Technical Working Group Meeting #2: Collaboration for Safety Culture

R. 21-10-001: Order Instituting Rulemaking to Develop Safety Culture Assessments for Electric and Natural Gas Utilities

Friday, June 24, 1:00pm-4:00pm

California Public Utilities Commission

Welcome and Introduction

1:00pm-1:20pm

R. 21-10-001 Background

October 13, 2021:
Commission opens Rulemaking (R.) 21-10-001

November 29, 2022:
Opening Comments filed to the OIR

December 29, 2021:
Reply Comments filed to the OIR

March 11, 2022:
Initial kickoff workshop for the proceeding

June/July 2022:
Technical working group meetings

Goal of proceeding: To develop and adopt a safety culture assessment framework and process for regulated investor-owned electric and natural gas utilities and gas storage operators, in fulfillment of SB 901 and other Commissions oversight responsibilities

Summer Technical Working Group meetings

Thursday June 16, 9am-3pm	Technical Working Group Meeting #1	Safety culture definitions and framework
Friday June 24, 1pm-4pm	**Technical Working Group Meeting #2**	**Collaborative approaches to safety culture**
Friday July 22, 1pm-4pm	Technical Working Group Meeting #3	Safety culture assessment methods, schedule and process
Thursday July 28, 9am-3pm	Technical Working Group Meeting #4	Safety culture maturity model, indicators, and metrics

Today's Meeting Objective

Develop a shared understanding to respond to the following scoping memo questions, with the goal of ensuring safety culture assessments are focused on safety improvement within the industry:

- How can the Commission develop an approach for improving safety culture that provides greater opportunity for collaboration among regulators and regulated industry representatives?
- What mechanisms could be used in such implementation that ensure accountability through coordination and collaboration as opposed to a framework based primarily on a protectionist centered model?

Today's Meeting Agenda

Time	Topic
1pm-1:20pm	Welcome and introduction
1:20-2:20pm	Overview of collaborative approaches for safety culture *Safety Policy Division; Dr. Paul Schulman*
2:20-2:30pm	Break
2:30-3:30pm	Joint utility presentation *PG&E, SCE, SDG&E, and SoCalGas*
3:30-4pm	Open discussion; next steps

Virtual Housekeeping

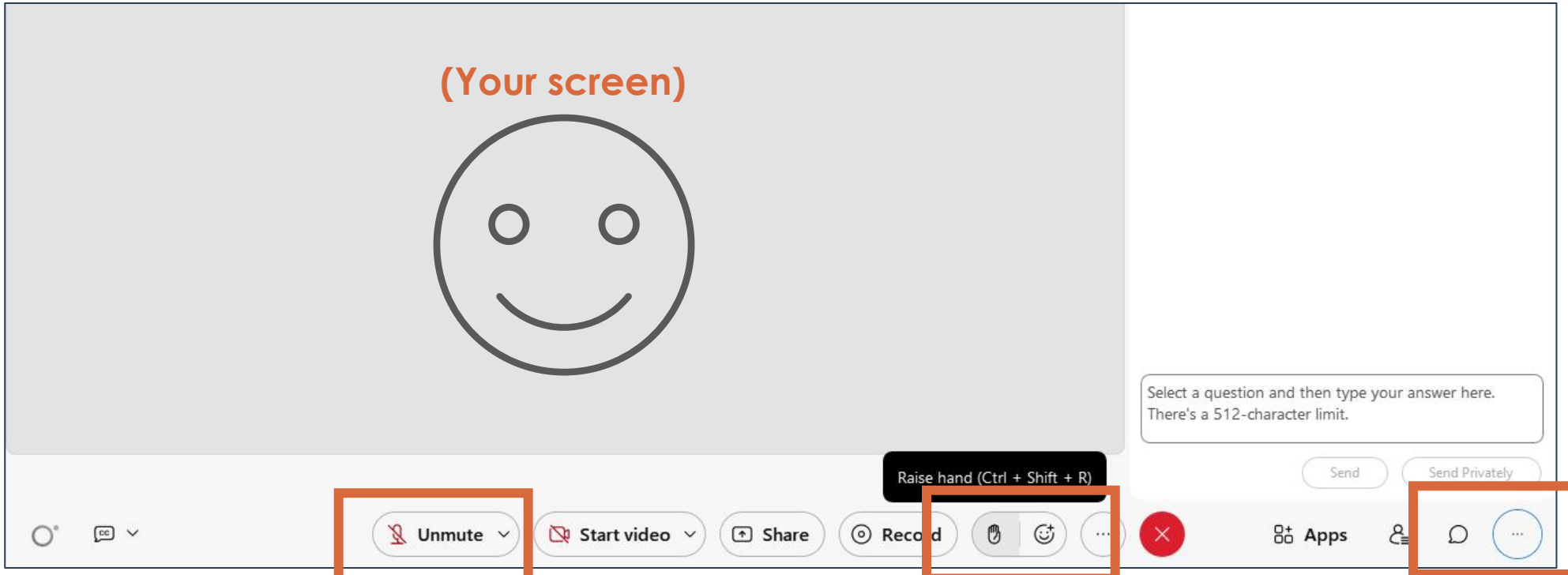
- **Recording; Slides**
  - Please note that this meeting is being recorded
  - Workshop recording and slides will be sent to the service list and posted on the CPUC website after the meeting

- **Questions**
  - Please type questions into chat, use Q&A feature, or raise hand
  - Q&A sessions throughout presentations + longer discussion at the end of workshop
  - Staff will follow to respond to any unanswered (or additional) questions after the workshop

- **Timing**
  - To be respectful of everyone's time, we will maintain scheduled starting times for each presentation outlined in the agenda
  - Additional topics will also be covered in subsequent technical working group meetings or workshops

- **IT Support**
  - Brevin Fong; Jorge De Ocampo

Virtual Housekeeping, Continued



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Raise/ lower hand

Chat

Q&A

Opening Remarks

Commissioner Houck, *California Public Utilities Commission*

Director Thomas Jacobs, *Office of Energy Infrastructure Safety*

Overview of collaborative approaches for safety culture

1:20pm-2:20pm

Lessons learned from other regulators and ideas for collaboration

CPUC Safety Policy Division

In our March 11 kickoff workshop, Dr. Schulman summarized two approaches to safety culture assessment.

