Industry Comments on Safety Culture Policy Statement

January 24, 2011

Thomas C. Houghton
Senior Director, Safety-Focused Regulation
Nuclear Energy Institute

NEI

Industry Supports the Policy Statement

- Definition was developed by practitioners
  - Plain English
  - Calls for collective commitment by leaders and individuals
  - Emphasizes goal of protecting people and the environment
- Traits reflect appropriate behaviors and values inherent in a healthy safety culture
- Office of Enforcement commended

NEI

Industry Perspective

- Licensees have primary responsibility for ensuring a positive safety culture
- NRC has an independent oversight role
- Statement of policy is the appropriate regulatory action to address safety culture
- Common language of safety culture is essential
- Care is needed in implementing the policy for
  - Individual industry segments
  - Suppliers and vendors of safety-related equipment

NEI

Common Language of Safety Culture

- No sense to speak in two different languages
- Two sets of terms confuse proper cause identification and public communication
- Industry ready to work with NRC and other stakeholders
- We request the Commission encourage swift action to complete this task

NEI

Industry is proactively taking steps to ensure a strong nuclear safety culture

- CNOs approved industry initiative to comprehensively monitor and assess safety culture at all stations
  - Four pilots were conducted with NRC observation
- Each operating company will implement program described in NEI 09-07, *Fostering a Strong Nuclear Safety Culture*
- Key to success is placing responsibility on site senior leadership

Industry Initiative

- Uses corrective action program (CAP) to collect and analyze a comprehensive set of data to provide insights into emerging safety culture issues

- NRC inspection reports
- Employee Concerns/Allegations
- Industry Evaluations
- Oversight Findings
- CAP Trends
- Self Assessments
- Station Performance Trends
- Culture Assessments
- In Field Observations
- Work Force Issues
- Operating Experience
- Benchmarking

NEI

Industry Initiative

- Multiple sources of data to identify trends that may be caused by nuclear safety culture weaknesses
- Uses INPO *Principles for a Strong Nuclear Safety Culture*
- Site leadership team directs actions to resolve weaknesses
- Outside organizations provide insights to the site leadership team
  - NRC oversight welcomed and expected

NEI

Regulatory Footprint

- Industry believes this initiative provides significant advantages over the current NRC SCCI approach
- We would welcome discussion on improving the regulatory approach for overseeing nuclear safety culture

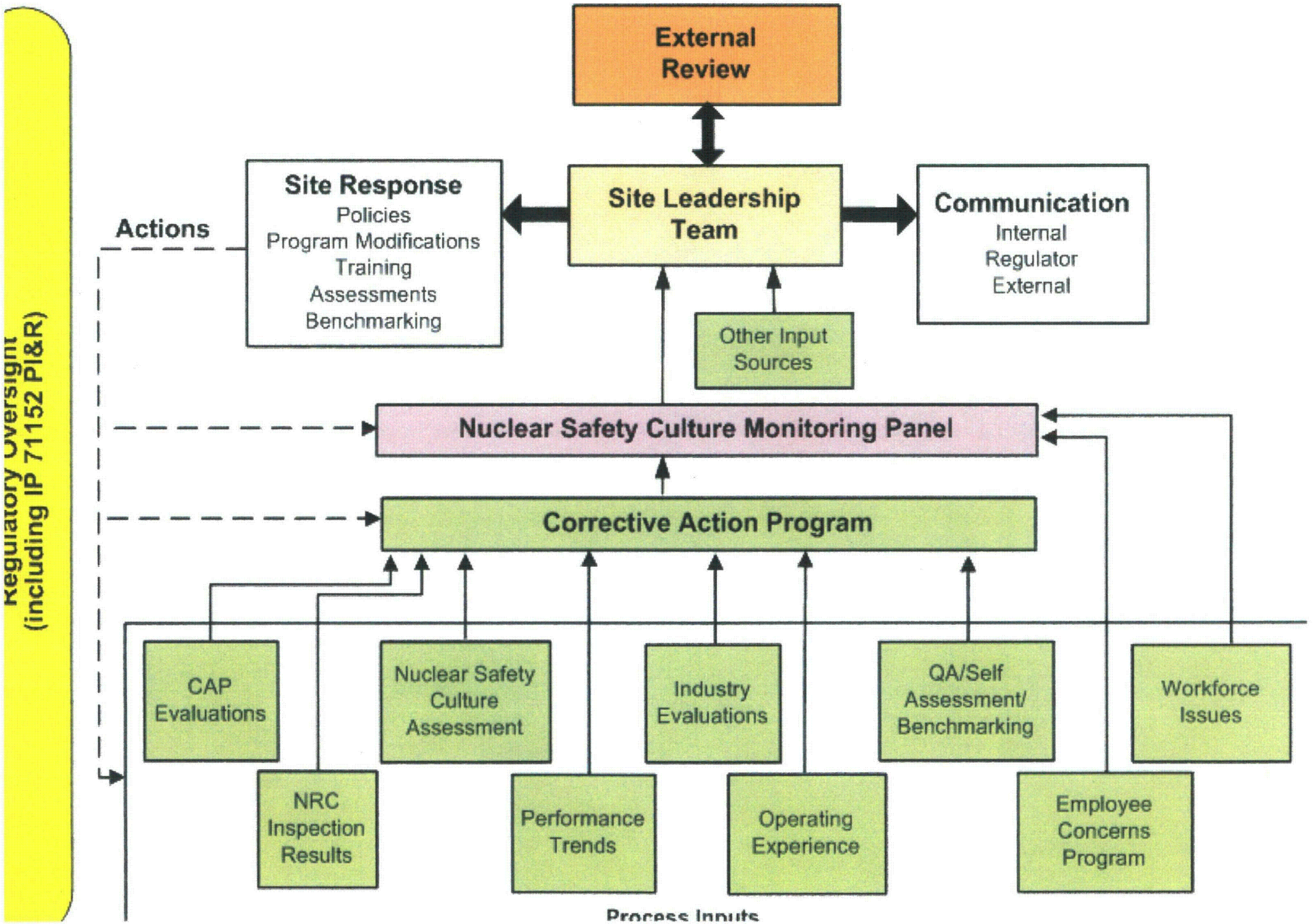
Initiative Reflects Industry's Commitment to a Strong Nuclear Safety

