


U.S.NRC  
 100 Years of Nuclear Regulation  
 Protecting People and the Environment

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 CONFERENCE

## IAEA Perspective on Enhancing Nuclear Safety Practices through International Peer Review Missions

Gustavo Caruso  
 Special Coordinator  
 Department of Nuclear Safety and Security



IAEA  
 International Atomic Energy Agency

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### Peer Reviews - Background

*Peer reviews, expert missions, evaluations and appraisal services are provided by the Agency to Member States, upon their request*

**Scope**

- Directly related to the areas addressed by the IAEA Safety Standards
  - Governmental organizations
  - Research reactors
  - Operation
  - Design and siting of NPP
  - Radiation
  - Waste and transport safety and security



**Objectives**

- Advice and assistance to Member States in improving their performance in the area under review
- Review against the IAEA Safety Standards
- Provide an independent assessment of the safety of an activity or facility → importance of self-assessment

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### Peer Reviews - Overview

- **OSART** – Operational Safety Review Team
- **IRRS** – Integrated Regulatory Review Service
- **EPREV** – Emergency Preparedness Review
- **DSARS** – Design and Safety Assessment Review Service
- **SAITO** – Safety Aspects of Long Term Operation
- **SEED** – Site and External Events Design Review Service
- **ARTEMIS** – Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation






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## Background



IAEA response to the Fukushima accident includes:

- **Nuclear Safety Action Plan:**
  - Defines a programme of work to strengthen the global nuclear safety framework
  - Covers all relevant aspects relating to nuclear safety, emergency preparedness and response, radiation protection of people and the environment, **the IAEA Safety Standards and IAEA peer reviews**
  - IAEA Fukushima Report

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## NSAP Programme

12 Actions



- 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




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## Nuclear Safety Action Plan

### Action 2: IAEA Peer Reviews

**"Strengthen IAEA Peer Reviews in order to maximise the benefits to Member States"**

- Strengthened peer reviews
  - Siting, Design and Severe Accident Management
  - Improved coordination WANO reviews
- Following the accident and the adoption of the Action Plan, there continues to be an **increase in requests** from Member States for the IAEA peer review services
- To **enhance transparency**, the IAEA Secretariat is to provide summary **information on where and when** IAEA peer reviews have taken place, and to make publicly available the results of such reviews



All missions can be checked on the website of the IAEA Action Plan on Nuclear Safety →

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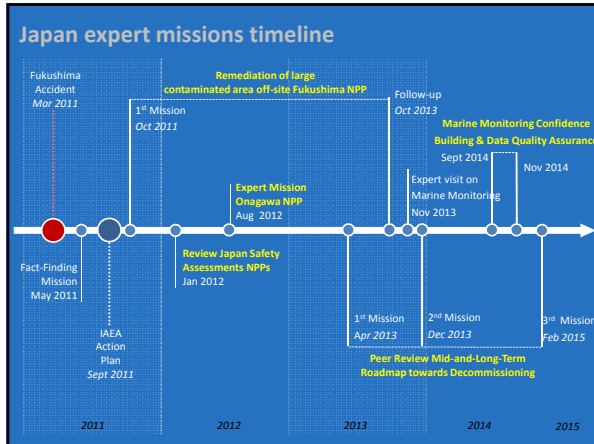
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### IAEA Fukushima Report

*Technically comprehensive report based on the understanding of the facts and Agency's assessment of the accident*

**Topics covered**

- Description and context of the accident
- Safety assessment
- Emergency preparedness and response
- Radiological consequences
- Post-accident recovery
- Lessons and observations

**The report will consist of:**

- **Summary report and Executive summary:** informative and easily understandable for decision makers and the general public
- **Scientific/technical Volumes:** provides description of the accident, its causes and consequences, and includes aspects focusing on scientific/technical data, in an authoritative, factual and balanced manner

**Main lesson for peer reviews** → many of the causes of the accident could have been detected, or more clearly pointed out by peer review against the IAEA Safety Standards

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### Final considerations

- In the light of the Fukushima Daiichi accident, the IAEA Safety Standards proved to be **adequate and no significant gaps** were identified. However their review and revision is ongoing.
- **Vienna Declaration** adopted in February 2015 to guide contracting parties in achieving the objective of preventing accidents with radiological consequences and mitigating such consequences: **calls for national requirements and regulations to take the relevant IAEA Safety Standards into account.**
- **IAEA peer reviews provide** an objective evaluation of Member States activities against the IAEA Safety Standards
- One of the **overarching lesson learned** from the Fukushima Daiichi accident was the utmost importance of hosting IAEA peer reviews particularly for **Siting, Design and Severe Accident Management** at nuclear power plants




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