

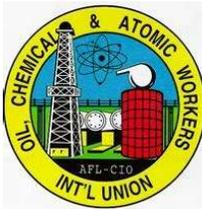
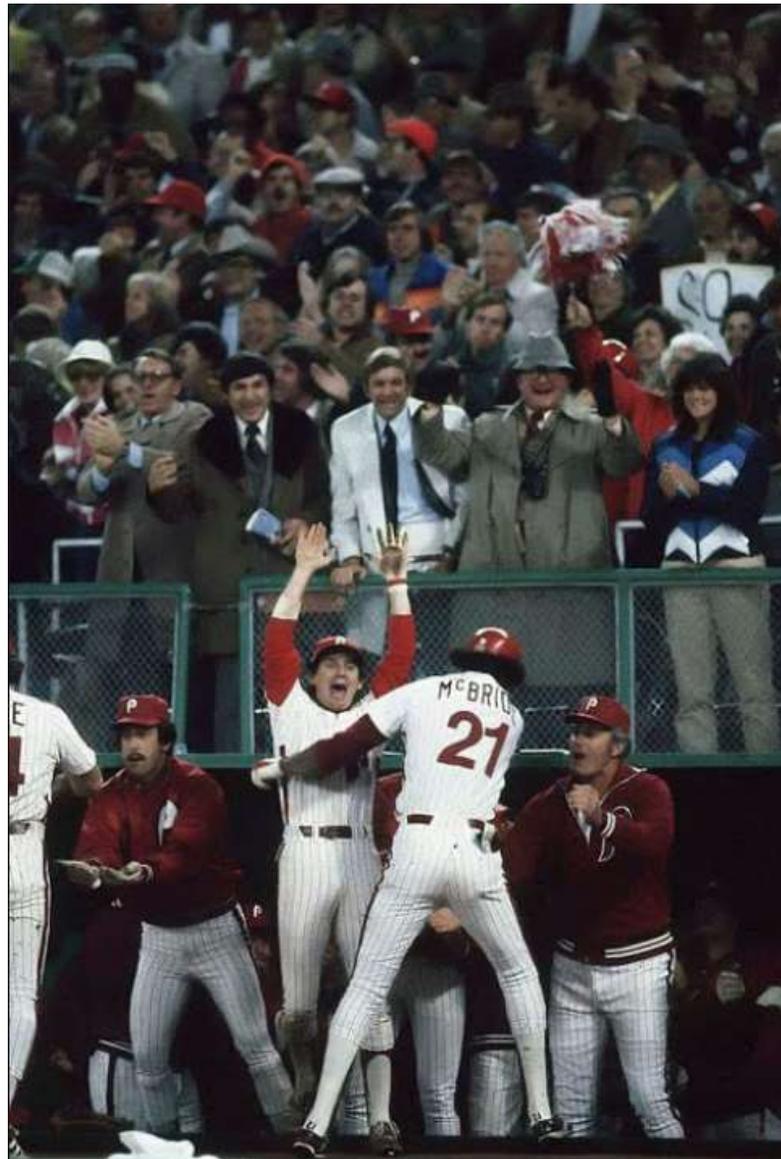
How Is Your Process Safety Culture? Better Practices and Approaches to Self-Assessment

**P2SAC Safety Conference
Purdue University
December 5, 2019**

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New Castle Delaware - October 21, 1980