Two Approaches to Safety Culture Assessment

1. An accountability, responsibility and compliance-based approach, features:
   - an adversarial relationship between regulator and utility
   - a focus on measured deficiencies in specific safety culture elements, and timetables for their remedy as part of prescriptive regulation
   - formal legal proceedings surround acceptance of assessment results with possible implications for fines and punishments
   - a standardized assessment process is sought, with the same metrics applied for numerical comparisons across utilities

Two Approaches (Cont'd)

2. A learning-based approach, features:
   - a safety culture assessment method is a cooperative research and development process between a utility and its regulator
   - the assessment process is conducted in teams that include representatives from the regulator as well as company employees and safety experts
   - strategies and methods employed for assessment are themselves assessed as part of a learning and improvement process
   - safety culture indicators and measurements are tested and revised for reliability and validity, including their long-term correlation with observable behaviors and safety outcomes

We know that to improve safety culture, we need to commit to continuous learning and improvement.

Organizations commonly include continuous learning as a key safety culture domain:

- **International Atomic Energy Agency: Continuous Learning.** "Learning is highly valued. The organizational capacity to learn is well developed. The organization employs a variety of approaches to stimulate learning and improve performance, including human, technical and organizational aspects. Individuals and teams are highly competent and seek opportunities for improvement." (IAEA, 2020)
- **Bureau of Safety and Environmental Enforcement: Continuous Improvement.** "Opportunities to learn about ways to ensure safety and environmental stewardship are sought out and implemented." (BSEE, 2013)
- **James Reason: Learning Culture.** "A learning culture is one where the organization is able to learn from its mistakes and adverse events (and those of others) and take appropriate action to address lessons." (Reason, 1997)
- **Canada Energy Regulator: Vigilance.** "Vigilance refers to organizational preoccupation with failure and the willingness and ability to draw the right conclusions from all available information. The organization implements appropriate changes to address the lessons learned." (CER, 2021)

Introducing safety culture into regulatory language can be a “driving force” towards this improvement.

- In our last technical working group meeting, we discussed the principle that each entity is the owner of its safety culture (IAEA, 2013).
- The regulator can observe safety trends and risks, then ask the *company* what the company thinks should be done to address identified gaps.
- For example, the Norwegian Petroleum Safety Authority (PSA)’s regulations on safety culture do not “involve PSA trying to "define" or "shape" what the various organizational cultures should look like. ***It merely involves pushing key stakeholders within the different organizational cultures to start reflecting on how <u>they</u> could find new ways to improve safety.”*** (Antonsen, Nilsen, & Almklovb, 2017)

Other regulators and organizations have prioritized collaboration from the onset of their safety culture efforts through distinct activities.

Start with engagement to clarify expectations and build a shared understanding of safety culture	Canadian Energy Regulator Transport Canada (Rail) Contra Costa County
Conduct ongoing/ regulator meetings with the industry	Canadian Energy Regulator Transport Canada (Rail) Canadian Nuclear Energy Commission Contra Costa County Federal Aviation Administration
Share resources and guidance to support industry-initiated efforts and assessments	Canadian Energy Regulator Transport Canada (Rail) Canadian Nuclear Energy Commission Contra Costa County
Collect safety culture insights during inspections, audits, and on-site visits	Canadian Energy Regulator Canadian Nuclear Energy Commission Contra Costa County Pipeline and Hazardous Materials Safety Administration
Establish mechanisms for information sharing	Federal Aviation Administration Pipeline and Hazardous Materials Safety Administration

Examples of collaboration: ongoing, regular meetings with the industry.

Canadian Energy Regulator; Canadian Nuclear Energy Commission

- CER conducts quarterly meetings with the industry to discuss safety culture trends and to share information on progress on safety culture initiatives
- CNSC is also working to establish quarterly meetings with licensees
- Goal of these meetings is "humble inquiry," or working together to discuss safety culture progress/ blindspots and move towards improvement

Contra Costa County

- Stationary sources perform safety culture assessments and present summary of findings to the Board
- Industry also reports annually to Board on information including safety performance and progress on actions from the assessments

Example of collaboration: share resources and guidance to support industry-initiated efforts and assessments.

Canadian Nuclear Energy Commission Canadian Energy Regulator *(as presented during March 11 workshop)*

- Has released safety culture guidance documents including:
  - Statement on Safety Culture
  - Guidance for Conducting Assessments
  - Safety Culture Indicators,
  - Learning Portal
- Sends an annual survey to accountable officers asking them to review effectiveness of resources:
  - Found that resources led to program development, training, assessments, and expert consultation

65% indicated CER has contributed to or influenced their organization's safety culture advancement efforts.

