Public Workshop on Development of a
Policy Statement on Safety Culture and Security Culture
February 3, 2009
Meeting Summary

Session 2: Safety Culture / Security Culture

Panelists:

- Martin Virgilio (NRC), on behalf of the International Atomic Energy Agency (IAEA)
- Ron Teed, Nuclear Security Association (NSA)
- Tony Petrangelo, Nuclear Energy Institute (NEI)
- Shawn Seeley, Organization of Agreement States (OAS)
- Pete Stockton, Project on Government Oversight (POGO)

Panelists' Presentations:

- M. Virgilio's presentation on IAEA's approach to safety culture and security culture discussed the challenges with the interface between safety and security. Some of these included inadvertent versus malicious intentional acts and sharing information freely versus limiting information to a need-to-know basis. IAEA has separate policy statements regarding safety and security culture. In part, this is the result of the characteristics of safety and security culture and part due to organizational factors at the IAEA.

- NEI does not want separate safety/security culture policy statements. NEI pointed out that the various departments within an organization have their own culture, yet NRC does not expect to have different policy statements for each department. Safety culture integrates various functions, and NRC should ensure that one policy statement addresses each function (department).

- POGO listed several negative security events that they expressed as safety culture. These issues include: an unrealistic design basis threat (DBT), excessive overtime leading to guard inattentiveness, guards being out-gunned and not prepared to take on a surprise attack, not enough training for guards, too much advance notice for force-on-force (FOF) exercises, etc. POGO indicated that many of the security problems can be attributed to the NRC. POGO had no opinion on either a single or two policy statements.

- OAS expressed that generally one policy statement would be best but is concerned that one size does not fit all. Health and safety are already integrated, so security should be included since they are all interconnected.

- NSA wanted a single policy statement because security is well-integrated into plant processes already. Separate policies may negatively reinforce the belief that security is held to a different standard than safety. Security culture should be considered to be a subset of safety culture. Corrective action programs (CAPs), employee concerns programs (ECPs), and the NRC are successful avenues to address security issues. Current plant surveys and audits review security. Allow

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licensees to choose different approaches to achieve the overall policy objective. Have clear expectations, but do not prescribe the methodology for achieving those expectations.

Stakeholders' Comments:

Support for a single policy statement

- One organization had problems with separating safety and security culture with respect to differences in processes causing confusion. They are trying to integrate security culture into safety culture. If NRC creates different policies, this would be a step backwards and create separation within organizations. There was a suggestion to have a regulatory guide for integrating security into plant processes since this integration is critical for raising security standards to operations-level standards. Having one overall policy would help with this.

- Support for NEI's position for one policy statement was expressed because it can be confusing to separate security from safety. Security should be raised to the same level as human performance standards.

- There should be one unified policy and allow different implementation. Safety integrates all aspects of the organization.

- There should be one combined policy statement. Security employees should know and be trained that they are covered by the same employee protection rights. Security organizational structures tend to be more rigid than operations or maintenance departments, and security employees may not feel comfortable bypassing their chain-of-command regarding raising issues. It's dangerous to have two different standards. Safety does incorporate security.

- Initial reaction was to have separate policies because a contracted security force will have a separate culture from the rest of the plant, but now leaning toward using one policy to force integration of the security force into the plant's culture. By its nature, the security force will have a separate culture from the rest of the plant.

- Have one policy, but acknowledge that safety and security issues need to be handled differently.

- Have one policy, but acknowledge the differences in organization levels. The same set of behaviors needs to be achieved throughout organization levels.

Support for separate policy statements

- Safety and security discussions should be separate because they are separate concepts. Although separate policy statements were suggested, the two should have equal importance.

Weighting or precedence of safety and security

- NRC asked that if the NRC promotes one policy statement, should safety and security be weighted equally or should one subsume the other or be weighted differently. Those that responded to the question directly said that security is a part or subset of safety culture. Security is an element of safety culture, not a separate entity. Some agreed with this notion. Further, those responding indicated that they believed that: the issues cannot be weighted, weighting would depend on the individual issue's significance, an appropriate weighting cannot be quantified, and the "one size fits all" approach is not likely to work.

- The following questions were asked - "Does security have more importance than radiation safety, health physics, and other aspects of nuclear power plant operation? Are we creating an issue by drawing attention to security?"