Process safety is personal

Know your hazards; know your barriers
and make sure they are functional

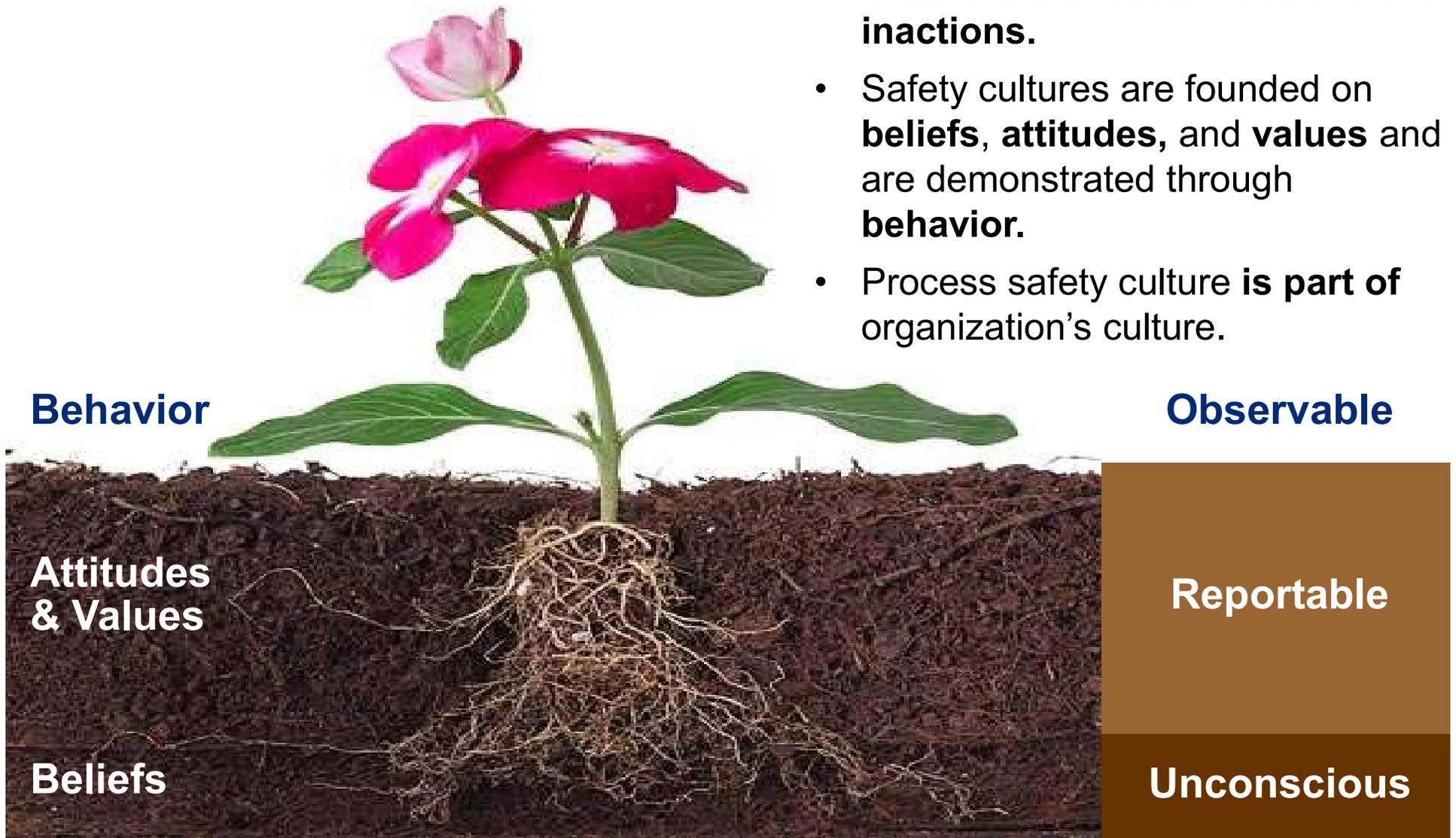
Relationships matter

Culture matters

People forget the bad %\$#@

Culture Is The Way Things Get Done Around Here*

- Culture is the result of **actions** and **inactions**.
- Safety cultures are founded on **beliefs, attitudes, and values** and are demonstrated through **behavior**.
- Process safety culture **is part of** organization's culture.



Source: Williams, Dobson & Walters

* T.E. Deal and A.A. Kennedy

Culture Is Both Tangible and Intangible

Tangible

Management system/measures (KPIs)

Processes/hazard management

Organization and accountabilities



Intangible

Process safety leadership and commitment

Process safety behaviors

Safety competencies

What We Believe ‘Good’ Process Safety Culture Looks Like...

Common Definition

- Single set of impactful, relevant, and risk-reducing standards.

Aligned and Committed Leadership

- Board engagement.
- Common understanding and defined leadership behaviors.
- Aligned incentives (consequence) to drive risk-reducing behaviors.

