IAEA SCIENTIFIC FORUM 2008

The Future Role of the IAEA

Session 3:

Nuclear Safety and Security: Enabling a Nuclear Future
"Developing a Normative Approach to Nuclear Security"

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Enabling a Nuclear Future

A Nuclear Future is assured if – and only if - States provide comprehensive, sustainable and robust protection of:

- **The PUBLIC, RADIATION WORKERS and the ENVIRONMENT from radiation as a result of accidents or malicious acts against nuclear material, facilities, locations or transports.**
- **The INVESTMENT in nuclear energy production facilities from a major economic loss due to an accident, incident or malicious act.**
- **The NATION against radioactive releases (or threats thereof) caused by accidents or malicious acts**

Malicious act; **theft, sabotage, unauthorized access, illegal transfer involving nuclear material, other radioactive substances or their associated facilities.**

Enabling factors – what is required

- **A *robust, sustainable national security regime* in line with obligations and expectations in international legal instruments, such as CPPNM, NTC, UN SCR 1540 etc.**
- ***The national responsibility* for nuclear security as well as for nuclear safety**
- **S*trong support at the international level*, by the IAEA, to achieve internationally recognized objectives**
- ***Measures* to meet the need *for prevention, detection of* and *response to*, theft, sabotage, unauthorized access, illegal transfer or other malicious acts involving nuclear material, other radioactive substances or their associated facilities.**
- **A national *nuclear security culture,* which awakens the realization that establishing a national nuclear security regime to a globally accepted normative approach is first and foremost in the interest of the state itself.**
- **RECOGNIZE the need for increased ability to cope with the UNEXPECTED and the UNKNOWN.**

Definition of “Normative”

- **What is meant by a Normative Approach?**
- **In the dictionary “Normative” is given as:**
  - **of, or pertaining to, a norm especially an assumed norm regarded as the standards or correctness in behaviour, speech, writing etc.**
  - **tending or attempting to establish such a norm specially by prescription of rules:**
  - **or, reflecting the assumption of such a norm or favouring its establishment;**
- **According to Wikipedia :**
  - **AFFIRM HOW THINGS SHOULD BE OR OUGHT TO BE**

Citation: *“those who would sacrifice liberty for security deserve neither and will lose both”*

It is implicit that the approach to nuclear security is not static but needs to keep up with future developments as they evolve.

A normative approach

Requires:

- **An International Platform, shared basic principles**
- **Adherence to international legal instruments.**
- **International Forum for interaction**
- **Equitable, Open and Transparent processes**
- **Recognition of need for international standards, giving benchmarks for national implementation**
- **Clear allocation of national responsibilities:**
  - **Nuclear regulatory system/law enforcement/response;**
  - **national coordination; nuclear regulatory authorities with law enforcement organizations**

International Binding and non-Binding Instruments

- **CPPNM and Amendment (2005, not yet in force)**
- **International Convention on Suppression of Acts of Nuclear Terrorism**
- **UNSC Resolution 1540, General Assembly Resolutions**
- **Code of conduct on the safety and security of radioactive sources**

UNSC 1540: "Recognizing that most states have undertaken binding legal obligations under treaties to which they are parties ……. and have taken effective measures to account for, secure and physically protect sensitive materials, such as those required by [legal instruments],

and

developing effective measures for accounting and securing, developing and maintaining effective physical protection measures and border controls to detect, deter prevent and combat illicit trafficking.

The implementation requires norms, agreed practices and benchmarks.

Developing a Normative approach to Nuclear Security: The role of the IAEA

The IAEA statute mandates the IAEA to make available *nuclear safety standards* for use in its own activities and for use by the Member States.

