

**International Academic Conference on Radiation Health Risk Management
in Fukushima, February 25-27, 2013, Fukushima, Japan**

IAEA Incident and Emergency System and IAEA's response to accident at TEPCO's Fukushima Daiichi Nuclear Power Station

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Head, Incident and Emergency Centre



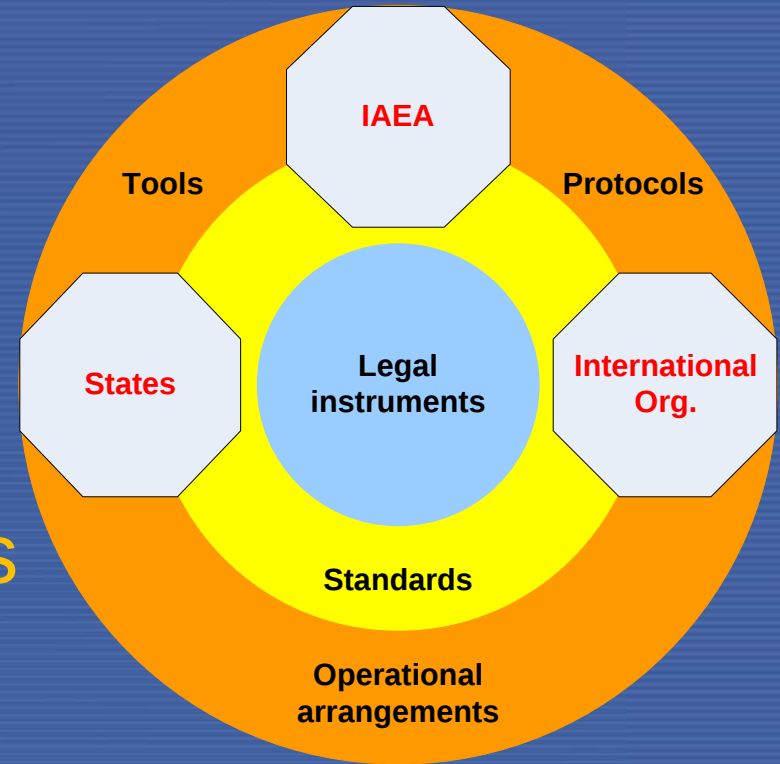
IAEA

International Atomic Energy Agency

International EPR Framework

Overview

- Legal instruments
- Safety Standards
- Tools, protocols and operational arrangements



International EPR Framework

Legal instruments

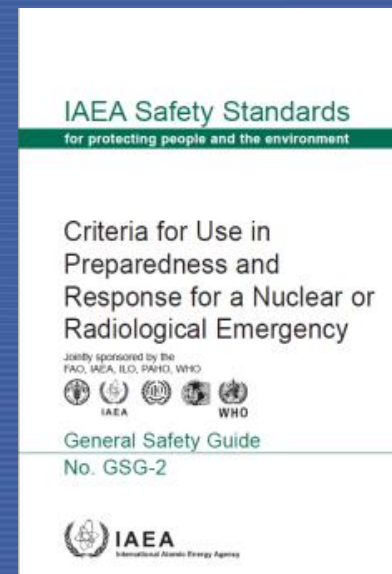
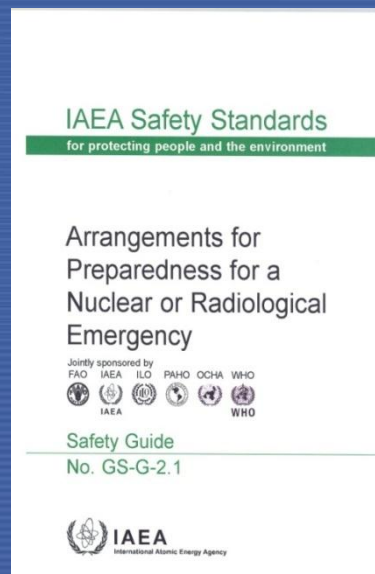
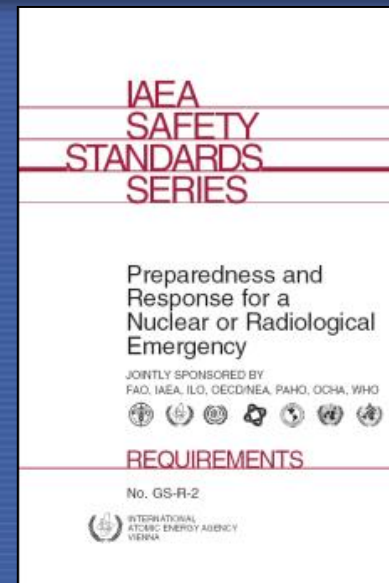
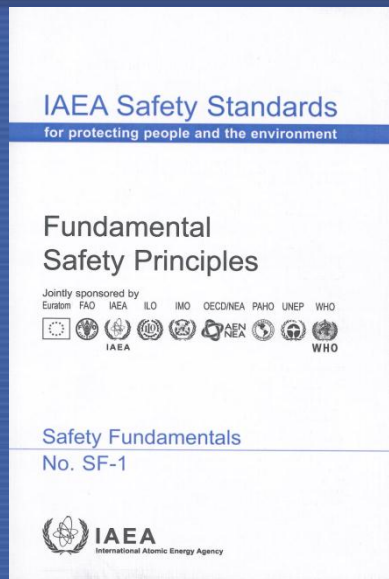
**Convention
on Early Notification
of a Nuclear Accident
and
Convention on Assistance
in the Case
of a Nuclear Accident
or Radiological Emergency**



INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, 1987

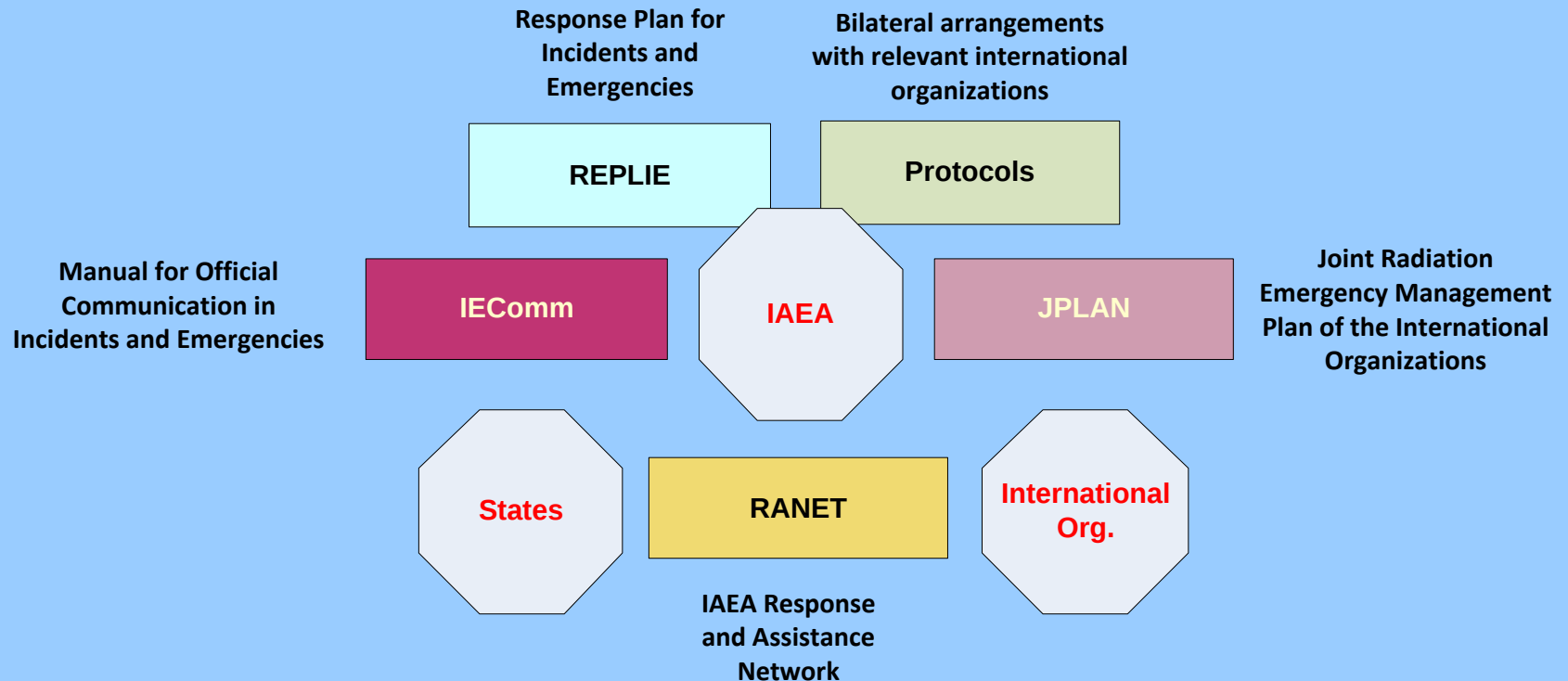
International EPR Framework

Safety Standards

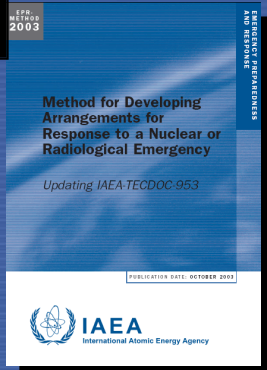
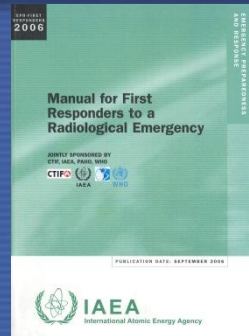
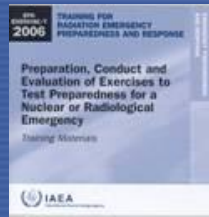
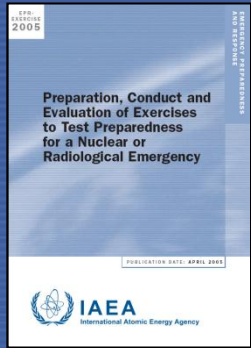


International EPR Framework

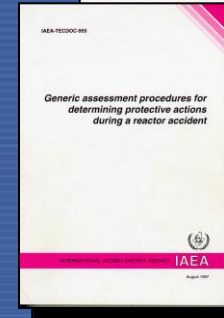
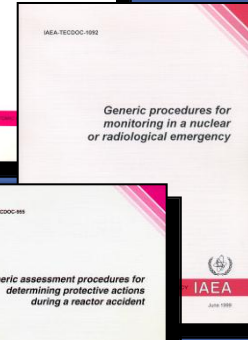
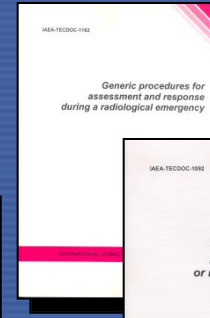
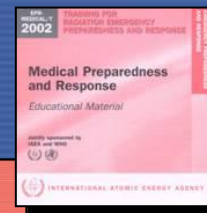
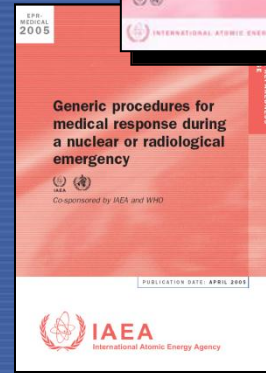
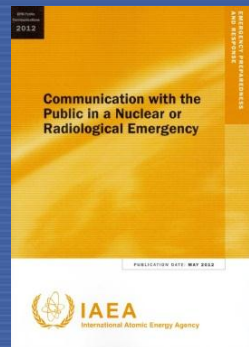
Operational arrangements and protocols



International EPR Framework Tools

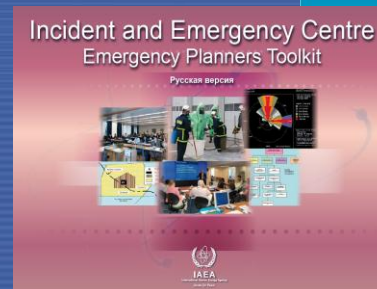


EPR Series



TECDOC Series

Accident reports



Incident and Emergency Centre (IEC)

Global focal point for international preparedness and response for nuclear and radiological safety or security related incidents, emergencies, threats or events of media interest and for coordination of international assistance