- Standardized, robust, integrated approach
- Nuclear operating company leadership responsible
- Constant reinforcement of nuclear safety culture leadership and individual behaviors
- Safety culture requires frequent evaluation
- Safety culture is a continuum – even the best plants work at it every day

NEI

BACKUP

Site Nuclear Safety Culture Process



SAFETY CULTURE DRAFT POLICY COMMENTS

Fuel Cycle Facilities
R.E. Link, Manager, EHS&L
AREVA, Richland, WA
January 24, 2011

Safety Culture Policy Comments – Fuel Cycle Facilities

- Strongly supports final draft definition
  - "Commensurate with safety significance" during implementation
- Strongly supports including traits for clarity
  - Addition of "Questioning Attitude" consistent with Safety Conscious Work Environment

Safety Culture Policy Comments – Fuel Cycle Facilities – (cont.)

- Concern with explicit application to "vendors and suppliers of safety related components"
  - "Jurisdictional question → oversight/ enforcement challenges

Safety Culture Policy Comments – Fuel Cycle Facilities – (cont.)

- Implementation challenges
  - Consistency yet diversity → Broad scope of licensees
    - Dual regulatory oversight due at sites subject to NRC & Agreement State
    - Research & data important & useful but caution in extrapolation to diverse types of licensees

Safety Culture Policy Comments – Fuel Cycle Facilities – (cont.)

- Greatest concern → Reconciliation of priorities & resources

2011 Final Safety Culture Policy Statement

25 Years Is Long Enough To Build A Policy Statement!

Billie Pirner Garde,
Clifford & Garde, LLP
January 24, 2011

Chernobyl - 1986

A QUESTIONING ATTITUDE

plus

A RIGOROUS AND PRUDENT APPROACH

plus

COMMUNICATION

The result will be a major contribution to:

SAFETY

Millstone - 1996

"The NRC expects that licensees will establish and maintain a safety conscious work environment in which employees feel free to raise concerns both to their own management and the NRC without fear of retaliation."

May 1996 SCWE Policy Statement

October 2004 SCWE Policy Update

Davis-Besse 2002 Incident

NRC Requirements: Safety Culture

"The Davis-Besse event re-emphasized the importance of safety culture and demonstrated that significant problems can occur as a direct result of safety culture weaknesses that are not recognized and addressed early."

May 24, 2006 SAFETY CULTURE INITIATIVE ACTIVITIES TO ENHANCE THE REACTOR OVERSIGHT PROCESS AND OUTCOMES OF THE INITIATIVES.

