Nuclear Safety & Quality Culture Monitoring

Heather McMurdo

NSQC Program Manager

May 2017

OFFICE OF RIVER PROTECTION
United States Department of Energy

Bechtel National, Inc.
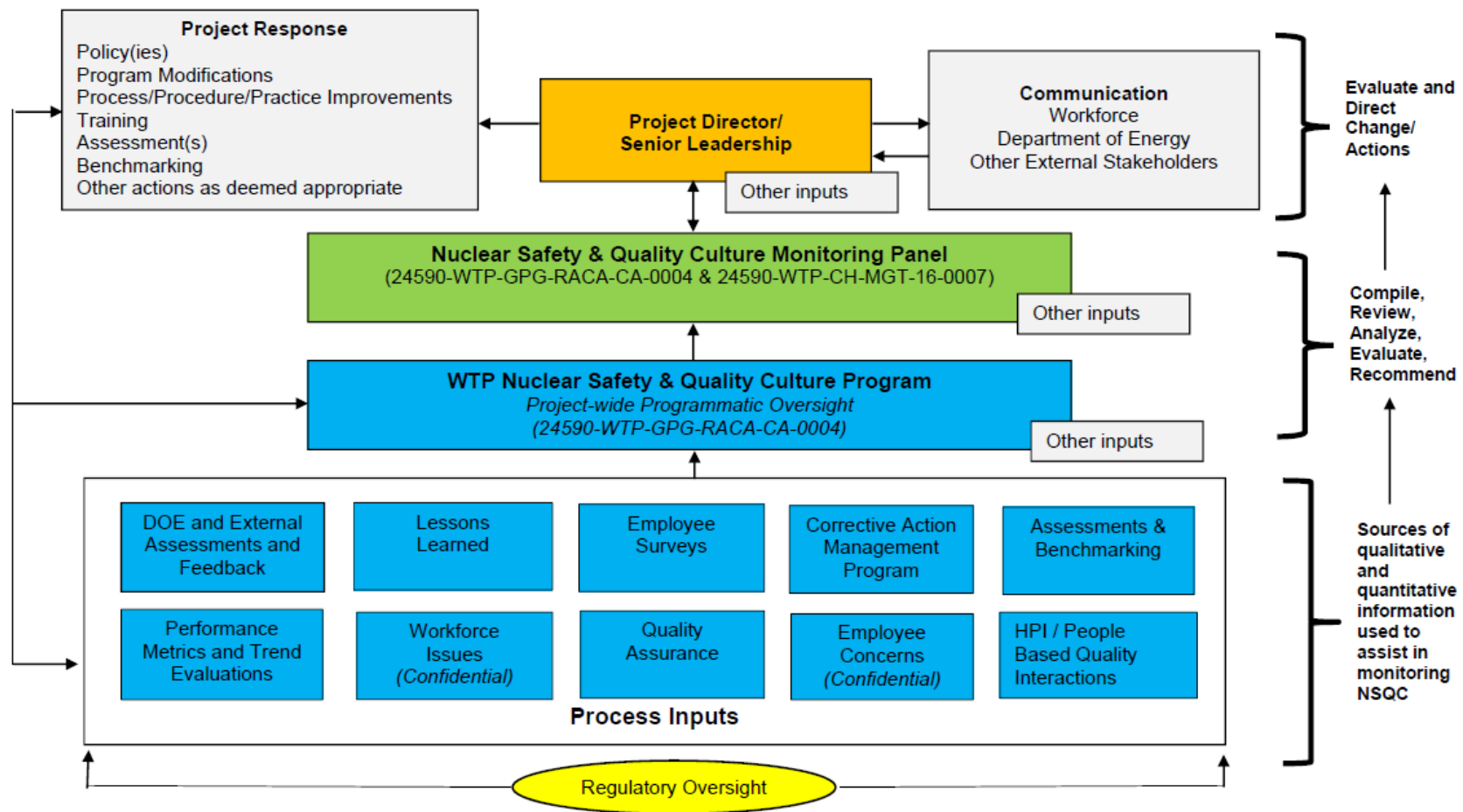
AECOM

ATTACHMENT 3   MONITORING NUCLEAR SAFETY & QUALITY CULTURE
(adapted from NEI 09-07)

