

TRAIT TALK

Issue 8

February, 2015

Trait Talk was developed to provide you with a better understanding of the nine safety culture traits found in the U.S. Nuclear Regulatory Commission's (NRC) Safety Culture Policy Statement (SCPS) and how they apply to you—whether you are an NRC licensee, a vendor or contractor employee, an organization interested in the safe and secure use of nuclear materials, or others involved in nuclear safety regulation. Please see page 4 of *Safety Culture Trait Talk* for more information on the SCPS.

Experience has shown that certain personal and organizational traits are present in a positive safety culture. A trait, in this case, is a pattern of thinking, feeling, and behaving that emphasizes safety, particularly in goal conflict situations, for example, in situations where production, schedule, or just the cost of effort may conflict with doing the job safely. The NRC identified nine traits of a positive safety culture in the SCPS, although the agency recognizes that additional traits may also be important. In addition, please note that the traits were not developed to be used for inspection purposes.

Each Trait Talk includes a fictional scenario based on a different licensee or community. The scenario used in this Trait Talk is based on the construction community.

As you read through *Trait Talk*, consider the following questions:

1. How does this trait apply to my organization?
2. Are there other attributes and examples that better fit my organization?
3. What impact does this trait have on the safety culture in my organization?
4. How does this increase my understanding of the safety culture in my organization?
5. How could I improve the performance of this trait in my organization?

Continuous Learning

One of the traits of a positive safety culture as described in the U.S. Nuclear Regulatory Commission's Safety Culture Policy Statement.

What Is The Definition Of Continuous Learning?

The NRC's SCPS defines Continuous Learning as opportunities to learn about ways to ensure safety are sought out and implemented.

Why Is This Trait Important?

Continuous learning contributes substantially to a positive safety culture. Continuous learning organizations are characterized by an enhanced ability and willingness of individuals to apply their individual learning in the workplace and to share and transfer it to their team members and coworkers. At the individual and team level, continuous learning includes obtaining knowledge, determining how that knowledge applies to the work of the individual and the team, as well as sharing that knowledge and ensuring that it is retained in the organization. To capture and sustain the benefits from individual and team learning, learning organizations develop leadership that prioritizes and motivates the desired learning and behaviors that are effective in ensuring that knowledge is shared and retained within an organization.

Organizations committed to continuous learning reflect an organizational perspective that specifically addresses learning requirements at the individual, group, and organizational levels. Leadership at all of these levels must focus on learning, teaching, and changing an organization into a learning organization. Continuous learning requires that leaders and managers trust and respect their workers. An environment that supports continuous learning is one that encourages an employee to ask questions, demonstrates appreciation for raising differing views, allows time for understanding, and encourages communication and collaboration.

Learning organizations are committed to learning from their mistakes and those of others, and they take appropriate action to address lessons learned. They evaluate operating experiences and ensure that lessons learned are shared throughout an organization. They evaluate their own programs and policies for opportunities for improvement, benchmark other organizations, and understand the importance of training. Organizations focusing on continuous learning ensure that opportunities to improve safety are identified and shared, and by doing so, build a strong safety culture.

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WHAT DOES THIS TRAIT LOOK LIKE?

Operating Experience: The organization systematically and effectively collects, evaluates, and implements relevant internal and external operating experience in a timely manner.

A process is in place to ensure a thorough review of operating experience provided by internal and external sources. Operating experience is implemented and institutionalized effectively through changes to processes, procedures, equipment, and training programs. Operating experience is used to understand equipment, operational, and industry challenges and to adopt new ideas to improve performance. Operating experience is used to support daily work functions, with emphasis on the possibility that “it could happen here.” Operating experience is shared in a timely manner.

Self-Assessment: The organization routinely conducts self-critical and objective assessments of its programs and practices.

Independent and self-assessments, including nuclear safety culture assessments, are thorough and effective and are used as a basis for improvements. The organization values the insights and perspectives assessments provide. Self-assessments are performed on a variety of topics, including the self-assessment process itself. They are performed at a regular frequency and provide objective, comprehensive, and self-critical information that drive corrective actions. Targeted self-assessments are performed when a more thorough understanding of an issue is required. A balanced approach of self-assessments and independent oversight is used and periodically adjusted based on changing needs. Self-assessment teams include individual contributors and leaders from within the organization and from external organizations when appropriate.

Benchmarking: The organization learns from other organizations to continuously improve knowledge, skills, and safety performance.

The organization uses benchmarking as an avenue for acquiring innovative ideas to improve nuclear safety. The organization participates in benchmarking activities with other nuclear and nonnuclear facilities. The organization seeks out best practices by using benchmarking to understand how others perform the same functions. Benchmarking is used to compare standards to the industry and to make adjustments to improve performance. Individual contributors are actively involved in benchmarking.

Training: The organization provides training and ensures knowledge transfer to maintain a knowledgeable, technically competent workforce and instill nuclear safety values.

The organization fosters an environment in which individuals value and seek continuous learning opportunities. Individuals, including supplemental workers, are adequately trained to ensure technical competency and an understanding of standards and work requirements. Individuals master fundamentals to establish a solid foundation for sound decisions and behaviors. The organization develops and effectively implements knowledge transfer and knowledge retention strategies. Knowledge transfer and knowledge retention strategies are applied to capture the knowledge and skill of experienced individuals to advance the knowledge and skill of less experienced individuals. Leadership and management skills are systematically developed. Training is developed and continuously improved using input and feedback from individual contributors and subject-matter experts. Executives obtain the training necessary to understand basic operations and the relationships between major functions and organizations.



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WHAT IS A SCENARIO IN WHICH THIS TRAIT COULD PLAY A ROLE?

