

The Fukushima Daiichi Accident Lessons Learned Knowledge Portal

Presentation to the GNSSN Steering Committee

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IAEA

International Atomic Energy Agency

The Fukushima Daiichi Accident Lessons Learned Knowledge Portal

1) Background

- IAEA Nuclear Safety Action Plan
- IAEA Fukushima Report

2) Project Rationale

3) Project Objective

4) Source Documents

5) Current Status

6) Next Steps

Background

The IAEA Action Plan on Nuclear Safety



- Focused on sharing the lessons learned from the accident, identifying relevant best practices and ensuring that both are widely disseminated;
- Focused on the need to incorporate them into the Member States capacity building programmes for both the embarking countries as well as for countries with nuclear power programmes

IAEA Action Plan on Nuclear Safety - Key facts

The purpose of the Action Plan was to define a programme of work to strengthen the global nuclear safety framework.

The Action Plan covered **12 key areas** of nuclear safety with a view to integrating the lessons learned from the Fukushima Daiichi Accident.



Safety Assessments



IAEA Peer Reviews



Emergency Preparedness and Response



National Regulatory Bodies



Operating Organizations



IAEA Safety Standards



International Legal Framework



Member States Embarking on Nuclear Power



Capacity Building



Protection from Ionizing Radiation



Communication



Research & Development

IAEA Report on the Fukushima Daiichi Accident – Key facts

- The report provides a description of the 11 March 2011 accident at the Fukushima Daiichi Nuclear Power Plant in Japan along with its causes, evolution and consequences using information and data available up to March 2015.
- It is the result of an extensive international collaborative effort involving five working groups with about 180 experts from 42 Member States and several international bodies.
- The report aims to provide a comprehensive understanding of what happened during the accident and why. The main observations and lessons are highlighted so that they can be acted upon by governments, regulators and nuclear power plant operators throughout the world.



Project Rationale

- The implementation of the IAEA Action Plan and the publication of the IAEA Fukushima Report **highlighted many observations and lessons that require further deliberation.**
- In order to build on the above mentioned observations and lessons:
 - a strong knowledge base needs to be created, as well as a tracking system that will allow following-up on the progress in the endeavour to achieving improved nuclear safety worldwide;
 - the conclusions of the major IAEA activities on nuclear safety (IAEA Action Plan projects, Fukushima Report, IEMs, in house conferences, peer reviews, mission reports; etc.) need to be reviewed.

Project Objective

- To develop a **Knowledge Management Portal on Lessons Learned from the Fukushima Daiichi Accident** to share observations and lessons learned and exchange practices among all participating MS and international organizations;
- This knowledge base will ensure that observations and lessons are captured, retained and disseminated in a structured and consistent manner;
- Access to this knowledge base will provide a framework for MS to ensure the effectiveness of activities undertaken so far and that recommendations are fully carried out.

Source Documents

Observations and lessons highlighted by **report on The Fukushima Daiichi Accident:**

104 in the Technical Volumes;

45 key observations and lessons in the Report by the Director General.

Lessons and recommendations arising from the activities of the **Action Plan on Nuclear Safety:**

375 observations and recommendations (at present);

43 source documents (at present).

Examples of Source Documents:

- **IAEA Fukushima Report**
- **IAEA Nuclear Safety Action Plan Series**
 - IEMs 1 -9
 - IAEA Report on Capacity Building;
 - IAEA Report on Strengthening Nuclear Regular Effectiveness;
 - IAEA Report on Preparedness and Response for a nuclear or radiological emergency in the light of the accident at the Fukushima Daiichi NPP
- **Mission Reports:**
 - Peer Review Mission on Mid- and Long-Term Roadmap towards the decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station Units 1-4 (3 missions);
 - The Follow-up IAEA International Mission on Remediation of Large Contaminated Areas Off-Site the Fukushima Daiichi Nuclear Power Plant;
 - Mission Report: the IAEA Fact Finding Expert Mission of the Fukushima Daiichi NPP Accident Following the Great East Japan Earthquake and Tsunami;
 - Report of the International Mission on Remediation of Large Contaminated Areas Off-Site the Fukushima Daiichi NPP;

