

# THE IAEA AND FUKUSHIMA

BEST LAID PLANS, REALITY CHECKS AND DOING IT BETTER  
NEXT TIME

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# Overview



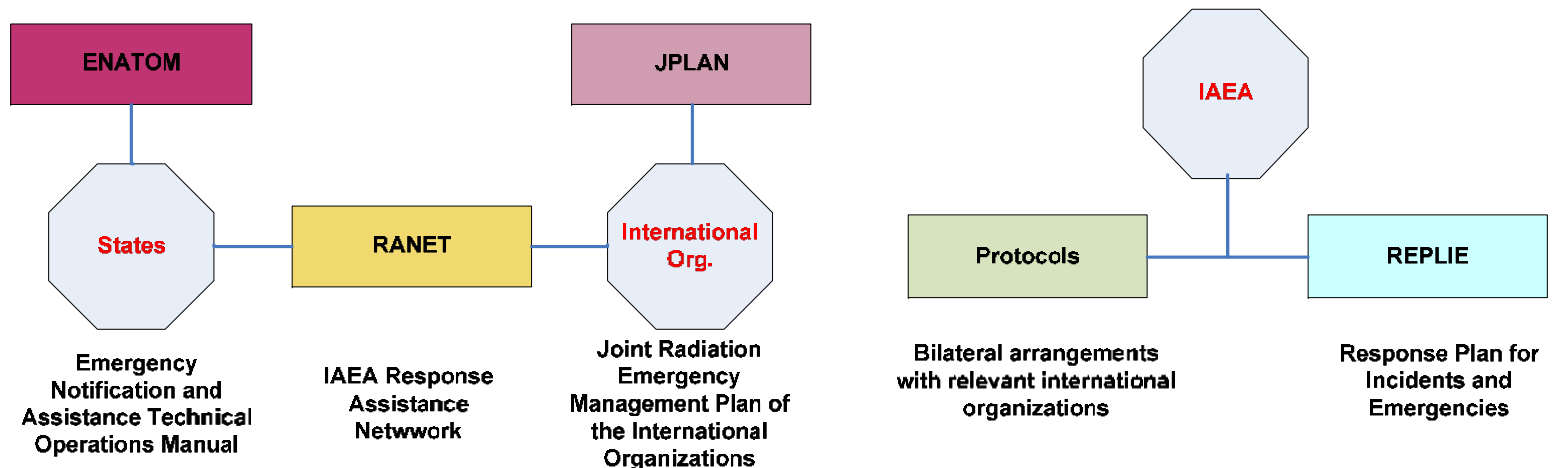
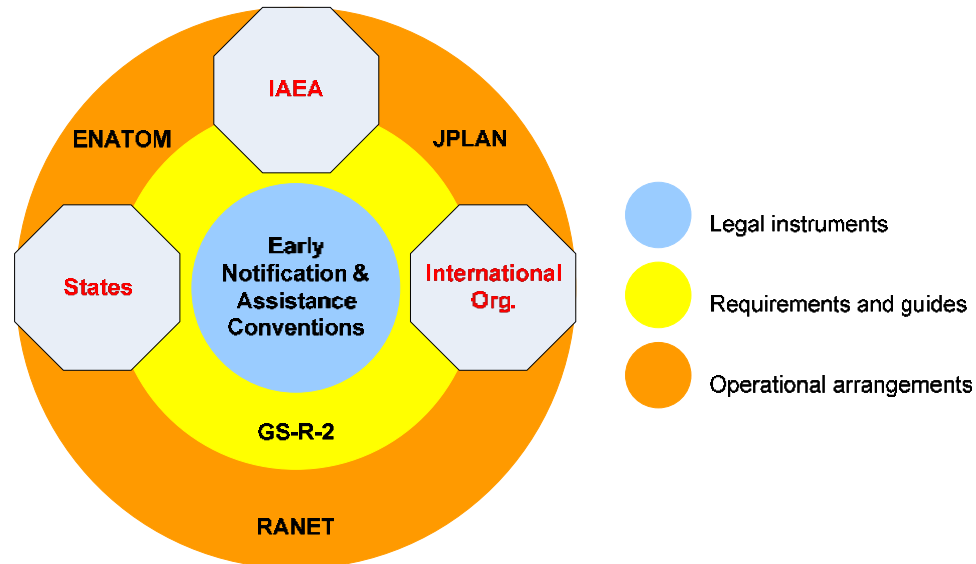
- ❑ IAEA response to Fukushima: focus on emergency preparedness and response
- ❑ Expectations and obligations of the Agency
- ❑ Instruments and measures in place
- ❑ Performance versus expectations
- ❑ Proposals for strengthening and reform
- ❑ The Fukushima response as exemplar for a broader critique of the Agency