NRC Final Action Needed

- **Industry and Agency Need Final Decision so that work can begin to implement new policy expectations;**
- **NRC Policy will become a benchmark for other industries, hopefully preventing other disasters – Oil & Gas, Mining, Transportation, DOE complex, and others;**
- **Resources can be spent on addressing Safety Culture issues, not justifying policy.**

"In the aftermath of the *Deepwater Horizon* spill, could the oil and gas industry similarly improve its safety culture by creating a self-policing entity like INPO as a supplement to government oversight?..."

***Deepwater Horizon* Report, Chapter 8, p. 239**

Comments on Process of Development of Safety Culture Policy

- **Policy Statement developed through exhaustive collaboration and inclusion activities, meeting the Commission's direction and expectations.**
- **Wide variety of activities to identify and include all stakeholders**
  - **Meaningful participation opportunities**
  - **Significant interaction between stakeholders**
  - **Transparency and collaboration**
  - **Robust debates and discussions**

Position of the Final Safety Culture Policy Statement

- **Agree and satisfied with final definition as presented in the Final Policy Statement;**
- **Agree with the exclusion of the word "security" from the definition, and inclusion of the explanation regarding the importance of "security" in the Final Policy Statement;**
- **Agree with the Traits, as included and defined;**

Position of the Final Safety Culture Policy Statement (cont'd)

- **Agree that the trait "Environment for Raising Concerns", as defined, addresses my concerns about incorporating Safety Conscious Work Environment issues;**
- **Agree with the addition of the "Questioning Attitude" trait added by the Staff;**
- **Agree with the expansion of the Commission expectations to ALL those entities that form the basis for nuclear safety, security and environmental protection.**

Maintain Belief That Regulation Will Be Necessary Instead of Policy Statement

- **Believe that regulation is necessary and prudent in this area**
  - **Adopt and restate my position from March, 2002 that regulation will provide consistent, reliable, and repeatable expectations;**
  - **Urge reconsideration of the position of the Commission that we can get there without regulation;**
  - **Recommendation based on philosophical view that we understand and work to what is measured, and for which we are held accountable.**

Concerns About Barriers to Successful Implementation

- **Applicability to Agreement States Needs to Be Clearly Established – licensees must be accountable to follow policy;**
- **Industry (NEI and INPO) needs to adopt the Policy Statement and Traits, refresh its program materials, and implement with rigor;**
- **Agency needs to demonstrate a bias for action in integrating Policy Statement into Agency program materials.**

Thank you for the opportunity to participate in this important topic.

Billie Pirner Garde
Clifford & Garde, LLP
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Comments on Proposed Final Safety Culture Policy Statement

January 24, 2011

Edward F. Maher, Sc.D., CHP
President, Health Physics Society

HPS

Overall

The Health Physics Society is very supportive of the Commission's efforts to develop and involve stakeholders in the Radiation Safety Culture initiative

Issue #1 with Draft Policy

- **"One Size Fits All" Approach**
  - **Not all licensees are the same**
  - **Severity of Consequences differ widely across licensees.**

Suggest: Culture should be <u>commensurate</u> with the safety and security significance of their organizations and functions

HPS

Issue #2 with Draft Policy

- **Internally Driven**
  - **Licensees should be allowed to self-pace development of a Radiation Safety Culture**
  - **HPS supports the issuance of a Policy Statement, rather than an actual or implied regulatory approach.**

Question #1 in Draft Policy

- **Emphasis of Safety over Competing Goals is Bothersome**
  - **Taking a drastic action in the interest of safety may have consequences greater than the safety issue itself**
  - **Add: Safety over competing goals <u>commensurate with all risks involved</u>**

Question #2 in Draft Policy

- **Do Safety Culture Traits Require Clarification?**
  - **No, but examples that demonstrate each of these traits would be helpful**
  - **How do you know these traits exist in an organization?**
  - **Possible Proofs of Presence are.....**

Proof of Presence

- Organization Structure
- How Competing Budgetary Priorities are Resolved
- Employee Empowerment
- Ombudsmen Office
- Corrective Action Reporting System
- Root Cause Analysis Training

Question #3 in Draft Policy

- **Are NRC's Expectations on the Balance between Safety and Security Clear in the draft SOP ?**
  - **Yes, but how that is accomplished is less clear. Examples would help.**
  - **The Balance between Security and Safety is not the same with different Radionuclides and Applications.**