- Issues need to be weighted because the policy could be unfair to small materials licensees.

General comments

- Security issues receive limited discussion during large meetings at licensees, but the issues are discussed "off-line." Safeguards information needs to be controlled, and there are means for entering security issues into the Corrective Action program (CAP) using the same processes and procedures as other plant issues. Discussions can be held off-line with senior-level managers. Security issues entered into the CAP are given the same priority as other issues and receive the same level of response, but safeguards information needs to be controlled.

- IAEA's organizational structure may provide insights as to why they have separate safety and security policies.

- The policy needs to be people-focused versus administratively-focused. Employees and supervisors should respond to the policy in the same way. The differences in how people in different positions think and act should not be emphasized, but they should not necessarily think and act in the same way.

- Encompassing all levels will be difficult. There may be a "one size fits all" policy for top-level people, but top-down differences need to be addressed.

- NRC should not assume or have confidence that workers use the common means for reporting concerns (e.g., CAP, employee concerns program, NRC). One organization has received reports from nuclear power plant employees that they are not using these avenues, and that employees get the most pressure during outages.

Session 3A: Materials Area Considerations

Panelists:

- Shawn Seeley, State of Maine, representing the Organization of Agreement States (OAS) and the Conference of Radiation Control Program Directors (CRCPD)
- Michael Sheetz, University of Pittsburgh
- John Nagy, Nuclear Fuel Services

Panelists' Presentations:

- The State of Maine expressed the view that security and health and safety go "hand-in-hand," which is the approach that is currently being taken in most of the States. NRC's approach needs to be: (1) performance-based, (2) appropriately consider the relative risk of the activities, and (3) generic enough to address the range of different types of licensees. The guidance needs to be simplified and made un-burdensome, and there is a need for uniformity, based on sound policy. The question of whether NRC is reacting to interest of Congress at the expense of the States was posed.

  The following suggestions for moving forward with the development of the policy statement were made. The NRC should look at vulnerability versus the actual risk. The NRC should use data (e.g., the number of devices that have been stolen, including attempts to steal the devices before and after the implementation of the increased security requirements). The NRC needs to listen to the stakeholders and avoid making the presumption that the NRC knows best. There is the need to continue to "trust, but verify."

- The University of Pittsburg asked the question whether there is data (e.g., incidents, regulatory violations) to support a need to increase the level of safety for all materials users was posed. Before increasing the focus in the area of safety culture, it needs to be justified on the basis of risks and benefits, and efforts might be better allocated to areas that pose higher risk.

  In the medical and university environment, safety culture for radiation sources is closely linked to the chemical, biological, and patient safety practices. The important components for maintaining a culture of safety are: (1) training and instruction on policies and procedures, and (2) monitoring compliance through audits and surveillance. Nuclear power plants and materials users (e.g., medical and academic) are worlds apart.

  One approach to increasing attention to safety culture at materials licensees would be through the standards of practice that are developed by professional societies (e.g., Society for Nuclear Medicine (SNM), American Association of Physicists in Medicine (AAPM), Health Physics Society (HPS), American College of Radiology (ACR), and American Society for Therapeutic Radiology and Oncology (ASTRO)) and adopted by licensees.

  The level of safety culture being promoted should be proportional to the risk (e.g., type, quantity, and use of material). The policy should address performance-

based goals. It may be difficult to express a single policy that gives appropriate weight and balance for safety culture across the range of licensees.

The security of sources in the medical and academic community presents unique challenges and there is difficulty associated with maintaining different levels of control while working in open and collaborative environments. The current set of increased controls focus on access controls, whereas more effective security may be achieved through detection and response. Security requirements for licensees should be prescriptive. Prescriptive requirements would eliminate differing interpretations. There should be separate safety and security policy statements.

NRC's interactions with licensees can improve the attention that licensees give to maintaining safety and security culture. The following suggestions were provided. The NRC should continue to electronically publish NRC Information Notices, the Office of Federal and State Materials and Environmental Management Programs (FSME) licensee newsletter, and Regulatory Information Summaries (it was noted that Agreement States do not provide similar electronic publication of their information). NRC should not cite licensee self-identified violations, if appropriate corrective action has been taken. A zero-tolerance enforcement policy has the potential to negatively affect efforts to maintain a culture of compliance. There is a need for consistent safety and security policies, and the interpretation and enforcement of radiation protection requirements should be the same throughout the country.