The IAEA Policy Making Organs (Board of Governors, General Conference) has mandated the IAEA to make available *nuclear security recommendations and guidance.*

These functions and activities of the IAEA are referred in operative paragraphs of international legal instruments

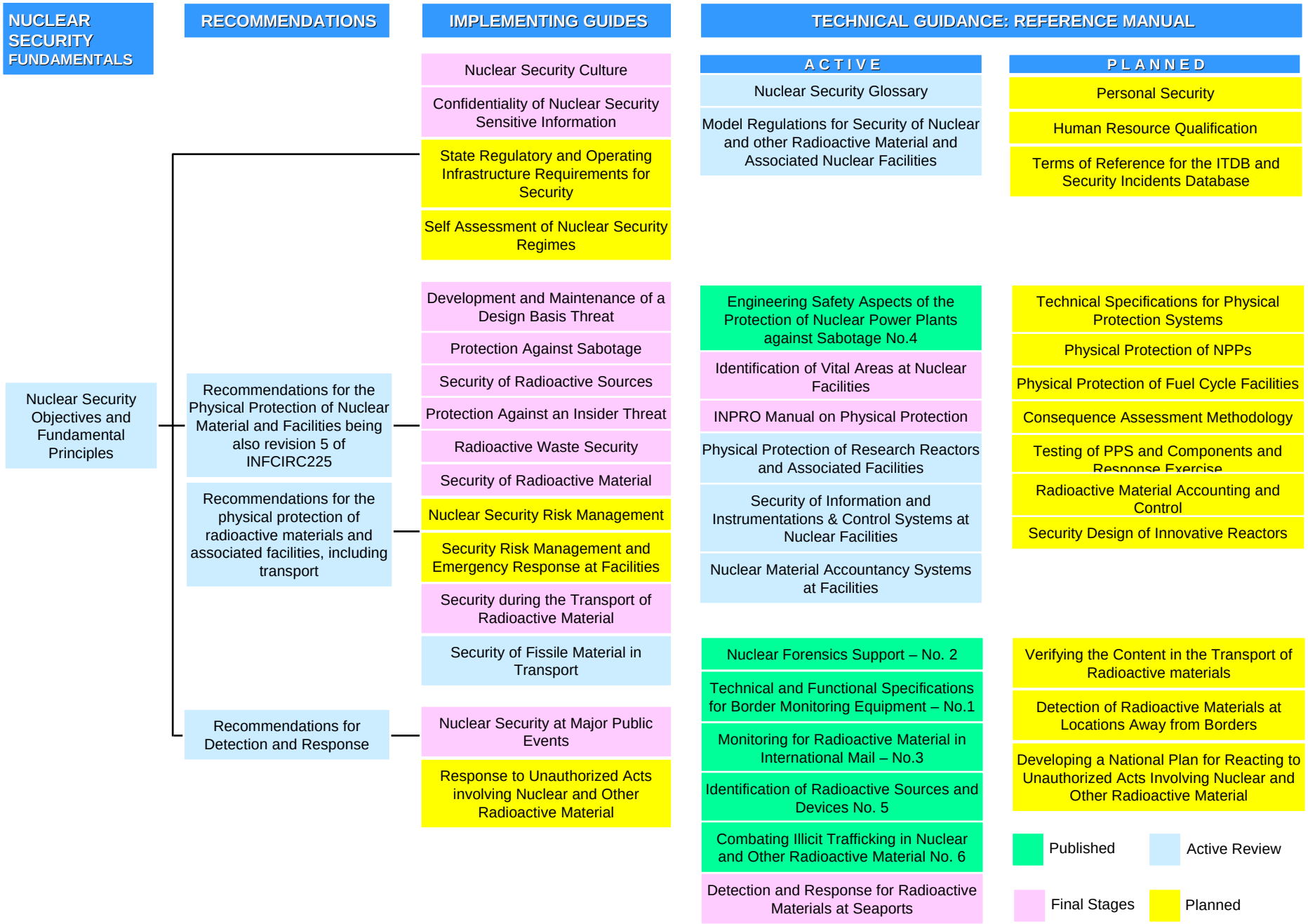
The IAEA has performed this function by:

