

# What Happened in Fukushima?

-- what was communicated and how --

## JAIF's Experience and My Personal View



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2. How the information had been transmitted abroad?
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# 1. What happened in Fukushima and why?



## Outline of the Accident

- ⌘ Earthquake and Tsunami hit Fukushima Daiichi site
- ⌘ Severe accident at multiple units
- ⌘ Release of radioactivity into the environment



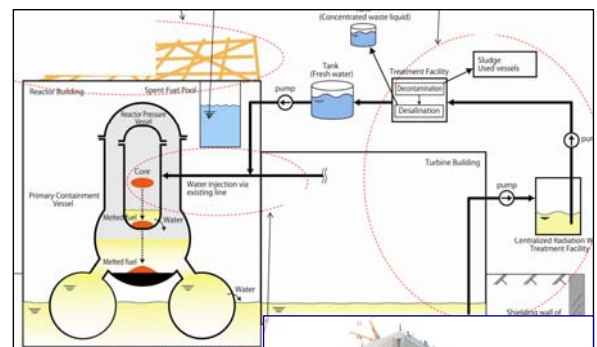
# 1. What happened in Fukushima and why?



## Current status of the plant

Prime Minister announced the conclusion of step 2 of **roadmap for stabilization** (Dec. 16, 2011)

- ⌘ Core cooling
- ⌘ Spent Fuel Pool cooling
- ⌘ Radioactive effluent management
- ⌘ Control of radioactive material release

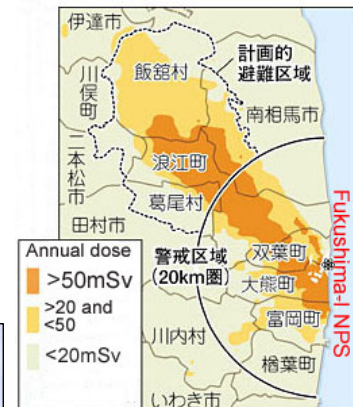


# 1. What happened in Fukushima and why?



## Evacuation and Measures for Remediation

- ⌘ Restriction on inhabiting
- ⌘ Shipping / intake control
- ⌘ Decontamination of the land



# 1. What happened in Fukushima and why?



## Lessons learned: my personal view

- ⌘ Robustness of design
  - design margin, diversity of sys., balance between prevention and mitigation etc.
- ⌘ Emergency preparedness
  - how to prepare emergency with reality
- ⌘ Information release
  - how to inform timely and plainly with transparent manner
- ⌘ Safety culture
  - imagination for extremely rare event

## 2. Information transmitted abroad



### At the Early Stage of the Accident

- ⌘ In an extremely unusual situation
- ⌘ **Severe situation happened simultaneously** at Fukushima Daiichi and Fukushima Daini NPS of TEPCO
- ⌘ Plant situations were becoming worse
- ⌘ For the local residents, the general public and for the international community, **lack of information** is the most critical
- ⌘ Information released from Nuclear Emergency Response Headquarters is most crucial



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## Accident and Information for Foreign Press: March 11-21

