Strengthening the Safety Culture of the Offshore Oil and Gas Industry
A Workshop

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National Academies of Sciences,
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Committee

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Study Goal and Tasks

**Goal:** Aid industry, government, and other stakeholder efforts to strengthen offshore industry safety culture.

**Tasks:**
- Identify
  - essential characteristics of a strong safety culture;
  - barriers to achieving a strong safety culture in the offshore industry;
  - strategies to measure and assess safety culture effectively; and
  - the role of the regulators in achieving a proper safety culture.
- Recommend
  - options for industry, regulators, and policy makers to strengthen offshore safety culture; and
  - research to close knowledge gaps.
Study Goal and Tasks

• The study goals are focused on establishing and maintaining an effective safety culture in the offshore oil and gas industry.

• These goals do not include increases in regulation.
Outline of Report

1. Introduction
2. Safety Culture Background and Definitions
3. History of Offshore Industry Safety Experience
4. Offshore Safety Regulation Pertaining to Safety Culture
5. Safety Culture Assessment and Measurement
6. Implementing Change in Offshore Safety Culture
Report

• For a copy of the full report please visit: https://www.nap.edu/catalog/23524/strengthening-the-safety-culture-of-the-offshore-oil-and-gas-industry

• For a copy of the report abridgment please visit: http://www.trb.org/Main/Blurbs/175037.aspx
Safety Culture Definition

BSEE definition

– “The core values and behaviors of all members of an organization that reflect a commitment to conduct business in a manner that protects people and the environment.”

– shares elements (next slide) common to most other definitions; and

– elements are grounded in empirical research.

*Industry and regulators should adopt this definition and its essential elements.*
Essential Elements - “BSEE 9”

• Leadership commitment to safety values and actions;
• Respectful work environment;
• Environment for raising concerns;
• Effective safety and environmental communication;
• Personal accountability;
• Inquiring attitude;
• Hazard identification and risk management;
• Work processes; and
• Continuous improvement.

Include in RP 75
Safety Culture Barriers

• Safety culture is an ambiguous concept that is difficult to measure
• Varied leadership commitment across organizations
• Fragmented and diverse industry
• Gradual, uneven shift in industry culture from risk-taking to commitment to occupational and process safety
• Regulators have difficulty building expertise to support industry transformation.
Recommendations to Regulators

• Rely on risk principles in determining inspection frequency and methods:
  – shift from compliance-based to risk-based principles of SEMS, and
  – rely on audit results for inspection programs and schedules.

• Define data reporting requirements (what data, what agency, what schedule).

• Determine critical accident precursors.

• Improve transparency of incident, accident, and inspection data (subject to confidentiality requirements).
Recommendations to Regulators (cont.)

• Secretary of Interior and USCG Commandant should seek prominent industry leaders to
  – champion safety culture improvement,
  – develop guidance and share it among companies,
  – facilitate information exchange.

• Develop BSEE, USCG, and PHMSA Memorandum of Understanding regarding:
  – safety culture concepts,
  – complementary implementation plans,
  – accountabilities.

• Develop competence in safety culture assessment to offer advice, training, tools, and guidelines to industry.

• BSEE should become clearinghouse for information.
Recommendations to Industry

- Adopt the BSEE definition of safety culture and its essential elements.
- Encourage collective and collaborative actions to effect change across industry.
- Define, in collaboration with regulators, the optimal mix of regulation and voluntary activities to strengthen safety culture across entire industry.
- Create guidance on safety culture expectations and responsibilities for operators, contractors, and subcontractors.
- Amend Recommended Practice 75 to add a safety culture chapter.
• Offshore industry should have an independent safety organization modeled after the Institute of Nuclear Power Operation (INPO).
  – Make Center for Offshore Safety fully independent of API or create new, fully independent organization committed solely to safety.
  – Participation in the independent safety organization should be a key element of the fitness to operate for operators, contractors, and subcontractors working in the offshore industry.
Recommendations to Company Leadership

• Commit to and be personally engaged in the long and challenging safety culture journey.
• Assess safety culture regularly as part of SEMS using multiple assessment methods and indicators.
• Build internal company competence in safety culture by using internal resources, external assistance, or both.
• Take advantage of resources available from other companies, industry associations, and regulators.
Key Research Questions

• What core competence do companies require to enhance safety culture?
• What assessment methods are appropriate for companies of different sizes and types?
• How does an organization sustain progress and avoid complacency?
• What is the best way to develop industry-level data on near misses, incidents and safety culture measures?
Research Questions (cont.)

- What is the best method to share lessons learned across a diverse, fragmented industry?
- What is the best way to encourage decision makers across the industry to enhance safety culture?
- What are the most effective and efficient strategies to enhance safety culture?
- What safety culture elements have the most impact on safety outcomes?
What We Have Learned

• In general, there is broad agreement with the Committee’s recommendations.
  – The exception may be the independence of COS.
    • Barriers to participation in COS remain cost and time to participate in multiple organizations.
    • Representatives of major oil companies believe the COS model works well.
  – The recommendations are in line with BSEE’s recent initiatives.
What We Have Learned

• There are pockets of excellence within the industry.
  – Measure safety
  – Update safety measures continuously
  – Report actuals and potentials
  – Analyze all accidents
  – Commit to safety as a value
  – Perceive safety culture to be a journey not a one-time event
  – Work collaboratively to solve problems

• There are also pockets of concern that must be addressed.
What We Have Learned

• Collecting and sharing safety information is essential.
  – Companies cannot compete on safety.
  – Learning from the past is essential.
  – Collection, analysis, and dissemination of data are essential.
    • Safeguards are required to ensure information is used properly.
    • The regulators have significant challenges in creating and maintaining data bases.
      – “Feds can create databases, but they are slow. Industry is more agile.”
      – There are constraints on what data can be collected and shared.
      – Industry must participate in the data base solution.
What We Have Learned

• The respective roles of the regulators and industry are still be defined.

• Industry leadership is essential.
  – Well-respected and well-known leaders in the industry must champion safety culture.

• Inspectors need to understand the offshore oil and gas business.
What We Have Learned

• Contractors represent an area for improvements.
  – Some contractors are volunteering for SEMS audits.
  – Some organizations are auditing their contractors and mandating contractors take an active role in establishing a safety culture.
  – Some organizations vet contractors carefully and release those that do not conform to expectations around safety culture.
  – Some contractors feel caught between the expectations around safety of customers and regulators.
What We Have Learned

• There is a general perception that the time is right to address safety culture in the offshore oil and gas industry.
  – COS is working on safety performance indicators.
  – BSEE is working on RP75 bridging documents.
  – IADC has added human factors component to its conference.

• We need to prioritize the recommendations and determine what to focus on first.
QUESTIONS?