Implementing
IAEA functions
in EPR



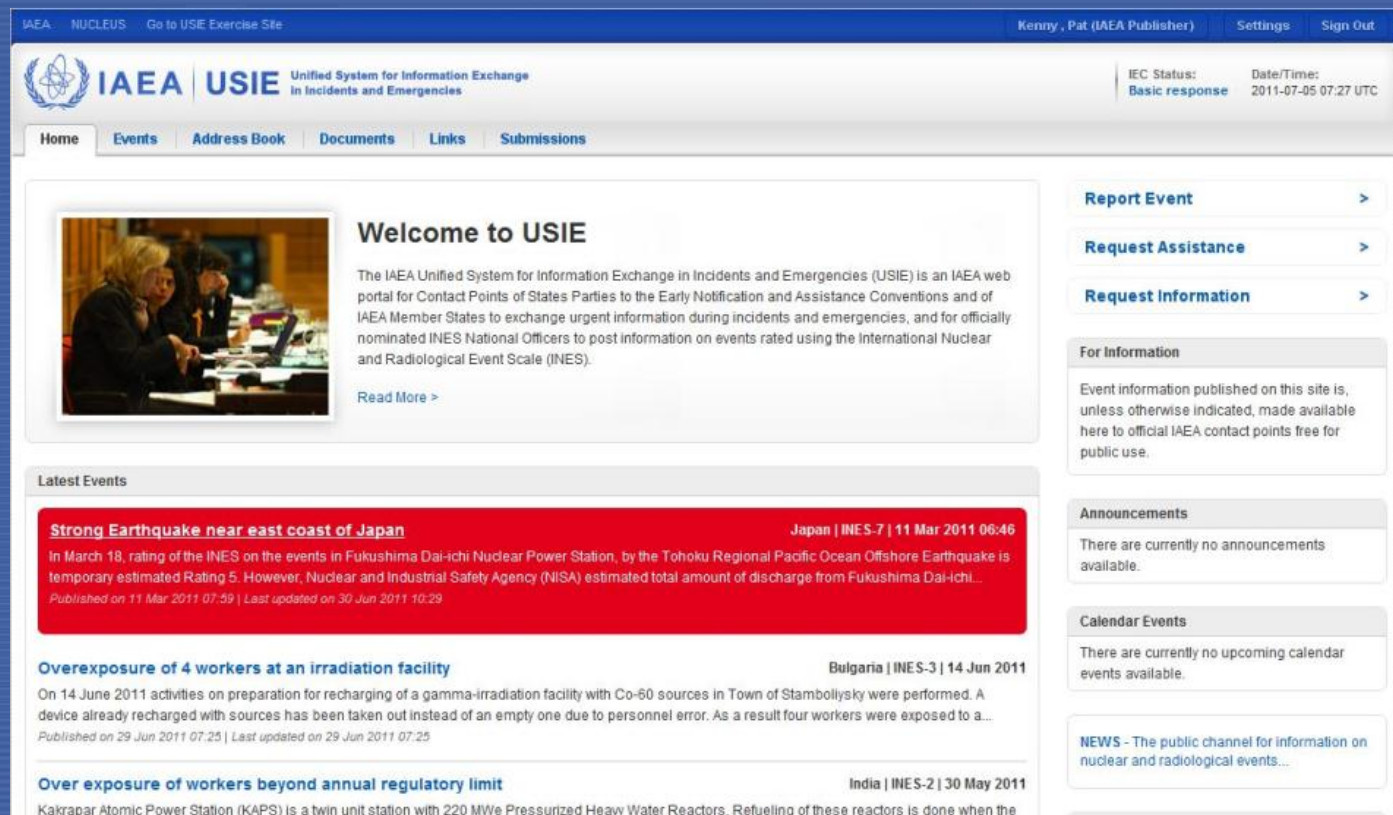
IAEA Roles and Responsibilities

Response (March 2011)

- Notification and official information exchange:
 - Officially designated Contact Points
- Provision of assistance on request:
 - Facilitate and coordinate
- Provision of public information:
 - Timely, accurate and appropriate
- Coordination of inter-agency response:
 - Achieve synergy, speak with 'one voice'

Notification/Information Exchange

- Through officially designated Contact Points



The screenshot displays the IAEA USIE (Unified System for Information Exchange in Incidents and Emergencies) website. The header includes the IAEA logo, the text "IAEA USIE Unified System for Information Exchange in Incidents and Emergencies", and user information: "Kenzy, Pat (IAEA Publisher)", "Settings", and "Sign Out". A status bar shows "IEC Status: Basic response" and "Date/Time: 2011-07-05 07:27 UTC". The main navigation menu includes "Home", "Events", "Address Book", "Documents", "Links", and "Submissions".

The central content area features a "Welcome to USIE" section with a photograph of people at a meeting and a text block explaining the system's purpose: "The IAEA Unified System for Information Exchange in Incidents and Emergencies (USIE) is an IAEA web portal for Contact Points of States Parties to the Early Notification and Assistance Conventions and of IAEA Member States to exchange urgent information during incidents and emergencies, and for officially nominated INES National Officers to post information on events rated using the International Nuclear and Radiological Event Scale (INES)." A "Read More >" link is provided.

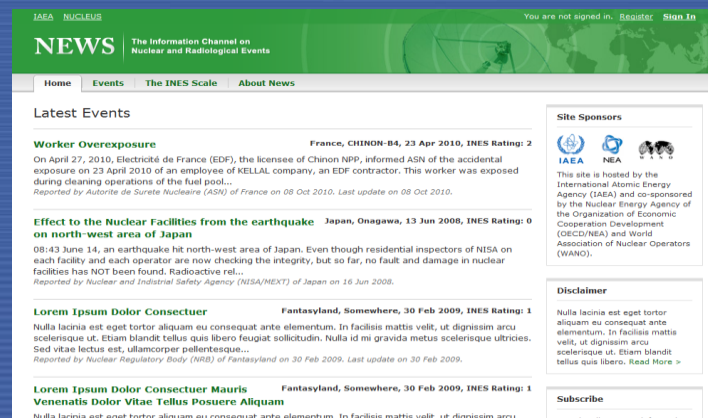
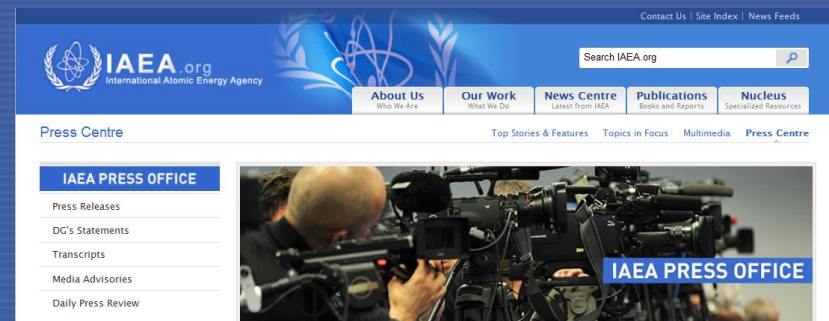
The "Latest Events" section lists three incidents:

- Strong Earthquake near east coast of Japan** (Japan | INES-7 | 11 Mar 2011 06:46). Description: "In March 18, rating of the INES on the events in Fukushima Dai-ichi Nuclear Power Station, by the Tohoku Regional Pacific Ocean Offshore Earthquake is temporary estimated Rating 5. However, Nuclear and Industrial Safety Agency (NISA) estimated total amount of discharge from Fukushima Dai-ichi..."
- Overexposure of 4 workers at an irradiation facility** (Bulgaria | INES-3 | 14 Jun 2011). Description: "On 14 June 2011 activities on preparation for recharging of a gamma-irradiation facility with Co-60 sources in Town of Stambolitsky were performed. A device already recharged with sources has been taken out instead of an empty one due to personnel error. As a result four workers were exposed to a..."
- Over exposure of workers beyond annual regulatory limit** (India | INES-2 | 30 May 2011). Description: "Kakrapar Atomic Power Station (KAPS) is a twin unit station with 220 MWe Pressurized Heavy Water Reactors. Refueling of these reactors is done when the..."

