

**Introductory Remarks – Board of Governors Meeting**

**Agenda Item 2 – Nuclear Safety Review 2010**

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## **Welcome and Introduction**

Mister Chairman, distinguished Board Members and Ambassadors, ladies and gentlemen. I would like to provide you with a brief introduction for item 2 of the Agenda regarding the Nuclear Safety Review for the Year 2010 (GOV/2011/4).

### **Nuclear Safety Review for 2010**

This *Nuclear Safety Review* presents worldwide trends, issues and challenges in nuclear, radiation, transport and radioactive waste safety and emergency preparedness and response for 2010. Additional documentation supporting the Nuclear Safety Review is available through GOVATOM. These supporting documents are 2011/Note 2 and 2011/Note 3. This report also discusses nuclear security, insofar as it relates to nuclear safety. A separate report in September 2011 will specifically address nuclear security.

Each year, the Secretariat has sought to increase the value of this document through improved analysis of the various trends, policy and technical issues affecting the global nuclear safety community. An essential factor in the improvement of this document is your feedback. Therefore, your insights and comments are highly appreciated. You can provide them during this meeting and until the fifteenth of April. Your comments will be duly reflected in the final publication for the next General Conference.

## **General Introduction**

This year, the international nuclear community on the whole has achieved a high level of safety performance—with a decreased number of emergency shutdowns. However, issues surrounding radiation protection were of concern, with dose levels for patients on the rise. This is a reminder of the constant need for a questioning attitude, which can be summarised in saying that “safety is a work in progress”.

I would like now to review some of the most significant trends and issues, in 2010 relative to Nuclear Safety.

### **New and expanding nuclear programmes:**

New nuclear power programmes as well as expanding existing programmes continue to be of interest throughout the world,—primarily in Asian countries. Current estimates show that nearly 60 countries are considering or have expressed interest in developing nuclear power programmes.

To accompany this interest and assist Member States in building their regulatory safety infrastructure and global safety capacity **in time**, the Secretariat together with Member States has:

- Created the Regulatory Cooperation Forum to optimize regulatory resources and assist Newcomers in their development of independent, effective and sustainable regulatory bodies;
- Further promoted self-assessment methodology and self-assessment tools, peer reviews, knowledge sharing and mutual learning in regulatory and policy issues; and
- Started preparing a safety package that contains eleven specific modules together with a basic Professional Training Course on Nuclear Safety based on a safety guide on establishing a safety infrastructure for a nuclear power programme.

### **Harmonizing Safety: Bridging the Generation Gaps**

A large percentage of the 441 reactors currently in operation today are expected to see their operating life extended beyond their initial, nominal design lifetime - frequently foreseen as 30 years - to some 50 years or more.

New NPPs currently under construction or in the design phase, are being designed with higher safety goals, and are advertised as being designed to 80 years operation. Which means two things: the next reactors will still be operating into the next, 22<sup>nd</sup> century, and they will be operated in parallel with the old generation for 20 to 40 years. As a result, we need to bring forward an internationally harmonised vision of the safety goals for the future nuclear power

plants, and to promote ways of reducing (bridging) the generation safety gap to enhance nuclear safety throughout the generations.

Today these issues are being addressed at various national and regional levels, (see for example the initiative of the Western European Nuclear Regulators' Association – WENRA). As concerns the Agency, the International Safety Group –INSAG –has been asked to develop a vision of the safety goals for the 21<sup>st</sup> century and beyond, a forerunner to developing safety standards for the future.

The growing trend towards extending NPP life involves many issues: technical, regulatory and legislative. A pre-requisite for Long Term Operation is a full and comprehensive plant-specific safety assessment, systematically conducted on a periodic basis. The Agency continued, on both safety and technology sides, to facilitate exchanging technical information on ageing management among regulatory bodies and NPP owners in Member States.

## **Trends in Ionizing Radiation**

In radiation protection, the keyword is justification. This is the best way to promote a beneficial, sustainable development of the medical uses of radiation. However a disturbing trend is being reported in the use of computed tomography (CT).

The advent of computed tomography or CT, has revolutionized diagnostic radiology. However, CT involves increased doses of radiation, and its use is rapidly developing. This results in a marked

increase in radiation exposure of patients. In 2010, reports indicate a higher number of patients undergoing multiple diagnostic scans within a few years or even in a single year, where the cumulative effective doses for individual patients exceeded 100 mSv, and in some cases 1 Sv.

When a CT scan is justified by medical need, the associated risk is small relative to the benefits of the diagnostic information obtained; if not, then patients are being exposed unnecessarily. As part of its efforts to reduce unnecessary exposures, the Agency initiated an International Campaign on the three A's: Awareness, Appropriateness and Audit.