- Nuclear Fuel Services expressed the view that there is a business case for maintaining safety culture. At NFS, safety is used to include: (1) health and safety, (2) safeguards and security, (3), environmental stewardship, and (4) quality. NFS uses one "safety and compliance" policy that adopts the NRC's 13 safety-culture components, where safety and security are treated equally as part of one culture of compliance, and it is important that all players are involved and that both safety and security are open to discussion.

  The safety culture self-assessment performed by NFS provided value and resulted in better ownership of the issues by NFS. A third-party assessment provided validation of the self-assessment and identified some new areas to be addressed.

  Addressing remarks made earlier by University of Pittsburg, NFS indicated that in addition to the differences in the classes of licensees, there are vast differences within each class of licensee. There is a need to reflect the differences that exist.

  The following suggestions were provided: (1) the policy statement should be written as one culture, (2) there should be a single standard (of expectations), and 3) safety culture should be incorporated into the Licensee Performance Review (LPR) process. Safety culture should not be treated as an "inspection area," because the use of inspections would take the ownership of the issues away from plant management. Licensees should conduct self-assessments, so that they have ownership of the issues. The NRC can provide their own perspective and can evaluate the licensee's self-assessment.

Stakeholder Comments:

Safety Culture Components

- The draft safety culture components are general enough so as to be applicable to it.

Need for a Policy Statement

- There is a need for a policy statement, because historically, there have already been some serious mistakes. Being proactive is good, and it also helps the bottom line.

- In response to a question regarding whether there is any indication that there is a lack of safety with licensees, NRC responded that there is not a lack of safety but there is room for improvement. Examples such as a number of abnormal occurrences (AOs) in the medical area, gauge users, a number of near misses and extremity over exposures in the radiography area were cited. There was consideration given to establishing regulations in response to these incidents, but a better way may be a policy statement.

Prescriptive, Performance-Based, or Graded Approach

- When moving into regulation and inspection guidance, that is entering a grey area, and it is important to be performance based and risk based.

- Any policy statement needs to be graded. The issues are not with the broad statement of policy and general attributes, but in the implementation and inspection. If expectations are established in inspections, the graded approach may break down.

- An organization can have very different facilities, where the risk profiles are dramatically different. The risk profile needs to be addressed.

- Understand, but disagree with, University of Pittsburg on whether security should be addressed prescriptively and prefers flexibility.

- There can be different guidance for different types of licensees.

Consistency

- It would be almost impossible to develop one interpretation for all 35 Agreement States. The policy statement should be generic enough where it can be used as concrete guidance. Without a single policy, that would lead having multiple policies, which would result in inconsistency. There is a need to enhance the policy by making it concrete, and there are a lot of policies out there already.

- Complexity arises because NRC regulates some activities, and other portions are regulated by Agreement States. One organization has been struggling with efforts to standardize attributes, such as in areas of their Corrective Action Program and Safety Conscious Work Environment. Consistency is preferred.

- A question was asked whether there were any thoughts to making the policy a matter of compatibility, specifically Category B.

Other Safety and Security Considerations

- The difference in safety and security is not a significant issue. In developing a training program at one facility, the security staff sit through the discussions of safety issues and, similarly, the safety staff sit through the discussion of security issues (i.e., all of the staff get training in safety and security). Safety culture is built up with training systems in place for years, but that there is not a large difference between safety culture and security culture.

- At one organization, all employees are trained on security and the security staff are trained on safety — focusing on the category 2 sources, because, in general, the radiation risks are less than the chemical and biological risks for many activities.

- Good training is important, and some training relating to cultural issues (e.g., Safety Conscious Work Environment) should be performed.

One Policy Statement or Separate Policy Statements

- There should be one policy statement.

- Regarding including the unique aspects of security, the question whether NRC is making security a unique aspect of safety was asked. Other aspects of safety programs include criticality safety, environmental protection, and chemical safety.

How Might NRC Increase Attention to Safety Culture in the Materials Area and What Might the NRC do Differently?