# Expectations

‘The IAEA is an independent intergovernmental, science and technology-based organization in the United Nations System that serves as the *global focal point* for nuclear cooperation. The *central role* of [the] IAEA with respect to nuclear safety and security is set out in its Statute and enshrined in decisions and resolutions of its policymaking organs’,

*UN system-wide Study on the Implications of the Accident at the Fukushima Daiichi Nuclear Power Plant, 16 August 2011*

# IAEA nuclear emergency response framework



# Legal instruments: CENNA

## 1986 Convention on Early Notification of a Nuclear Accident

- negotiated in response to Chernobyl
- obliges a party suffering an accident to notify 'full details' to IAEA and likely affected parties
- IAEA obliged to notify all states and relevant international organizations
- each party must notify IAEA of 'competent national authorities' and 'point of contact' for emergency communications; IAEA must keep up-to-date register of these

# Legal instruments: CACNARE

## 1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency

- also negotiated in response to Chernobyl
- provides for parties requesting assistance and those offering assistance to notify the IAEA
- the Agency to act as a clearing-house, matching requests to offers
- IAEA may also offer its own assistance
- IAEA obliged to keep register of 'competent national authorities' and 'contact points'

# IAEA arrangements for operationalizing the conventions

## **IAEA Response Plan for Incidents and Emergencies (REPLIE)**

- details how IAEA Secretariat will organize itself in-house 'at the highest levels' during an emergency

## **Emergency Preparedness & Response – Emergency Notification and Assistance Technical Operations Manual (EPR-ENATOM)**

- sets out how operational aspects of the conventions are to be implemented, e.g. notification, communications and registers, including IAEA 'good offices'

## **Response Assistance Network (RANET)**

- meant to register offers of assistance from states in case of a nuclear accident: by November 2010 only 19 offers; its predecessor attracted only 1 (Slovenia)

