International Conference on

Human Resource Development for Nuclear Power Programmes: Building and Sustaining Capacity

12 – 16 May 2014

Capacity building in the IAEA Action Plan on Nuclear Safety

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IAEA

International Atomic Energy Agency

Background

Nuclear safety Action Plan (NSAP) built on:

- IAEA Ministerial Conference on Nuclear Safety *(Jun 2011)*
- 1st IAEA Fact Finding Mission to Japan *(May/Jun 2011)*
- INSAG Letter Report *(Jul 2011)*
- Consultation with Member States

NSAP unanimously endorsed at 55th IAEA GC *(Sep 2011)*

- Defines a programme of work to strengthen the global nuclear safety framework
- 12 key actions, 39 sub-actions, more than 900 activities
- As further lessons are learned they are incorporated into the Action Plan as new activities.
- Funding Dec 2011- Dec 2013: ~ 20 M€ implemented

Importance of Transparency sharing and dissemination:

http://www.iaea.org/newscenter/focus/actionplan/

NSAP Stakeholders

Success of NSAP dependent on its implementation through the full cooperation and participation of Member States and involvement of many other stakeholders

Member States

Regulatory bodies
Operating Organizations
Nuclear industry
Technical Support Org. (TSO)
Research institutions
Education institutions

IAEA (NSAT)

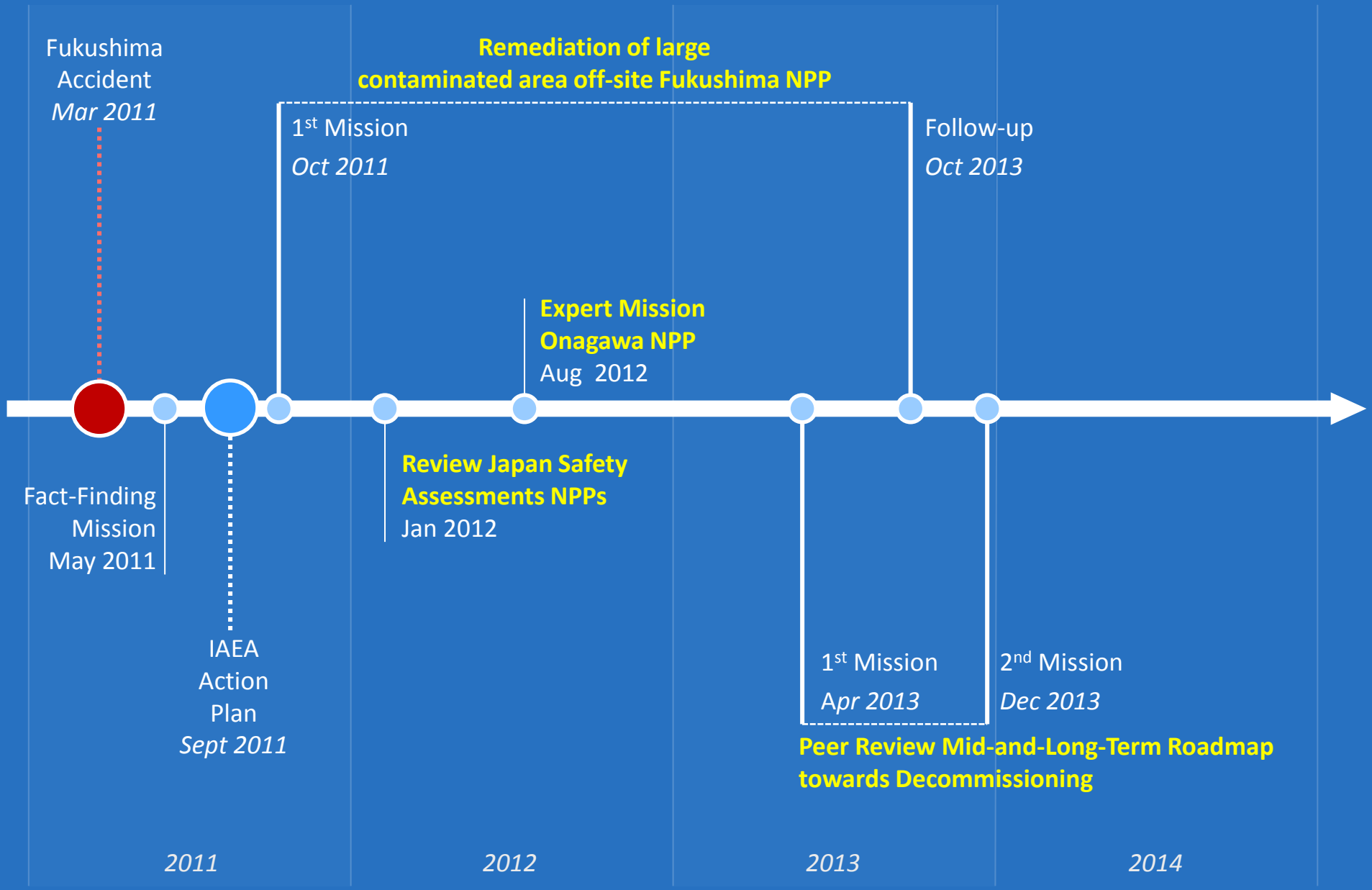
Nuclear Energy
Nuclear Applications
Nuclear Safety
Technical Cooperation
Office of Legal Affairs
Monaco & Seibesdorf labs