- One organization routinely requests inspections from Agreement States, but the Agreement States do not inspect when requested because of a lack of funds. The attention to safety culture would be improved, if licensees can get Agreement States to inspect when requested, so that problems can be identified early.

- NRC should change the paradigm and reach out more to the regulated community, specifically individual doctors and employees (i.e., focusing on education and public awareness). NRC should consider developing different levels of certifications, such as a indicating a high level of safety conscious awareness.

- NRC should provide positive feedback when licensees are doing well.

Other Comments

- NRC could bring people together by establishing common language and attributes, but if NRC pushes its policies too far, it could be counter-productive. The Institute for Nuclear Power Operations (INPO) and NEI could work within the industry to establish such common language.

Session 3b: Reactor Area Considerations

Panelists:

- Audrey Klett (NRC)
- Ed Sherer, Southern California Edison (SCE), Regional Utility Group IV
- Tom Houghton, Nuclear Energy Institute (NEI)
- Frank Maciuska, Professional Reactor Operator Society (PROS)
- Billie Garde, of Clifford and Garde, LLP

Panelists' Presentations:

- NRC's presentation provided an overview and history of how safety culture is addressed within the framework of the Reactor Oversight Process (ROP) and discussed recent changes to NRC guidance reflecting lessons learned implementing the safety culture enhancements. NRC pointed out that the Commission directed the staff in 2006 (1) to enhance the ROP's treatment of cross-cutting issues to more fully address safety culture, (2) to include inspection requirements to evaluate a licensee's safety culture for plants with significant performance issues, and (3) to ensure that the safety culture enhancements were consistent with regulatory principles that guided the development of the ROP (i.e., be transparent, understandable, objective, predictable, risk-informed, and performance-based). The staff revised the appropriate guidance documents accordingly and implemented the enhanced guidance in July 2006. Following an 18-month initial implementation period, the staff further revised the guidance documents based on lessons learned and feedback from interested stakeholders. Specifically, the staff revised Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," and Inspection Procedure (IP) 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input," in January 2009. In addition, IP 71152, "Identification and Resolution of Problems," is being revised and should be issued shortly.

- SCE's presentation focused on an alternate approach for addressing safety culture, noting that the industry is responsible for safety and security at their sites and the NRC is responsible for oversight. Under this alternative approach, the industry would assess the health of its safety culture, and would conduct periodic assessments based on the (INPO Principles and Attributes and the Utilities Service Alliance (USA) approach. This approach would replace part of the parallel NRC process, and it was recommended that the industry and NRC employ a common methodology and terminology with respect to safety culture assessments.

- NEI's presentation provided additional detail to the industry's proposed alternative approach. NEI noted that there is a Nuclear Safety Culture Assessment Task Force that is developing a guideline based on the INPO and USA approach that could be used for self, independent, and third-party safety culture assessments. NEI noted its intention to provide the guideline to the NRC for its review and plans to invite the NRC staff to observe the assessment approach.

- PROS presented their code of ethics emphasizing their commitment to the preservation of public health and safety. The differences between a site's safety culture and security culture were emphasized, and the INPO and IAEA principles of safety and security culture were compared. PROS indicated that safety culture as applied to reactors does not need to be strengthened, because although the NRC can be the driver for safety, safety culture stems from the values and behaviors of individuals and an organization.

- B. Garde noted her concerns with both the NRC's and industry's approach to safety culture and noted disappointment in progress to date. She noted that both USA and INPO approaches are missing the safety conscious work environment (SCWE) and harassment and intimidation aspects. She felt that NEI/industry needs to adapt to meet the NRC expectations. She also noted that four aspects over time is not a timely indication of safety culture deterioration, and neither is the 2-year biennial self-assessment proposed by industry. She pointed out that it takes a long time to repair poor safety culture, but it can deteriorate more rapidly. She stated that safety culture issues at Davis-Besse were due to people not willing or motivated to report safety concerns. She felt that safety culture needed to be resolved prior to new reactor construction, and that she'd welcome the opportunity to review the industry's proposal.

Additional Stakeholder Comments and Discussions:

- The current ROP safety culture guidance is too narrow and prescriptive and is not a leading indicator of declining performance. Precursors of declining performance include the physical condition of the plant and the health of a licensee's corrective action program.

