



NRC Safety Culture Activities

**June Cai
Isabelle Schoenfeld
Concerns Resolution Branch
Office of Enforcement
U.S. NRC**

**National Association of Employee
Concerns Professionals
Fall 2008 Meeting**

Presentation Overview

- Background
- NRC safety culture components
- Activities in the reactor area
 - Reactor Oversight Process (operating reactors)
 - New reactor construction oversight
- Activities in the materials area
 - Fuel cycle facilities safety culture pilot
- Safety culture policy statement development
- Internal (NRC) safety culture initiative

NRC's Definition of Safety Culture

“Safety Culture is that assembly of characteristics and attitudes in organizations and individuals which establishes that, as an overriding priority, nuclear safety issues receive the attention warranted by their significance”

Adopted from the IAEA's
International Nuclear Safety
Advisory Group (INSAG)

What Caused NRC to Increase Attention on Safety Culture?

- Davis-Besse reactor vessel head degradation event in 2002



<http://www.nrc.gov/reactors/operating/ops-experience/vessel-head-degradation.html>

- Commission directed staff to enhance Reactor Oversight Process to more fully address safety culture

Development of NRC Safety Culture Components

- Establishment of an agency Safety Culture Working Group
- The group developed a set of 13 Safety Culture Components by:
 - Evaluating information on attributes and elements of safety culture from various sources
 - Screening information to ensure applicability
 - Engaging stakeholders
- “Aspects” under each component provided as examples
 - Will be modified for different environments

NRC's Safety Culture Components

- Decision-making
- Resources
- Work control
- Work practices
- Corrective action program
- Operating experience
- Self and independent assessments
- Environment for raising safety concerns
- Preventing, detecting, and mitigating perceptions of retaliation
- Accountability
- Continuous learning environment
- Organizational change management
- Safety policies

Detailed the Appendix to NRC Regulatory Information Summary 2006-13 for full description:

<http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/2006/ri200613.pdf>

Activities in the Reactor Area

2006 Revisions to the Reactor Oversight Process

Reactor Oversight Process revised in 2006 to more fully address safety culture

- Inspection findings evaluated for weaknesses related to safety culture components
- Structured process for assessing results
 - Threshold for number of findings with the same cause
 - Consideration of licensee scope of effort
 - Options for agency actions

2006 Revisions to the Reactor Oversight Process - continued

Graded response to plant performance issues in supplemental inspection program

1. Verify the licensee's evaluation appropriately considered all the safety culture components
2. Independently determine whether weakness in a safety culture component was a root or contributing cause
3. Review the licensee's third party safety culture assessment AND conduct the NRC's independent assessment of safety culture

Detailed information on the changes provided in NRC Regulatory Information Summary 2006-13
http://www.nrc.gov/reading-rm/doc-collections/gen_comm/reg-issues/2006/ri200613.pdf

2006 Revisions to the Reactor Oversight Process - Initial Implementation Review

- Agency committed to performing assessment of the initial 18-month implementation period
- Staff currently in process of reviewing results to identify and develop revisions needed - examples:
 - Graded approach to the conduct of NRC's independent safety culture assessment
 - Acknowledge potential for development of industry methodology/ standards for conduct of safety culture assessments for NRC review and endorsement

Summary of assessment results available at (see April 17, 2008 meeting documents):

<http://www.nrc.gov/about-nrc/regulatory/enforcement/safety-culture.html>

New Reactor Construction Oversight – Safety Culture Initiative

- Office of New Reactors established a Safety Culture Task Group (completed)
- Internal review of safety culture components and aspects for applicability (completed)
- Review and modify selected aspects of safety culture components to capture the unique characteristics of the new construction environment (on-going)
- Stakeholder outreach through public meetings

Activities in the Materials Area: Safety Culture Pilot

Pilot Information and Contact

- Slides taken from the June 2008 Fuel Cycle Information Exchange workshop presentation
- Workshop materials and summary available at:
<http://www.nrc.gov/about-nrc/regulatory/enforcement/safety-culture.html>
- Pilot lead:

Amy M. Snyder
Senior Program Manager
Fuel Manufacturing Branch
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards

Amy.Snyder@nrc.gov
301 492-3225

NMSS Safety Culture Pilot

- Office of Nuclear Materials Safety & Safeguards (NMSS)'s Safety Culture Pilot
- Pilot objective
 - Determine how to enhance the current Fuel Cycle Oversight Program for addressing safety culture
- Pilot scope
 - Fuel fabrication facilities
 - Two phases
 - Phase I – Information gathering
 - Phase II – Pilot development, implementation, evaluation

Phase I: Information Gathering

Phase I reviewed (recently completed):

- Inspection program documents
- Inspection procedures
- Event Reports
- Generic Communications
- Internal interviews
- Site visits (2 sites)
 - External interviews

Phase I Insights: Safety Culture Components

- All implicitly addressed in current oversight program
- Not explicitly defined or referenced as such
 - Level of depth of coverage varies
 - Guidance varies
- Some terminology were not familiar to interviewees, but concepts were

Phase I Insights: NRC Programs

Guidance and coverage of safety culture components varied across program areas

- Licenses
- Routine Inspections
- Reactive Inspections
- License Performance Review
- Event Reporting
- Enforcement
- Generic Communication

Phase I Insights: Site Visits

- Safety Culture – applies to all safety functions, programs and processes
- Programs and Processes – those related to safety culture components exist but vary in scope and formality
- Safety Culture Components
 - Apply to fuel cycle facilities
 - Comprehensive

Pilot Options

NMSS management is currently in the process of evaluating the following options:

1. No action
2. Explicitly apply safety culture components within the current inspection and assessment program
3. Develop and implement a separate safety culture inspection and assessment procedure
4. Apply safety culture components only in reactive inspections
5. Develop and implement a more comprehensive integration of safety, security, and safeguards culture in the areas of the revised inspection and assessment process and the licensing and/or rulemaking processes

Safety Culture Policy Statement

Safety Culture Policy Statement

Commission direction* to

- expand the Commission's policy of safety culture to address the unique aspects of security
- ensure the resulting policy is applicable to all licensees and certificate holders

*Staff Requirements-COMGBJ-08-0001, "A Commission Policy Statement on Safety Culture":

<http://www.nrc.gov/reading-rm/doc-collections/commission/comm-secy/2008/2008-0001comgbjsrm.pdf>

Safety Culture Policy Statement

- Established an inter-office task group and steering committee
- Currently in Phase I: Information Collection, Review, and Analysis
- Phase I includes developing a strategy for stakeholder outreach activities
- Draft policy statement(s) to be provided to the Commission in FY'09 3rd quarter

Internal (NRC) Safety Culture Initiative

Internal Safety Culture Initiative

April 2008 Commission direction:

- Continue to look for ways to increase awareness of safety culture internally
- Provide the Commission with potential initiatives that could improve the agency's internal safety culture
- Identify best practices currently used across the agency

Internal Safety Culture Initiative

Approach:

- Task Force stand-up (completed)
- Research and data gathering (in progress)
 - Consideration of current agency activities for external (licensee) safety culture
 - Focus groups
 - Benchmarking
- Analysis and integration
- Report writing and communications
- Target completion date: by March 31, 2009

Conclusion

- NRC safety culture activities occurring in several areas
- Efforts made to leverage progress from the Reactor Oversight Process safety culture enhancements
- Stakeholder interactions and engagement important in all areas
- To stay informed, visit NRC's Safety Culture Webpage:
<http://www.nrc.gov/about-nrc/regulatory/enforcement/safety-culture.html>

Questions?

June Cai
Acting Team Leader
Internal Safety Culture Task Force
Office of Enforcement
U.S. NRC
june.cai@nrc.gov
301-415-5192

Isabelle Schoenfeld
Senior Program Manager
Concerns Resolution Branch
Office of Enforcement
U.S. NRC
isabelle.schoenfeld@nrc.gov
301-415-3280