Percentage of companies that have allocated resources to promote safety culture advancement	Target	2018	2019	2020	✓ Upward Trend
	100%	61%	64%	72%	

Table from CER.

Examples of collaboration: collect safety culture insights during inspections, audits, and on-site visits.

- Canadian Energy Regulator
- Canadian Nuclear Energy Commission
- Contra Costa County
- Pipeline and Hazardous Materials Safety Administration (PHMSA)

While each regulator is at a different phase in this process, they share similar goals:

- Add a cultural lens to inspections, safety management system audits, site visits, etc.
- Collect information from a variety of sources to understand broad safety culture risks and trends over time

Examples of collaboration: establish mechanisms for voluntary information sharing.

Federal Aviation Administration (FAA)/ Commercial Aviation

- Aviation Safety Information Analysis and Sharing (ASIAS) system launched in 2007 to reduce airline incidents
- First faced challenges with trust and participation, but is now widely used after demonstrated confidentiality and ensuring ASIAS reports do not result in disciplinary actions by the FAA on the operators or employees

model for →

Pipeline and Hazardous Materials Safety Administration (PHMSA)

- Convened a Voluntary Information Sharing (VIS) Working Group
- Group released 2019 report recommending that Congress authorize and direct PHMSA to establish the VIS and enact legislation to provide legal protections for confidentiality and non-punitive reporting for participating pipeline operators and other pipeline safety stakeholders

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Trusted repository of high-volume, high-quality data and information to promote opportunities for reducing accidents and incidents

Safety Policy Division proposes similar ideas to advance collaboration.

Host regular safety culture meetings with regulated entities.	Incorporate safety culture observations into ongoing inspections and audits.	Provide resources for safety culture best practices.	Establish mechanisms for information sharing.
• Host quarterly or biannual meetings with each IOU to understand trends and progress on actions taken as a result of safety culture assessments • Convene annual workshops across industry to share best practices • Hold annual meetings with Board of Directors/Executive leadership to report to Commission on safety performance and safety culture	• Train staff to collect data on safety culture indicators during inspections • Use data from on-site observations to build a more robust understanding of safety culture indicators • Develop mechanisms for following up on actions resulting from inspections/ audits as needed	• Clarify expectations in a final staff proposal that includes a safety culture policy statement, framework, and guidance for conducting assessments • Build partnerships between regulated entities, CPUC, academia, and related industries to further develop tools and material that provide practical guidance in the safety culture improvement process	• Collect data on safety culture indicators biannually or annually between assessments • Work with regulated entities to establish mechanisms for voluntary, non-punitive information sharing • Work with sister agencies to share data and insights and to avoid duplicative reporting

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Collaborative Challenges in the Assessment of Safety Culture in Regulated Utilities

Dr. Paul Schulman

Collaborative Challenges in the Assessment of Safety Culture in Regulated Utilities*

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Senior Research Associate

Center for Catastrophic Risk Management

University of California, Berkeley

*CPUC Safety Culture OIR (R.21-10-001) Technical Working Group Meeting (June 24, 2022)

OIR Report Questions:

- *How can the Commission develop a framework for conducting safety culture assessments that provide greater opportunity for collaboration among regulators and regulated industry representatives?*
- *What mechanisms could be used in such implementation that ensure accountability through coordination and collaboration as opposed to a framework based primarily on a defensive model?*

Elements in a collaborative safety culture assessment process:

a. a safety culture assessment method is a cooperative research and development process between a utility and its regulator

b. the assessment process is conducted in teams that include company employees and safety experts as well as information from the regulator (Collaborative approaches to Health, Safety and Environment (HSE) Culture assessment undertaken by the Norwegian Petroleum Safety Authority (PSA) followed a PSA tradition of tri-partite collaboration between the regulatory authority, employer organizations and employee organizations.)

c. strategies and methods employed for assessment are themselves assessed as part of an ongoing learning and improvement process

d. safety culture indicators and measurements are tested and revised for reliability and validity, including their long-term correlation with observable behaviors and safety outcomes

Effective collaborative safety culture regulators in this country (NRC, FAA, FRA) and in Europe (Norwegian Petroleum Safety Authority (PSA); Swedish Radiation Safety Authority; U.K. Health and Safety Executive, Belgian Federal Agency for Nuclear Control (FANC) and the Canadian Energy Board and Canadian Nuclear Safety Commission) have several elements in common:

- safety culture is recognized as a more abstract concept with more indirect connection to accidents and safety outcomes than other more specific factors and attributes they regulate;

- ambiguities in defining and understanding the concept have led to acceptance of different understandings and approaches to safety culture across organizations;

- prescriptive rules and regulatory approaches have been shifted in the direction of performance or “purpose-based” approaches applied to the area of safety culture development and assessment;

- regulatory efforts have frequently taken the form of advisory safety culture “guidelines” rather than specific rules for both development and assessment of safety culture. Many regulators do not actually apply enforcements to these guidelines (e.g. NRC; Norwegian PSA; Belgian FANC).

The Advisory Model of Collaboration

- “Safety culture” as a concept is abstract, ambiguous and informal relative to other more physically based prescriptive standards applied with a “command and control” type of regulation.

- Regulatory agencies that have tried to address safety culture have tended to adopt an “advisory model” for their regulation. Here they provide companies with examples and guidance on how to develop strategies to comply with more generally formulated principles or functions.