Capability and Competency

- Training materials and delivery (executives through line employees).
- Process safety competencies defined and assessed (leaders).

Measurement

- Effective management review.
- Leading and lagging metrics identified, tracked, and acted upon.

Management Systems and Global Standards

- Development and implementation of management systems.
- Identification and closure of key standards gaps (leveraging work done to date).
- Capital allocation tied to risk reduction.

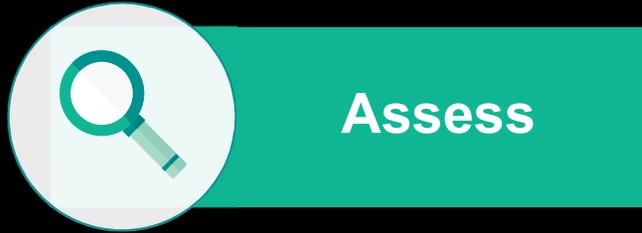
Continuous Improvement

- Process safety verification, assessment, and audit approach.
- Verification that actions were completed and risks reduced.

Change Management and Communications

- Communication material development and deployment.

Why Measure Process Safety Culture?



Six Lenses



Board & Executive Level



Operational Leadership



Leading in the Field



Management Systems



Internal Requirements

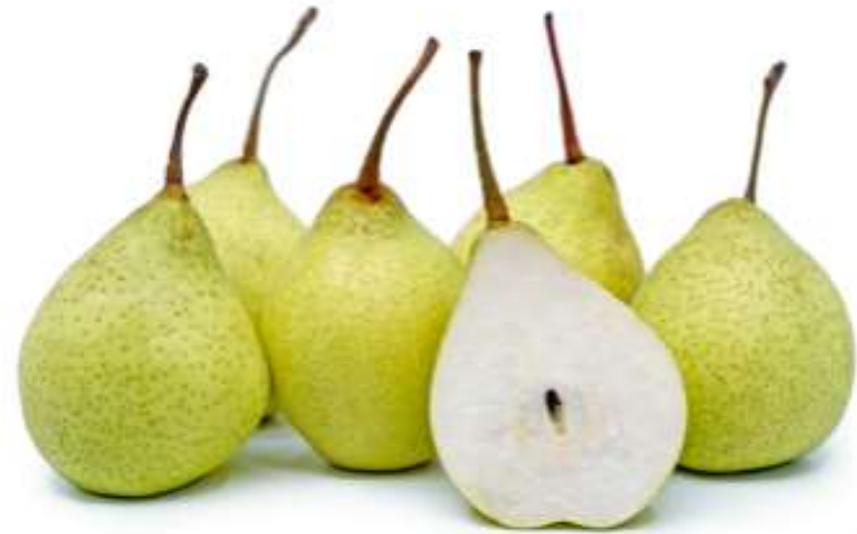


Competence and Perception

Is Your Executive Leadership Aligned and Committed?

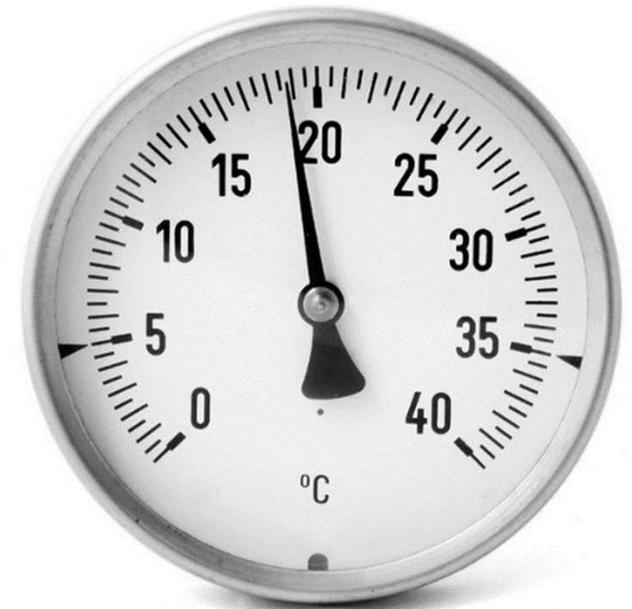
1. Is my Board **engaged** in process safety?
2. Is there a Board **subcommittee** on process safety?
3. Does my executive leadership understand the impact of process safety on **PEAR**?
4. Are there defined executive **leadership expectations**?
5. Does the executive team **review near misses and LFI**s?
6. How well do executive leaders perform **management review**?
7. Do executive leaders engage the front line in process safety **dialogues**?
8. Are there aligned **incentives** (consequences) to drive risk-reducing behaviors?