On the right side, there are three interactive sections: "Report Event", "Request Assistance", and "Request Information", each with a right-pointing arrow. Below these are "For Information" (with a disclaimer about public use), "Announcements" (stating no announcements are available), and "Calendar Events" (stating no upcoming events are available). A "NEWS" section at the bottom right describes it as "The public channel for information on nuclear and radiological events..."

Provision of Public Information

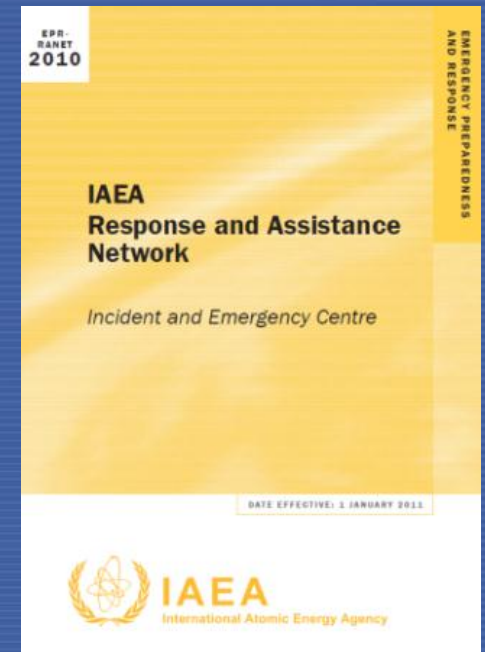
- Timely, clear, correct and easily understandable



International Assistance

- Provision of assistance on request
 - Provide/facilitate and coordinate

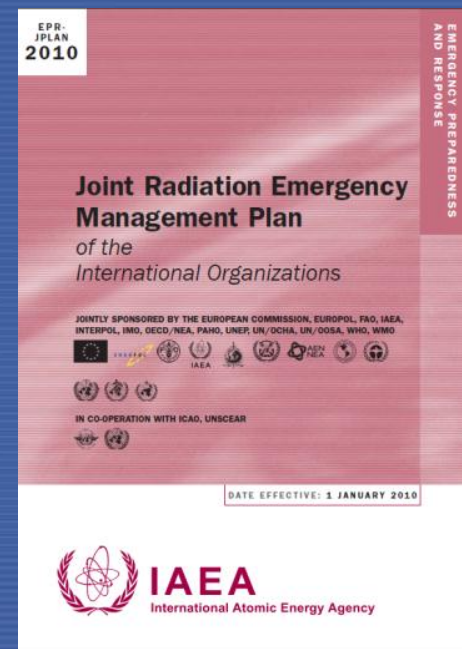
22 Member States registered
in RANET



Coordination of Response

- Coordination of Inter-agency Response
- Achieve synergy, speak with 'one voice'

16 International Organizations
members of the Inter-Agency
Committee on Radiological
and Nuclear Emergencies
(IACRNE)

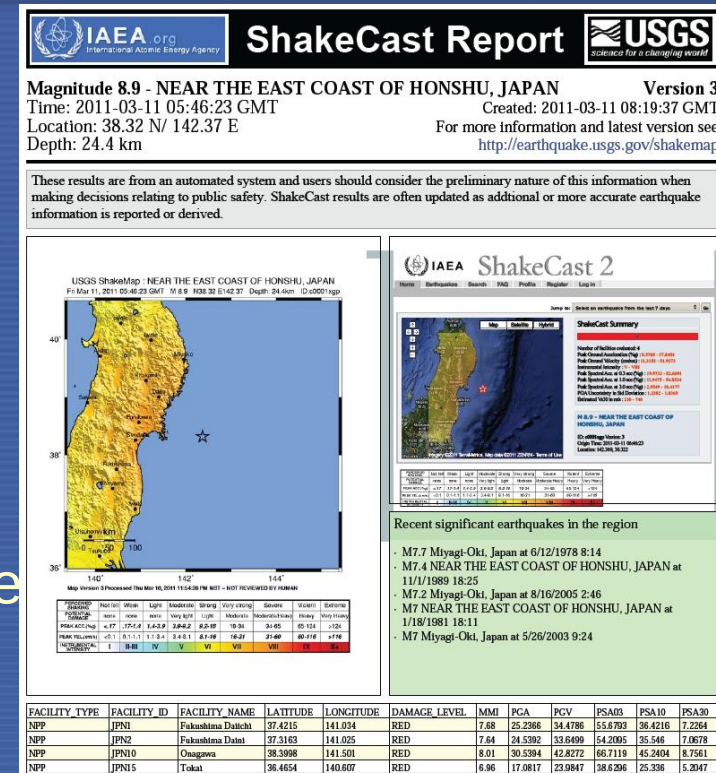


11 March 2011

- 05:46 UTC
 - Earthquake of magnitude 9.0 occurred near East coast of Honshu, Japan
- 06:42 UTC
 - On-call External Event Specialist informed/alerted on-call Emergency Response Manager about earthquake
 - Possible damage at 4 NPPs and potential for tsunami anticipated
- 07:21 UTC
 - IEC made first phone contact with Ministry of Economy, Trade and Industry (METI) – Nuclear and Industry Safety Agency (NISA)



IAEA



11 March

- 07:48 UTC
 - Offer of Agency's assistance sent to METI-NISA Japan (cc PM of Japan to IAEA)
- 08:06 UTC
 - First EMERCON message for MSs and IGOs published on ENAC web site
- 08:20 UTC
 - IEC declares Full Response mode operations

ENAC Emergency Notification and Assistance Convention

USIE will replace ENAC in 14 days. For more info, please go here.

CONTACT: IEC Secretariat (UTC) 2011-03-11 13:32

EMERCON IAEA

Emergencies | Submitted Messages | My Tasks | Documents | External Links | Address Book

Help | Logout

Standard Report Form

This form is used for reporting on a nuclear or radiological emergency, except general emergency at a nuclear installation.