NSQC Metrics

- Grouped into Focus Areas from DOE Guide 450.4-1C, ISMS Guide, Attachment 10
- Reviewed by the NSQC Monitoring Panel
- Actions assigned as determined by NSQC Monitoring Panel's review

NSQC Health Evaluation

	1st Quarter 2016	2nd Quarter 2016	3rd Quarter 2016	4th Quarter 2016	1st Quarter 2017	2nd Quarter 2017	3rd Quarter 2017	4th Quarter 2017
Leadership								
1. Demonstrated safety leadership	L	L	G	G	U	U	U	U
2. Risk-informed, conservative decision making	L	G	G	G	U	U	U	U
3. Management engagement and time in the field	G	G	Y	Y	U	U	U	U
4. Staff recruitment, selection, retention, and development	L	G	G	Y	U	U	U	U
5. Open communication and fostering an environment free from retribution	L	G	G	L	U	U	U	U
6. Clear expectations and accountability	G	G	G	Y	U	U	U	U
Employee/Worker Engagement								
7. Personal commitment to everyone's safety	L	L	L	L	U	U	U	U
8. Teamwork and mutual respect	G	G	G	L	U	U	U	U
9. Participation in work planning and improvement	G	G	G	G	U	U	U	U
10. Mindful of hazards and controls	L	L	G	Y	U	U	U	U
Organizational Learning								
11. Credibility, trust and reporting errors and problems	L	G	G	G	U	U	U	U
12. Effective resolution of reported problems	G	G	Y	G	U	U	U	U
13. Performance monitoring through multiple means	G	G	G	G	U	U	U	U
14. Use of industry experience	G	G	G	G	U	U	U	U
15. Questioning attitude	L	G	L	G	U	U	U	U

Color Key
- **D** Dark Blue - Excellent
- **L** Light Blue - Very Good
- **G** Green - Good
- **Y** Yellow - Needs Improvement
- **R** Red - Does Not Meet Requirement(s)
- **U** Undefined - this Attribute has not yet been evaluated

Scale: 5 = Excellent, 4 = Very Good, 3 = Good, 2 = Needs Improvement, 1 = Does Not Meet Requirements

*Note: Scale used in 1st Quarter 2016 was: 5 = Excellent, 4 = Good, 3 = Acceptable 2 = Poor and 1 = Very Poor.
Scale was adjusted in 2nd Quarter 2016 to align to PEMP rating scale.

Leadership

Employee / Worker Engagement

NSQC
Nuclear Safety & Quality Culture

Organizational Learning

Building on the Leadership Principles for Creating a Learning Organization

Principles for a Strong Nuclear Safety and Quality Culture

Focus Areas for a Learning Organization
- Leadership
- Employee/Worker Engagement
- Organizational Learning

LEADERSHIP

March 2017

- **Survey distributed to managers/supervisors to assess management engagement & time in the field**
  - Monitoring Panel reviewed results
  - Sub-committee of the Monitoring Panel established
    - Brainstorming session to identify ways to increase management engagement & time in the field
      - Came up with over 35 ideas
      - Voted on top 3 ideas
        - ❖ Pursuing for implementation

- **Condition reports initiated**
  - Attribute 6, Clear expectations and accountability
    - Timely completion of deliverables trend
  - Attribute 10, Mindful of hazards and controls
    - Industrial safety trend

- **Peggy's Posts**
  - Project Director messages

- **Project Health Meetings**
  - Developmental topics
    - Accountability
    - Safety Conscious Work Environment
    - No Bashing

- **Change Management Process**

- **Annual Safety Conscious Work Environment (SCWE) Workshop**

- **NSQC Communications**

VIT PLANT

FY2017 PROJECT GOALS — COMPLETING THE MISSION

Low-Activity Waste Facility
- Receive and install caustic scrubber
- Receive Safety Evaluation Report Transmittal Approval from ORP of LAW preliminary documented safety analysis
- Complete final structural assembly of melters #1 and #2

Direct Feed LAW
- Complete initial basemat pour for the Effluent Management Facility