### **Celebrating 50 Years of Safe Transport**

As DG Amano has just mentioned, there is a need to resolve denials and delays of shipment of radioactive material. The Agency is prepared to work with Member States and with other UN bodies, through the International Steering Committee on Denials of Shipment of Radioactive Material, to identify variations in how the IAEA safety standards for transport are applied through national regulations, working to harmonize them so as to reduce and eliminate this issue in the foreseeable future.

### **International Action Plan for Strengthening the International Preparedness and Response System for Nuclear and Radiological Emergencies: the Path Forward**

Proper management of nuclear or radiological emergencies requires prompt actions to respond and to mitigate the consequences for life, health, and the environment. States are responsible for establishing appropriate emergency management programmes, deciding upon and taking effective response actions, and ensuring that resources are available. However, the resources and capabilities of States could be exceeded in a large scale emergency. Thus, effective emergency preparedness and response requires communication and cooperation amongst States and international intergovernmental organizations to ensure a harmonized worldwide response to nuclear or radiological emergencies.

The *International Action Plan for Strengthening the Preparedness and Response System for Nuclear and Radiological Emergencies* proposes a strategy forward by employing a multilayer process, from policy setting to operational matters, open to all States and relevant international organisations, and establishing a sustainable infrastructure including financial and human resources.

### **Progress in Addressing Issues Related to the Synergies and Interface between Safety and Security**

The need for dealing with synergies and interfaces between safety and security has been recognized at the highest level in the IAEA Fundamental Safety Principles, approved by the Board of Governors and issued in 2006. In 2009, the 53rd IAEA General Conference, GC (53)/RES/10, called upon the Secretariat to enhance

its efforts to ensure coordination of its safety related activities and its security related activities. It “noted the establishment of a joint AdSec–CSS taskforce to further address issues related to safety and security synergies and interfaces”.

So far, the task force analysed the various thematic and operational areas of nuclear security and nuclear safety to determine where the domains might overlap, and where associating the domains might be feasible; it also conducted a mapping exercise to determine possible ways to combine the current structures of IAEA safety standards and security guidance.

A key component of a global safety and security framework is the experts’ community, where much progress has occurred, especially in the area of technical support organizations (TSOs). To further develop this area, the Agency organized the *International Conference on Challenges Faced by Technical and Scientific Support Organizations in Enhancing Nuclear Safety and Security*, which was hosted by the Japan Nuclear Energy Safety Organization (JNES) in October 2010 in Tokyo. Highlights from this conference focused on Governments’ roles and responsibilities in implementing TSO capabilities and policies, and the Agency’s role in facilitating the development of the global experts’ community. Most notably it focused on achieving greater safety and security synergy by establishing a TSO Forum that would act as a platform for worldwide cooperation in both safety and security.



To complete the picture about nuclear safety and security, before concluding, I want to quote one of the preambular paragraphs of the amendment to the Convention on the Physical Protection of Nuclear Material:

*“CONVINCED that this Convention should complement the safe use, storage and transport of nuclear material and the safe operation of nuclear facilities,”*

In November last year, I convened a topical meeting on the Convention on the Physical Protection of Nuclear Material and its Amendment, to identify how Member States could respond to calls, in GC resolutions and elsewhere, to adhere to the Convention and its amendment, and to inform them on how the Agency could assist in the process.

At the opening of this topical meeting and again in today’s opening statement, Director General Amano, voiced his concern that at the current rate of ratification, with about 12 States ratifying every year, it could take quite a long time before the Amendment enters into force.

Some of the main conclusions of the meeting were that the promotion of a security culture, the synergy between safety and security and the establishment of a regulatory body were identified as helpful precursors to the ratification of the Amendment. A number of participants expressed their intention to complete the ratification process as soon as possible, and pointed to the good examples served

by States operating large nuclear programmes and having ratified the Amendment, and the meeting noted that legislative assistance is available from the IAEA, UNODC and OSCE to facilitate implementation of the Amendment . (Full details of the meeting are available on the IAEA website.)

### **Concluding Remarks**

Mister Chairman,

My first conclusion will be to reaffirm that despite the high level of safety performance shown from the Nuclear Safety Review, any weakening of the priorities given to safety by operators, regulators, Member States and this Agency itself, would be contrary to the noble goal of a sustainable, responsible *“contribution of atomic energy to peace, health and prosperity throughout the world”*.

And, in a less emotional conclusion, the Board is recommended to consider and take note of the draft Nuclear Safety Review for 2010, the final version of which will be prepared in light of the discussions in the Board of Governors and the pertinent information from Member States that will be received before 15 April 2011.

Thank you for your attention and I look forward to your comments.