

Nuclear Safety after Fukushima: the start of a Process

First Regulatory Conference "Nuclear Safety in Europe"
Brussels 28-29 June 2011

Denis Flory
Deputy Director General
Department of Nuclear Safety and Security



IAEA

International Atomic Energy Agency

Context

- Natural disaster
- Tragic loss of life
- Impairment of infrastructure
- Unprecedented scenario



The start of a Process

- Mobilisation of the international Community
- Milestones in the past 3 months
- Preparatory work to the IAEA Ministerial Conference
- Objective: September Board of Governors and GC

The IAEA Ministerial Conference

- Director General made five proposals:
 - to strengthen IAEA Safety Standards;
 - to systematically review the safety of all nuclear power plants, including by expanding the IAEA's programme of expert peer reviews;
 - to enhance the effectiveness of national nuclear regulatory bodies and ensure their independence;
 - to strengthen the global emergency preparedness and response system; and,
 - to expand the Agency's role in receiving and disseminating information.

Major themes for strengthening nuclear safety

- The IAEA Safety Standards
- The Safety of NPPs
- Peer review mechanisms
- EPR Framework
- International cooperation
- Global nuclear safety framework

IAEA Safety Standards 1

- There was a broad recognition that IAEA Safety Standards represent the common reference point for nuclear safety
- Not all Member States apply the Standards or fully implement them.
- Member States should be encouraged to commit to making national safety standards consistent with those of IAEA.
- Newcomers should fully implement IAEA Safety Standards before commissioning the first reactor

IAEA Safety Standards 2

The IAEA was encouraged

- to review and update the Standards to take account of Fukushima
- to give special attention to Standards that deal with,
 - Multiple severe hazards
 - Multiple + single Unit nuclear sites
 - Cooling of reactors + fuel storage

Review of NPPs

- *We the Ministers [...] Encourage States with operating nuclear power plants to conduct, as a response to the accident at the Fukushima Daiichi Nuclear Power Station, comprehensive risk and safety assessments of their nuclear power plants in a transparent manner;*
- Member States to systematically review the safety of NPPs
- IAEA could lead in the harmonization of review methodologies
- Member States strongly encouraged to report results to CNS 2012

Peer Reviews 1

- *We the Ministers [...] Underline the benefits of strengthened and high quality independent international safety expert assessments, in particular within the established IAEA framework*
- The role of international peer reviews should be reinforced as part of the process of continuous improvement of safety:-
 - National regulatory frameworks(IRRS)
 - Nuclear installations(OSART)
 - Design review services
- The conference recognized that peer reviews are voluntary but Member States with nuclear power programmes could consider giving prior consent to the IAEA

Peer Reviews 2

It was proposed :-

- Member States with a nuclear program to invite an IRRS every 10 years.
- IAEA to conduct an OSART of 1 in 10 NPP over a 3 year period.

These proposals would require an enhancement of existing IAEA capabilities.

Emergency Preparedness & Response 1

- Strengthen legal instruments, adopted 25 years ago, for international EPR framework, to address today's concerns.

**Convention
on Early Notification
of a Nuclear Accident
and
Convention on Assistance
in the Case
of a Nuclear Accident
or Radiological Emergency**