Balance of Facilities
- Complete startup testing of BOF switchgear and nonradioactive liquid waste disposal systems, and complete potable water system record closure

High-Level Waste Facility
- Complete C5V remote change HEPA filter qualification
- Deliver autosamplers (Units 28, 29, and 42)
- Achieve Decision 2A with full resumption of EPC

Pretreatment Facility
- Effective resolution of nuclear safety technical decisions (T1, T2, and T3) with ORP
- Complete full-scale pulse jet mixer controls testing in Standard High Solids Test Vessel

Project Services
- Complete DFLAW and EMF procurements through bid, evaluation, and award
- Establish agreement between BNI and ORP on commercial grade dedication requirements and program improvement actions

QUALITY • SAFETY • ETHICS: WHAT WE BELIEVE - WHAT WE DO

WTP Mission Statement

Deliver a Waste Treatment Plant that will safely process Hanford Tank Waste in accordance with DOE requirements

WTP Leadership Covenants

1. *Treat colleagues with mutual respect, trust, and dignity* and believe they are acting in the best interest of the Project.
2. *Help each other;* ask for and give help and welcome it freely (it is not a sign of weakness). Go out of the way to provide extra support to fellow employees. Share experiences and lessons learned, both successes and failures.
3. *Communicate early, honestly, and completely* with all who have a direct interest in the subject. Listen to others' points of view.
4. *Earn trust* by accepting and honoring agreements, keeping promises, and discussing needed changes before acting.
5. *Work to understand the WTP Project goals and strategies* and proactively support them through discussions, communications, and actions (for example, sharing resources).
6. *Never undermine colleagues* directly or indirectly.
7. *Work jointly to resolve disagreements* in good faith. If necessary, go to a higher authority together, then accept and support the solution.
8. *Contribute constructively* by exercising the highest level of professional and ethical behavior.
9. *Promote continuous use of the covenants.*

Key Behaviors and Culture Goals

Build trust
Do what you commit to do. While in meetings, publicly recognize behaviors that are consistent with the WTP covenants and address behaviors that are not. Contribute your perspective during the meeting to ensure we can continue to learn and improve.

Be accountable
Acknowledge your role. Own and deliver on your responsibilities to progress the project, and to ensure that safety, quality, and mission commitments are preserved.

Make defendable decisions
Seek to understand all perspectives. When the authority is yours, make timely decisions by quickly resolving minor issues and elevating major issues with recommendations. Document the basis for your decisions. Provide feedback to communicate your rationale.

Recognize interdependence
Communicate openly. Interface between disciplines, functions, suppliers, and customers to ensure your work aligns with every activity and process it affects.

Be self-critical
Seek to understand. Be transparent and open to feedback as a learning opportunity. Practice active, respectful, and mutual listening to ensure we can produce high quality work.

Apply discipline in executing work
Know your requirements. Interpret them consistently and uniformly. Coach and, where necessary, provide consequences to ensure adherence to our processes and procedures.

Have forthright conversations
Express concerns and issues directly. Talk to the person with whom you have the concern. Listen and engage with the intention of understanding and resolving any differences.

WTP Quality Absolutes

Follow Procedures
- Know the procedures for the work being performed
- Verify you are using the correct revision
- Avoid skipping steps or using attachments instead of the entire controlled document
- If a procedure cannot be followed as written, STOP and engage your manager

Conduct Job Briefs
- Involve principal participant, stay engaged and avoid a monologue
- Pre-job briefs should cover the task purpose and assignments, risks and mitigation, previous lessons and any questions or concerns
- Personnel involved in pre-job briefs should verify they are fit and qualified for their task at hand
- Post-job briefs should cover what went well and what didn't to improve future performance or address any issues

Adhere to Verification/Hold Points
- Avoid thinking that hold points do not apply to you. A hold point is a point in a process that requires verification and/or approval before proceeding to the next step
- Understand what steps require verification before proceeding
- Ensure personnel involved with verification are qualified to do so

Own Your Signature
- Sign to demonstrate that you are willing to stand behind the work
- Verify that the information you have provided is correct or that the actions specified have been completed before signing
- Avoid signing for work you did not perform, verify, manage, or oversee
- Self check your work before signing or sending electronically