- The advisory function of regulation highlights that regulation is a relation between regulators and the industry where the aim is to detect weak signals of danger and solve problems without having to invoke serious sanctions like fines, prosecutions or banning companies from conducting activities. (Nævestad, Antonsen, et.al., 2019)

Regulatory Initiatives Under the Advisory Model

- new rules (to get people to think differently by requiring them to act differently) (Weick and Sutcliffe, 2007)
- new safety culture audit schemes (IAEA),
- interventions – incident and accident investigations (USFAA, NRC, PRA),
- guidelines for self-assessment (USNRC),
- safety culture checklists (IAEA),
- review with companies of safety performance indicators as part of the search for improvement,
- advice to companies on assessment strategy and safety improvements (PSA),
- Training programs for company employees (IAEA),
- communications including websites, sponsored workshops, events, confidential reporting systems (USFRA; USFAA),
- funding or support for research, pilot studies and experimental programs -- e.g. a participatory rules revision program (USFRA).

Other Tools for Collaborative Safety Culture Regulation and Assessment

U.S. Bureau of Safety and Environmental Enforcement (BSEE) Tools:

- Forums and workshops with industry and other agencies to discuss safety culture initiatives;
- Establishing a research program that can identify safety areas in need of improvement; or
- Writing guidance documents that describe best practices and case studies for safety culture assessment and advancement.

Other agencies:

- Another collaborative tool between regulators and their regulated organizations in the domain of safety culture is the Safety Culture Observations (SCO) Process developed in the Belgian Technical Safety Organization (TSO), a unit within the Federal Agency for Nuclear Control (FANC).

- The SCO model is fed by field observations provided by inspectors or safety analysts during any contact with a licensee (inspections, meetings, phone calls, conversations, etc.). These observations are recorded within an observation (e.g., excel) sheet aimed at describing factual and contextual issues. These observations are thereafter linked to assessing safety culture attributes based on IAEA (International Atomic Energy Agency) standards (Bernard, 2018).

“Should the Commission designate one specific entity with expertise in safety culture to conduct the independent safety culture assessments required by law? If so, should this entity be a public entity that is independent of the Commission?”

- Some regulators, such as the NRC, allow the licensee to select their own members of a safety culture assessment team under general NRC guidelines for team skills and functions in team positions. These guidelines allow teams to include experts from other nuclear plants or an outside consultant. NRC inspectors, however, can contribute ongoing observations to the team they have made on operations at the plant as they bear on safety culture concerns.
- Few regulators simply accept a safety culture assessment done entirely by an independent private consultant. But the NRC does weigh, alongside a plant’s own assessment, an independent assessment offered by the Institute of Nuclear Power Operators (INPO), recognized as a highly expert organization by the nuclear industry.
- Perhaps an assessment from a respected industry organization such as the Center for Chemical Process Safety could be added by the CPUC to that offered by one of its gas utilities.
- The California Council of Science and Technology has access to a lot of expertise and has independent and expert standing, but it would have to create a new unit of social science experts in safety management to do such work.

- If safety culture assessments of a utility, are done completely independently from the CPUC, the CPUC would lose an opportunity to develop its own expertise on safety culture and a chance to work cooperatively with its licensees.
- The CPUC should consider using an assessment process, even if independently conducted by a utility, as an occasion to further develop its own inspection force and their training in the area of safety management and culture.
- The CPUC could follow the lead of the NRC and the Belgian Technical Safety Office (TSO) and have its inspectors write up reports about utility operations and management pertaining to safety culture gained from observations, experiences and conversations during ongoing visits to a utility and submit these to both the utility's assessment team and the CPUC Safety and Enforcement Division. This is in line with the Safety Culture Observations (SCOs) program now conducted by a number of nuclear plants and regulators (Bernard, 2018).

A Last OIR Question:

What framework mechanisms could be implemented to ensure safety culture assessments are focused on actual safety improvement (on the ground results) within the industry?

- One cautionary note: Beware of the use of accident investigations as a primary process for safety culture assessment and regulatory action.

- accident investigations have to come up with a definitive conclusion concerning the cause of an event in a limited time frame
- accident investigations are focused on single, often unique events, not generalizations covering an ongoing set of behaviors over many operations as in culture assessments
- in the search for a logical train of events leading to an accident, investigations often seek out specific causes -- error, and individual failures in actions, inactions or specific decisions. System factors are harder to identify and measure and thus tend to be neglected in accident investigations. Abstract constructs and indirect causes are rarely addressed in accident investigations. (Straunch, 2015)

Accident Investigations and Safety Culture Assessment (Cont'd)

- The process of connecting elements of safety culture (or their absence) with outcomes requires larger numbers of measures across many cases, not just individual accidents.
- Further, the major focus on accidents in a safety culture assessment process can undermine a cooperative approach to safety culture assessment and improvement. Instead, a process of finding *leading* indicators and measures for many behaviors and their outcomes is why safety culture assessment needs to be a cooperative and collaborative research and development project, not a retrospective compliance and punishment focused process.

Conclusions on Collaboration?

- The challenging role for regulators in assessing safety culture is the general challenge of regulating for safety culture, which is:

- to find the appropriate strategies to motivate companies to engage in self-development processes for safety culture, and to help them along the way, without giving direct instructions.

- It has been argued that a basic element in this process is to institutionalize joint discussions and risk assessments of work place hazards, among managers and employees in regulated organizations (Nævestad and Phillips (2018) .

- But it also needs to be recognized that successful safety culture assessment and development will also require more research and experience in:
- (a) how regulators best can motivate companies to start such processes,
- (b) how regulators best can facilitate such processes once they have begun, and
- (c) what can we learn, through their actions, about how different means of regulatory facilitation produce different safety culture results (Nævestad, Antonsen, et. al.,2019).