Question #4 in Draft Policy

- **Should a Discussion Regarding Complacency be Added to SOP?**
  - **Not a detailed discussion, but its importance in Safety Program Management should be mentioned**
  - **Complacency is a crosscutting management problem that is not unique to Radiation Safety Culture**

Question #5 in Draft Policy

- **Are Some or All of the Five Additional Traits Necessary?**
  - **Yes, two of the five, "Questioning Attitude" and "Training Quality" are sufficiently different**
  - **"Training Quality" should be replaced by "Technical Competency," a more comprehensive trait for developing a Safety Culture Environment**

Briefing to the NRC Commission re: NRC Safety Culture Policy Statement

Kevin Buckley
Children's Hospital Boston
Harvard Medical School
On Behalf of AAPM

January 24, 2011

AAPM

- Is the the premier organization in medical physics; a broadly-based scientific and professional discipline encompassing physics principles and applications in biology and medicine whose mission is to advance the science, education and professional practice of medical physics.

- Represents over 7,500 medical physicists.

General Comments

- The NRC is to be commended for gathering together a wide cross section of licensees to discuss this topic.

- NRC solicited input from and responded to concerns of this group.

Safety Culture Policy

- It is the responsibility of the licensees and certificate holders for developing and maintaining a strong safety program.

- It is critical that a common language of safety culture traits and behaviors exist between NRC and **each category** of licensee.

General Comments

- AAPM concurs with the revised definition however:
  - It is extremely important to emphasize that the term "protection of people" in the above definition includes "patients".
- AAPM concurs with excluding the term "security" from the definition.
  - Including security in the definition denigrates other equally important processes that protect the patient, the public, and the environment.

General Comments

- NRC needs to acknowledge for medical institutions that **patient safety is first and foremost** and that the use of radioactive materials in the practice of medicine **is to enhance diagnosis or treatment of disease while ensuring that the patient receives the best medical care.**

One Size Does Not Fit All!

- Although it is laudable to try and have a single definition that can apply to all categories of licensees, **it is equally important to note that implementation of the traits and behaviors as they apply to the specific licensee categories may differ.**

Differences to Specific Application of Use

- In medical uses, nuclear safety does not pre-empt or override patient safety especially in emergency situations. For example, life saving measures should always pre-empt the need to decontaminate a patient in the emergency room.

Path Forward

- NRC must define:
  - the characteristics that, in the agency's view, define a positive safety culture, and
  - the metrics for assessing a licensee's program against those characteristics.
- Without specific definition, the interpretation of a positive safety culture remains subjective.

Next Steps

- AAPM believes the next critical step is to develop specific actionable characteristics and behaviors **specific to each license category.**

- This next level or "third tier," once developed will provide more meaning in the individual licensee category and relate the general characteristics to specific behaviors and indications of a strong safety culture in that particular field.

AAPM Recommendations

- NRC must work closely with the Agreement States to prioritize this effort relative to other regulatory issues.

- In the absence of adequate Agreement State support for this initiative, the safety culture concept would potentially only be applied to approximately twenty percent of the byproduct materials users nationwide.

AAPM Recommendations

- NRC should conduct workshops, in coordination with the Agreement States, specific to each category of licensee to clarify NRC's approach to safety culture and ensure that its expectations are clearly understood.

- These should be specific roundtable discussions and not simply presentations at professional society conferences.

AAPM Recommendations

- Guidelines explaining NRC expectations regarding adoption of Safety Culture values must be promulgated.

- If stakeholders do not understand how to implement Safety Culture, and have metrics to use internally to determine the effectiveness of their efforts, attention will be minimal.

AAPM Recommendations

- That the NRC's Safety Culture implementation be clarified so that if medical licensees can demonstrate they are meeting the "intent of the NRC Safety Culture policy", the licensees should not have to use methods and terminology developed by the NRC staff.

Questions?

NRC Commission Meeting
Safety Culture Policy Statement

January 24, 2011

George Marshall
Director - APNGA

Safety Culture Definition + Traits

- Evolved into Universal Version
- 9 Traits in Layman's Terms (INPO Pamphlet)
- Use Industry Specific Examples & Analogies
- Include Aspects of SCWE & Human Factors
- SC Version Commensurate with the Risk

Portable Gauge Industry

- Low Risk but High Visibility (Gauge Thefts)
- Training – Room for Improvement
- Lack of Management Support
- Hidden Benefits of SC Training
  - Improved Compliance
  - Lessens the Workload to Agencies

