

ARF-SOM-ASPC
Surabaya, 8 June 2011

J P N

Building Cooperation among ARF Participants in Food and Energy Security

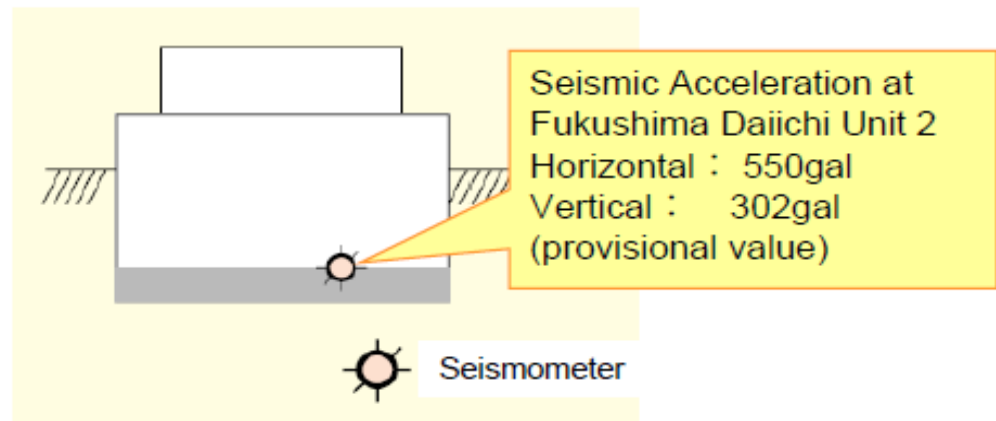
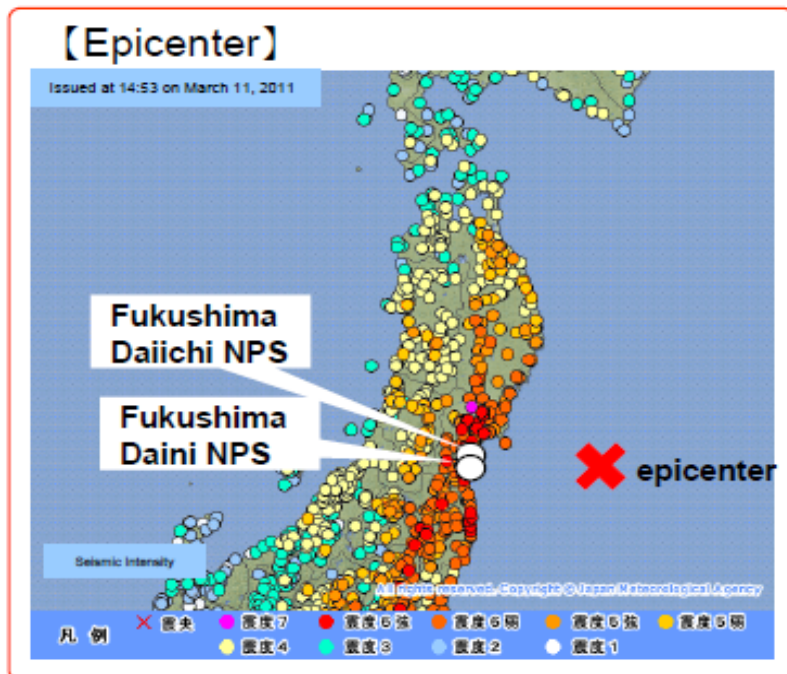
~ through Japan's recent experience of the nuclear disaster ~