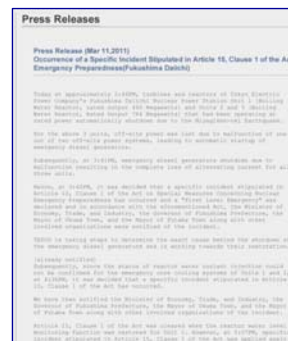
		Reactor status at Units 1-4	Evacuation and other orders	Briefings in English for foreign press in Tokyo/Explanation at international level	English Press Release by NISA	English Press Release by TEPCO	JAIF's information activity (in English)
2011/3/11 (Friday)	14:46	Great East Japan Earthquake Off-site power lost Reactor scram				2 releases	First four reports on the day (AJI "Quake Triggers Evacuation of Residents Surrounding Fukushima-1 NPS") Earthquake Report 1-3
	14:47	All control rods fully inserted Emergency DG start up					
	15:37	<b>Station black out due to the tsunami</b>					
	21:23	Increased radiation level at the turbine building (Unit 1)	Evacuation from 3 km, stay in-house 3-10 km				
2011/3/12 (Saturday)	0:49	reactor containment exceeded max. pressure (Unit 1)			4 releases	12 releases	3 media inquiries
	5:46	Freshwater injection using fire pumps started (Unit 1)	Evacuation from 10 km				
	10:17	PCV venting started (Unit 1)					
	14:30	Successful containment vessel venting (Unit 1)	Evacuation from 20 km				
2011/3/13 (Sunday)	11:01	<b>Hydrogen explosion at Unit 1</b>					
2011/3/13 (Sunday)		Sea water injection started at Unit 1		Briefing at Foreign Ministry	4 releases	5 releases	3 media inquiries
2011/3/14 (Monday)	11:01	<b>Hydrogen explosion at Unit 3</b>		Briefing at Foreign Press Center (FPC)	4 releases	3 releases	Reactor status report Reactor Status Update 1 8 media inquiries
2011/3/15 (Tuesday)	6:20	<b>Impulsive sound at Unit 2</b>			1 release		Earthquake Report 6,7,8 Reactor Status Update 2,3,4 3 media inquiries (1 from abroad)
	6:20	<b>Hydrogen explosion and fire at Unit 4</b>	stay in-house 20-30 km				
2011/3/16 (Wed.)	8:37	Large amount of white smoke from Unit 3		Briefing at FPC	2 releases	3 releases	Reactor Status Update 5,6,7 Earthquake Report 9 8 media inquiries
2011/3/17 (Thursday)	9:48	SDF helicopters dropped water on Unit 3		Briefing at FPC	2 releases	3 releases	Reactor Status Update 8,9,10,11 Earthquake Report 10,11 5 media inquiries (2 from abroad)
2011/3/18 (Friday)	17:50	NISA declared INES Level 5 to Units 1-3		Briefing at FPC	3 releases	1 releases	Reactor Status and Major Events Update 12 Earthquake Report 12,13 2 Atoms in Japan (AJI) 6 media inquiries (1 from abroad)
2011/3/19 (Saturday)				Briefing at FPC	5 releases	2 releases	Reactor Status and Major Events Update 13,14,15 Earthquake Report 14,15 1 media inquiries
2011/3/20 (Sunday)				Technical briefing at IAEA, Vienna Briefing at FPC	3 releases	3 releases	Reactor Status and Major Events Update 16,17,18, 19 Earthquake Report 16,17,18
2011/3/21 (Monday)		Water injection to SPF of Unit 3		Technical briefing at IAEA, Vienna Special Meeting at IAEA BG Briefing at Prime Minister's Office	5 releases	2 releases	Reactor Status and Major Events Update 20,21,22 Earthquake Report 19,20 4 media inquiries

## 2. Information transmitted abroad



### Communication routes in an emergency

- ⌘ TEPCO issued two, almost identical, press releases on March 11, “Occurrence of a Specific Incident Stipulated in Article 10, Clause 1 of the Act on Special Measures Concerning Nuclear Emergency Preparedness (Fukushima Daiichi)”, which **nobody can understand**.



## 2. Information transmitted abroad



### Government action on information release

- ⌘ There has been **no briefing** by the Government for foreign press **until the third day after the Accident (March 13)**.
- ⌘ No English press release from **NISA on March 11**.
- ⌘ Edano, the Chief Cabinet Secretary, held press conferences 5-6 times a day. Simultaneous **English interpretation was not accompanied** until late March.



## 2. Information transmitted abroad



### Reactions from Overseas: Confusion, doubt and distrust

#### ⌘ Information released from Japan

- delayed / not timely
- multi sources / not one voice / inconsistent
- not clear / difficult to understand
- too technical / too detailed
- not comprehensive / fragmentary
- not progressive manner

#### ⌘ Does not match with recipient's needs !

#### ⌘ Language problem ? Cultural difference ?

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## 2. Information transmitted abroad



### Reactions from Overseas: what happened and why? (1)

#### ⌘ “Too late, too insufficient, too unclear” information brought about:

- Import ban / restrictions / inspections on agricultural and marine foods, industrial products
- Decreased foreign tourists
- Cancellation of events
- Call for evacuation
- Foreign people went back to home country
- Movement of embassy's office apart from Tokyo



#### ⌘ Lack of information and communication is the root cause!

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## 2. Information transmitted abroad



