
- Teams discuss how the work gets done and develops solutions to improve performance
- Without looking for cause or blame, gives an explanation of how 'this something' happened and what should we learn from it



Poll Question 5

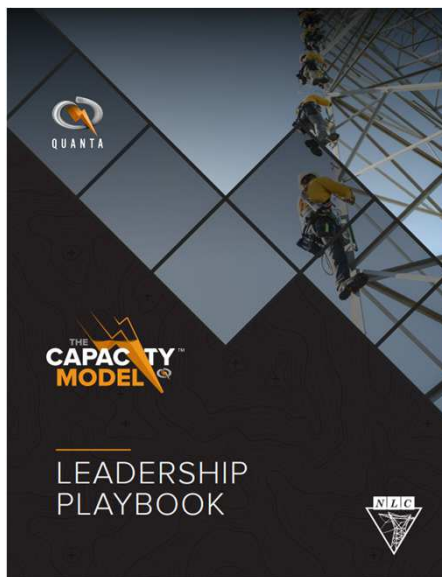
Does your organization conduct learning teams?

- a) Yes
- b) No
- c) Do not know

Business Integration



It Starts with Leadership



Leaders:

- Set the tone
- Shape the culture
- Make theoretical concepts actionable

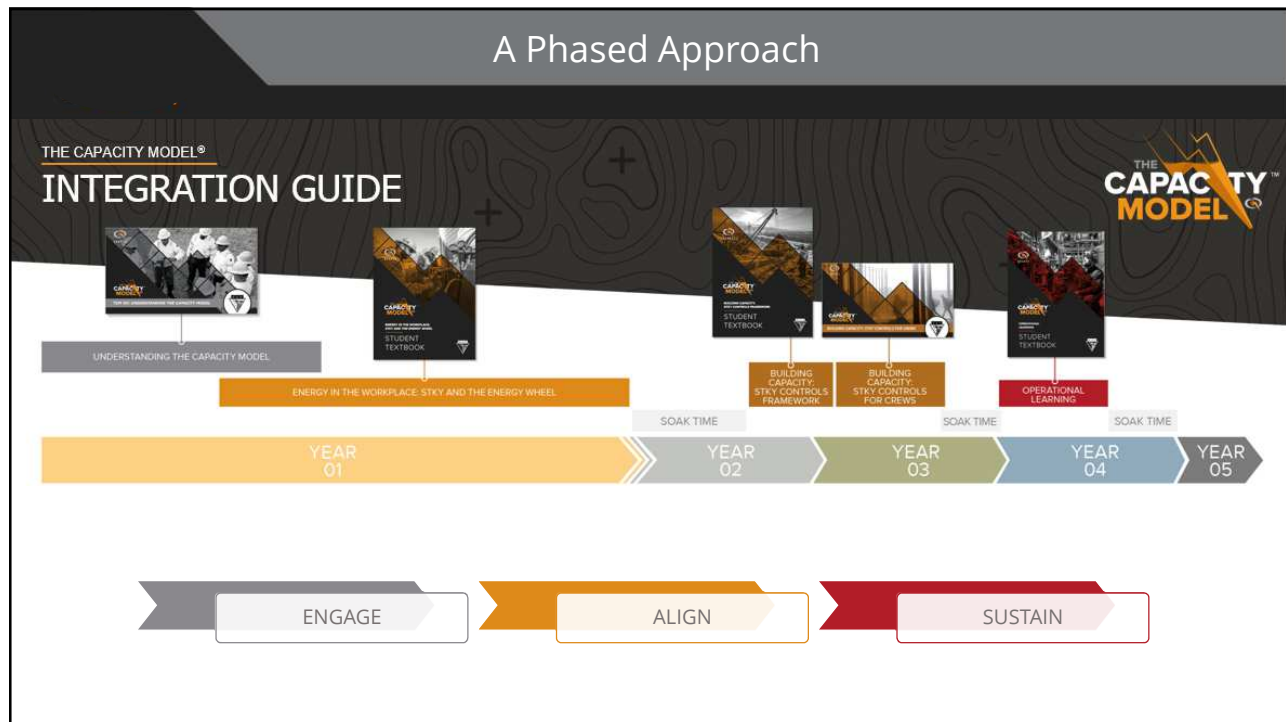
WHAT CAN I DO AS A LEADER TO BEGIN TO BUILD CAPACITY IN MY ORGANIZATION?

Building capacity takes time. As a leader, you must:

- Own the integration of The Capacity Model.
- Have a clear vision of the model's purpose and the value that it provides to your organization.
- Communicate your vision with the understanding that sustainable change takes time.
- Commit your organization to provide the necessary resources and support.
- Have a deliberate plan in place to integrate The Capacity Model over time.
- Be the driving force to keep this new approach to operations and safety at the forefront.
- Remember that your response to both success and failure shapes the culture of your organization.
- Complete the Readiness Review with others in your organization (see Appendix in the Leadership Playbook).



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Thank You

QUESTIONS ?