Stop When Unsure
- Stop when things do not seem right or if you are inexperienced with the task at hand
- Stop work if confusion, uncertainty, or unexpected condition arise
- Ensure systems and processes are in a safe state prior to stopping
- Notify your immediate supervisor after stopping when unsure
- Avoid rationalizing away questions by seeking out factual answers

Accountability Model

Get On the Same Page

Clear Roles and Responsibilities with an Established Single Point of Accountability, Aligned with Decision-Making Authority

Holding Yourself Accountable	Holding Each Other Accountable
Assess Your Own Attitude and Behaviors... Move Up the Ladder	Speak-Up, Have a Forthright Conversation
	Talk Directly to the Person Who Can Make it Happen
	Resolve at Lowest Level, but if not Resolved...
	Escalate Promptly to Seek Resolution

(Ladder: Make It Happen, Find Solutions, "Own It", Acknowledge Reality — Accountable Behaviors; Wait and Hope, "I Can't" Excuse, Blame Others, Unaware Unconscious — Victim Behaviors)

Situational Decision Making

Are YOU the single point of accountability with decision-making authority?

YOU choose HOW to decide

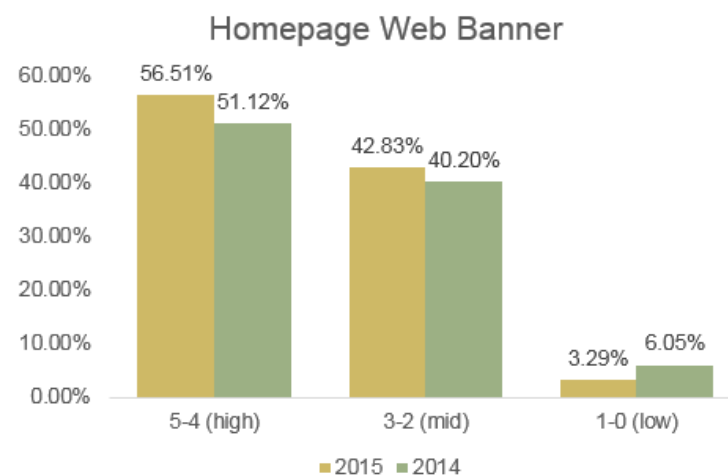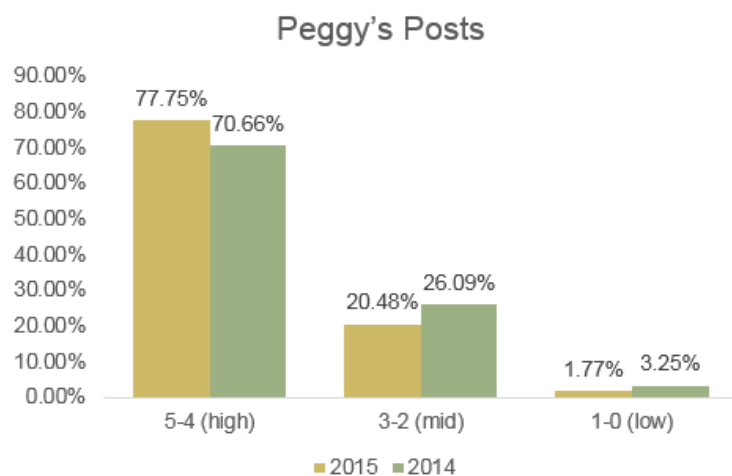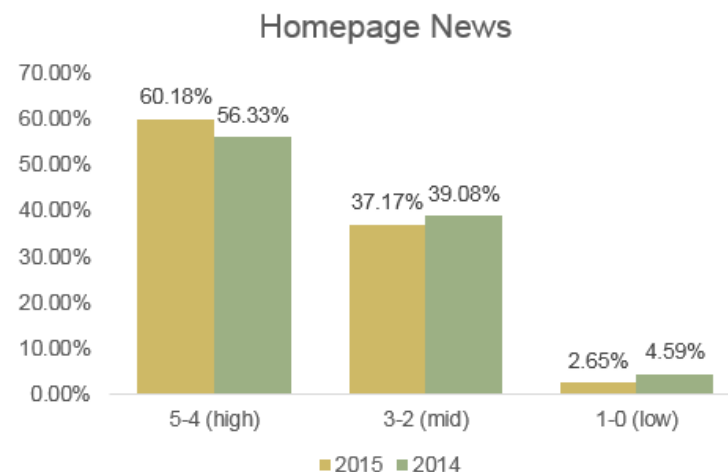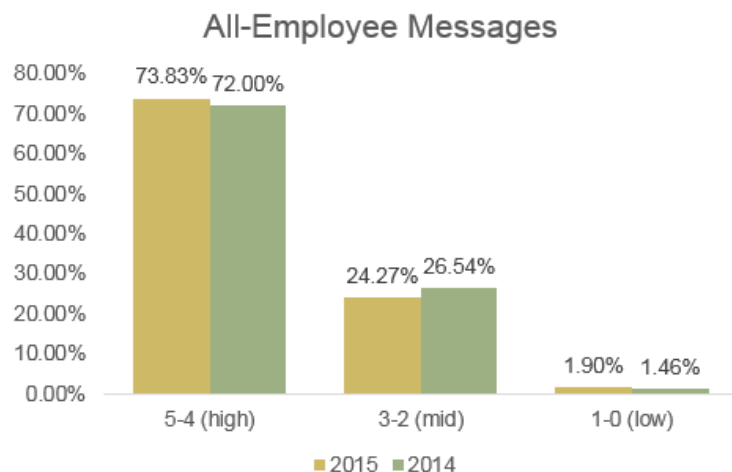The Four Choices

