International Experts´ Meeting on Decommissioning and Remediation after a Nuclear Accident

IAEA Action Plan on Nuclear Safety

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International Atomic Energy Agency

OUTLINE

- NSAP : General
- IAEA Activities on Decommissioning, Remediation and Waste
- Fukushima Ministerial Conference on Nuclear Safety
- International Experts Meetings (IEMs)
- IAEA Fukushima Comprehensive Report

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IAEA Action Plan on Nuclear Safety

- Safety Vulnerabilities
- Peer Reviews
- EPR
- Regulatory Bodies
- Operating Organisations
- IAEA Safety Standards
- Legal Framework
- Embarking countries
- Capacity Building
- Protection of People + Environment
- Communication
- Research + Development

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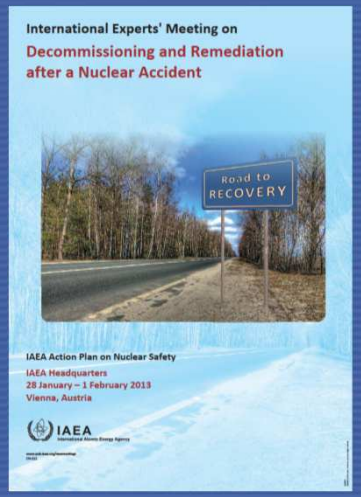
IAEA Nuclear Safety Action Plan
Decommissioning

Three step approach



- Step 1 - Collect existing experiences in post-accident decommissioning
- Step 2 – This IEM
- Step 3 - Launch a safety demonstration project, based on the outcomes of the steps 1 and 2. This project will focus on decommissioning of accident damaged facilities

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Waste management

The IAEA initiated an activity to develop a guidance document that supports waste management after an emergency situation

The document will be based on lessons learned from past practices for both on-site and off-site activities, mainly focusing on:

- How to develop a waste management strategy for waste arising from remediation
- Developing a generic safety case for demonstrating the safety of disposal facilities for large amounts of very low level radioactive waste
- Consultancy Meetings

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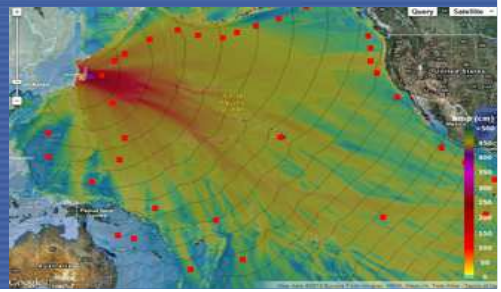
Remediation and Radiological Impacts

The following is being implemented:

- Guidance for the implementation of integrated strategies to reduce radiological impacts to the population subsequent to deposition of radionuclides on inhabited and agricultural areas
- Modelling and Data for Radiological Impact Assessment: the Agency has launched the programme “Modelling and Data for Radiological Impact Assessments (MODARIA)” in November 2012
- Remediation and Decontamination in Fukushima Prefecture
- Management of Radioactive Waste from Remediation Activities
- Assistance in the use of radiation monitoring data to develop maps to be made available to the public



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Clean-up and Decommissioning

The following is being implemented:

- Preparation of the report on the experience and lessons learned worldwide in clean-up and decommissioning of nuclear facilities after an accident
- Preparation of the report on the experience on approaches, techniques, tools and equipment to deal with clean-up, decontamination and decommissioning
- Project on clean-up and decommissioning of nuclear facilities in the light of the lessons learned from Fukushima (by 2013-2014)

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IAEA Nuclear Safety Action Plan
Research & Development - SF

The following is being implemented:

- Document describing the options available for the management of spent nuclear fuel considering extreme natural hazards
- Collect relevant data to assist in the capture of lessons learned
- Activities on the management of severely damaged spent fuel, including corium.
- Activities on collecting and documenting lessons learned about spent nuclear fuel storage including the lessons learned on the Fukushima spent storage facilities
- CRP on Demonstrating Performance of Spent Fuel and Related Storage System Components during Very Long Term Storage
- CRP on Assessments of the behaviour of stored spent fuel

