DEVELOPING A ROBUST NUCLEAR SECURITY INFRASTRUCTURE IN A COUNTRY PLANNING OR OPERATING NUCLEAR POWER PLANTS

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A Robust Nuclear Security Infrastructure

A robust nuclear security infrastructure is one which has the effective ability to prevent, detect and respond to:

- theft,
- sabotage,
- unauthorized access,
- illegal transfer or
- other malicious acts

involving nuclear material, other radioactive substances (in use, storage and transport) or their associated facilities

Background

- Resolution 1373 (28 September 2001) calls on Member States to work together urgently to prevent and suppress terrorist acts including through increased cooperation and full implementation of the relevant international instruments relating to terrorism.

- Resolution 1540 (28 April 2004): Affirms that proliferation of nuclear, chemical and biological weapons as well as their means of delivery constitutes a threat to international peace and security and it is necessary to initiate appropriate and effective actions against any threat to international peace and security

BACKGROUND (continued)

- Resolution 1540 recognizes that states have taken measures to Account for, Secure and Physically protect sensitive material specified by CPPNM and IAEA CoC.

- States shall take and enforce effective measures by establishing control over sensitive materials and:

  - Develop and maintain appropriate effective measures to Account for and Secure such items in production, use, storage or transport
  - Develop and maintain appropriate physical protection measures
  - Develop and maintain appropriate effective border controls and law enforcement

Efforts to Detect, Deter and Prevent the Illicit Trafficking and Brokering

- The Convention on Physical Protection of Nuclear Materials (and Facilities)-CPPNM and its amendment, are aimed to establish and maintain world-wide effective physical protection of nuclear material used for peaceful purposes (while in use, storage and transport) and of nuclear facilities used for peaceful purposes.

- Article 2A of the CPPNM aims to establish, implement and maintain an appropriate physical protection regime applicable to nuclear material and nuclear facilities under the jurisdiction of States.

- While implementing the amended CPPNM States shall apply 12 Fundamental Principles of Physical Protection

Fundamental Principles of Physical Protection

A: Responsibility of the State
B: Responsibilities During International Transport
C: Legislative and Regulatory Framework
D: Competent Authority
E: Responsibility of the License Holders
F: Security Culture
G: Threat
H: Graded Approach
I: Defence in Depth
J: Quality Assurance
K: Contingency Plans
L: Confidentiality

Efforts to Detect, Deter and Prevent the Illicit Trafficking and Brokering (Continued)

- The International Convention on Suppression of acts of Nuclear Terrorism (2005) deals with nuclear material & other radioactive substances, also the devices (IND, RDD) and acts intended to pose a state of terror in the general public.

- Article-8: For the purpose of preventing offences under this convention, State Parties shall make every effort to adopt appropriate measures to ensure the protection of radioactive material taking into account relevant recommendations and functions of the IAEA

Efforts to Detect, Deter and Prevent the Illicit Trafficking and Brokering (Continued)

- INFCIRC/225

  a set of recommendations for the physical protection of nuclear material in use, storage and transport whether domestic or international and whether peaceful or military. most widely used document for guidance, standards and bilateral agreements on physical protection.

- CoC on Safety and Security of Radioactive Sources and supplementary guidance on the Import and Export of Radioactive Sources

Implications of Nuclear Security for "NEWBUILDS"

- Insights of Report by Paul Wolfowitz on "Proliferation Implications of Global Expansion of Civil Nuclear Power"
- Expansion in Third World vs. Developed Countries
- The existing nuclear security infrastructure worldwide is a comprehensive one and can help such countries to model their own
- The most effective way is to establish an Independent Regulatory Authority which has oversight for both safety and security

Implications of Nuclear Security for "NEWBUILDS" (Continued)

- IAEA can help Member State to develop its own Roadmap for a sustainable infrastructure
- Example of IAEA help to Pakistan
- Security considerations must be considered from the stage of site evaluation onwards
- Regulatory Body should develop coordination with relevant organizations in the country

Implications of Nuclear Security for "NEWBUILDS" (Continued)

- The Regulatory Body should develop a National Resource Center for training of own staff, utility and related organizations and develop a link with IAEA for free flow of information and know-how.
- The Four-Quadrant Formula and IAEA Nuclear Safety & Security Standards can provide the basis for the proposed Resource Center.
- The organizations involved in the implementation of nuclear security regimes should give due consideration and priority to the security culture, its development and maintenance.
- The nuclear security regimes are heavily dependent on the quality management system aiming to promote confidence that specified requirements for all activities important to nuclear security are satisfied.