# Other IAEA arrangements

## □ Incident and Emergency System

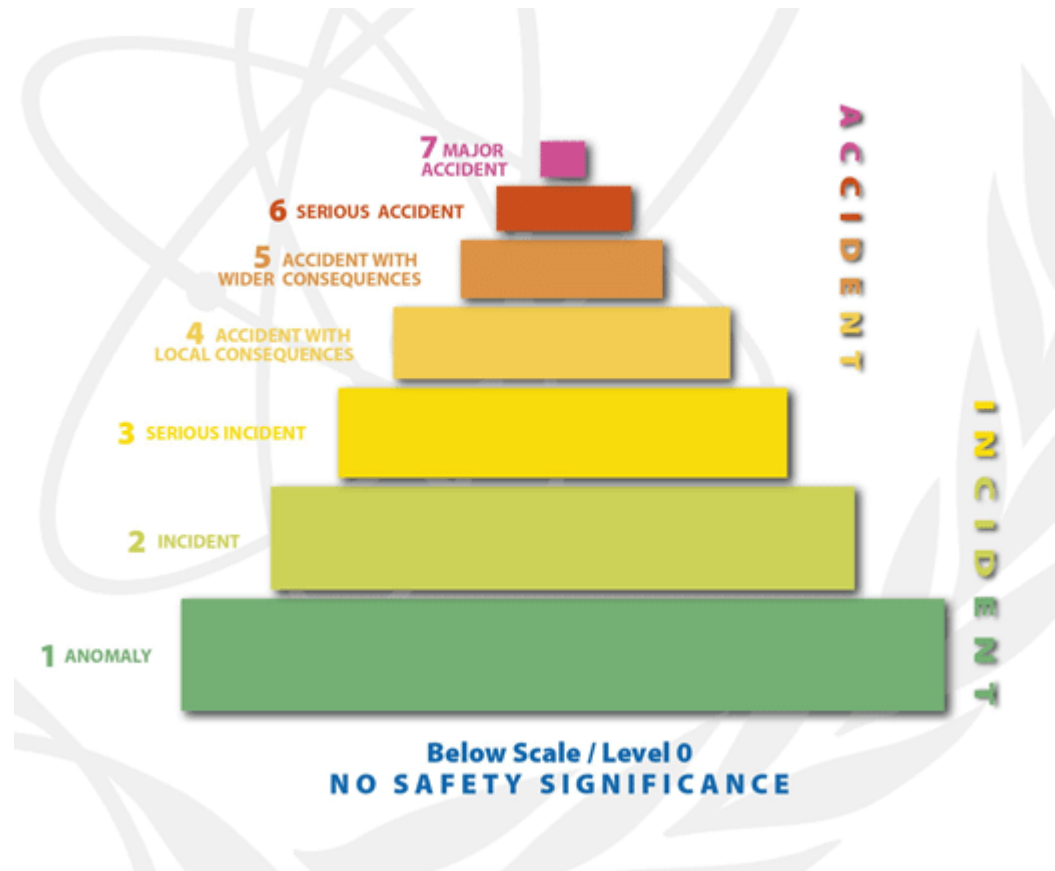
- Emergency Response Manager, a 24-hour contact point
- Incident and Emergency Centre (IEC), meant to be immediately brought into full operational mode when an accident occurs and staffed 24 hours a day
- Early Notification and Assistance Conventions (ENAC) website and Nuclear Events Web-based System (NEWS) for contacting and informing member states; new Unified System for Information Exchange in Incidents and Emergencies (USIE) launched in September 2011 too late for Fukushima

## □ International Seismic Safety Centre (ISSC)

- established in 2008 in response to July 2007 Japanese earthquake
- main role is to promote sharing of seismic experience, revise seismic standards and assist states but also has information analysis role in emergencies



# International Nuclear and Radiological Event Scale (INES)



# National Competent Authorities Coordinating Group (NCSCG)

- first convened in 2001 and subsequently biannually by IAEA (depository for CENNA and CACNARE)
- response to concerns that international emergency response systems were becoming outdated; General Safety Regulations (GSR) not being implemented
- produced 2004 *International Action Plan for Strengthening the International Preparedness and Response System for Nuclear and Radiological Emergencies* (not to be confused with post-Fukushima Action Plan on Nuclear Safety)
- recommended 'important reforms' to be implemented by 2009, including 'improving the flow and security of data'
- final report on implementation due March 2011 just as Fukushima happened, but clear that implementation far from satisfactory
- work on Code of Conduct on International Emergency Management from 2006-2007 seems to have floundered

# Incompetent national authorities

## 2010 IAEA test of emergency notification arrangements under CENNA and CACNARE

- fax messages could not be delivered to 23% of contact points
- only 50% of contact points responded to the exercise message; only 21% of these responded within 30 minutes
- only 78% of the 'competent authorities' responded promptly within the allowed time frame

# Inter-Agency Committee on Response to Radiological and Nuclear Emergencies (IACRNE)

- also formed after Chernobyl
- 15 members, all international organizations, including WHO, WMO, UNSCEAR
- IAEA the lead agency; IAEA Secretariat the Committee coordinator
- IACRNE mandated to coordinate international response as set out in its Joint Radiation Emergency Management Plan of the International Organizations (JREMPIO) or J-Plan
- J-Plan describes role and responsibilities of the various organizations and lays out the 'interfaces' between them and with states