People
Environment
Assets
Reputation



Does Your Operational Management Team “Get It”?

1. There is a single set of risk-reducing **standards**.
2. Operational management invests resources to **train** employees in process safety concepts.
3. There are **process safety metrics** (leading and lagging) identified, tracked, and *acted* upon.
4. There is a formal process to identify and close **gaps** in our standards.
5. **Capital allocation** is tied to risk reduction activities.
6. Process safety **competencies** are defined and assessed.
7. We **verify** that risk reducing actions were completed and **risk reduced**.



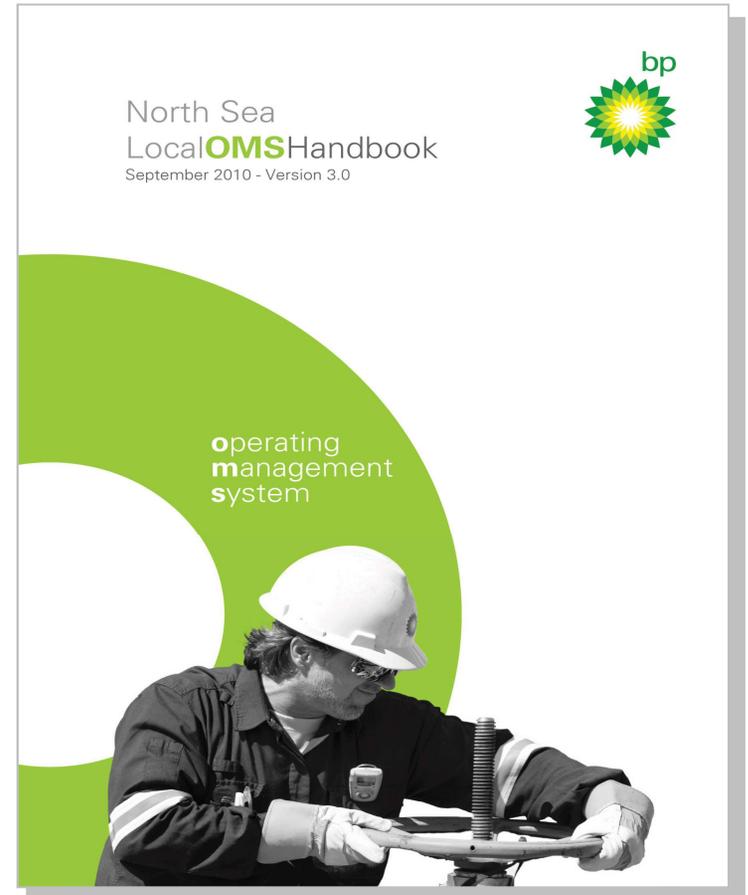
Are Your Leaders Engaged with the Front Line?



