

Proposed Safety Culture Components

U.S. Nuclear Regulatory Commission

**Public Workshop on Development of a Policy Statement  
On Safety Culture and Security Culture**

February 3, 2009

*Guidance for Submitting Comments*

Your input is requested on the attached questions!

- ❖ When providing written comments, please list the relevant topic and question numbers when appropriate.
- ❖ When commenting, please exercise caution with regard to site-specific security-related information. Comments may be made available to the public in their entirety.
- ❖ Optional – please consider including your contact information with your submission: name, affiliation, email, and phone number. Note that personal information will not be removed from your submission if it is made public.

You are encouraged to provide your comments to the following contact **by February 11, 2009**, to ensure the consideration of your comments. Comments received after this date will be considered if it is practical to do so.

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**Website Resource**

Visit the NRC Safety Culture public website at: <http://www.nrc.gov/about-nrc/regulatory/enforcement/safety-culture.html> to review background/historical information and to keep up-to-date on NRC activities in this area.

## **PROPOSED SAFETY CULTURE COMPONENTS**

### **Background Information**

The U.S. Nuclear Regulatory Commission (NRC) safety culture working group developed a set of 13 safety culture components to be used in the Reactor Oversight Process (ROP) based on a variety of sources including the nuclear and other domestic industries, international organizations and regulatory bodies, organizational literature and the knowledge and experience of the working group members. The information on safety culture gathered by the working group was screened to ensure that the information in the components was unambiguous, within the NRC's regulatory purview, provides insights on the components through existing inspection techniques, and was generally applicable to reactor licensees. The NRC's components were compared to both industry and international safety culture attributes to ensure that the staff fully captured concepts appropriate for NRC oversight. In an effort to use language, titles, and nomenclature that are common with the industry, the working group compared the NRC's safety culture components to the safety culture attributes and principles developed by the Institute of Nuclear Power Operations (INPO). To address internal and external stakeholder feedback following a series of public meetings in the late 2005 through early 2006 time frame, the working group further revised the safety culture components to enhance their concepts and use language that would better facilitate use of the components under the ROP.

The enhanced ROP incorporating the safety culture components was implemented in June 2006. The safety culture components were more recently evaluated for their applicability to other licensee environments such as for oversight of fuel facilities and new reactor construction. These reviews indicated that all of the components were applicable to these environments, albeit with tweaking of some of the language to take into consideration the unique aspects of those environments.

In reviewing the components for their potential inclusion in the development of the draft policy statement(s), staff made further changes based on lessons learned from the initial 18 month implementation of the ROP and also in consideration of the following:

- Improved the overall organization of concepts, such as integrated some components into others to combine related concepts
- Better address "security"
- Reword to be more generic to all licensee and certificate holders
- Separated some components related to individual worker performance from the higher level programmatic and organizational performance types of functions

This review resulted in the proposed nine safety culture components as provided in the attached. Under each of the safety culture components are example aspects to help with the understanding of each of the components.

## QUESTIONS ON SAFETY CULTURE COMPONENTS

1. Is there an area(s) important to safety or security culture that does not appear to be captured by the set of nine components? Is the missing area(s) relevant to a particular set of licensees or certificate holders? Or is it generically applicable? If so, please specify.
2. Of the identified components, is there a safety culture component(s) that you consider to not be important, or to not contribute, to safety culture and should therefore be dropped? If so, please specify.
3. How should the Commission communicate a common understanding of the components of safety/security culture?
4. How should the Commission, through the policy statement, influence licensee and certificate holders to use their understanding of safety/security culture to improve performance?
5. Should there be new regulatory requirements specifically addressing safety culture? If so, please explain. Or, how should safety culture insights to be used, e.g., to inform regulatory response to findings or violations within existing requirements?
6. Given the range of NRC licensees and certificate holders, how can the Commission best communicate its expectations regarding the scope of programs and processes to address safety/security culture in a manner that appropriately considers the different licensee and certificate holders environment?
7. How should the Commission define the components of safety and security culture (i.e., one set of components addressing both safety and security culture in an integrated manner or two sets of components, one to address safety culture and another to address security culture)? What are the risks and benefits of combining or separating them?

## PROPOSED SAFETY CULTURE COMPONENTS AND GENERIC EXAMPLES

### ***Work Practices (WP) – As individual contributors, personnel demonstrate ownership for safety and security in their day-to-day work activities.***

WP1– (work quality) Personnel ensure that their day-to-day work activities and products meet high standards, commensurate with the potential impacts of their work on safety and security, by, for example, remaining fit for duty; relying on the guidance contained in procedures, work instructions, drawings, databases, and other job aids and reference materials; and using human error prevention techniques, such as holding pre-job briefings, performing self- checks, and requesting peer checks or reviews.

WP2 – (individual decision-making) In their day-to-day work, personnel proceed with caution when making safety- or security-related decisions, especially when faced with uncertain or unexpected conditions, to ensure that safety and security are maintained. For example, when making decisions related to a safety- or security-related work product or activity, individuals question the validity of their underlying assumptions, identify possible unintended consequences that could affect safety and/or security, and obtain appropriate management and/or interdisciplinary input and approvals. They do not proceed in the face of uncertainty, unexpected conditions, or unsafe circumstances until the conditions or concerns are resolved.