MEA MESSAGE HEADER MEA message number: MEA/2011/011 Full distribution ref: None Code word:		Name of sub manager: Rodolfo Cruz Soares Changed by: IAEA No Changed by: IAEA	
HEADER To: MEA(IEC) Confidentiality: Free for publication Activation control: Immediately		Note: This form is mandatory. Message number: 1 Status: Verified by IAEA Exercise: No First message: No	
1. REPORTING STATE Reporting state: Japan		2. OFFICIAL NOTIFICATION / INFORMATION This is an official notification under the Early Notification Convention of actual or potential international transboundary release of radioactive significance for another state. No	
3. COMPETENT AUTHORITY Competent authority: Ministry of Economy Telephone: Fax: Email: URL: Contact person (official position):		4. NATURE OF EVENT Event type: Other (described below) Nature of event: Earthquake Installation type: BPP Emergency class: EVENT CHARACTERISTICS Detailed description: No Has not occurred and unlikely to occur Contamination: No Est. no. of radioactive releases: 0	
5. FACILITY / EVENT LOCATION Facility/event location: Enter saved from map or enter here: OMAGAWA Coordinates: Latitude (deg. dec): 35.40 ° N Longitude (deg. dec): 141.50 ° E		6. DATE AND TIME OF OCCURRENCE YYYY-MM-DD: 2011-03-11 HH:MM (24 Hour clock): 06:46 UTC	
8. EVENT DESCRIPTION Event summary (300 characters): See attached file		7. VALIDITY OF INFORMATION Information valid at: 2011-03-11 YYYY-MM-DD: 2011-03-11 HH:MM (24 Hour clock): 06:45 UTC	
10. BROADCAST INFORMATION Provisional NIS rating: Media contact ref: 4 URL of public website:		9. ACTIONS BEING TAKEN / PLANNED Actions taken (300 characters): There is no report of abnormal monitoring readings around BPPs that indicate irregular value at this time. There are no reports of fire or failure. Staff of NISA are gathering information.	
11. OTHER RELEVANT INFORMATION Other relevant information (300 characters): Further information website: Further information attachment:			

11 March

- 08:30 UTC
 - First IAEA's press statement published on IAEA web site
- 09:29 UTC
 - First request for information from MS
- 09:33 UTC
 - First info to MS provided by phone

Earthquake Hits Japan (11 March 08:30 UTC)

11 March 2011

 Announcements,  Featured

The IAEA's Incident and Emergency Centre received information from the International Seismic Safety Centre (ISSC) at around 07:15 UTC this morning about the earthquake of magnitude 8.9 near the east coast of Honshu, Japan.

The Agency is liaising with the Japanese Ministry of Economy, Trade and Industry (METI) to confirm further details of the situation. Japanese authorities reported that the four nuclear power plants closest to the quake have been safely shut down.

The Agency has sent an offer of Good Offices to Japan, should the country request support.

Current media reports say a tsunami alert has been issued for 50 countries, reaching as far as Central America. The Agency is seeking further information on which countries and nuclear facilities may be affected.

Please refer to this webpage for future updates from the Incident and Emergency Centre regarding this event. 15

11 March

- 09:39 UTC
 - First IEC request to WMO's Regional Specialized Meteorological Centres standard meteorological products
- 10:39 UTC
 - First fax to METI requesting detailed info on declaration of emergency
- 17:03 UTC
 - Fifth EMERCON message published; confirmation of reading requested
 - Emails were sent in parallel to all existing primary and primary back up email addresses

**Environmental Emergency Response
Request for WMO RSMC Support by IAEA**

Th The IAEA sends the completed form by fax to all RSMCs and RTH Offenbach.
At At the same time the IAEA calls the 'Lead' RSMCs (selected on the form) to ensure receipt of this form.

Date/Time of Request: 2011-03-11/09:30(UTC)

SI STATUS: ☒ EMERGENCY ☐ EXERCISE

RE REQUESTED RSMCS : (indicate the lead RSMCs by a checkmark below)

☐ EXETER ☐ TOULOUSE ☐ MELBOURNE ☐ MONTREAL ☐ WASHINGTON
☒ BEIJING ☒ TOKYO ☒ OBNINSK ☒ RTH Offenbach

SE SENDERS NAME : INTERNATIONAL ATOMIC ENERGY AGENCY

CC COMMUNICATION DETAILS: Tel : use to confirm receipt of request
 Fax : use to confirm receipt of request
 Email: use to confirm receipt of request

NA NAME OF RELEASE SITE AND COUNTRY : Fukushima-Daiichi PP - Japan(facility and place)

GE GEOGRAPHICAL LOCATION OF RELEASE: 37.42 decimal degrees ☐ N ☐ S
 (MUST BE COMPLETED) 141.3 decimal degrees ☒ E ☐ W

DE DECLARED EMERGENCY CLASS:
☒ NONE ☐ other, specify:

AC ACTION REQUIRED :
☐ NONE
☐ GO ON STANDBY (request for products or for assistance on weather conditions is to be expected)
☒ LEAD RSMCs ONLY: GENERATE PRODUCTS* AND SEND TO IAEA ONLY
☐ ALL RSMCs: GENERATE PRODUCTS* AND DISTRIBUTE WITHIN THEIR REGION(S)
☐ OTHER ACTION :

* Appendix II-7, Manual on the Global Data Processing and Forecasting System, WMO No. 485

11 March

- 19:38 UTC
 - First IEC Status Summary Report distributed by fax to all CPs
- 20:02 UTC
 - First IEC Status Summary Report published on ENAC



Status Summary Reports

- By end of 2011 more than 130 Status Summary Reports issued

First IEC Status Summary Report on March 11 1 page



Subject: Status of the Fukushima Daiichi nuclear power plant

The Incident and Emergency Centre (IEC) is continuing to monitor the status of the nuclear power plants in Japan following the earthquake earlier today. At 18:30 UTC on March 11, 2011 the IEC spoke to its counterparts in Japan the Nuclear and Industrial Safety Agency (NISA) and Ministry of Education, Culture, Sports, Science and Technology (MEXT).

NISA and MEXT confirmed the following information about the three reactor units at the Fukushima Daiichi nuclear power plant:

Unit 1

The reactor is being maintained shutdown. However there is no information regarding the status of the supply of power to Unit 1. The reactor water level is reported to be oscillating. At 15:30 UTC the reactor water was approximately 130 cm above the top of the core. Containment is intact in Unit 1, however due to an increase of pressure within containment the decision has been made to perform a limited controlled venting to avoid over pressurization of the containment.

Unit 2

The reactor is being maintained shutdown. There is currently no supply of power to Unit 2. Work is currently being undertaken to restore power. At 15:30 UTC the reactor water level is reported to be at approximately 350 cm above the top of the core. Containment is intact in Unit 2.

Unit 3

The reactor is being maintained shutdown. Power is being supplied to Unit 3. At 13:00 UTC the reactor water level is reported to be at approximately 450 cm above the top of the core. Containment is intact in Unit 3.

A mobile power generator has arrived at the site of the Fukushima Daiichi nuclear power plant.