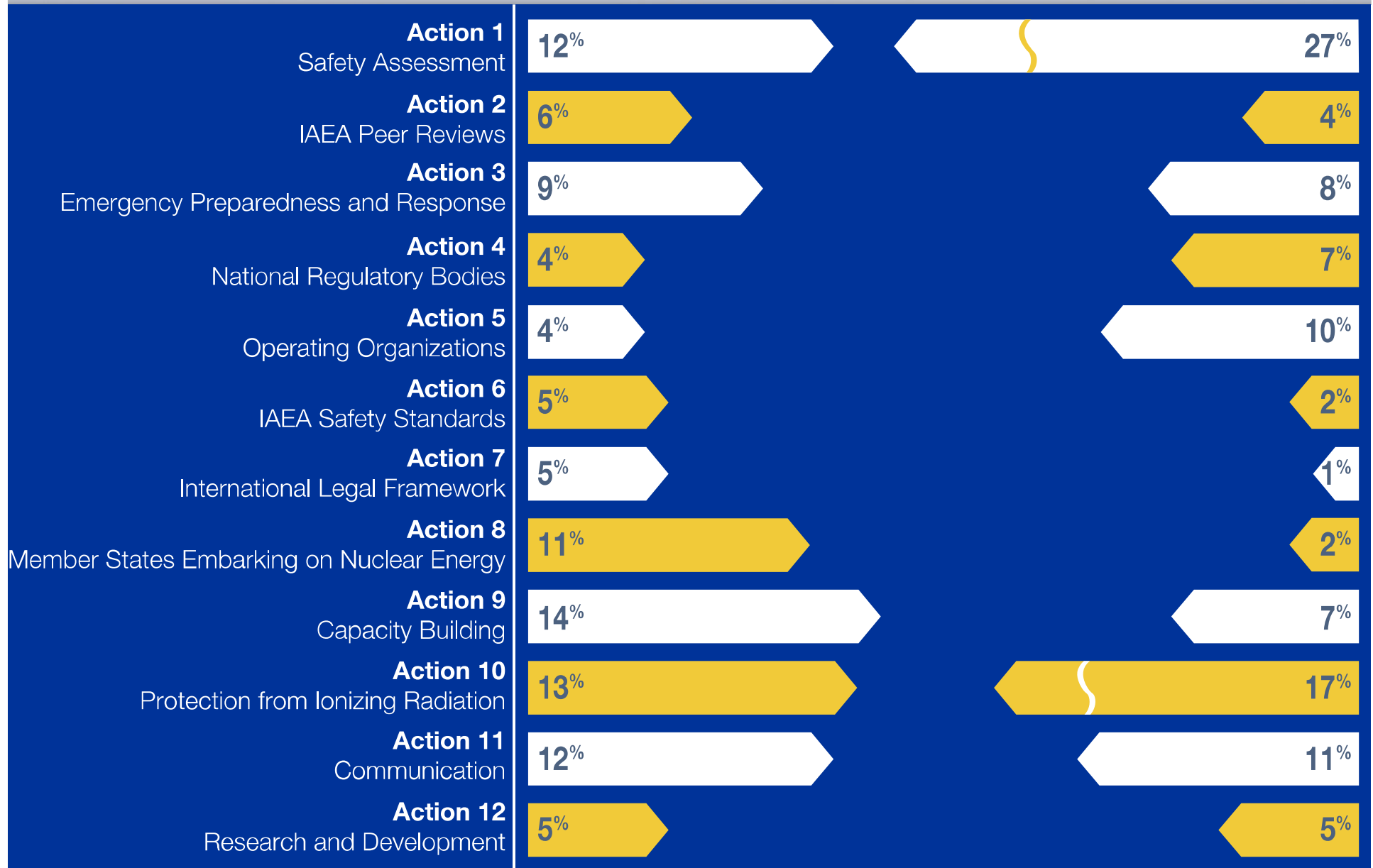
Examples of Source Documents:

- **IAEA Conferences**

- International Conference on Human Resource Development for Nuclear Power Programmes;
- International Conference on effective regulatory systems: transforming experience into regulatory framework;
- International Conference on Topical Issues in Nuclear Installation Safety: Defence in Depth - Advances and Challenges for Nuclear Installation Safety;
- International Conference on Challenges faced by TSOs in enhancing nuclear safety and security: strengthening cooperation and improving capabilities;
- International Ministerial Conference "Nuclear Power in the 21st Century";

- **Other outcome documents of completed Action Plan projects (technical meetings, IAEA workshops, TECDOCs, etc.).**