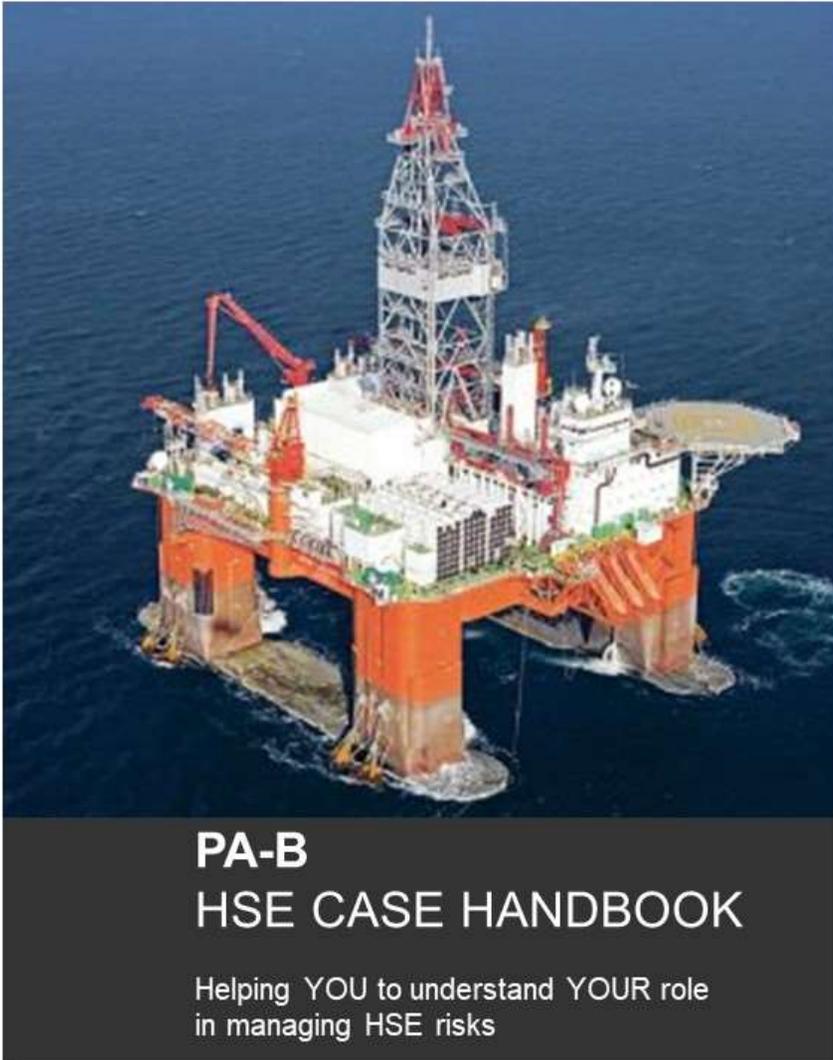
- A. What are your hazards?**
- B. What are the barriers?**
- C. What's your role in keeping those barriers healthy?**
- D. How do you know those barriers are effective?**

Is Your Management System Sustainable?

- A. Risk is managed effectively:** Can your leaders name the same top three operational risks?
- B. Leaders “own” risk reduction activities:** Are your leaders focused on barrier management against the top risks?
- C. Risk reduction is part of strategy:** Is your risk appetite tied to your strategy, budgeting, and planning?
- D. Leaders 'lead' using the management system:** Do leaders refer back to management systems to explain the importance of safety requirements?