AKING NUCLEAR POWE
SAFER
The IAEA Action Plan

Other International Organizations

European Commission
CTBTO
FAO
ICRP
ILO
INSAG
OECD/NEA
WANO
WHO
WMO
UNSCEAR

IAEA Missions to Japan



NSAP Programme

12 Actions

Safety Assessments

IAEA Peer Reviews

Emergency Preparedness and Response

4. National Regulatory Bodies

Operating Organizations

IAEA Safety Standards

International Legal Framework

Member States Embarking on Nuclear Power

Capacity Building

Protection from Ionizing Radiation

Communication

1Research & Development

IAEA FUKUSHIMA REPORT

5 Chapters:

1. Description and Context of the Accident

2. Safety Assessments

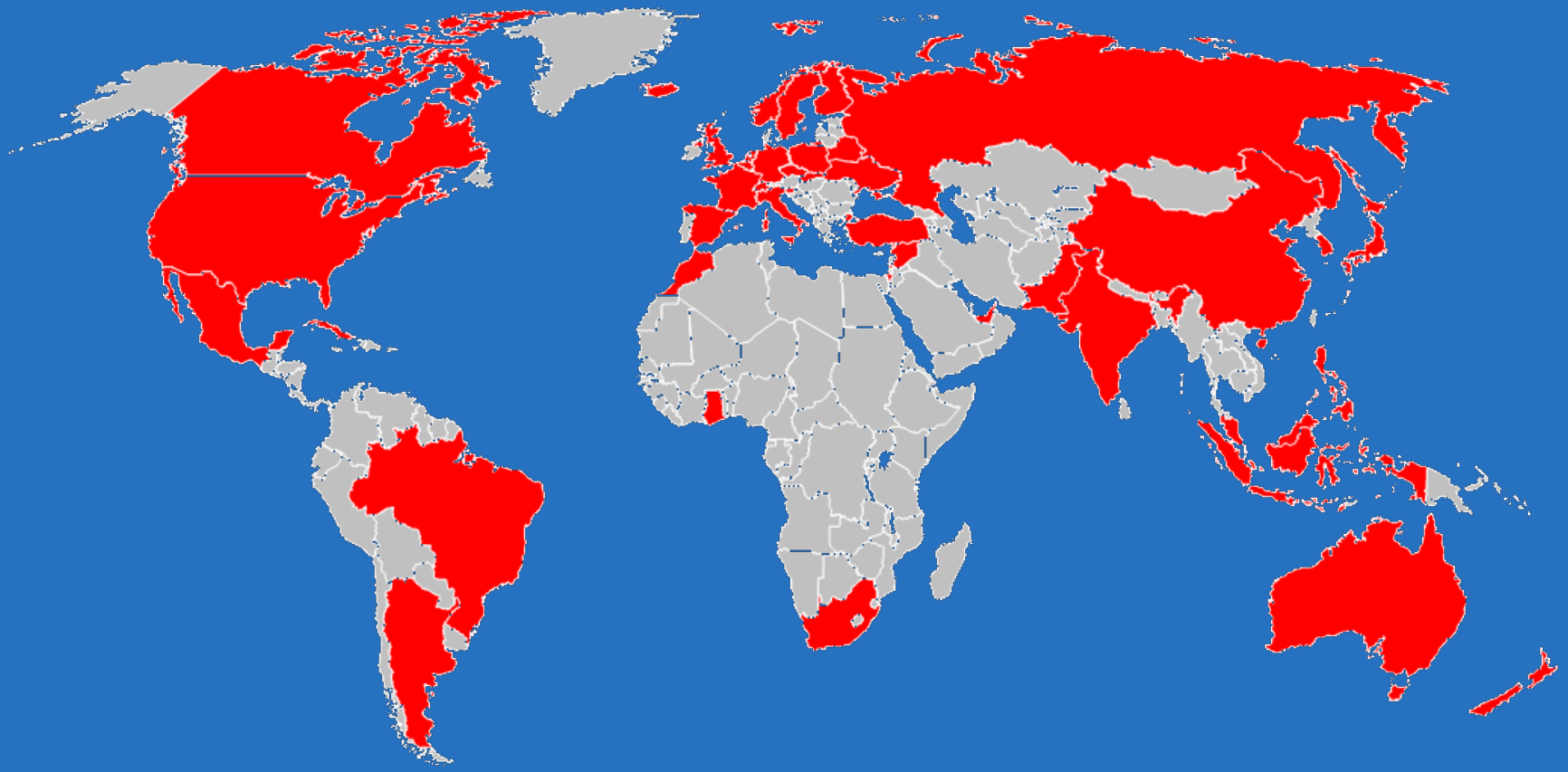
3. Emergency Preparedness and Response

4. Radiological Consequences

5. Post-Accident Recovery

Global Perspective

Approximately **180 experts** from over 40 Member States and various international organizations (including IAEA staff)



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Capacity Building:

- key area for continuous improvement on Nuclear Safety