# How did the Agency do?

## **TIMELINE OF EVENTS AND IAEA ACTIVITIES (GOV/INF/2011/8)**

<b>Date</b>	<b>Time (UTC)</b>	<b>Event/Activity</b>
<b>IEC operations</b>		
03-11	05:46	An earthquake of magnitude 9.0 occurred off the east coast of Honshu, Japan.
03-11	06:42	The on-call external events specialist contacted the on-call emergency response manager (ERM) to inform the IEC of the occurrence of the earthquake and the potential effect on the plants
03-11	07:21	The ERM made first contact with NISA
03-11	07:48	The offer of the Agency's assistance sent to NISA and the Permanent Mission of Japan
03-11	08:06	First information for Member States and international organizations — EMERCON message no. 1 from METI-NISA — published on the ENAC web site
03-11	08:20	The IEC activated and declared Full Response Mode operations (staffed continuously)
03-11	08:25	The IEC distributed its first in-house email message
03-11	08:30	First press statement published on the AGENCY web site .....



# IAEA response to Fukushima: the good

- ✓ Emergency Response Manager (not Japan) first notified IEC
- ✓ IAEA in rapid contact with Nuclear & Industrial Safety Agency (NISA), Japan's contact point
- ✓ IEC activated and declared in full response mode within 2 ½ hours and open 24 hours a day during the crisis
- ✓ member states informed via ENAC website and 'competent authorities'
- ✓ Agency assistance offered to Japan, along with offers from member states
- ✓ 200 staff, including Japanese speakers, volunteered for emergency duties
- ✓ effective use of public website and social media
- ✓ in-house Fukushima Action Coordination Team established 15 March (somewhat late)
- ✓ eventual dispatch of monitoring teams; fact-finding and advisory missions



# IAEA response to Fukushima: the not so good

- after initial rapid reaction Agency response was tardy, confused and improvised: DG acted only after Western pressure: You-Tube statement and visit to Tokyo (17-19 March)
- press/member state briefings slow to begin (1st 3 days after crisis began), uninformative and not media-savvy (veered from general to over-technical)
- reliance solely on information from/cleared by Japan ('authenticated and verified'), not on IAEA's own 50 years' experience and expertise
- assistance clearing-house role did not eventuate: Japan did not trigger CACNARE (but RANET unprepared anyway)
- IAEA's coordination of international agencies slow and incomplete, especially with CTBTO (1<sup>st</sup> video conference on 15 March)
- International Nuclear and Radiological Event Scale confusing
- DG failed to seize opportunity to strengthen IAEA role: Sarkozy and UNSG filled the vacuum by convening high-level meetings

# Mitigating factors

- Japan itself struggling to understand and cope with scale of the disaster (government, TEPCO, regulators)
- much of initial information provided to IAEA proved misleading or wrong
- difficult for Japan in early days to assess what assistance it could utilize
- situation rapidly unfolding, especially with plant explosions, making it difficult for IAEA (and others like NRC) to keep up
- DG Amano confronting both a national tragedy and international crisis



# Official reform proposals

- Counter-Terrorism Task Force report, 2010
- UN Secretary-General's UN system-wide study, August 2011
- Draft Action Plan on Nuclear Safety, September 2011
- UK report on Japanese Earthquake and Tsunami: Implications for UK nuclear industry, 2011
- French proposal for IAEA rapid response capability



# My reform proposals

## **The Agency should:**

- overhaul its emergency preparedness plans to make them more coherent and seamless (starting with its Venn diagram)
- review its communications strategy for nuclear emergencies
- consolidate its leadership of the inter-agency process
- establish a database to collect in advance information for use in future emergencies: details of nuclear facilities and emergency preparations
- review INES as an ‘information tool’, in consultation with NEA, and assert exclusive right to use it (in consultation with the NEA affected state/s)

## **Member states should:**

- provide more funding for IEC to permit it to fulfill expected role
- dramatically and systematically expand contributions to RANET
- implement their unrealized International Action Plan to improve their own emergency preparedness and response capabilities

# The Fukushima response as exemplar

- over-blown expectations: ‘global focal point’, ‘hub’, ‘central role’
- under-use of existing authorities
- proliferation of plans, programs, units
- public information and media skills need improvement
- undeveloped relationships with nuclear industry
- uneven relationships with other international organizations
- poor support from member states for plans, mechanisms
- under-funded and under-resourced