DECISION MAKER Level of influence			**DELEGATE** You delegate the decision-making authority 10%
		CONSENSUS Everyone must agree 50%	90%
	CONSULTATIVE You decide with input 51%	50%	
DIRECTIVE You decide with no input 90%	49%		
10%			**Group** Level of influence

Factor into Your Choice:
Level of Urgency
Group's Expertise, Experience, and Knowledge

Summary: Communication product effectiveness ratings

All-Employee Messages

	5-4 (high)	3-2 (mid)	1-0 (low)
2015	73.83%	24.27%	1.90%
2014	72.00%	26.54%	1.46%

Homepage News

	5-4 (high)	3-2 (mid)	1-0 (low)
2015	60.18%	37.17%	2.65%
2014	56.33%	39.08%	4.59%

Peggy's Posts

	5-4 (high)	3-2 (mid)	1-0 (low)
2015	77.75%	20.48%	1.77%
2014	70.66%	26.09%	3.25%

Homepage Web Banner

|	5-4 (high)	3-2 (mid)	1-0 (low)
2015	56.51%	42.83%	3.29%
2014	51.12%	40.20%	6.05%

8

Improving Communications

- Communication products received high (5-4) ratings from 56-78% of respondents

- Communication products received low (1-0) ratings from 3-2% of respondents

- Percentage of high (5-4) ratings went up in 4 out of 4 areas between 2014 and 2015
  - High ratings increased the most for Peggy's Posts (+7.09%)
  - High ratings increased the least for all-employee emails (+1.83%)

- Percentage of low (0-1) ratings went down in 3 out of 4 areas between 2014 and 2015
  - Low ratings decreased the most for the homepage web banner (-2.76%)
  - Low ratings increased by 0.45% for all-employee emails