- Cross sectional area carried out throughout every action of the NSAP

Capacity building activities

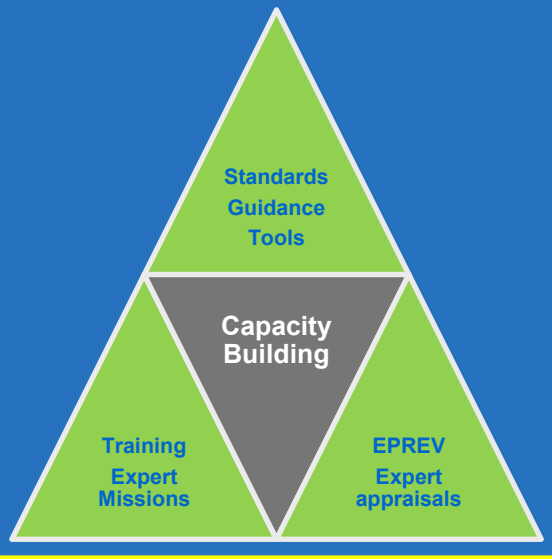
Safety Assessments

- **International Workshops**
  - ✓ “International Workshop on Safety of Multi-unit Nuclear Power Plan Sites against External Natural Hazards” (India, Octr 2012)
  - ✓ Regional Workshop on Siting and Site Evaluation for Nuclear Installations (South Africa, Sep 2013)
- **New training methodologies**
  - ✓ Tsunami hazard assessment
  - ✓ Volcanic hazard assessment

Capacity building activities

Emergency Preparedness and Response

- **Building capacity in preparedness for and response to nuclear or radiological emergencies through:**
  - ✓ Guidance and tools
  - ✓ Expert missions
  - ✓ Appraisals
  - ✓ Trainings
- **The future of trainings**
  - ✓ E-Learning
  - ✓ Capacity Building Centres (CBC)
- CBCs will serve as focal point in the regions for the delivery of training, knowledge sharing and transfer of expertise in specialized areas of EPR