- This research and development will also have to be a collaborative process.

References

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Questions?

Please raise hand, use chat, or use Q&A feature

BREAK

2:20-2:30pm

Joint Utility Presentation

2:30pm-3:30pm

Tom Cohenno, *PG&E*

Jim Turman, *SDG&E*

Melvin Brown, *SCE*

Gary Bailey, *SoCalGas*

Suggestions for Building a Collaborative, Safety-Oriented Culture at Regulated Entities

Joint IOU Presentation at Technical Working Group #2

Safety Culture OIR

June 24, 2022

How Collaboration Addresses the OIR's Scoping Memo Questions

1. **How can the Commission develop an approach for improving safety culture that provides greater opportunity for collaboration among regulators and regulated industry representatives?**
   - Develop a framework that cultivates trust and transparency
     - Understand existing safety cultures
     - Understand current barriers to cultivating an atmosphere of collaboration
   - Leverage proven successes of collaboration from other industries to improve safety culture, e.g., nuclear and airline
     - Identify and learn from failures or shortcomings of these collaborations
   - Create a dynamic of positive participation (fully participative)
   - Recognize there is no one-size-fits-all solution

How Collaboration Addresses the OIR's Scoping Memo Questions

2. What mechanisms could be used in such implementation that ensure accountability through coordination and collaboration as opposed to a framework based primarily on a protectionist centered model?

- Establish a common mission, objectives, definitions, and indicators
  - Define what will be measured and how
  - Set expectations
- Set up a structure that includes ongoing, facilitated working groups "to promote learning, sharing and networking" to engender trust[1]
  - Establish credible, purpose-driven leadership
  - Build trust by avoiding a punitive approach
  - Create a learning mindset that allows organizations to adapt and grow over time
- Allow for flexibility in decision-making processes
- Incorporate formal and informal collaboration with others (possibly including industry associations, safety culture experts, and other regulators).[1]

[1] Claudine Bradley, Canada Energy Regulator slide deck, March 11, 2022 Workshop

Models of Successful Collaboration in Advancing Safety in Other Industries

How INPO Successfully Collaborated with Regulated Entities

INPO Collaborative Approach

- Issued Traits of Healthy Nuclear Safety Culture – aligns with NRC terminology
- Provides a framework for open discussion and the continued evolution of safety culture
  - Does not prescribe a specific program or implementation method
  - Traits are not meant to be checklist
  - Traits are provided for inclusion in self-assessments, root cause analysis, and training content
  - Traits are representative and should not be considered as comprehensive

Traits for Effective Nuclear Safety Culture

- Individual Commitment to Safety
  - Personal Accountability
  - Questioning Attitude
  - Effective Safety Communication
- Management Commitment to Safety
  - Leadership Safety Values and Actions
  - Decision-Making
  - Respectful Work Environment
- Management Systems
  - Continuous Learning
  - Problem Identification and Resolution
  - Environment for Raising Concerns
  - Work Processes

INPO Best Practices / Contributions

- Provides support in six major areas for all nuclear plants: Evaluations, Training, Event Analysis, Emergency Preparedness & Response, Assistance, and New Plant Deployment.

- Facilitates formal Evaluations of nuclear plants to help identify areas for improvements, strengths, and provide an overall “rank” of how well the plant is performing overall relative to other plants. INPO evaluation teams assess the following through a lens of safety and risk:
    - Knowledge and performance of plant personnel
    - Condition of systems and equipment
    - Quality of programs and procedures
    - Effectiveness of plant management
    - Corporate evaluations

- Anonymous, reciprocal peer assessments organically drive improvements that typically result in an acceptable safety culture

Observations on the Nuclear Regulatory Commission's (NRC) Collaboration Efforts

NRC Safety Culture Policy Statement

- In 2008, the NRC began an effort to expand its safety culture policy and ensure applicability to all of its regulated entities
- The NRC engaged in a collaborative effort with stakeholders to develop a definition of nuclear safety culture and a list of traits that describe a positive safety culture and, in 2011, established a Safety Culture Policy Statement, along with many other tools, to facilitate the understanding of the importance of a positive safety culture
- The NRC continues to provide outreach and education on the importance of a positive safety culture through presentations at various conferences, participation in workshops, and discussions with stakeholders

NRC Collaboration Efforts

- NRC engaged in efforts to collaborate with a broad range of stakeholders – leaders in the nuclear industry as well as organizations and members of the public interested in the safe and secure use of nuclear materials.
  - The NRC held several workshops and accepted and evaluated public comments enabling interested parties to weigh in on the draft safety culture policy statement and work to reach alignment on a definition of safety culture and a high-level set of traits that describe areas important to a positive safety culture.
  - NRC Staff also participated on panels and made presentations at various industry forums engage stakeholders in the development process and obtain additional input on whether the definition and traits developed at the workshop accurately reflect a broad range of stakeholders' views.
  - NRC Staff collaborated with INPO to support consistency and alignment in approach and guidance.