Four-Quadrant Approach

1. Legal Basis and Regulatory Processes Competencies

- Legal Basis
- Regulatory Process
- Regulatory Guidance Documents
- License and Licensing Documents
- Enforcement Process

2. Technical Disciplines

- Basic Security Technology
- Applied Security Technology
- Specialized Security Technology

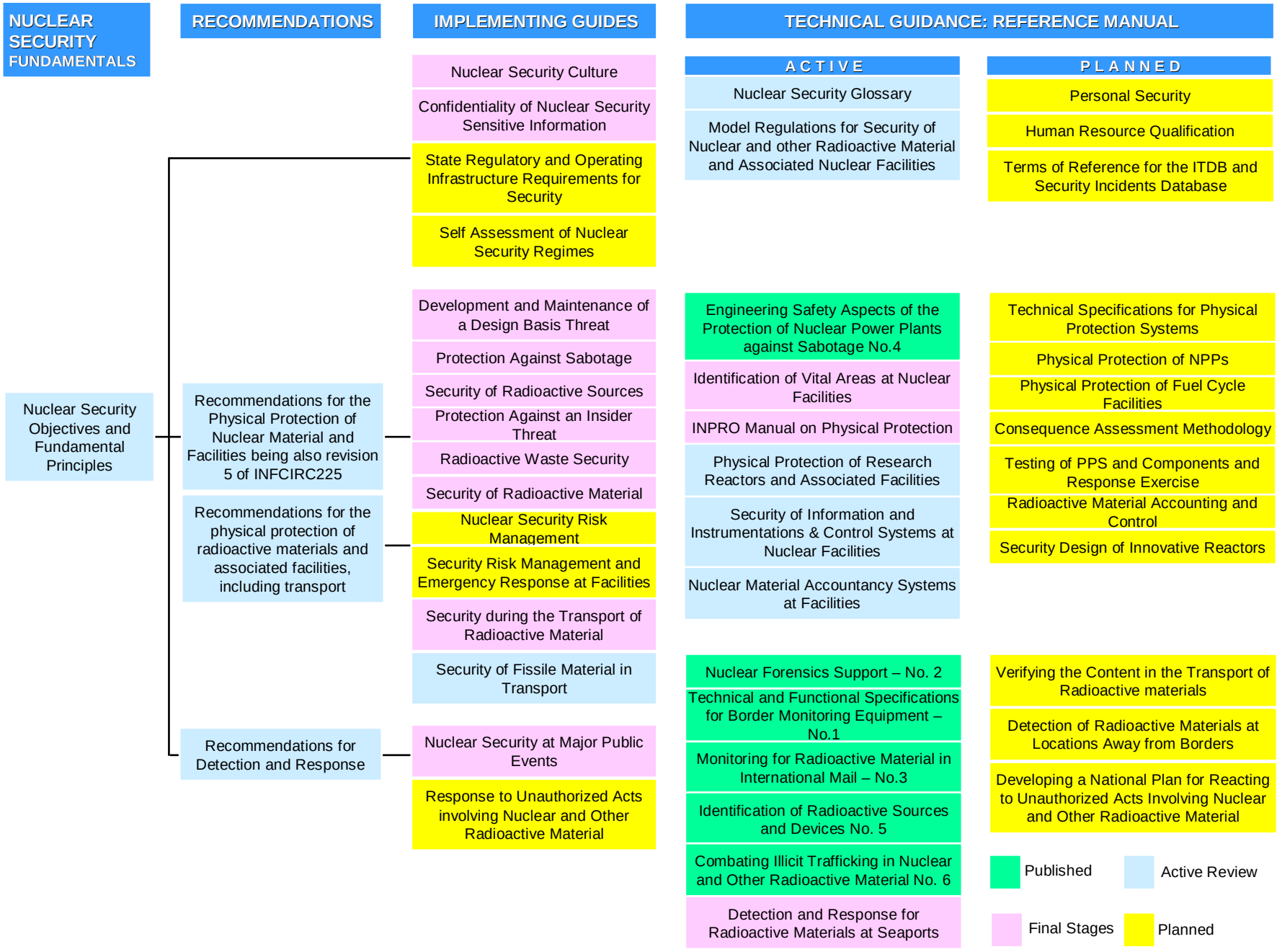
4. Personal and Interpersonal Effectiveness Competencies

- Analytical thinking, problem solving and decision making
- Personal Effectiveness
- Communication
- Team Work
- Management

3. Regulatory Practices

- Security focused analytical techniques
- Inspection Techniques
- Investigation Techniques

Nuclear Security Series Framework November 2007



Conclusion

For countries planning or operating nuclear power plants; a robust nuclear security infrastructure is now achievable by virtue of the existence of international binding and non binding instruments and by the excellent internationally accepted norms and standards and guidance documents that are now available; as well as by the expert assistance from member states courtesy of the IAEA