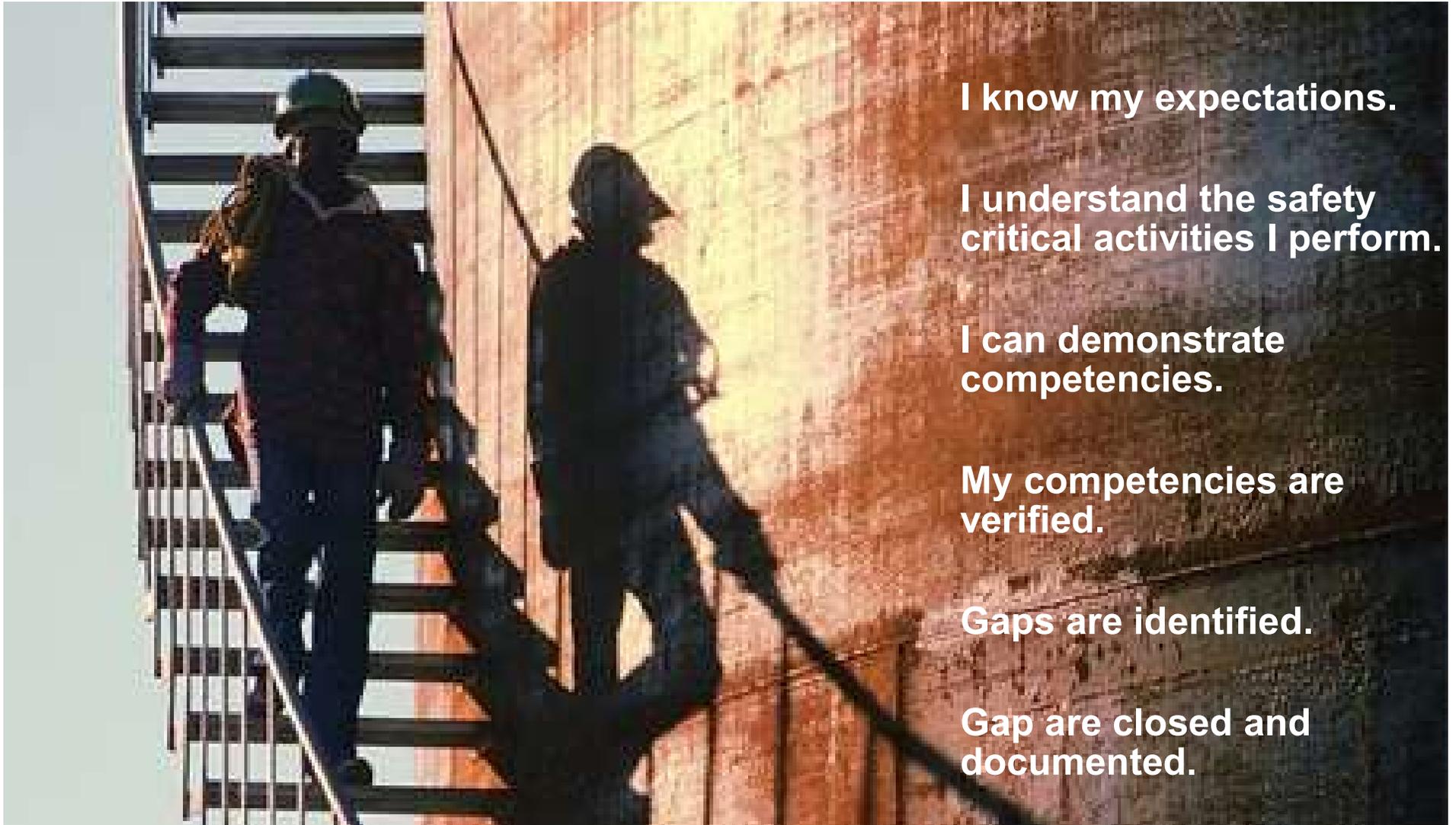


Are You In Compliance?



1. Safe siting of occupied portable buildings.
2. ESD valves on platform risers.
3. Temporary refuges.
4. Permit to work.
5. Management of change.
6. Avoid liquid release relief to atmosphere.
7. Avoid tank overfill followed by vapor cloud release.
8. Avoid brittle fracture of metallic materials.
9. Alarm management.
10. Sour gas (H₂S).
11. Deepwater well design and construction.
12. Shift handover?

Are Your Employees Competent?



I know my expectations.

I understand the safety critical activities I perform.

I can demonstrate competencies.

My competencies are verified.

Gaps are identified.

Gap are closed and documented.

What Do Employees Really Think?

1. Management responds as quickly as possible when process safety problems are discovered where I work.
2. I am satisfied with my physical working environment (facilities, workspace, safety, lighting, air quality, temperature, etc.).
3. Employees can express their ideas/views without fear of negative consequences.
4. Where I work, everyone takes personal responsibility for complying with safety rules and procedures.
5. Where I work we never compromise our safety in order to meet other targets (costs, deadlines, etc.).
6. Safety is a high priority where I work.
7. Process safety incidents (barrier failures) are always reported at this site.
8. Where I work, if I bring up a concern or an issue about process safety I feel confident that it will be addressed.
9. Where I work, we regularly discuss our safety procedures.
10. Where I work, we regularly review and discuss our process safety performance.



THANK YOU

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Marsh is one of the Marsh & McLennan Companies, together with Guy Carpenter, Mercer, and Oliver Wyman.

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