Going Forward

- 5,000+ Licensees/Companies
- Lacking Structure, Org., Mgmt., Radiological Expertise
- Resource/Staffing & Budget Challenged
- Work/Partner with Industry (Associations, Manufacturers, Training Providers)
- Training, Websites, Newsletters

Training

- Industry Driven (Similar to Reactor SC Implementation)
- Already Provides Training – Add SC
  - Two Focal Points
    - Ongoing Training: Annual Employee/RSO Refresher Training
    - Leadership Involvement: Management Refresher Training (engages Mgmt, Leaders)

NUREG

- Add SC to NUREG 1556, Volume 1
- A New NUREG?
- Training Requirements

Summary

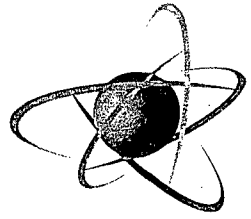
- **Benefits Licensees & Agencies**
- **Let Industry Carry the Load**
- **Focus on:**
  - **Ongoing/Refresher Training**
  - **Management/Leadership Involvement/Training**
  - **Keeping SC from being DOA/Flash in the Pan**

Acronyms

- **APNGA – American Portable Nuclear Gauge Association**
- **INPO – Institute of Nuclear Power Operations**
- **NRC – Nuclear Regulatory Commission**
- **NUREG 1556 – Consolidated Guidance for Materials Licensees**

Acronyms (continued)

- **RSO – Radiation Safety Officer**
- **SC – Safety Culture**
- **SCWE – Safety Conscious Work Environment**



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

ACMUI Comments on the Proposed Safety Culture Policy

Bruce Thomadsen, Ph.D.

Advisory Committee on the Medical Uses of Isotopes

January 24, 2011

ACMUI's Overall Evaluation - 1

- ***The Advisory Committee has reviewed the NRC staff's draft Safety Culture Policy Statement and would like to commend the staff for its efforts.***
- ***The Committee agrees that nuclear and radioactive material safety and security are important issues influenced by the traits that define a positive safety culture in the work place.***

ACMUI's Overall Evaluation - 2

- **Safety culture policy can be a nebulous concept with many possible interpretations.**
- **However, the draft Policy Statement is well written, highly thoughtful, appropriately balanced against competing priorities in the workplace within a complex regulatory framework, and considerate of public comments.**
- **The ACMUI has some concerns about the policy statement.**

Completeness of the Trait List

- While good, the list of traits is not exhaustive.
- There are many other traits of organizations with safety cultures not included.
- The policy statement recognizes this.

Necessity of the Traits

- ***Also, while the traits are good, an organization need not exhibit the traits to be safe.***
- ***For example, an organization without trust or respect can, and likely would, establish procedures with layers of redundancy, possibly automatic, to prevent errors since the leaders would have no trust that the workers would execute their jobs correctly.***

Value of the Traits

- ***Safety is easiest and most natural in organizations that exhibit and inherently value such traits.***
- ***That is why publicizing them would be a good educational enterprise.***

Forcing the Traits - 1

- **A positive safety culture is in the nature of an organization and cannot be forced on an organization.**
- **While practices can be imposed, forcing practices that appear as good traits likely will not have the same effect as if the organization developed them naturally.**

Forcing the Traits - 2

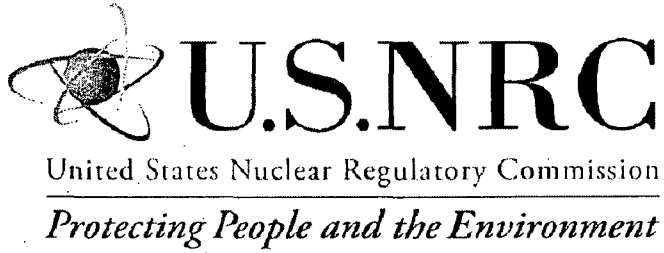
- **Forcing practices that appear as good traits can be counterproductive if it uses resources that could be devoted to actual safety practices.**

Forcing the Traits - 3

- **Forcing good behavior can be productive and may change practices or eventually culture.**
- **For example, Time-out before procedures, forced by JC, has led to the practice becoming almost routine, without thought. This may not have worked as quickly by trying to change the culture first.**

Implementation of the Policy

Given the last points, the statement in the policy, "these traits are not necessarily inspectable and were not developed for that purpose," should be remembered into the future.