Ministry of Defense, Japan

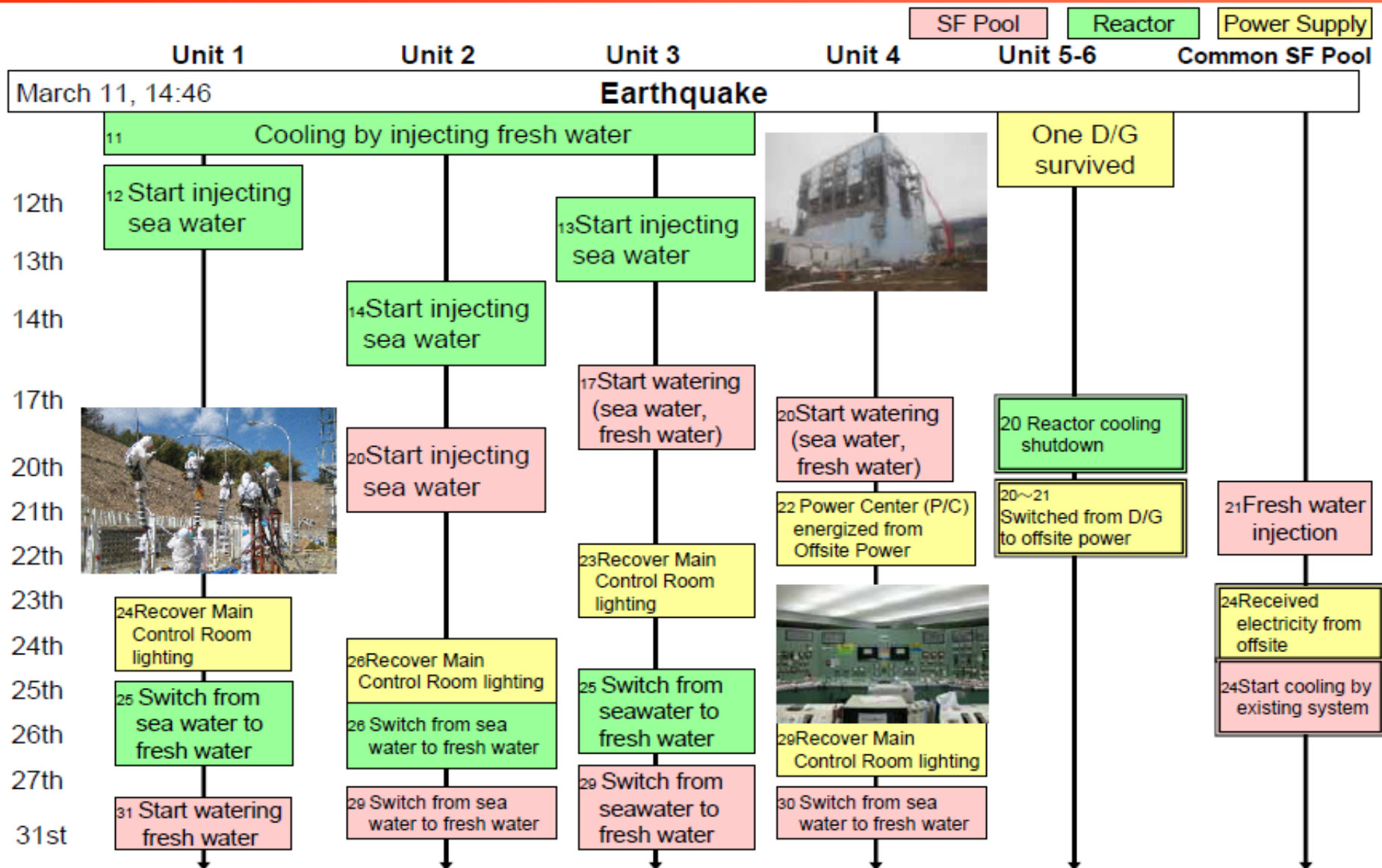
Great East Japan Earthquake

- **Time:** 2:46 pm on Fri, March 11, 2011.
- **Place:** Offshore Sanriku coast (northern latitude of 38 degrees, east longitude of 142.9), 24km in depth, Magnitude 9.0
- **Intensity:** **Level 7** at Kurihara in Miyagi Miyagi prefecture
Upper 6 at Naraha, Tomioka, Okuma, and Futaba in Fukushima pref.
Lower 6 at Ishinomaki and Onagawa in Miyagi pref., Tokai in Ibaraki pref.
Lower 5 at Kariwa in Niigata pref.
Level 4 at Rokkasho, Higashidori, Mutsu and Ohma in Aomori pref., Kashiwazaki in Niigata pref.



* gal: a unit of acceleration defined as cm/s^2 .