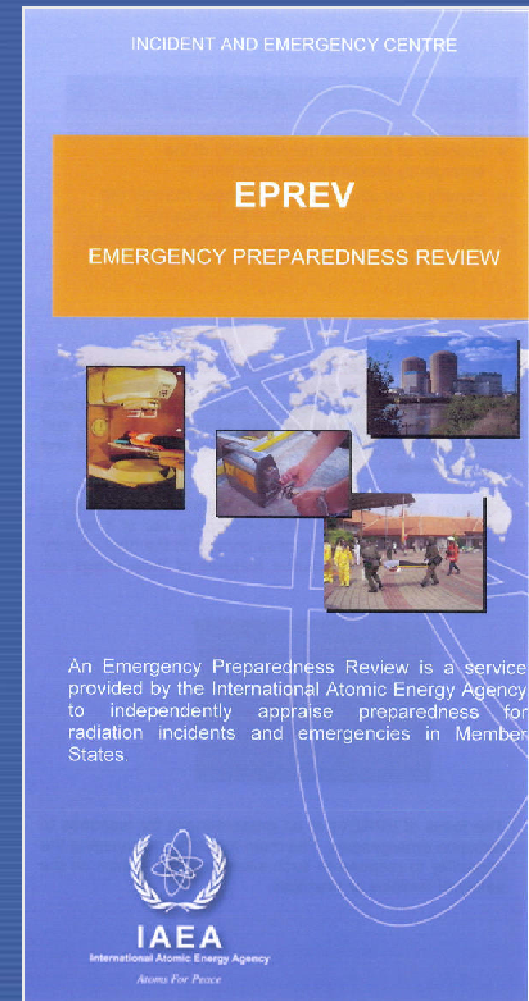
LEGAL SERIES No.14



INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, 1987

Emergency Preparedness & Response 2

- Member States should consider making use of systematic and regular **Emergency Preparedness Review (EPREV)** and follow-up missions to appraise national EPR arrangements and capabilities to ensure their continuous improvement.



Emergency Preparedness & Response 3

- **Broaden IAEA's role** in response to a radiation emergency to enable it to conduct analysis of:
 - Emergency conditions
 - Progression
 - possible scenarios for emergency development
 - Consequences
 - associated radiological impact and response actions
- Share analysis with Member States
- Emphasize **responsibility of States** to promptly and continuously provide a broader scope of information (data, analysis and other information) to IAEA.



Emergency Preparedness & Response 4

- Universal implementation of the IAEA Safety Standards on EPR at the national level would:
 - Improve preparedness and response
 - Facilitate communication in an emergency
 - Contribute to harmonization of national criteria for protective and other actions.
- Improvements are recommended in:
 - Cooperation among national authorities, utilities and technical support organizations.
 - Capabilities and arrangements of national authorities to communicate risk to the public.
- States may wish to consider establishing national rapid response teams that could also be available internationally.

Receiving/Disseminating Information

- INES as a communication tool did not play its role: it should be reviewed and improved to make it more effective
- The IAEA was encouraged to institutionalize the practice of 'fact finding missions'
- Criteria might be linked to INES



International Cooperation 1

- Experience from the Fukushima accident has shown the **Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE)** to be an effective and useful mechanism.
- The **Joint Radiation Emergency Management Plan of the International Organizations (JPLAN)** also demonstrated its usefulness but needs to be further developed.

International Cooperation 2

- All Parties with a role in Nuclear Safety (**Research, OECD/NEA, TSOs...**) should work together
- The IAEA was encouraged to enhance its support to **operating organisations** which have the prime responsibility for nuclear safety.
- **IAEA and WANO** were encouraged to establish a mechanism to improve their cooperation.

The Global Nuclear Safety Framework

The need for strengthening the Global Nuclear Safety Framework was confirmed

- Primary responsibility for safety is placed on the operator with oversight from the National Regulatory Body
- Supported by an international framework
 - Intergovernmental Organizations
 - Operator Networks
 - Regulator Networks

The Global Nuclear Safety Framework

- It was recognized that effective regulatory independence is one of the main pillars for nuclear safety,
and
- There is a need to strengthen national regulatory systems so that they have :-
 - The necessary competence
 - Appropriate regulatory powers, and
 - The ability to respond to safety concerns in a timely manner

The Global Nuclear Safety Framework

- The Convention on Nuclear safety
 - Review its effectiveness
 - Review its mechanisms
 - Response to Fukushima should not wait for an amendment to the CNS
- IAEA plays a central role and is the appropriate international organization for strengthening the global nuclear safety framework.

Summary

- Now is the time to
 - Strengthen the IAEA Safety Standards and consistently implement them
 - Review the safety of NPPs and commit to report the results to the 2012 CNS
 - Work together for the benefit of the worldwide nuclear community

Thank you