NRC Best Practices and Resources

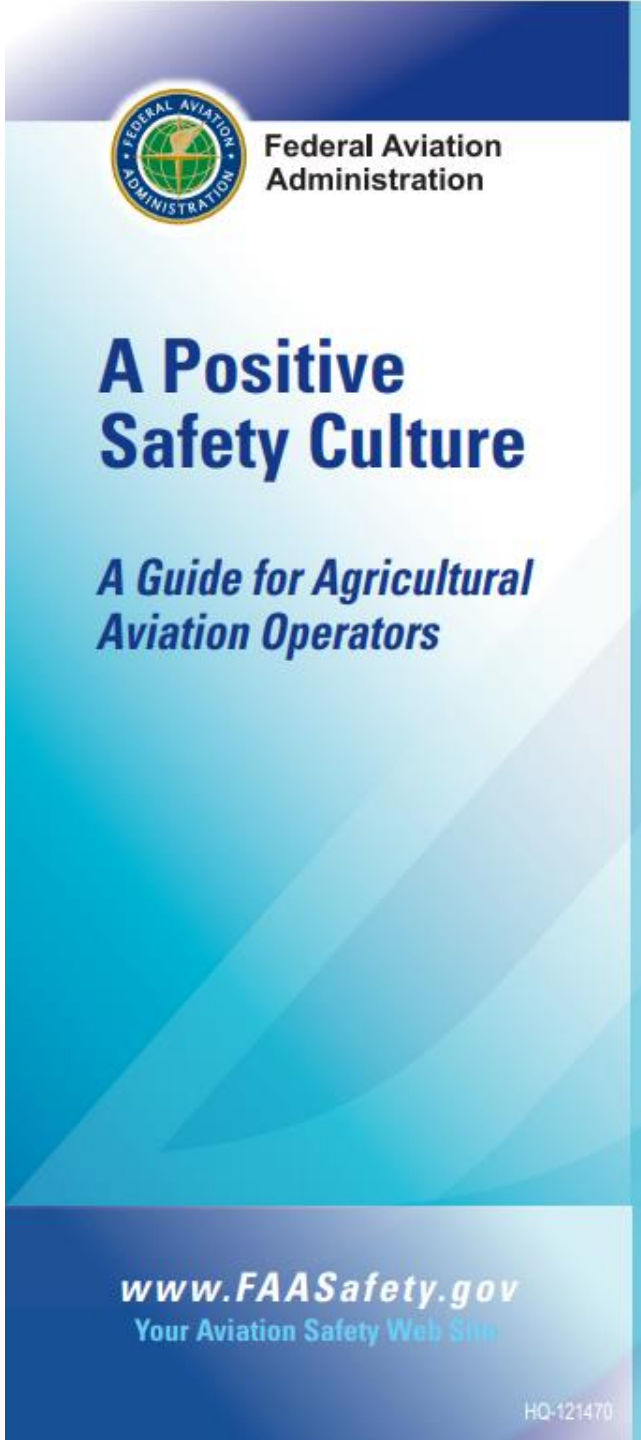
- Safety Culture Policy Statement
- Safety Culture Case Studies
- Safety Culture Trait Talks
- Ongoing stakeholder outreach, collaboration, and education
- Regulatory commitment to safety
- Maintenance of outreach materials and educational resources for stakeholders

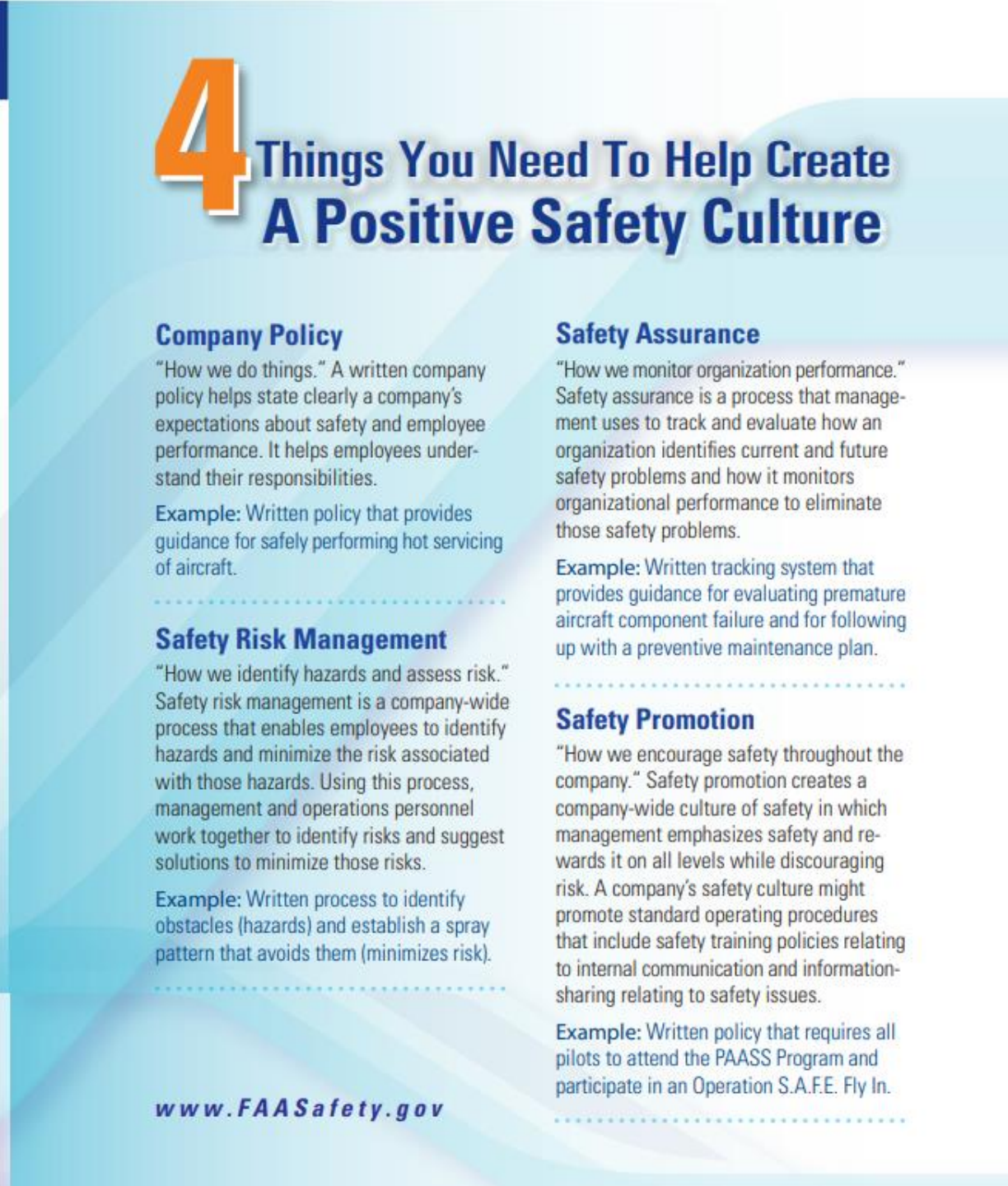
How FAA Successfully Collaborated with Regulated Entities