Chronology of Fuel Cooling (Fukushima Daiichi)



Current Status of Roadmap (issues/targets/major countermeasures) as of May 17

Red colored: newly added to the previous version, Blue colored: modified from the previous version

Issues	As of April 17	Step I (around 3 months) ▼ current status (as of May 17)	Step II (around 3 to 6 months after achieving Step I)	Mid-term issues
I. Cooling	(一) Reactor Fresh water Injection	Cooling by minimum injection rate (injection cooling) Consideration and preparation of reuse of accumulated water Nitrogen gas injection Consideration and implementation of sealing measure at leaking points of PCV Improvement of work environment	Stable cooling Establishment of Circulating Injection Cooling PCV flooding Securing heat exchange function	Cold shutdown Protection against corrosion cracking of structural materials *to be partially implemented ahead of schedule
	(二) Spent Fuel Pool Fresh water Injection	Reliability improvement in injection operation /remote-control operation *ahead of schedule Circulation cooling system (installation of heat exchanger) *partially ahead of schedule	Stable cooling Remote-controlled injection operation Consideration/installation of heat exchanging function	More stable cooling Removal of fuels
II. Mitigation	(三) Accumulated Water	Transferring water with high radiation level Storing water with low radiation level	Secure storage place Installation of storage / processing facilities Installation of storage facilities / decontamination processing	Reduction of total amount of contaminated water Installation of full-fledged water processing facilities Completion of processing of accumulated water in buildings Mitigation of contamination in the ocean (continued)
	(四) Ground water		Mitigation of contamination of groundwater (Sub-drainage management with expansion of storage / processing facilities) Consideration of shielding method of groundwater	Solidification of contaminated soil, etc Establishment of groundwater shielding
	(五) Atmosphere / Soil		Dispersion of inhibitor Removal of debris	
			Installing reactor building cover (with ventilation system)	Installation of reactor building cover

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Issues		As of April 17	Step I (around 3 months) ▼ current status (as of May 17)	Step II (around 3 to 6 months after achieving Step I)	Mid-term issues
III. Monitoring/ Decontamination	(∞) Measurement, Reduction and Announcement				
		Expand/ enhance monitoring of radiation dose in and out of the power station and inform of results fast and accurately		Sufficiently reduce radiation dose in evacuation order / Deliberate Evacuation Preparation Area/ Evacuation Preparation Area	Continue monitoring and informing environmental safety
IV. Countermeasures against aftershocks, etc	(→) Tsunami, Reinforcement, etc		Enhancement of countermeasures against aftershocks and tsunami; preparation for various countermeasures for radiation shielding		
			(Unit 4 spent fuel pool) Install supporting structure	Consideration /implementation of reinforcement work of each Unit	Reinforcement work of each Unit
V. Environment Improvement	(∞) Lifework environment		Improvement of workers' life/work environment		

Evacuation

- The government took measures such as taking shelters or evacuation as follows based on the reports from Fukushima Daiichi & Daini.

Fri, 11 March

- 14:46 The earthquake occurred
- 19:03 Emergency Declaration by the Gov't (Daiichi)
- 21:23 3 km radius evacuation (Daiichi)
- 10 km radius taking shelter (Daiichi)

Sat, 12 March

- 5:44 10 km radius evacuation (Daiichi)
- 7:45 3 km radius evacuation (Daini)
- 10 km radius taking shelter (Daini)
- 17:39 10 km radius evacuation (Daini)
- 18:25 20 km radius evacuation (Daiichi)

Tue, 15 March

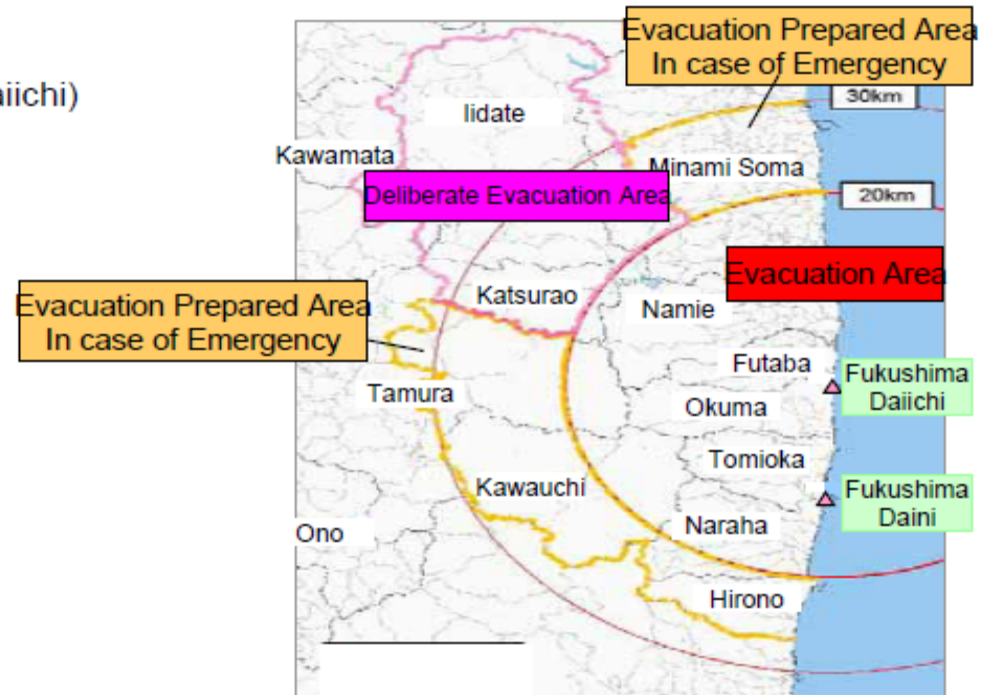
- 11:00 20-30 km radius taking shelter (Daiichi)