- **Developing two 4-year IAEA Nuclear Security Plans; approved by IAEA Board of Governors**
- **Developing documents specifying norms and standards; and guidance for their implementation**
- **Highlighting the need for human resource development**
- **Provision of evaluation and peer review services**
- **Its Outreach program**
- **Assisting States deal with the legacy of past insufficient attention to security; & in Helping fulfil the international legal commitments**

Nuclear Security Plan 2002-2005 and 2006-2009

- **Reflects increased attention by the international community to nuclear security**
- **Establishes in a clear manner, the national versus the international dimension of nuclear security**
- **Identifies a comprehensive approach;**
  - **Need Assessment, Analysis and Coordination:**
    - **To obtain; a comprehensive set of information; nuclear security needs evaluation, illicit trafficking analysis; trends and patterns; information security; international coordination and interaction.**
  - **Prevention:**
    - **Facilitate universal adherence and political commitment**
    - **Achieve effective protection, control, accountancy and registry**
  - **Detection and Response:**
    - **To enhance capabilities of MS to detect, interdict and respond to illegal acts involving nuclear & other RMs and facilities**
- ***Internationally accepted norms (standards and/or guidance) and supplementary technical information is needed for a global, comprehensive approach*.**

Nuclear Security Series Framework November 2007



Rationale

IF YOU PROTECT YOURSELF YOU WILL ALSO BE HELPING PROTECT OTHERS

Pakistan's National Nuclear Security Action Plan (NSAP) –

Based on IAEA's Normative Approach to Nuclear Security *Contd…*

Justification

- **Objective of NSAP: development of national sustainable system in nuclear security with established response & recovery capability, integrated with national laws, regulations & procedures.**
- **Prevention, detection and response capabilities require special training of PNRA personnel and the first responders.**
- **Implementation of strong physical protection measures, effective regulatory control over radioactive materials/sources considered mandatory for future expansion of nuclear and radiation facilities.**
- **For sustainability and effective regulatory control, knowledgeable and experienced regulators equipped with proper tools necessary.**
- **With this in view, NSAP initiated to fulfil PNRA's assigned responsibilities and to deter any misadventure by activists to invoke socio-economic disorder.**

Pakistan's National Nuclear Security Action Plan (NSAP) –

Based on IAEA's Normative Approach to Nuclear Security

Focus Areas

1. **Management of Radioactive Sources in Category 1, 2 and 3 and evaluation of vulnerable facilities and supporting their efforts**

2. **Establishment of PNRA Nuclear Safety/Security Training Centre**

3. **Establishment of National Nuclear Security Emergency Co-ordination Centre (NuSECC)**

4. **Locating and Securing Orphan Radioactive Sources**

5. **Provision of Detection Equipment at Strategic Points**

6. **Sustainability through Education & Training**
   included Nuclear Security Courses in MS Nuclear Engineering program