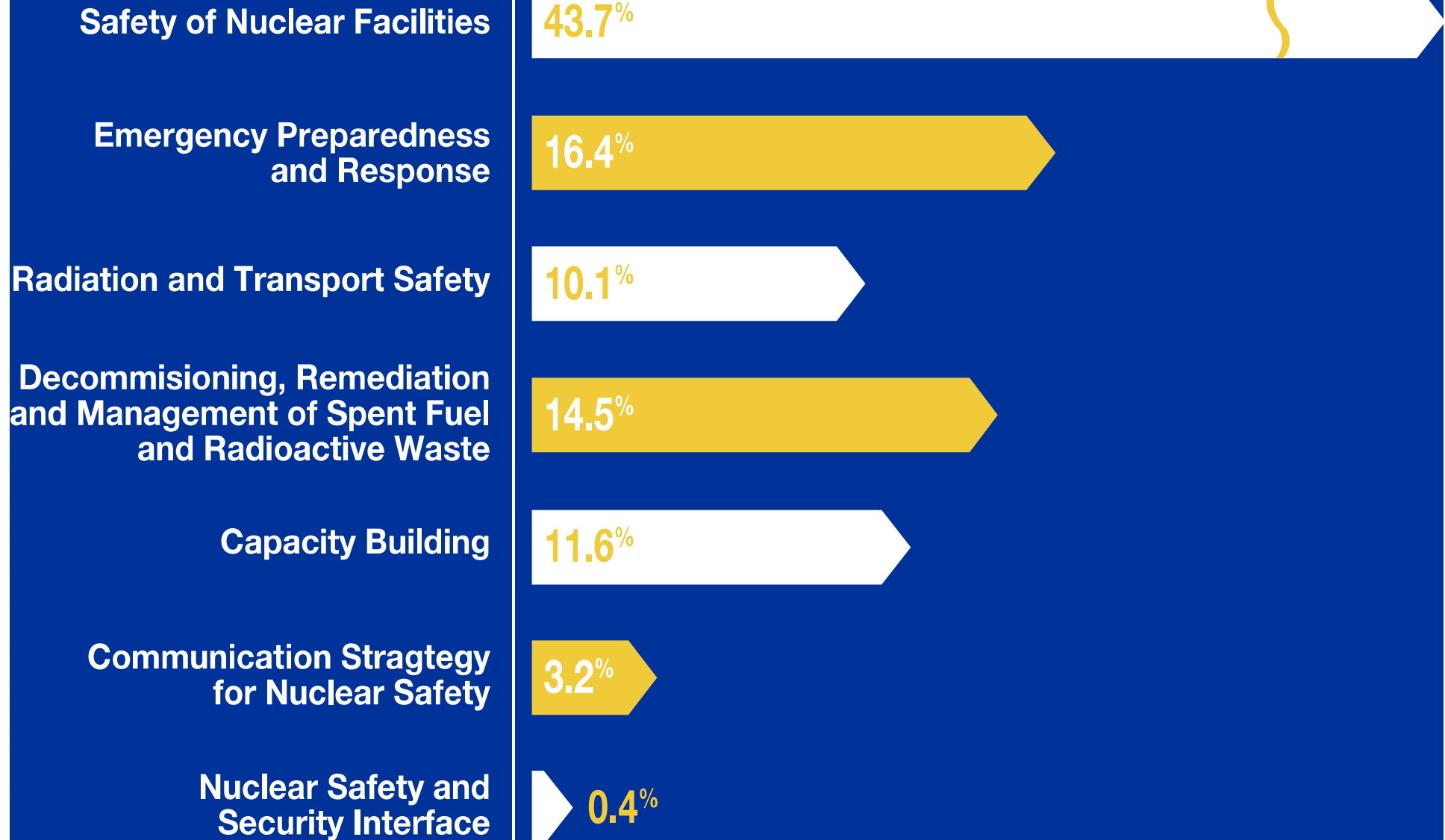
Summary of activities and lessons per action



Current Status

- As part of the analysis stage of the project the Secretariat has finalized:
 - compilation of observations and lessons from the implementation of the Fukushima Report and key IAEA Action Plan outcome documents;
 - identification of the knowledge domains;
 - categorization of the observations and lessons under the relevant knowledge domains;
 - development of a conceptual structure for the knowledge portal.

Categorization of observations and lessons



Next Steps

- 1) The database of observations and lessons needs to be regularly updated since dedicated projects under the Action Plan continue beyond 2015 and **will continue to be implemented** by the respective Departments/Divisions (in particular those that address lessons learned from the IAEA Fukushima Report, the IEMs and the completed IAEA Action Plan projects). Therefore new outcome documents need to be taken into consideration and screened for relevant lessons.

Next Steps

- 2) Further organisation and sorting of relevant information and data;
 - Definition of structure (categories, sub-categories, etc.)
 - Definition of main features (scope and sustainability)

- 3) Developing the framework and design of the dynamic web-based knowledge portal;
 - IT Platform: the Knowledge Portal will be set up in the GNSSN
 - using SharePoint 2013 as the web based application framework and platform
 - Definition of the portal design (e.g. user-friendly search function)

Next Steps

4) Hosting of the knowledge portal within GNSSN;

- Pilot portal: use the Fukushima observations and lessons during the test phase
- Migration of remaining observations and lesson to GNSSN
- Harmonizing classification system if necessary

5) Sharing of knowledge portal with MS (beta version)

- Promotion
- Population (e.g. managing access requests)
- Maintenance (e.g. regular updates).

Support by GNSSN



- Reviewing
 - Providing advice based on existing GNSSN knowledge networks and portals
 - Feedback on content, categorization, search functions, sustainability etc.
- Testing
 - feedback on the conceptual structure and sustainability of the main features during pilot phase and the migration of all lessons and observations
- Promotion
 - Support in promoting this new feature of the GNSSN

NSOC Contact Points

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Thank you for your attention



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