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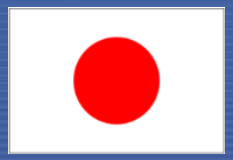
The Fukushima Ministerial Conference on Nuclear Safety

- Fukushima Prefecture, Japan 15-17 December 2012
- Organized by the Government of Japan In co-sponsorship with the International Atomic Energy Agency
- Plenary Session
- 3 Working Sessions



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Working Session 1 Lessons Learned

OBJECTIVES

Review lessons learned including

- Measures to prevent an accident, mitigate accident consequences,
- Maintaining the safe operation of nuclear installations and
- Protection of NPPs against severe natural hazards.

Conclusions:

- Need for effective nuclear safety regulatory framework
- More emphasis on broader environmental and societal impacts
- Continuous improvement—no matter how high the standards, the quest for improvement must never cease.

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Working Session 1 Lessons Learned

- Effective and independent barriers in the national nuclear safety system at the operator, regulator and stakeholder levels
- More attention to external events
- Re-examination of NPP design basis
- Develop severe accident management strategies
- Consideration of beyond design basis accidents
- Mitigation capabilities need to be enhanced

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Working Session 2 Strengthening Nuclear Safety

Objective :

Discuss ways to further strengthen nuclear safety, including emergency preparedness and response

Conclusions :

- National nuclear safety action plans to implement the IAEA Action Plan
- IAEA safety standards review and MS to utilize the IAEA safety standards as broadly and effectively as possible
- IAEA's peer review services strengthened
- Improvements to emergency preparedness and response capabilities (National and International)

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Working Session 2 Strengthening Nuclear Safety

- Broadening of IAEA's role in response to a nuclear or radiological emergency
- Enhancements to RANET
- Enhance and widen scope of IAEA communication and information sharing with Member States
- Improvements to emergency preparedness and response capabilities (National and International)

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Working Session 3 Protection of People and the Environment from Ionizing Radiation

Objectives :

Discuss radiation protection, public communication on radioactivity, remediation related activities, and tasks related to research and development for off-site activities.

Conclusions :

- Communication Needs
  - Communicate with the public in plain language
  - Early, routine communication
  - A ‘one voice’ based on ‘good science’
- Remediation
  - Establish policies and strategies for remediation at an early stage
  - Remediation programme should address
    - legal, socio-economic and technological issues
    - IAEA safety standards and national requirements and guidelines
  - Remediation will generate waste which should be properly managed

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Working Session 3 Protection of People and the Environment from Ionizing Radiation

- Future Activities
  - Globally strengthen methods for monitoring food, including agricultural and fishery products,
  - Seek more efficient and effective technologies for optimizing remediation from the perspectives of safety, cost and time
  - Strong coordination needed among all involved organizations
  - IAEA international expert mission on the decommissioning of the Fukushima Daiichi nuclear power station

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IEMs Overview

- IAEA Action Plan on Nuclear Safety
  - Communication and Information Dissemination
- International Experts' Meetings
  - Reactor and Spent Fuel Safety
  - Enhancing Transparency and Communication Effectiveness in the event of a Nuclear or Radiological Emergency
  - Protection against Extreme Earthquakes and Tsunamis
- Results
  - Chairs Summaries, presentations web site
  - Reports on topics Ministerial Conference December 2012
- Future IEMs / Conferences
  - Effective Nuclear Regulatory Systems April 2013
  - Human and Organizational Factors May 2013
  - Radiological Assessments 2013/2014

IAEA Fukushima Report (2014)

The IAEA will produce a comprehensive report based on the understanding of the facts, including the Agency's assessment of the accident, consisting of:

- An **executive summary**
- A **scientific/technical** section including, nuclear safety and radiological aspects
- Provide a description of the Fukushima accident, its causes and consequences and address relevant key issues and lessons learned;
- be **authoritative**, **factual** and **balanced** with sufficient technical depth but **easily understandable.**

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Thank you!

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Nuclear Safety Action Team