The Pyramid of Harmony

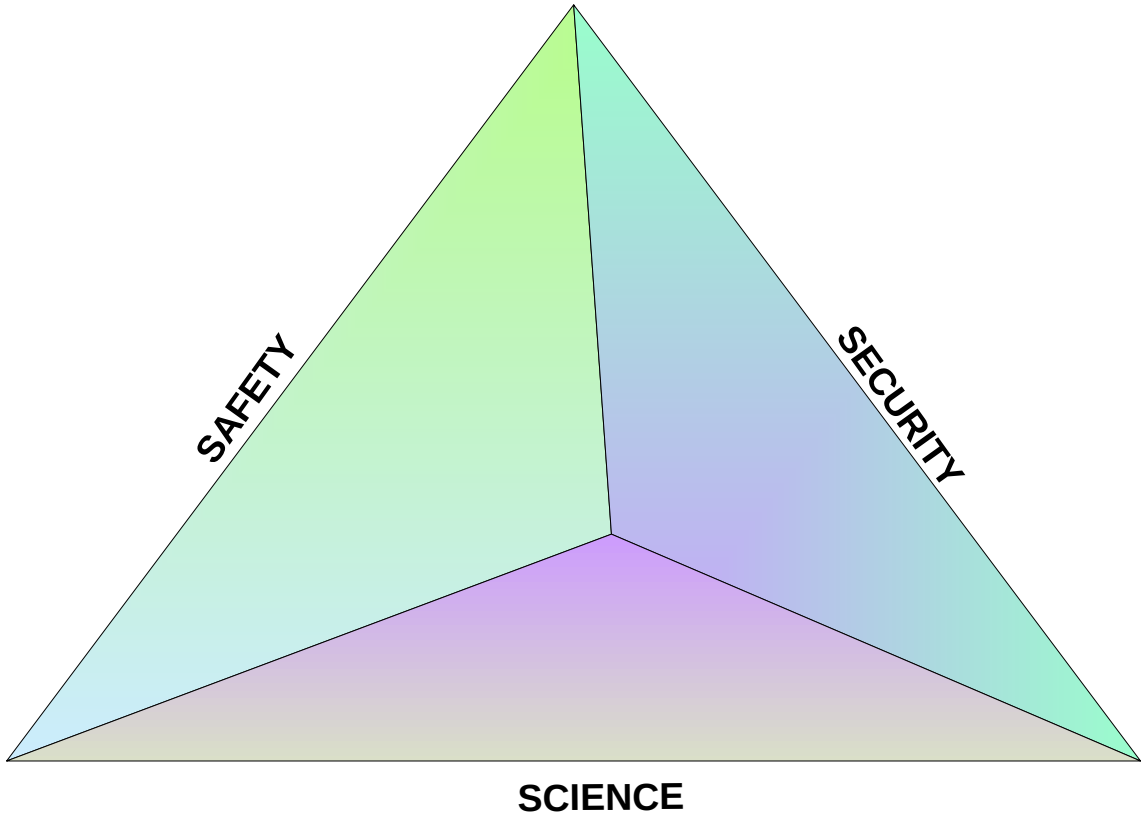
A robust Nuclear Safety and Security regimes alone can not enable a "Nuclear Future". Other equally important dimensions are

development in Science (& therefore technology)