Best Practices & Lessons Learned Derived from the Federal Aviation Administration in Promoting a Positive Safety Culture:

- Clear mission & expectations
- Collaborative environment
- Regulatory commitment to safety excellence
- Non-punitive empowerment & encouragement

*The mission of the FAA is to **provide the safest, most efficient aerospace system in the world**. The role of the FAA in meeting this goal is to **provide leadership** in planning and developing a safe and efficient national airport system to satisfy the needs of aviation interests of the United States.*





Creating and Maintaining a Positive Safety Culture Requires Management Involvement

Desire for Safety is Key

A positive safety culture begins with a desire for and a commitment to safety excellence. The culture continues to expand after your organization learns to watch for problems that arise in the normal course of business and to identify trends or areas of concern. Managers dedicated to safety do not take anything for granted. They are ready to meet emerging challenges and resolve the issues safely.

As you begin to develop a safety culture in your company, consider these things.

Evaluate

Make an honest appraisal of your business or operation using the following safety evaluation parameters:

Is your company sized properly? Do you have sufficient resources available to meet business goals and customer expectations?

Are your operations managed effectively? Have you identified a person with responsibility and authority to be accountable for all your processes?

Do your employees know their duties and responsibilities? Are they adequately trained? Have they been tested or evaluated to confirm their knowledge and skills?

Do your employees report safety and other important issues to you?

Have your operational practices been planned and evaluated for potential hazards? Are they in writing when necessary to ensure standardization?

Do you practice risk management at both the company and employee levels? Do you have a process to identify hazards and assess safety impact? Do employees have the authority to make safety decisions?

Do you have a plan for responding to emergencies?

Does your company have a plan and procedure for monitoring and evaluating performance?

Does your company promote safety? Are employees recognized and rewarded for safety performance, including individual acts, ideas, and accomplishments?

Assess and Resolve Serious Safety Issues First

Prioritize. After evaluating your company, assess your most serious safety needs and address them first.

Choose improvements that are achievable and work on them first. Small successes can result in surprising payoffs. Think in terms of baby steps that lead to a stride.

Seek input from staff and others. You cannot create a positive safety culture alone. Those who perform operational functions are most vulnerable to deficiencies. Their vested interest and buy-in are essential to success.

Empower your employees. Make sure they understand your safety expectations and give them the authority to identify hazards and mitigate them when necessary. Let employees know you support their involvement.

Consider a nonpunitive employee reporting system that encourages frontline workers to notify management of safety issues and ideas to lower risk.

Bring your customers and other business contacts into your circle of safety and work with them to minimize risks.

Don't take management skills for granted. Get training and always be ready to learn and improve. Effective management is a core component of a positive safety culture.

Have a plan for emergencies. Include the actions and resources necessary after an accident or emergency. Consider how an event will affect operations after the fact and be prepared.

Pay attention to compliance with aviation and environmental regulations. Adhere to basic safety practices. They are the foundation of a positive safety culture. Insist on them.

Keep It Simple

When you approach safety management, use terms that you and your employees understand and support. A positive safety culture does not come in one size, shape, or color. It is a reflection of the people and organizations that make it happen every day. It is not a manual sitting on a bookshelf or a framed certificate hanging on the wall. Rather, a positive safety culture lives and breathes in a company's daily work activity.

FAA Compliance Program key takeaways:

- Enforcement is not always the best solution
- Focus on corrective actions vs. punishment
- Aim to identify underlying root cause to ensure problem is solved

Building Trust:

- FAA – industry partnerships
- Voluntary sharing of information with the FAA while providing protection from enforcements sanctions
- Focused on safety data analysis, information sharing and identifying and understanding risks before accidents or incidents occur

How the FAA's Compliance Program Contributes to Safety Culture

Compliance Program Background

The FAA's Compliance Program is a foundational aspect of the aviation safety culture. It is built upon risk-based decision making (RBDM). Put simply, RBDM promotes making informed choices that take into account all relevant data. In terms of compliance with the regulations, this has several implications:

- Enforcement (such as a certificate suspension or civil penalty) is not always the best solution.
- When an individual or organization is willing and able to take corrective action, the FAA can use a non-enforcement response (known as a compliance action) to correct the issue.
- The focus is on the underlying root cause and actions to ensure the problem remains fixed.