### Reactions from Overseas: what happened and why? (2)

- ⌘ Huge amount of **contaminated water** which cooled the degraded cores and leak-in groundwater was **accumulated** in the buildings
- ⌘ To manage effluent contaminated water, TEPCO **discharged** low level radioactive water **into the sea**
- ⌘ **Internationally**: protest by neighboring countries (Korea, China and Russia )
- ⌘ **Domestically**: protest by fisherman's union



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## Fukushima Accident

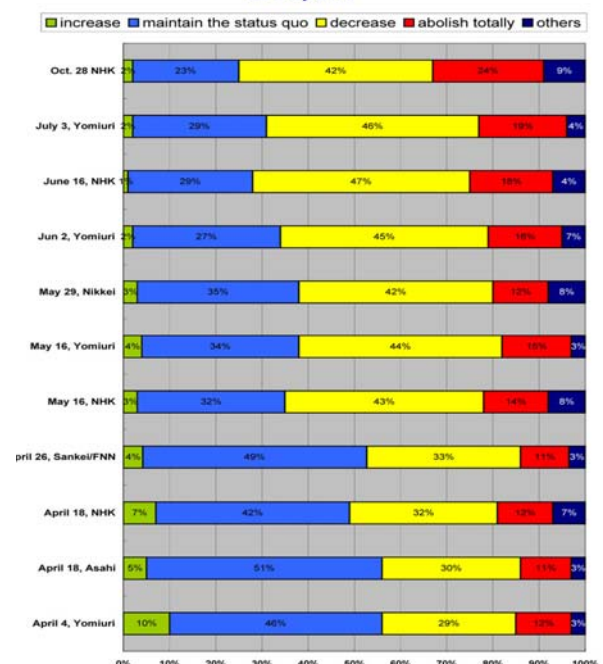


### 3. Influence on Public Opinion and Energy Policy (1)

Public opinion surveys by Japanese mass media show

- ⌘ Drastic decrease of support for nuclear power, day by day
- ⌘ Drastic increase of non-support as time goes by
- ⌘ These trends can be attributed to:
  - Large scale radioactive contamination became apparent
  - People fears the radioactive contamination of food and water
  - Electricity crisis and rotational blackout in March 2011 is over

What should be the future of nuclear power in Japan?



## Fukushima Accident



### 3. Influence on Public Opinion and Energy Policy (2)

- ⌘ Deliberation on energy policy have been underway
- ⌘ Holistic examination of various aspects is crucial
  - ✓ impact on economy, environmental conservation and national security
  - ✓ rise of fossil fuel price
  - ✓ reduction of greenhouse gas emission
  - ✓ ensuring safety and security of the people
  - ✓ avoiding the creation of a tight electricity supply and demand
- ⌘ In the mid-to long-term, **dependence on nuclear power must be reduced to the maximum extent**
- ⌘ New strategy and plan will be compiled by this summer

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## 4. JAIF's Activity



### Information Transmission (1)

Things need to be considered

- ⌘ Target audience
- ⌘ Type of information
- ⌘ How often / timeliness
- ⌘ How plainly / easy to understand
- ⌘ Means of transmission
- ⌘ Source of information / credibility

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## 4. JAIF's Activity



### Information Transmission (2)

#### Reactor status report

⌘ First attempt to make a table of the reactor status, in a easy to understand way, was done on Monday March 14. The status report was updated 3-4 times a day until April 20, and currently updated weekly.

Table with multiple columns and rows detailing reactor status, including sections for 'Reactor status', 'Containment status', and 'Cooling system status'. The table is color-coded with red, yellow, and green highlights to indicate different levels of concern or status.

## 4. JAIF's Activity



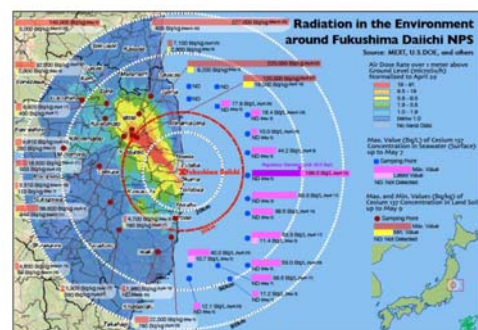
### Information Transmission (3)

#### Environmental effects

⌘ Radioactive contamination and radiation monitoring are of the interest of global general public and mass media.

