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Recovered Cs-137 sources. Neuquén, Argentina.



Consequences of a Weak Nuclear Security Culture

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Nuclear Summit

Washington DC, April 13, 2010

Communiqué from Washington Nuclear Security Summit

- 8. Acknowledge the need for capacity building for nuclear security and cooperation at bilateral, regional and multilateral levels for the ***promotion of nuclear security culture*** through technology development, human resource development, education, and training; and stress the importance of optimizing international cooperation and coordination of assistance.

Nuclear Security and Nuclear Security Culture

- The fundamental principles of nuclear security include embedding a nuclear security culture throughout the organizations involved. By the coherent implementation of a nuclear security culture, staff remain vigilant of the need to maintain a high level of security.
- Nuclear security culture is defined as “the assembly of characteristics, attitudes and behaviors of individuals, organizations and institutions which serves as a means to support and enhance nuclear security.

Nuclear Security Culture

- CPPNM Amendment and INFCIRC/225/Revision 5 Physical Protection Regime

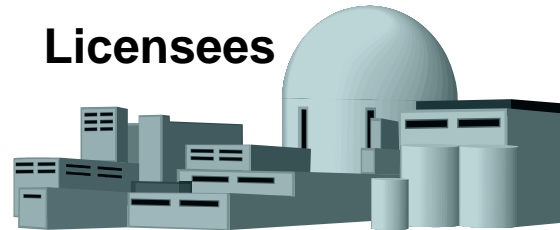
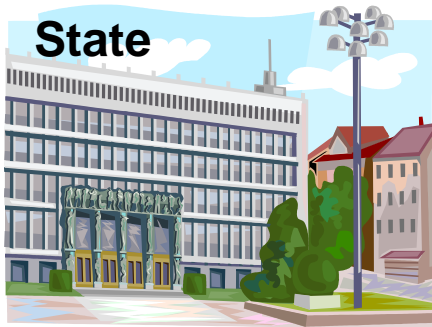
Fundamental Principle F

All organizations involved in implementing physical protection should give due priority to the security culture, to its development and maintenance necessary to ensure its effective implementation in the entire organization.

Foundations of Nuclear Security Culture

- Belief by all that the threat is real
 - It exists
 - It can happen at any time
- Supported by all levels of an organization
 - Senior management
 - Managers
 - Staff

Nuclear Security Roles



Nuclear Security Culture



IAEA

International
Community



Public



Employees

- Responsible for establishing a legislative and regulatory framework that fosters an effective nuclear security culture
 - Security policy
 - Protection of sensitive information and of facilities
 - Establishing a legal framework
 - Distribution and coordination of responsibilities
 - Coordination mechanisms for
 - Exchange of knowledge and data
 - Joint exercises for contingency planning and emergency response

Organizations

- Nuclear security policy consistent with that of the State
- Clearly defined roles, responsibilities, and accountability for each level of the organization
 - Appointed individual with sufficient authority, autonomy, and resources to implement and oversee nuclear security activities
 - Procedures to facilitate rapid resolution of questions
- Resources – financial, technical, human
- Management systems to
 - Define expectations
 - Implement and maintain processes
 - Measure progress
 - Assess compliance
 - Improve performance including review and improvement processes
 - Manage change

Managers in Organizations

- Responsible for ensuring appropriate standards of behaviour and performance associated with security
- Establish formal decision-making mechanisms
- Maintain effective communications
- Provide training and professional development
- Ensure that staff members are appropriately motivated and that their role in enhancing nuclear security is recognized and valued
- Prevent complacency from compromising overall security objectives

Personnel

- Accountable for their own behaviors
- Motivated to ensure nuclear security
- Conduct themselves in a manner that recognizes the circumstances and potential consequences of their behavior
- Comply with facility procedures
- Avoid divulging any information that could undermine security
- Understand how their particular role and interfaces contribute to maintaining security

Public

- Awareness that security is a key consideration for plant operation
- Understanding that details related to security cannot be divulged
- View nuclear security culture as a sign of professionalism, skill, and responsibility by all actors involved in the protection of nuclear materials and nuclear facilities

International Community

- Provide guidance and support for developing regulatory and institutional infrastructure
- Assist States in meeting obligations and commitments
- Develop strong partnerships to assist in promoting safe, secure civilian nuclear operations
- Participate in bilateral, regional, and global projects that strengthen nuclear security

Beliefs and Attitudes

- Basis (foundation) of nuclear security culture
- Exist in people's minds
- Beliefs and attitudes:
 - Developed through experience (shared)
 - Developed over time (individual)
 - Affect individual behaviour
 - Ultimately affect nuclear security effectiveness
- Important for security personnel and also others in the organization

Characteristics

- Management systems are well-developed and prioritize security
- Leadership and personnel behavior foster more effective nuclear security
- Principles for guiding decisions and behavior are adopted
- Beliefs and attitudes reflect
 - Acknowledgment that a credible threat exists
 - Importance of nuclear security

Principles

- Characteristics are
 - Commitment and responsibility
 - Leadership
 - Motivation
 - Learning and improvement
 - Professionalism and competence

Management Systems

- Visible security policy
- Clear roles and responsibilities
- Performance measurement
- Work environment
- Training and qualification
- Work management
- Information security
- Operations and maintenance
- Determination of staff trustworthiness
- Quality assurance
- Change management
- Feedback process, contingency plans, and drills
- Self-assessment
- Interface with the regulator
- Coordination with off-site organizations

Behavior

- Observable action or statement
- Includes vigilance, questioning, executing work accurately, and adhering to high standards

Leadership

- Expectations
- Use of authority
- Decision-making
- Management oversight
- Involvement of staff
- Effective communications
- Improving performance
- Motivation

Personnel

- Professional conduct
- Personal accountability
- Adherence to procedures
- Teamwork and cooperation
- Vigilance

Signs of a Weak Nuclear Security Culture

- Lack of threat awareness
- Lack of security visibility
 - Different security environment for different people at the same position
 - Security exceptions for managers
 - Disregard for security rules/personnel
- Ambiguous security roles and responsibilities
- Poor operational security: “loose lips sink ships”

More Signs of a Weak Nuclear Security Culture

- Lack of quality assurance program
 - Substitution of inferior equipment
 - Unskilled personnel
 - Deficiencies in acceptance testing
- Poor record keeping
 - Material inventories, configuration management
- No security training, exercises
- Poor information/cyber security
- Cultural biases
 - Ethnic, tradition

Countermeasures

- Start at the beginning and start at the top
 - Include appreciation for nuclear security culture at the societal level/training level
 - Upper management is fully committed to strong security culture and demonstrates it
- Management systems are well developed and prioritize security
- Behaviors foster more effective nuclear security
- Principles for guiding decision and behaviors are demonstrated
- Nuclear security values and attitudes are encouraged

Case Studies

- Employee is met at the door by a colleague who asks to let him in to get his badge that he left on his desk.
- Reactor Facility Manager drives his car into the security area and parks near the reactor.
- Employee has a cousin who lost his job because of small theft and is looking for a new job. The security position just opened and he needs recommendations.
- Vendor for digital control systems says he has pictures of his vacation to share with you on his pen drive.
- Employee notices some odd behavior by the facility manager.

Conclusion

A Strong Nuclear Security Culture:

- Understands that the threat is real
- Builds trust that all employees play their part in security
- Makes it easier to spot anomalies
- Works to protect vulnerable employees
- Enhances security at a facility