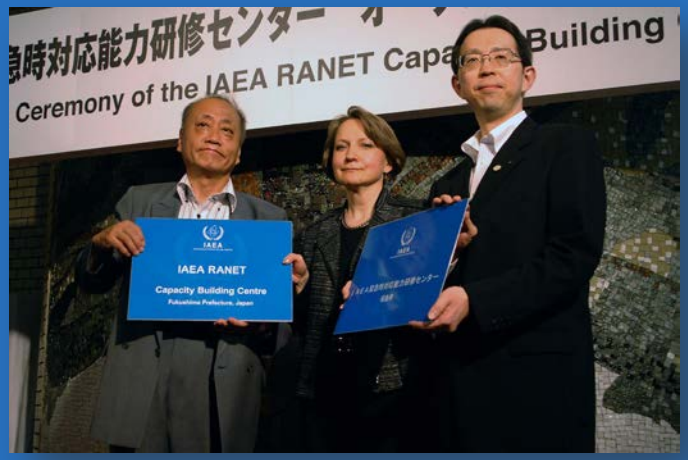
1 Safety Requirements
2 Safety Guides
22 EPR and technical documents
17 Accident reports

≈ 60 training events per year
> 1,200 trained professionals/year
≈ 40 expert missions per year

Capacity building activities

Emergency Preparedness and Response (Cont.)

- **RANET Capacity Building Centre in Fukushima:**
  - ✓ Designation of the IAEA Response and Assistance Network (RANET) Capacity Building Centre in Fukushima Prefecture by the IAEA, in cooperation with the Government of Japan (27 May 2013)
  - ✓ Training courses, workshops and activities related to emergency preparedness and response have been and will be conducted in the Centre (at the local, regional and international levels)



Capacity building activities

National regulatory bodies

- **National and regional workshops related to strengthening regulatory effectiveness in Member States**

  Human resource management, use of external TSOs, Legislation and regulation , EPR, Practical arrangements with Nuclear Regulatory Bodies, etc.

- **Regulatory Cooperation Forum (RCF)**

  Improve collaboration and coordination for capacity building

- **Self-Assessment of Regulatory Infrastructure for Safety (SARIS)**

  2014 Edition IAEA Services Series No. 27 *(Published March 26, 2014)*

- **Document on managing regulatory body competence (2014)**

Operating organizations

- **Nuclear Operating Organization Cooperation Forum (Sep 2012)**

  Sharing experience safety related aspects during NPP construction

- **IAEA-FORATOM Management Systems Workshop - Journey to Excellence in a Changing Environment (November 2013)**

Capacity building activities

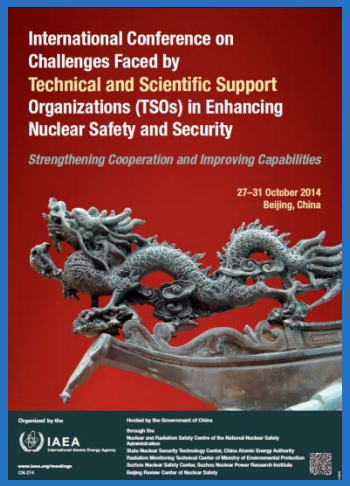
International Legal Framework

- **Support to States Parties in their review of the Conventions procedures**
  - ✓ Joint IAEA/INLEX missions to inform national policy-makers about the international legal instruments relevant for achieving a global nuclear liability
  - ✓ Support MSs under its legislative assistance programme: 2nd Treaty Event (sep 2012)
- **Nuclear Law Institute**
  - ✓ Comprehensive two-week course addressing all areas of nuclear law
  - ✓ Assist participants drafting, amending or reviewing their national legislation
  - ✓ 3rd session October 2013

Capacity building activities

Research and Development

- **Technical Support Organizations Forum (TSO)**
  - ✓ To strengthen scientific and technical collaboration among Member States, including countries in the process of expanding or embarking on a nuclear programme, especially for R&D, taking into account the lessons learned from the Fukushima accident.
- **International Conference on Challenges Faced by Technical and Scientific Support Organizations (TSO) in Enhancing Nuclear Safety and Security** (27 - 31 October 2014)
  - ✓ To focus, in particular, on prerequisites and ways for maintaining and strengthening the actions of TSOs in supporting the enhancement of safety and security worldwide