⌘ Easy-to-understand information is updated weekly and available at JAIF English Homepage.

Table titled 'Environmental impact caused by the nuclear power accident at Fukushima Daiichi nuclear power station: As of January 26'. It contains detailed text describing environmental impacts and includes a small map of the Fukushima region.



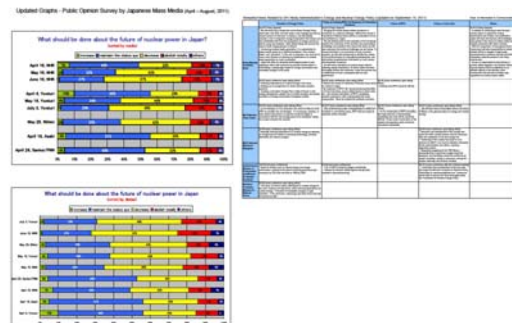
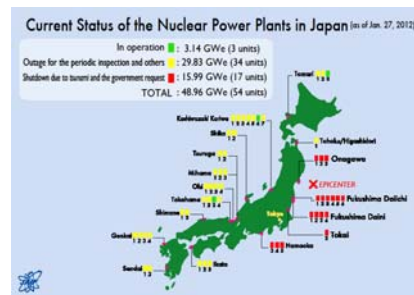
## 4. JAIF's Activity



### Information Transmission (4)

General Information is also available at JAIF Homepage

- ⌘ Status of Japanese nuclear power plants
- ⌘ Public opinion poll
- ⌘ Deliberation on nuclear policy



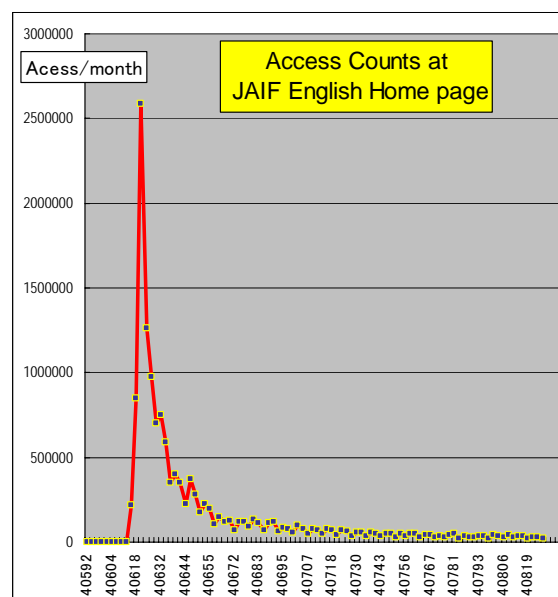
## 4. JAIF's Activity



### Information Transmission (5)

Reactions from Abroad

- ⌘ JAIF's English information on Fukushima has been heavily quoted by nuclear organizations such as IAEA, US NRC, German Government, Polish National Atomic Energy Agency.
- ⌘ Access to JAIF English homepage has increased by **2,500 times** after the Accident, from 1,000/month to the peak of 2,500,000/month.
- ⌘ JAIF's information has been useful and heavily used worldwide by nuclear community and mass media.





## 5. Lessons learned about Accident Communication

- ⌘ Critical item about information released
  - ✓ candid information
  - ✓ timely information
  - ✓ progressive information
  - ✓ understandable information
  - ✓ user-oriented information
  - ✓ consistent information
- ⌘ Communication on released information is crucial for mutual understanding and confidence building

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## 6. Conclusions

- ⌘ It is estimated Nuclear Power will play an key role for securing energy supply and confronting climate change even after Fukushima Accident
- ⌘ For the revitalization of Japanese nuclear program, it is crucial to overcome Fukushima accident and restore public confidence about nuclear safety
- ⌘ Without understanding, cooperation and support of general public and international community, it is impossible to revitalize nuclear program in the world
- ⌘ Communication on released information is the key factor for mutual understanding and confidence building

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*Never, Ever again  
anywhere in the world !  
Transparency and communication build  
Confidence !*

*Thank you for your attention !*

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