- ROP safety culture guidance and assessment of licensee actions for closing substantive cross-cutting issues requires subjective judgments. NRC staff decisions are not consistent, predictable, repeatable, nor transparent.

- The cross-cutting issue process is very complex and could miss a recurrence similar to the Davis-Besse plant phenomenon since the NRC focuses additional inspection effort on plants with declining performance rather than on plants in the Licensee Response column of the ROP Action Matrix.

- The NRC should continue to evaluate allegations and the SCWE at sites, and industry safety culture assessments should be conducted more frequently than once every two years. Frequent safety culture surveys may lead to "survey fatigue" and will have less meaning and value.

- The NRC's proactive safety culture assessment at nuclear power plants should not be eliminated. Industry's attempts to improve the self-assessment process at plants are supported, but the industry's self-assessment process should complement rather than replace NRC's oversight.

- The NRC and the nuclear industry should adopt a common language to describe safety culture attributes and principles.

- NRC staff should develop clear expectations and directives for establishing an adequate safety culture, including direction on how periodic reviews would be performed.

- The NRC staff should develop a Regulatory Issue Summary or Regulatory Guide that explains its expectations.

Summary and Wrap-up Session

Summary of Session 3A and 3B

- The reactor session highlights summary discussed the key points of the reactor session.
    - The NRC has revised the inspection program to include lessons learned from implementation of the safety culture changes. No changes were made to the safety culture components or aspects currently used under the ROP. Once the Agency implements the Policy Statement, the ROP will be reviewed for revisions needed to incorporate the Policy Statement guidance.
    - Some believed that the current ROP is narrow and prescriptive and that it is not an accurate indicator of performance. There was also a comment about the ROP not being a leading indicator for declining performance.
    - The problem identification and resolution (PI&R) program is the cornerstone of precursors, but rigor and transparency could be a challenge.
    - Industry believed they should own safety culture and conduct safety culture assessments with common and transparent methodology. The industry will be developing a safety culture program and will conduct their own safety culture assessments, which will be structured on INPO's principles and attributes. The USA methodology could serve as the industry standard, and peer-assisted self-assessments could be structured on INPO's Principles and Attributes.
    - The industry's approach is missing the SCWE aspects of safety culture, which are covered by NRC's components and aspects.
    - The human element (people and relationships) is a primary piece of safety culture, which is driven by solid leadership.
    - One of the challenges mentioned was that it can take a long time to repair safety culture if it is not maintained, but it can deteriorate easily.

- The Materials session highlights summary discussed the key points of this area.
    - There was wide participation from a range of stakeholders. The wide variety among these licensees but how there are also similarities was discussed.
    - The safety culture components apply to all the licensees.
    - The components should be well defined due to the wide variety of licensees and certificate holders and should also give flexibility to be applicable to the wide range of materials licensees.
    - There is need for consistency because of differences between the NRC and the agreement states.
    - In general, the views expressed indicated that that there should be no division between safety and security safety culture.
    - There was concern regarding the implementation of the policy – that there could be potential challenges when imposing expectations during implementation, such as through inspections activities.
    - The NRC should not only reach out to the licensees but also to reach out to the individual licensee employees in order to increase the awareness on safety culture.
    - Other ways NRC could increase attention on safety culture to materials licensees were discussed.

Other Discussion Items

- Productive discussions took place and consensus was reached on several discussion items.
- NRC should explain how it went from the 13 (currently used by the ROP) to the 9 proposed safety culture components. NRC staff responded that the Commission paper would discuss the process used.
- In general, most proposed to have one policy statement where the security would be a subset of the safety culture.
- There were good discussions regarding implementation issues and how licensees will affected.
- The NRC and the Agreement States should work together on the implementation of the Policy Statement.
- It was a good workshop that invited open dialogue between the industry, the NRC and the Agreement States.
- There will be opportunity to comment on the Policy Statement, after the draft is reviewed and approved by the Commission.

Next Steps

- The staff discussed the milestones for the development the Commission Paper and draft Policy Statement, which will be ready by the end of April. At the end of May, there will be a Commission meeting. Following Commission review and approval of the draft Policy Statement, it is likely to be published in the *Federal Register Notice* for public comment.
- The Commission paper will discuss the comments and the recommendations made by stakeholders.