Emergency Response Manager
11-March-2011 19:45 UTC

IAEA Incident and Emergency Centre

21-JUN 2011 18:00 UTC



Incident and Emergency Centre

FOR AUTHORITIES' USE ONLY

Status of the Fukushima Daiichi Nuclear Power Plant and related environmental conditions

Note: Updated and new information is underlined.

The IAEA receives information updates from a variety of official Japanese sources, through the national competent authorities: the Nuclear and Industrial Safety Agency (NISA), the Ministry of Education, Culture, Sports, Science and Technology (MEXT), the Ministry of Land, Infrastructure, Transport and Tourism and the Ministry of Foreign Affairs through the Permanent Mission in Vienna and the Cabinet's Office of the Prime Minister.

Based on the information received up to 21 June 2011 18:00 UTC, including NISA press releases 172, 173, 174 and 175 the following update related to the reactor units at the Fukushima Daiichi Nuclear Power Plant (NPP), and related environmental conditions, is provided.

Information that has been repeatedly reported for a number of days is periodically removed from the report. Previous reports are available on the ENAC and USIE websites.

The next "Status of the Fukushima Daiichi Nuclear Power Plant and related environmental conditions" will be published on Friday 24 June 2011.

The IAEA will promptly issue reports if major changes regarding the safety / radiological situation occur.

Page 1 of 24

Status Summary Report on June 21 – 24 pages

Briefings

- Oral briefings for MSs, press briefings have been provided and Update Briefs posted on IAEA's web site



**16 press conferences
were held**



Fukushima Nuclear Accident

[Top Stories & Features](#) [Topics in Focus](#) [Multimedia](#) [Press Centre](#)



Read and Review

Fukushima Nuclear Accident Update Log

The latest IAEA information on the radiological situation in Japan, updated as information becomes available and verified. [Read Story](#) →

□ Important Note on Updates

[Chronology of Daily Updates and Briefings](#)

□ International Fact-Finding Mission Updates

[Additional Report of Japanese Government to IAEA – Accident at TEPCO's Fukushima Nuclear Power Stations, 15 September 2011 – Summary and Revisions, 12 September 2011](#)

□ IAEA Expert Mission to Japan, Mission Report, 16 June 2011

□ Report of Japanese Government to IAEA Ministerial Conference on Nuclear Safety – Accident at TEPCO's Fukushima Nuclear Power Stations, 7 June 2011

Watch and Listen

Introductory Statement to Board of Governors – Fukushima Nuclear Accident

12 September 2011 | IAEA Director General Yukiya Amano provided an update on the situation following the accident at Japan's Fukushima Daiichi Nuclear Power Plant. [More](#) →



Audio

[IAEA on Fukushima Nuclear Power Plant Accident, Interview with Graham Andrew, Special Adviser to IAEA Director General on Scientific](#)

Other Recent Videos

[IAEA Director General Visits Fukushima Dai-ichi Nuclear Power Plant, 25 July 2011:](#)

Ask and Learn

The IAEA assumes no responsibility for the content of external sites.

Emergency Information

□ Emergency Preparedness

□ Fukushima Nuclear Accident: Emergency Information Sheet

[Impact on Seafood of Nuclear Accident in Japan, WHO/FAO](#)

□ FAQs: Food Safety Dimension of Events in Japan:

- [Food and Agricultural Organization of United Nations \(FAO\)](#)
- [World Health Organization \(WHO\)](#)

□ Q&As: Nuclear Emergency Response for Food and Agriculture: – [Joint FAO/IAEA Programme](#)

Online Resources

□ Nuclear Shake Cast, ISSC

[Incident and Emergency Centre \(IEC\), IAEA Factsheet](#)

[Unified System for Information Exchange on Incidents and Emergencies \(USIE\), 21 September 2011](#)

[International Nuclear Event Scale \(INES\), IAEA Factsheet](#)

□ International Nuclear Event Scale (INES) User's Manual, 2008 Edition

□ Nuclear Event Web-based System (NEWS)

Offers for Assistance

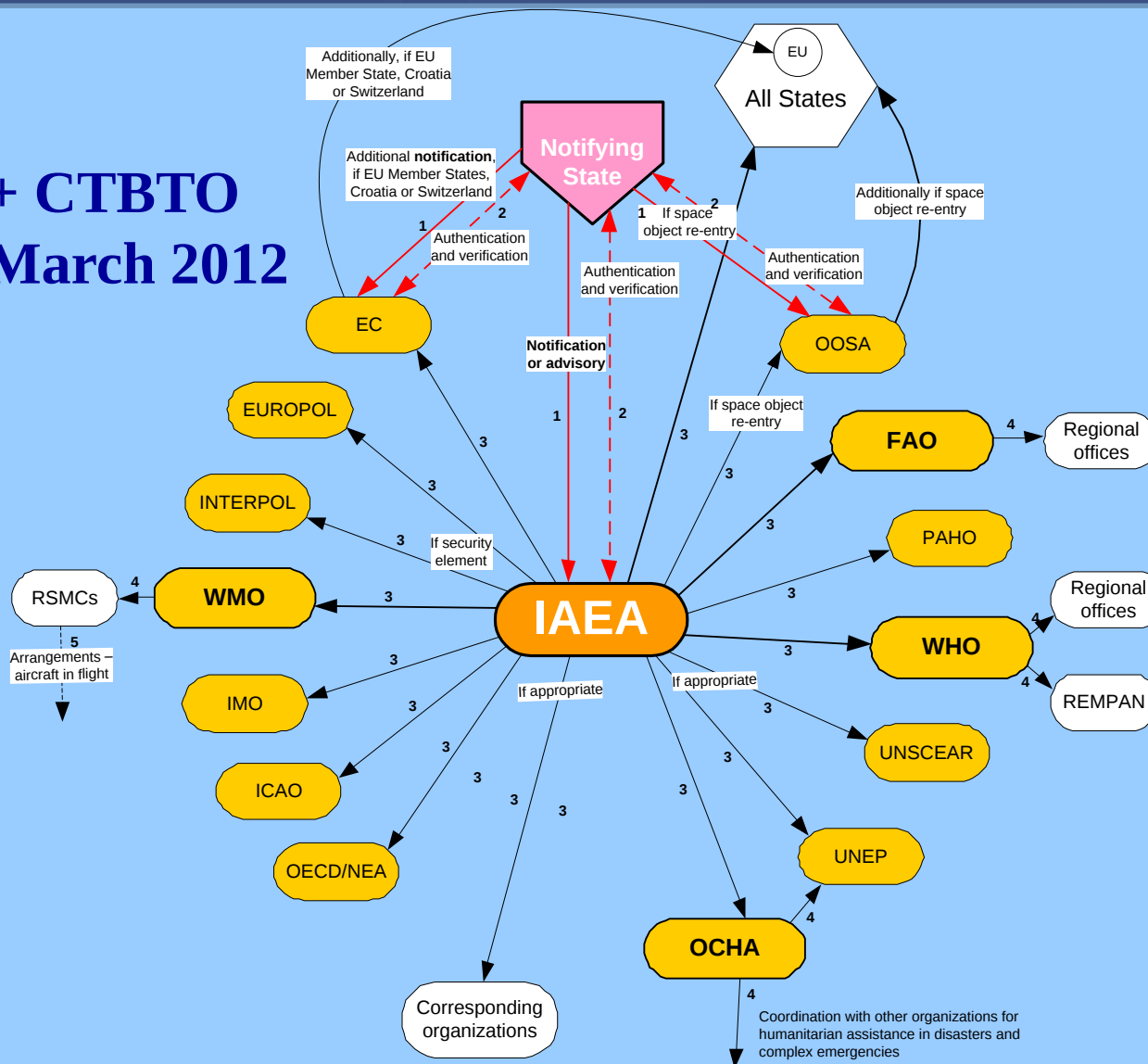
- MSs offers for assistance gathered, provided to Japan and published on ENAC web site