Before a concrete pour at a nuclear power plant under construction, an engineer discovered that steel reinforcing bars were not spliced correctly in some locations. Work was halted and the rebar was reworked before the concrete pour. However, since the rebar was only spliced incorrectly in a “few” locations, the engineer gave verbal feedback to the concrete crew foreman on shift at the time of the discovery, but did not initiate a corrective action program condition report. The foreman of the concrete crew then had a brief discussion with his crew about the acceptable method of rebar splicing for the project. However, because the foreman believed that the issue was “skill of the craft,” no further training was necessary. He did not generate a corrective action report, request that work procedures be revised to specify the correct rebar splicing instructions, or provide feedback to the qualification training program. He intended to inform the concrete crew foreman of the other shift, but forgot during the hectic shift turnover.

Two months later, during another concrete pour, quality assurance inspectors discovered that several rebar splices were incorrect. However, this time the concrete pour had already begun. The pour was stopped and the condition was assessed. Extensive re-work was required to correct the rebar splices and remove the poured concrete sections. This work could not be performed expeditiously, and the entire concrete batch was lost.

Upon review of the issue, the licensee discovered that problems with rebar splicing were not uncommon in the construction industry, and there were similar occurrences at nuclear construction projects both in the United States and at foreign sites. Also, concrete subcontractors often work on construction projects in different areas of construction, and they frequently work at sites with different requirements—sometimes during the same week. Continuous learning, through the use of benchmarking and lessons learned programs, may have prevented this incident.

Thinking about the scenario discussed above, consider the following questions:

1. How does this scenario apply to the safety culture trait Continuous Learning?
2. What kinds of communications would have reinforced safety as the overriding priority?
3. How could this situation have been handled differently?

WHO CAN I CONTACT WITH A QUESTION OR SUGGESTION?

The NRC looks forward to continuing to provide you with information about the traits of a positive safety culture. If you have a question or would like to make a suggestion, please contact the U.S. Nuclear Regulatory Commission, Office of Enforcement, Safety Culture Team, at external_safety_culture_resource@nrc.gov.



Sources of Information:

- 1 “Why is this trait important?” was derived, in part, from a literature review (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13023A054) prepared by Pacific Northwest National Laboratories for the NRC Office of Nuclear Regulatory Research.
- 2 “What does this trait look like?” was derived from the Safety Culture Common Language effort (ADAMS Accession No. ML13031A343), under the direction of the Office of Nuclear Reactor Regulation. Panelists from the NRC, nuclear power industry, and the public created attributes of a positive nuclear safety culture, and examples of each attribute that a nuclear power organization should demonstrate in maintaining a positive safety culture. Although these attributes and examples were created specifically for the reactor community, they may also be applicable to various other communities and organizations. For purposes of Trait Talk, the examples were partially rewritten to increase applicability to nuclear as well as non nuclear communities.
- 3 “What is a scenario in which this trait played a role?” was developed specifically for Safety Culture Trait Talk for educational purposes only. The scenario is fictional and any resemblance to actual events, people, or organizations is purely coincidental.

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WHAT IS THE NRC'S SAFETY CULTURE POLICY STATEMENT?

There are many definitions of safety culture. Most of these definitions focus on the idea that in a positive safety culture individuals and organizations emphasize safety over competing goals, such as production or costs, ensuring a safety-first focus. The NRC's SCPS defines nuclear safety culture as *the core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment.* Experience has shown that certain personal and organizational traits are present in a positive safety culture. The following traits were included in the NRC's SCPS, although additional traits may also be important in a positive safety culture:

Leadership Safety Values and Actions	Problem Identification and Resolution	Personal Accountability
<i>Leaders demonstrate a commitment to safety in their decisions and behaviors.</i>	<i>Issues potentially impacting safety are promptly identified, fully evaluated, and promptly addressed and corrected commensurate with their significance.</i>	<i>All individuals take personal responsibility for safety.</i>
Work Processes	Continuous Learning	Environment for Raising Concerns
<i>The process of planning and controlling work activities is implemented so that safety is maintained.</i>	<i>Opportunities to learn about ways to ensure safety are sought out and implemented.</i>	<i>A safety conscious work environment is maintained where personnel feel free to raise safety concerns without fear of retaliation, intimidation, harassment or discrimination.</i>
Effective Safety Communications	Respectful Work Environment	Questioning Attitude
<i>Communications maintain a focus on safety.</i>	<i>Trust and respect permeate the organization.</i>	<i>Individuals avoid complacency and continually challenge existing conditions and activities in order to identify discrepancies that might result in error or inappropriate action.</i>

The NRC's SCPS provides the NRC's expectation that individuals and organizations performing regulated activities establish and maintain a positive safety culture commensurate with the safety and security significance of their activities and the nature and complexity of their organizations and functions. Because safety and security are the primary pillars of the NRC's regulatory mission, consideration of both safety and security issues, commensurate with their significance, is an underlying principle of the SCPS.

The NRC's SCPS applies to all licensees, certificate holders, permit holders, authorization holders, holders of quality assurance program approvals, vendors and suppliers of safety-related components, and applicants for a license, certificate permit, authorization, or quality assurance program approval subject to NRC authority. In addition,

the Commission encourages the Agreement States (States that assume regulatory authority over their own use of certain nuclear materials), their licensees, and other organizations interested in nuclear safety to support the development and maintenance of a positive safety culture within their regulated communities. The SCPS is not a regulation; therefore, it is the organization's responsibility, as part of its safety culture program, to consider how to apply the SCPS to its regulated activities.

The NRC's SCPS, which includes the definition of nuclear safety culture and the nine traits of a positive safety culture, can be found on the NRC's Safety Culture Web site. The Web site includes additional safety culture information, as well as the NRC safety culture case studies, which describe how the presence or absence of safety culture traits affects the outcome of the events.