The Compliance Program (launched as the Compliance Philosophy in October 2015) is certainly not an isolated endeavor. In fact, it is another step in the evolution of safety culture that has been occurring for decades. The agency set an early cornerstone for this philosophy back in the mid-1970s with the advent of the Aviation Safety Reporting System (ASRS) program. Associated with the familiar term "NASA Report," this system allowed for the voluntary sharing of information with the FAA while providing protection from enforcement sanctions. For more on the ASRS program, read "Break a Rule? See a Safety Issue?" in this issue of *FAA Safety Briefing*.

Additional FAA/industry partnerships have since formed. These programs have focused on safety data analysis, information sharing, and identifying and understanding risks before accidents or incidents occur. (See Figure 1)

Of course, deviations from the safety standards will still occur. Even inadvertent mistakes can have a serious, adverse impact on your safety and you must address them. You need a strong safety culture to address existing and emerging hazards.

Safety Culture Considerations

With this background in mind, let's take a look at a few considerations on how everyone in the NAS can contribute to the safety culture. Note that this list is not exhaustive, nor are the paragraphs exclusive to one another.

Voluntary Compliance: The responsibility for aviation safety does not rest solely with the FAA. Actually, the majority of general aviation operations occur without direct FAA oversight. As a participant in the NAS, it is expected that you will voluntarily comply with the regulations and other appropriate safety standards.

Knowledge and Skills: In order to best identify hazards and mitigate risks, you should strive to keep current on safety trends. You should also maintain the skills and knowledge pertinent to your certificates and privileges. Examples include reading publications such as the *FAA Safety Briefing*, attending FAA Safety Team (FAASTeam) seminars, and seeking flight instruction beyond the minimum flight review.

Safety Management Procedures: Everyone should develop procedures to prevent deviations from regulatory standards. These procedures do not have to be complex, but they do need to ensure

How CER Successfully Collaborated with Regulated Entities

Canada Energy Regulator (CER) Collaboration Objectives

- Developed role: Early on established a Regulator Working Group to determine a regulator's role in Safety Culture which continue to meet every 3 weeks for the last 9 years and conducted research project for Safety Culture Indicators
- Clarified expectations: Released first statement on Safety Culture that articulated expectations, defined what Safety Culture is and how it is applied focused on low probability, high consequence events and drilled down into what Safety Culture looks like in a company (or IOU) for the regulator
- Built trust: Invested a lot of time on outreach, education and collaboration efforts with IOUs to ensure continual feedback and thought sharing; this is a journey for the regulator and IOUs to learn together

CER Collaboration Approach

- Approach: Systems requirements are counter productive and counter intuitive to regulate Safety Culture, better to focus on systems influence, industry themes and trends, and holistic company performance
- Expectations: Conducted outreach sessions with regulator and IOUs to promote Safety Culture learning, sharing, and networking
  - Develop common mission, tenets, and expectations (e.g., regulatory focus on influencing safety outcomes through education and collaboration and IOUs building and sustaining a positive safety culture to drive safety performance improvements)
  - Define common safety culture vocabulary
  - Develop safety culture indicators to ensure balanced comparison of safety culture advancement across all IOUs
  - Identify common themes across safety culture assessments
- Relationship Building: Continued feedback and thought sharing as the regulator and IOUs learn together developed a degree of trust to have conversations around culture
  - Acknowledged the regulator can impact on the IOUs safety and environmental protection outcomes and looked at themselves along with the IOUs
  - Regulator also shared their implementation successes and failures
  - Shared additional materials supporting the assessment of safety culture, advances in the science of safety culture, organizational behavior and psychology

How CER was successful

- Development of regulatory framework and relationship building efforts based on CER's performance resulted in
  - Advancement efforts by companies for program development and implementation, safety culture training, safety culture assessments, and safety culture expert consultation
  - Upward three-year trend of companies allocating resources to promote safety culture advancement
  - 65% response that regulator contributed to or influenced their advancement efforts

Recommendations for the CPUC

- Continue outreach and education efforts with stakeholders as part of the Safety Culture Rulemaking
- Consider setting up a group similar to INPO
  - Preserve trust via anonymity
  - MOUs with NRC
- Engage with broader energy industry through industry forums and organizations
- Focus on non-punitive empowerment & encouragement
- Facilitated discussions led by safety culture expert
  - Consider how these facilitated meetings could be used to help address safety culture issues that were identified
- Address challenges to collaborative atmosphere that exist today

Questions?

Please raise hand, use chat, or use Q&A feature

Facilitated Discussion & Next Steps

3:30pm-4:00pm

Discussion Questions

1. What do you think of the proposed ideas presented by the CPUC, Dr. Schulman, and the utilities? Which activities do you think should be a priority?

2. What processes or structures could help build trust and create opportunities for IOUs to share information about cultural gaps and work towards improvement?

3. How can we ensure that initiatives intended to foster safety culture improvement and collaboration have IOU buy-in and involvement?

4. How will we know if these initiatives effectively improve safety and reduce harm?

Next Steps

- Upcoming TWGs:

Friday July 22, 1pm-4pm	Technical Working Group Meeting #3	Safety culture assessment schedule and process
Thursday July 28, 9am-3pm	Technical Working Group Meeting #4	Safety culture maturity model, indicators, and metrics

- Written feedback:
  - For topics discussed in TWG #1 and TWG #2, instructions will be sent after today's meeting
  - For topics discussed in TWG #3 and TWG #4, instructions will be sent after the July 28 meeting

Questions?

Please raise hand, use chat, or use Q&A feature

THANK YOU