Capacity building activities

Embarking countries

- **Assistance in the nuclear infrastructure development, taking into account the lessons learned from Fukushima and experiences so far**
  - ✓ IAEA Guidance on establishing Safety Infrastructure for a Nuclear Power Programme
  - ✓ Training courses on Leadership and Management, Application of IAEA safety Standards, competence for licensing activities, development of legislation on the field of nuclear and radiation safety, development of regulatory framework, etc.
  - ✓ International Ministerial Conference on Nuclear Power in the 21st Century (Jun 2013)
  - ✓ Interactive e-learning training modules
    Support Member States in using the IAEA Milestones Approach
- **Methodology and training material to respond to Member States requests for support in performing a Self-Assessment of their national infrastructure as**

Capacity building activities

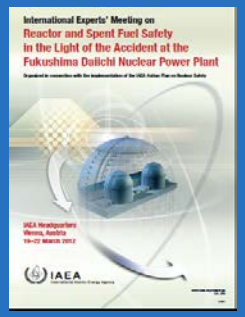
- **Meeting on establishing, developing and maintaining capacity in Member States**
  The experts recommended a revised integrated structure for capacity building self-assessment and capacity building peer reviews
- **Practical Agreement between IAEA and France to enable French nuclear organizations to provide greater support for newcomer Member States**
- **Workshops to Strengthen Capacity building in Member States**
  - ✓ Management in nuclear knowledge and safety competence - China;
  - ✓ Basic professional nuclear safety - the Republic of Korea;
  - ✓ Knowledge safety networks - Kenya;
  - ✓ Knowledge and quality management processes - Brazil;
  - ✓ National policy and strategy for safety - Indonesia;
  - ✓ Systematic assessment of regulatory competence needs - Indonesia.
- **TM Resources Development among Embarking and Experienced Countries (Jun 2013)**
  Share experience/knowledge through cooperation with experienced countries.
  Demand for training in and suitability of available training courses.
- **Safety Education and Training Peer Review Service (ETReS)**
  Assist Member States in developing and maintaining an Education and Training programme in nuclear safety consistent with IAEA Safety Standards.

Transparency sharing and Dissemination

International Experts' Meetings (IEM's)

Analyse relevant technical aspects from the Fukushima Daiichi accident, Learn the lessons from the Fukushima Daiichi accident and share lessons learned

IEM 1:



Reactor and Spent Fuel Safety
March 2012
link

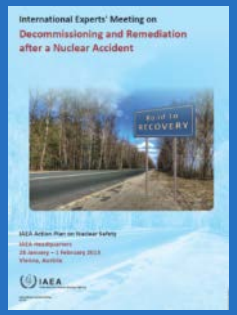
IEM 2:

Transparency & Communication
June 2012
link

IEM 3:

Protection Against External Events
Sept 2012
link

IEM 4:



Decommissioning and Remediation
January 2013
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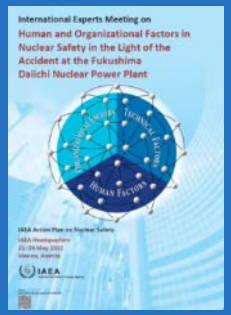
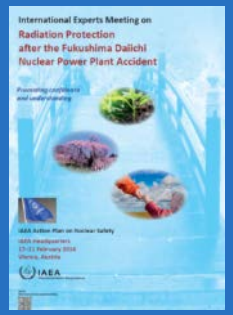
IEM 5:



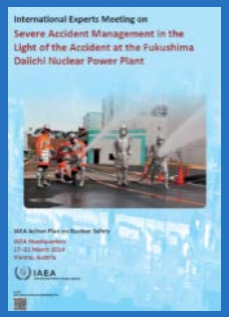
Human & Organizational Factors
May 2013

IEM 6:



Radiation protection
February 2014

IEM 7:



Severe accident management
March 2014

IEM 8: ***Research and Development*** *- Q1 2015*

Conclusion and Future Challenges

- Momentum on Nuclear Safety;
- To continue strengthening, developing, maintaining and implementing capacity building programmes, including education, training and exercises at the national, regional and international levels;
- To ensure sufficient and competent human resources necessary to assume responsibility for safety;
- To incorporate lessons learned from the accident based on the IEMs and IAEA Fukushima Report


Thank you!