Assuring an Adequate Safety Culture

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Outline

- What do we mean by “Culture of Safety”
- Why do we need an improved Culture of Safety
- How do we accomplish a Culture of Safety
- How do we assess that we have an adequate Culture of Safety
- What are the roles of the Operator and the Regulator
- Conclusions and References
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What is a Culture of Safety?

A culture is a set of “shared values and beliefs that interact with an organization’s structures and control systems to produce behavioral norms.” B. Uttal

In a Culture of Safety the norms promote safety

Traits of a Good Culture of Safety (see National Academies Report):

- Leadership communication
- Problem identification and resolution
- Acceptance of personal accountability
- Planning and control of work processes
- Continuous learning
- Freedom to raise concerns
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Why Do We Need an Improved Culture of Safety?

Heinrich’s Theory of Accident Prevention (1931):
- Safety in industry is depicted as a triangle
- Direct relationship between low consequence incidents (e.g. LTI, doctor cases, small spills) and fatalities
- Reducing low consequence incidents reduces the number of fatalities
- Addressing the root cause of low consequence incidents will reduce fatalities

Industry data shows this may be true for certain types of accidents but not for others (see SPE 156847):
- Although KPIs for low consequence incidents have declined in recent years, fatality rates have more or less stabilized
- There is no correlation between MMS Safety Awards and future fatality rates or very, very rare/very high consequence events (e.g. Macondo)

Both the President’s Commission on Offshore Drilling and the NAE Macondo Blowout Reports
- Sweeping reforms required for fundamental transformation of industry’s safety culture
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Accomplishing a Culture of Safety

From an organizational perspective there must be:

- **Mechanisms** Establishing Structure and Control - specify what is needed and check that it is being done
- **Actions** Establishing Safety Norms - encourage the application of Safety Culture traits

From an individual perspective there must be:

- **Mechanisms** Establishing Competency – knowledge of the structure, control and norms, and ability to perform
- **Actions** Establishing Motivation - showing that individuals actually act in accordance with behavioral norms
Does Implementing a Safety and Environmental Management System (SEMS) Accomplish a Safety Culture

- A properly functioning SEMS addresses the “mechanism” elements necessary to create a culture of safety
  - Organization – a structure and system of controls
  - Individual – training and competency

- SEMS does not address the “action” elements
  - Organization – actions establishing behavioral norms
  - Individual – actions proving motivation

- SEMS is a “necessary” but not “sufficient” element in creating a culture of safety
Setting Company Behavioral Norms and Encouraging Individual Motivation

- The job of the leadership of the company
  - Not just Board, CEO, Asset Manager, etc.
  - Leadership is every supervisor

- Does not happen by:
  - Statements from the CEO and Human Resources
  - Postings in company internal and external communications
  - Punishing or rewarding individuals for KPIs or INCs
  - Safety minutes prior to meetings

- Does happen by:
  - Thousands of individual actions by leadership at all levels
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Assessing the Mechanism Aspects (SEMS Compliance)

- Assessing mechanism aspects is possible with a pass-fail inspection
  - Does it exist on paper
  - Does it cover all required elements
  - Does it cover the elements in sufficient detail
  - Is there proper documentation

- SEMS compliance assesses the mechanisms aspects but not the action aspects (norms and motivation) necessary for a culture of safety
Assessing the Action Aspects

Assessing Action Aspects requires an analysis of:
- Is SEMS understood by all
- Is it utilized as designed
- Do the norms and motivations actually exist

Requires onsite observations, knowledgeable evaluators and subjective judgment
- It cannot be pass-fail
- There will always be room for improvement
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Role of the Operator

- Establish cultural norms and promote behaviors

- Independent internal audits to assess where improvements can be made:
  - Risk based
  - Trained and certified auditors
  - Team with required expertise and knowledge of operations
  - Management engagement with closeout

- An audit which does not find something which can be improved concerning action aspects is not a good audit
  - Implementation of numerous and complex human actions over time is never perfect.
  - When it comes to human implementation of a safety system, no news is not good news.
Role of BSEE - Objectives

- Issuing INCs for lack of procedures and documentation leads to attitude of “compliance equals safety” and does NOT influence behavior
  - The goal becomes, “What do I have to do to pass an inspection?”
  - Fear of punishment does not normally affect basic attitudes

- Help industry move from a “compliance attitude” toward a culture of safety
  - Utilize a pass-fail compliance and punishment mode (PINC Lists) for inspection of specific regulations (e.g. set pressures of safety devices, timing and results of specified tests)
  - Utilize a more collaborative approach in auditing SEMS to assess the level of safety culture and encourage improvements
Role of BSEE – Holistic Approach (TRB 309)

- **Inspections:**
  - Presence on OCS
  - INCs for those items which lend themselves to pass-fail
  - Observations on how SEMS is being utilized

- **Audits:**
  - Review operators SEMS audit plans
    - Risk based
    - Qualifications of teams
    - Close out reports
  - Perform BSEE initiated audits

- Whistleblower System

- Disseminate information
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Conclusions

- Lord Cullen: “The operating staff had no commitment to working to the written procedure; and … the procedure was knowingly and flagrantly disregarded”.

- If we are going to make a step change in safety it is NOT through increased documentation, testing and punishment.

- A change in safety requires a change in attitudes and actions on the part of both management and worker.

- Both the Operator and BSEE have a role to play in making this happen.
References

- National Academy of Engineering and National Research Council, “Macondo Well Deepwater Horizon Blowout”, 2012:
  - Need for Safety Culture: Recommendation 5.5

- “National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, Report to the President”, 2011:
  - Need for Safety Culture: Chapter 8

  - Definition of Safety Culture and Role of SEMS: Chapter 2
  - Role of BSEE: Chapter 5

- SPE 156847, “Stepping Out of the Triangle and Into the Field”, 2012
  - Limitations of Heinrich Triangle

  - Establishing a Culture of Safety
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