OVERVIEW OF CAPABILITIES OFFERED TO JAPAN as of 2011-Mar-23
Details of the offers are kept at IAEA EC

State	Institution	REMOTELY CONTROLLED EQUIPMENT		ENVIRONMENTAL MONITORING			EFFECTS OF RADIATION ON HUMAN HEALTH		OTHER OFFERS
		Equipment	Services	Radiation survey	Environmental sampling and analysis	Assessment and advice on the radiological consequences	Medical support (medical management of casualties, recommendations, treatment, kit supplies, etc.)	Dose assessment	
Argentina	Comision Nacional de energia atómica					Experts		Experts	Experts (atmospheric dispersion, severe accident management)
Canada	Permanent Mission of Canada	Considering (robots and remotely controlled ground vehicle)	Considering (operators, remote platforms)	Mobile surveillance expert/equipment for car/helicopter/airplane	Sampling and analysis (water and food) expert/equipment	Experts in health physics/radiation protection	Population screening/ experts and screening equipment		Offers in specific equipment (hand-held survey meters, dosimeters, mobile survey systems, gamma spectrometers, bioassay capabilities), experts and liaison officers
China	PM of the People's Republic of China			Radiation monitoring			Nuclear medical assistance		Others
European Commission	ECRC			YES (protection and survey)			YES		
Finland	STUK						YES (chromosome analysis)		
	RSB			Any kind of assistance	Any kind of assistance	Any kind of assistance	Any kind of assistance	Any kind of assistance	Any kind of assistance
	PM/JICA/CEA					[To IAEA: expert from AIN on technical assessment expert from CIA on rad consequences expertise (home based) from IRON]			Satellite images
France	GE-INTIA (EDS, AREVA, CEA)	1 EOLE Robustified Device for Observation 1 ENDS Robustified Device for Observation 1 ELACK measuring vehicle 1 GUERAND remote vehicle Outdoor Robots 1 ERAGE Outdoor reconnaissance Shielded vehicles dump trucks actuators							
Germany	Ministry of Environment and Nuclear Safety and KING capabilities in Karlsruhe	Specialised equipment for handling on highly irradiated or contaminated areas, e.g. inside the nuclear reactor plant		YES (increased aerial vehicle)	YES (robot in high dose rate area)				
	Ministry of Environment						Drugs for radiation damage prevention (potassium iodide 1,000,000 down)		
	PAEC NPP				YES (isotope, activity, air particle, dose rate)	YES	disinfecting agents		
Hungary	NBR						YES (whole body counting) YES (labelling, consultation) YES (surgery, chromosome analysis, dose reconstruction)	YES (internal dose assessment)	
	NDKGM				YES (various measurements)			YES	
	ADK				YES (mobile equipment)		YES (whole body counting)	YES (gamma dose rate measurement)	
Kazakhstan	Permanent Representative of the Republic of Kazakhstan to the Organization for Security and Co-Operation in Europe Ministry of Education, Science and Technology, Permanent Mission				YES				"Humanitarian aid, rescue teams and other necessary specialists"
Korea				YES (The offer arrives in a generic way)			YES (The offer arrives in a generic way)		"Severe accident management"
Mexico	Comision Nacional de seguridad nuclear y salvaguardas			YES (radiation exposure level)	YES (qualitative radionuclides analysis)				
Politen	FINRA			YES	YES				Source Search and Recovery Assessment and advice on Emergency Response
	NPP			Any kind of assistance	Any kind of assistance	Any kind of assistance	Any kind of assistance	Any kind of assistance	Any kind of assistance
Russia	Federal Environmental, Industrial and Nuclear Supervision Service of Russia								Unspecified "assistance and support"
Sweden	SSM			Any kind of assistance	Any kind of assistance	Any kind of assistance	Any kind of assistance	Any kind of assistance	Any kind of assistance
USA	DOE			YES (aerial)	YES (RAD monitoring team)				Consequence management response team 30 PEOPLE IN/OUT IN JAPAN

Joint Radiation Emergency Management Plan of International Organizations

+ CTBTO
March 2012



Inter-agency Coordination (1)



- March 11 - IGOs notified and JPLAN activated
- March 15 - first Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE) coordination video meeting conducted:
 - Briefings, exchange of information, coordination of response activities, joint press releases, assignment of commonly agreed activities
- 15 coordination video meetings since March 11 (until December 2011)

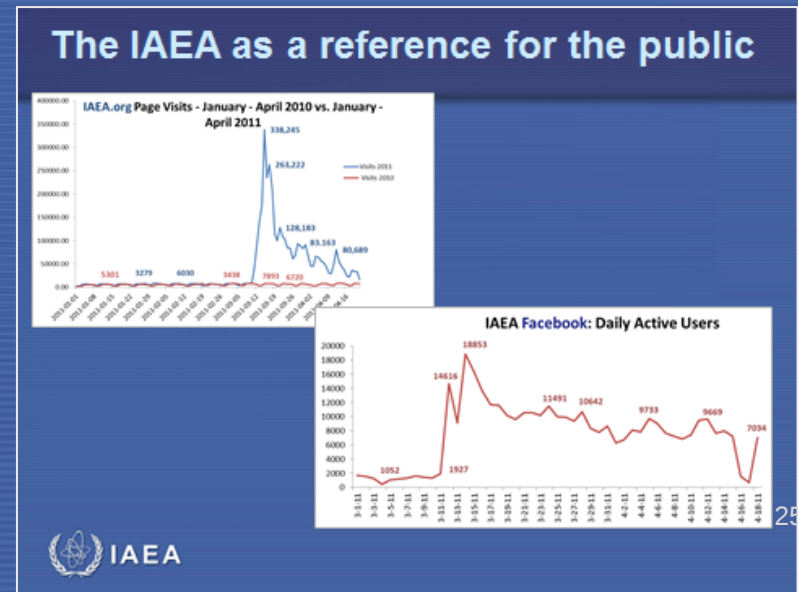
Inter-agency Coordination (2)