Proposed Safety Culture Policy Statement

January 24, 2011

Office of Enforcement
Office of Federal and State Materials and Environmental Management Programs

Agenda

- Opening: Bill Borchardt, OEDO
- Introduction: Andy Campbell, OE
- Overview: Dave Solorio, OE
- Safety Culture Policy Statement: Diane Sieracki, OE
- Safety Culture in the Materials Area: James Firth, FSME

Proposed Safety Culture Policy Statement (SCPS)

Diane Sieracki
Sr. Safety Culture
Program Manager, OE

Background and Outreach Activities

- Commission Direction
- November 2009 FRN
- February 2010 3-day workshop
- NRC staff presentations
- September 2010 FRN
- September 2010 public meeting

Discussion Items

- 2010 workshop definition and traits
- Treatment of security
- Inclusion of the traits in the Statement of Policy
- Policy vs. regulation

Discussion Items (cont.)

- Vendors and suppliers
- Diversity of regulated entities
- Results of INPO Validation Study
- Questioning Attitude trait
- Concerns with Next Steps

Proposed Final Draft Policy Statement

- **Definition and traits**
  - **Included in the Statement of Policy**
- **Safety and security**
- **Preamble addresses "security"**
- **"Questioning Attitude" trait addresses complacency**

Proposed Final Draft Policy Statement (cont.)

- Recognizes diversity of regulated entities
- Vendors and suppliers included
- Cautions stakeholders to consider negative factors (i.e., incentive goals, etc.)

Proposed Safety Culture Definition

Nuclear Safety Culture is 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.

Proposed Safety Culture Traits

- **Leadership Safety Values and Actions**
- **Personal Accountability**
- **Work Processes**
- **Continuous Learning**

Proposed Safety Culture Traits (cont.)

- Problem Identification and Resolution
- Environment for Raising Concerns
- Effective Safety Communication
- Respectful Work Environment
- Questioning Attitude

Tiers for Development and Implementation of SCPS

Tier 1 – Definition

Tier 2 – Descriptions/Traits

Tier 3 – Application/Industry-Specific

"Leadership" Trait
Example of Tier 3

- Management in the field ensuring standards are met
- Commitment to maintaining equipment
- Resolves conflict
- Actions match words

"Leadership" Trait
Example of Tier 3 (cont.)

- Positive reinforcement used to reinforce desired positive nuclear safety behaviors
- Respects differing opinions
- Schedules are realistic and do not challenge safety standards

SCPS Rollout (Projected)

- SCPS will provide a common language
- Outreach will continue
- Staff will continue working with licensees and Agreement States
- Staff will consider education and workshops

Increasing Attention to Safety Culture in the Materials Area

James Firth
Project Manager, FSME

Response to Commission Tracking

- **Strategy and efforts to increase attention to SC (materials)**
- **Progress of materials licensees to address SC**

Use of Stakeholder Involvement and Outreach

- Development of policy statement
- Common terminology

Efforts to Increase Attention

- Use of current approaches
- Guidance development
- Other opportunities

Progress of Materials Licensees

- Contributions of Agreement States
- Measures of progress
  - Engagement
  - Awareness

Closing Remarks

Dave Solorio
Branch Chief, OE

Key Messages

- **Two year effort – extensive stakeholder outreach**
- **Workshop definition and traits are the first step in our ongoing efforts to develop/harmonize common language**
- **Stakeholders request involvement during rollout of the policy**

Next Steps

- **Commission Direction**
  - **Request approval to publish SCPS**
- **Implementation Phase**
  - **Stakeholder involvement with program offices for "Tier 3"**
  - **OE will support program offices during SCPS rollout**

List of Acronyms

- **ACMUI – Advisory Committee on the Medical Use of Isotopes**
- **ACRS – Advisory Committee on Reactor Safeguards**
- **FC – Fuel Cycle**
- **FRN – Federal Register Notice**

List of Acronyms (cont.)

- IMC 0613 – Documenting 10CFR52 Construction and Test Inspections
- IMC 1246 – Formal Qualification Programs in NMSS Area
- IMC 2505 – Periodic Assessment of Construction Inspection Program Results

List of Acronyms (cont.)

- **INPO – Institute of Nuclear Power Operations**
- **ISFSI – Independent Spent Fuel Storage Installation**
- **NUREG-1556 – Consolidated Guidance about Materials Licensees**
- **ROP – Reactor Oversight Process**

List of Acronyms (cont.)

- RTR – Research and Test Reactor
- SC – Safety Culture
- SCPS – Safety Culture Policy Statement
- SECY – Synonymous with Commission Paper
- SRM – Staff Requirements Memorandum