Thu, 21 April

- 11:00 20 km radius is designated as "Restricted Area" (Daiichi)

Fri, 22 April

- 9:44 20-30 km radius taking shelter has been lifted (Daiichi)
- Establishment of "Planned Evacuation Area" and "Emergency Preparation Area"



Source: NISA website

SDF activities for Nuclear Disaster Relief



Major mission

- Water spraying to cool down the spent fuel pool
- Decontaminating radioactive materials
- Monitoring of radiation level and temperature of reactors



Statements at International Conferences

Prime Minister Kan's speech at G8 Summit of Deauville

4 challenges for the future of energy

- Enhancing the safety nuclear power
- Reducing the burden of fossil fuel to the environment
- Rapidly expanding the use of renewable energy
- Pursuing for maximum effect of energy-saving

Defense Minister Kitazawa's speech at 10th Shangri-La Dialogue

3 ideas of Defense Minister Kitazawa

- | | |
|--------------------------|--|
| - Territory of Japan | Bases of disaster relief operations in the AP region |
| - Nuclear incidents | Usefulness of UAV and robots |
| - Network of specialists | Cooperation with the IAEA |

Situation of Reconstruction

Lifeline

- Electricity
Repair to be completed at the end of May
- Water service
Under steady repair
(approx. 62,300 households remaining to be repaired)
- Gas
Repair completed on May 3.

Transportation Infrastructure

- Road
Under steady repair
(Two national highways and a part of expressway under repair)
- Railway
Shinkansen operation wholly resumed at early stage
- Airport and port facilities
Operations resumed

Temporary Housing

Necessary houses: approx. 52,200
Completed houses: approx. 18,000
Under construction: approx. 18,000
Rate of construction (70%)

Further Construction

Approx. 39,800 by the end of June (78%)
Approx. 48,600 by the end of July (94%)
Approx. 52,200 in the first half of August (100%)

First supplementary budget approved on April 22



Approx. 4 trillion yen appropriated as expenditure related to Great East Japan Earthquake

Damages caused by rumors

Regulations by some countries (As of May 27)

Contents of regulation	Number of countries
Suspension of imports or request for certificates of all foods from Japan	22 countries (+1 organization)
Suspension of imports or request for certificates of a part of foods from Japan and random sampling inspection of a part of or all of the other foods	3
Suspension of imports or request for certificates of a part of foods from Japan	5
Reinforcement of inspection	8

- Some excessive reactions which overly regulate imports of items that are not prohibited from shipping or those from districts regarded as safe in Japan.

A decrease in number of foreigners who visit Japan

	2010	2011	Compared with 2010
Jan	640,346	714,099	+11.5%
Feb	664,982	679,398	+2.2%
Mar	709,684	352,800	-50.3%
Apr	788,212	295,800	-62.5%
May	721,348		
Jun	677,064		
Jul	878,582		
Aug	802,725		
Sep	717,756		
Oct	727,278		
Nov	634,818		
Dec	648,380		
Total	8,611,175		

Sources: JNTO

The number of foreigners who visit Japan is sharply declining after the Great East Japan Earthquake.

- False recognition that entire Japan is contaminated nuclear disaster.

Challenges

- to share exact information grounds

- to respond based on scientific