- For prompt and transparent communication liaison officers from FAO, WHO and experts from WMO were working in IEC
 - Based on predefined protocols



Inter-agency Coordination (3)

- Public information aspects were coordinated
 - Joint statements prepared swiftly, approved at DG-level within 24 hours
 - Consistent 'one voice messages' are achievable
 - All organizations used social media that proved to be very important



Main Activities since March 2011 (1)

- DG visited Tokyo (17 - 19 March 2011)
- DG called Board of Governors Meeting (21 March)
- DG established Fukushima Accident Coordination Team (FACT)
- Two expert groups were formed:
 - Fukushima Nuclear Safety Team
 - Fukushima Radiological Consequences Team

Main Activities since March 2011 (2)

- IAEA monitoring teams deployed to Japan (18 March - 18 April 2011)
- IAEA laboratories in Seibersdorf and Monaco involved in response
- Joint IAEA/FAO Food Safety Assessment Team visited Japan (26 - 31 March)
- IAEA International Fact-Finding Mission deployed to Japan (24 May)

Main Activities since March 2011 (3)

- IAEA report to Board of Governors Meeting (3 June 2011) “IAEA Activities in Response to the Fukushima Accident”
- IAEA Ministerial Conference on Nuclear Safety (20-24 June 2011)
- IAEA mission on remediation
- IAEA Action Plan on Nuclear Safety

Main Activities since March 2011 (4)

- International Expert Meetings on various subjects
- Launch of Fukushima Monitoring Database
<https://iec.iaea.org/fmd>
- Fukushima Ministerial Conference on Nuclear Safety (15-17 December 2012), Fukushima prefecture, organised by Japan in cooperation with IAEA

Fukushima Accident 2011

- 230 IAEA staff worked in IEC 24/7 for 54 days
 - 07.00 and 19.00 – change of shifts and briefings



Timeline of IEC Response Modes

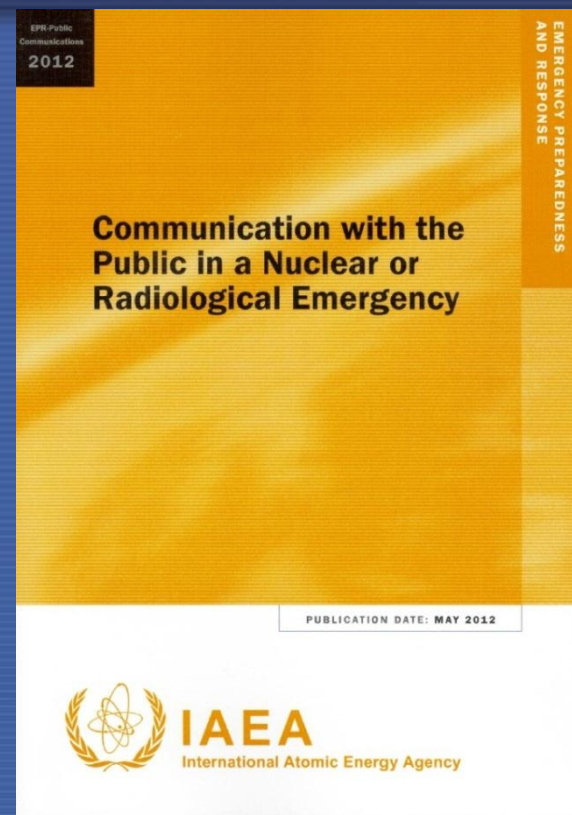
- Full Response Mode – March 11- May 3, 2011
- Basic Response Mode
 - May 4 – December 21, 2011
- Normal/Ready Mode
 - Since December 21, 2011
 - Liaising with PM Japan and counterparts in Japan related to assessment matters and monitoring data
 - Continuing to prepare/publish Status Summary Reports including IAEA assessment

IAEA Mandate in Response

- Lessons learned in emergency preparedness and response were incorporated in relevant parts of IAEA Action Plan on Nuclear Safety
 - IAEA's role in sharing and exchange of information in response to a nuclear emergency was broadened
 - “The IAEA Secretariat to provide Member States, international organizations and the general public with **timely, clear, factually correct, objective and easily understandable information** during a nuclear emergency on its **potential consequences, including analysis of available information and prognosis of possible scenarios** based on evidence, scientific knowledge and the capabilities of Member States.”

New tools for Public Information Officers (1)

- EPR-Public Communication, 2012
- Provides practical guidance for PI officers to ensure a consistent message is provided to public before, during and after emergency
 - Describes how to prepare and train for emergency communications
 - Provides communication principles and tools
 - Specific emphasis on provision of plain language explanation to public

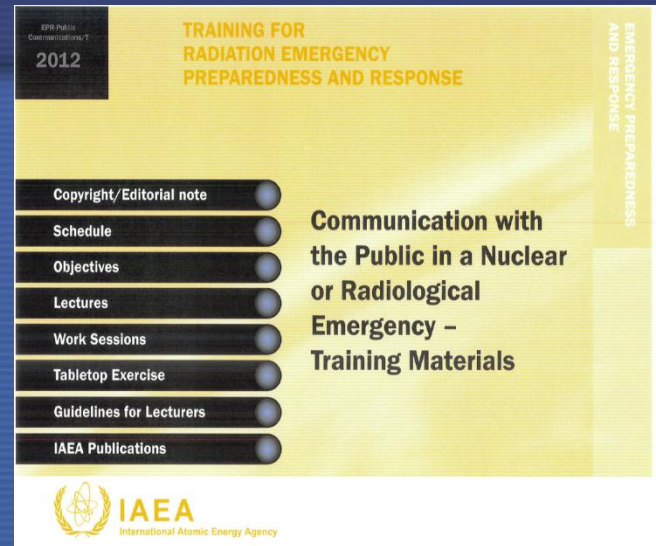


New tools for Public Information Officers (2)

- Training materials in Communication with a Nuclear or Radiological Emergency

(EPR-Public Communications/T, 2012)

- 5 days training course
- http://www-pub.iaea.org/MTCD/Publications/PDF/EPR-Communication-Manual_web/Start.pdf



Conclusion

Experience gained in response to Fukushima accident at all levels (facility, local, national and international) is providing valuable input for further enhancing and harmonizing EPR framework

Thank you !