And, perhaps most importantly

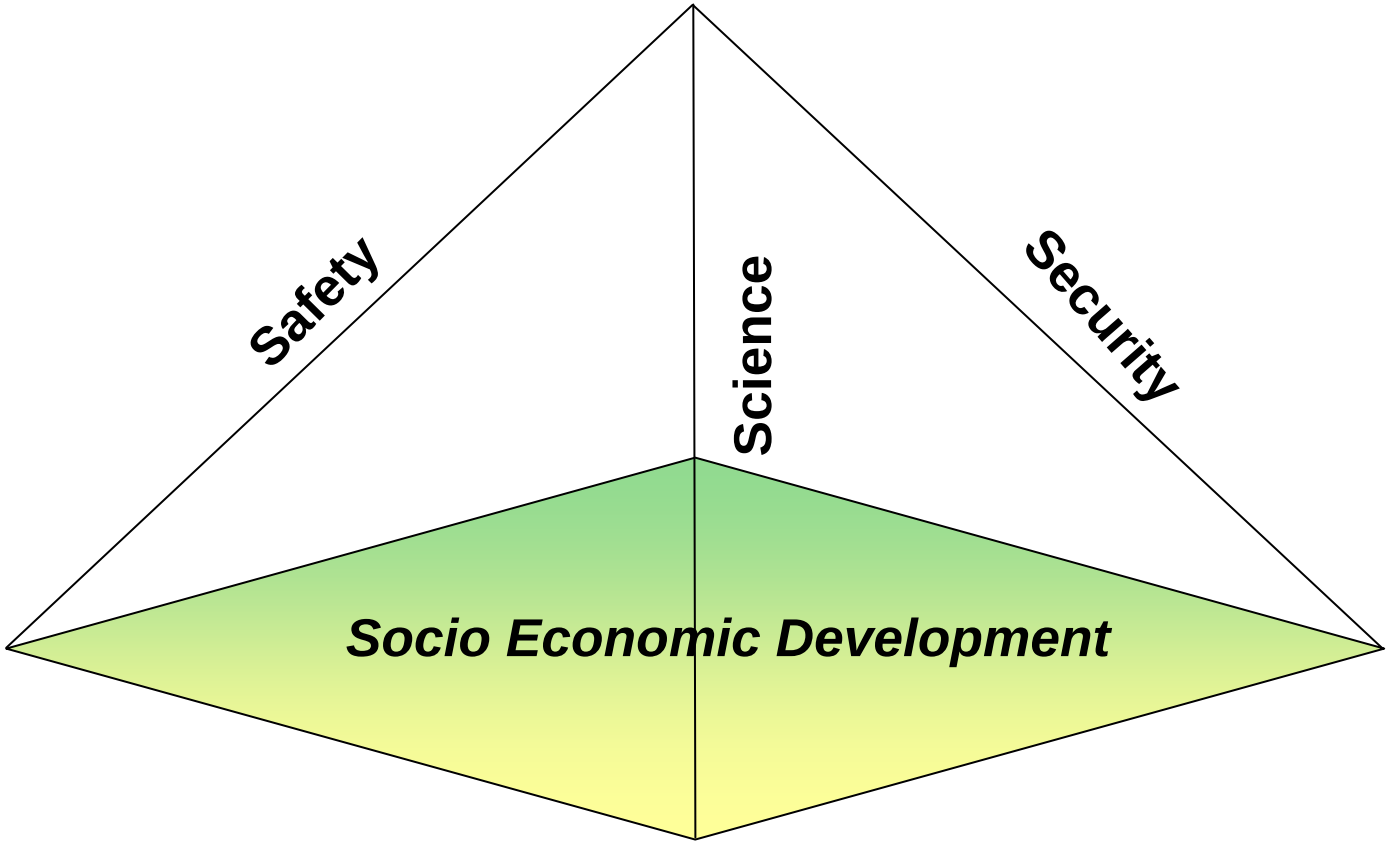
equitable national and global socio-economic development; in fact, the driver for a nuclear future.

The Pyramid of Harmony *Contd...*



Peace Triangle

The Pyramid of Harmony *Contd...*



Pyramid of Harmony

Coping with the UNKNOWN & UNEXPECTED

It is vital that a normative approach to nuclear security cater for the unknown and unexpected.
The normative approach should always have the inherent flexibility to be able to cope with unknown and unexpected.

An example: A few months ago in Karachi, an unidentified object was discovered when the blade of the bulldozer cleaning up the yard of a warehouse of the oil and gas corporation hit against an object. Thinking it was an unexploded bomb from yesteryears, the bomb disposal squad was called.
But; the PNRA Regional Nuclear Safety Directorate was also contacted - the result of an extensive media campaign to sensitize the public to orphan sources – and it was found that the objects were two well-logging sources from several decades ago, left buried in the yard. They were subsequently disposed off using procedures based on IAEA standards for transport and disposal.

Not an uncommon story, but are we ready to cope with the unknown and unexpected event which has a greater security impact?

Coping with the UNKNOWN & UNEXPECTED

CEP recommendations

It would have been better had the Chapter 7 been named "Enhancing Nuclear Security" rather than the King Canute-like statement of "No Nuclear Terrorism".

Is this statement proclaiming the future role of the Agency?

Concluding Remarks

In conclusion, the benefits of global and mandatory legally binding norms and standards needs to be evaluated against the clear benefit of an approach for developing and maintaining an internationally acceptable high quality of norms and standards which though not mandatory – are universally accepted by virtue of their excellence and need fulfilment of all countries.

Clearly the normative approach to nuclear security being successfully followed by the Agency is the second one where excellence and acceptance are the desired hallmarks.