### ***Work Planning and Control (WPC) – Processes for planning and controlling work ensure that individual contributors, supervisors and work groups communicate, coordinate, and execute their work activities in a manner that supports safety and security.***

WPC1 – (communication and cooperation) Individual contributors and work groups communicate and cooperate during work projects and activities to ensure that safety and security are maintained. For example, during the execution of work, personnel are kept informed of current operational safety or security status; the operational impact of planned and on-going work activities; and the potential for interactive effects between activities (including nuclear safety/security interface considerations and off-site activities) that are or will be performed concurrently.

WPC2 – (supervisory oversight) Supervisors and managers are accessible and oversee work activities and products, including the work of contractors and vendors, to ensure that safety and security are maintained. They reinforce safety and security standards in their interactions with others. For example, managers and supervisors challenge work activities and work products that do not meet their standards.

### ***Safety Conscious Work Environment (SCWE) – Management maintains a SCWE in which personnel feel free to raise concerns without fear of retaliation.***

SCWE1 – (raising concerns) Personnel freely, openly and without fear of retaliation, communicate conditions or behaviors that may impact safety or security, and provide complete, accurate and forthright information to management, oversight, audit, and regulatory organizations without fear of retaliation.

SCWE2 – (retaliation) Management investigates claims of harassment, intimidation, retaliation, and discrimination consistent with the regulations regarding employee protection. If an instance of harassment, intimidation, retaliation or discrimination for raising a safety or security concern is identified, management takes corrective actions in a timely manner.

***Problem Identification and Evaluation (PIE) – Management ensures that issues potentially impacting safety or security are promptly identified and fully evaluated, commensurate with their significance.***

PIE1 – (low threshold/wide scope) Problem identification processes (e.g., raising issues to management, the corrective action program – CAP, self- and independent assessments, oversight groups, any alternative processes for raising concerns) have a low threshold and wide scope for identifying issues. Personnel identify issues promptly, completely and accurately, including fitness-for-duty, radiological, industrial, or chemical safety concerns, and nuclear safety and security issues.

PIE2 – (problem evaluation) The licensee thoroughly, accurately, and in a timely manner evaluates problems identified from any source (e.g., the CAP, reviews of internal lessons learned and lessons learned by others, self- and independent assessments, and alternative processes for raising concerns or resolving differing professional opinions), commensurate with their safety/security significance. Problems, issues and conditions adverse to quality are properly classified and prioritized. Causes and contributors to safety- and security-significant problems are accurately identified as well as their extent; and the extent of conditions associated with the problems is accurately identified.

***Problem Resolution (PR) – The licensee ensures that safety and security issues are promptly addressed and corrected, commensurate with their significance.***

PR1 – (timeliness) The licensee implements actions, in a timely manner, to address safety/security issues and adverse trends (both of which may be identified from any source, such as the CAP, reviews of internal lessons learned and lessons learned by others, self- and independent assessments, input from oversight groups, or alternative processes for raising safety and security concerns and resolving differing professional opinions), commensurate with their significance and complexity.

PR2 – (effectiveness) Problem resolutions are effective in addressing cause(s) and preventing recurrence of problems and issues affecting safety and security. The licensee evaluates and monitors the effectiveness of problem resolutions, commensurate with their significance.

***Resources (R) – The licensee ensures that the personnel, equipment, procedures, and other resources needed to assure safety and security are available.***

R1 – (training and qualifications) The licensee ensures that personnel are qualified to perform their assigned tasks. For example, training is developed and implemented to ensure competence.

R2 – (documentation) Procedures, work instructions, design documentation, drawings, databases and other job aids and reference materials are complete, accurate and up-to-date. Procedures and work instructions are usable, commensurate with the knowledge, skills and abilities of personnel.

***Licensee Decision-Making (LDM) – Licensee decisions ensure that safety and security are maintained.***

LDM1 – (safety/security first) Management adopts and reinforces the approach that a proposed action must be demonstrated to be safe and maintains the facility in a secure status in order to proceed, rather than an approach that a proposed action must be demonstrated to be unsafe or to compromise facility security in order to disapprove the action

LDM2 – (potential goal conflicts) Management develops, communicates and implements production, cost and schedule goals in a manner which demonstrates that safety and security are overriding priorities.

***Accountability (A) – Roles, responsibilities and authorities for safety and security are clearly defined and reinforced.***

A1 – (roles and responsibilities) Management ensures that personnel understand their roles and responsibilities in maintaining safety and security. Programs, processes, procedures, and organizational interfaces are clearly defined and implemented as designed.

A2 – (leadership for safety/security) Leaders at all levels of the organization consistently demonstrate that safety and security are overriding priorities.

***Continuous Learning Environment (CLE) – Management maintains a continuous learning environment in which opportunities to improve safety and security are sought out and implemented.***

CLE1 – (encouragement to improve) Management encourages individuals to develop and maintain current their professional and technical knowledge, skills, and abilities, and ensures knowledge transfer. Management also ensures that personnel remain knowledgeable of industry standards and innovative practices and encourages personnel to identify opportunities to improve safety and security performance.

CLE2 – (improvement implementation) Personnel at all levels of the organization seek out areas for improvements. Changes to standards, programs, processes, and procedures are implemented in order to improve safety and security performance. Management and supervision challenge behaviors reflecting an attitude that current performance is “good enough.”