Summary: Safety and quality topics – ct'd
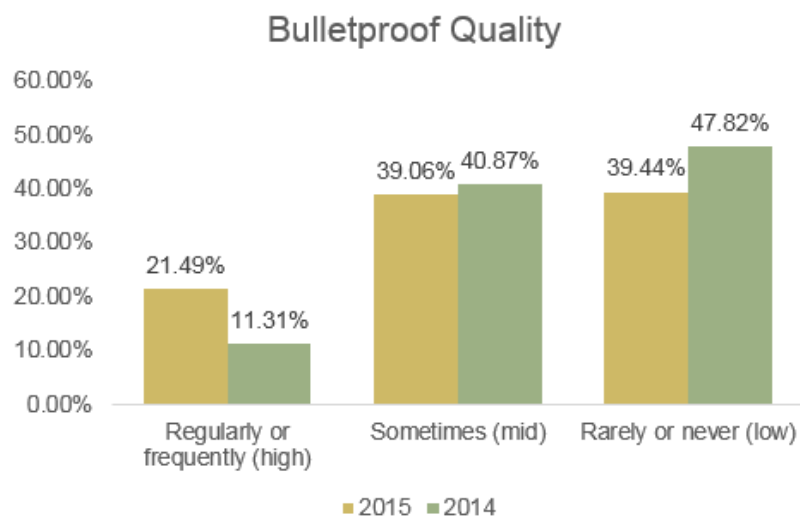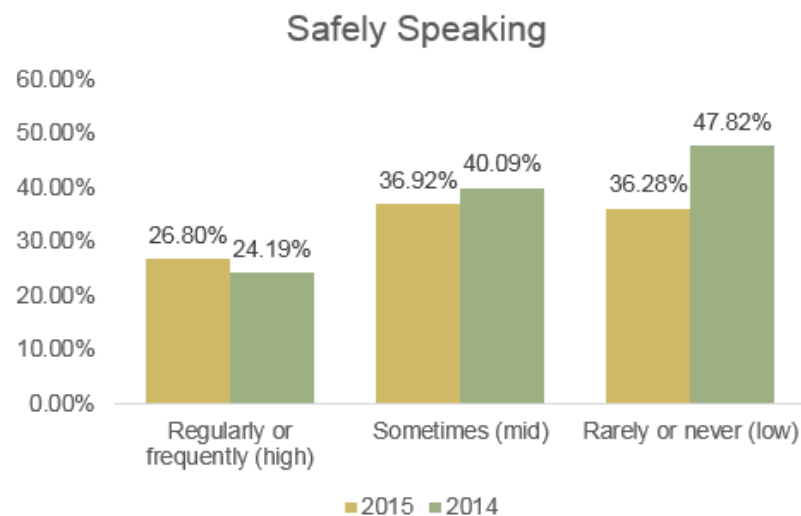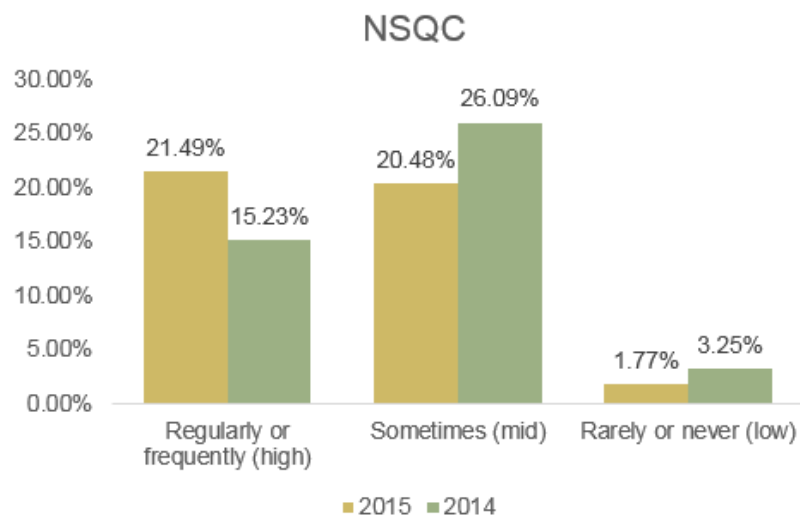
Improving Communications

- Percentage of high (regularly or frequently) ratings went up for 3 out of 3 topics between 2014 and 2015
  - High ratings increased the most for Bulletproof Quality (+10.18%)
  - High ratings increased the least for Safely Speaking (+2.61%)

- Percentage of low (rarely or never) ratings went down in 2 out of 3 areas between 2014 and 2015
  - Low ratings decreased the most for Bulletproof Quality (-2.61%)
  - Low ratings increased by 0.56% for Safely Speaking

- Top-cited reason for not using topics in 2015 is "Others present them in meetings I attend"
  - Top-cited reason in 2014 was "Did not know they exist"
  - Comments cited the survey itself as raising awareness

- Video: What is a Safety Conscious Work Environment (SCWE)