

# The Great East Japan Earthquake and Current Status of Nuclear Power Stations

April 25, 2011

Tokyo Electric Power Company



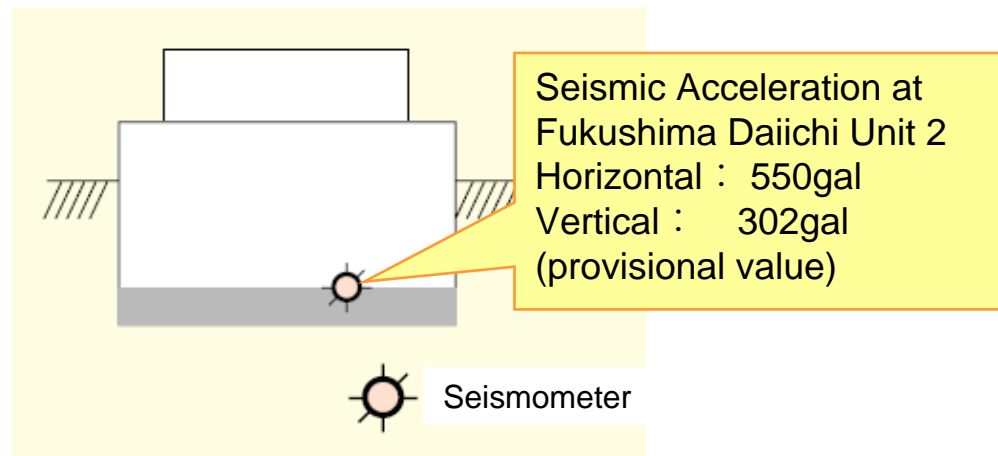
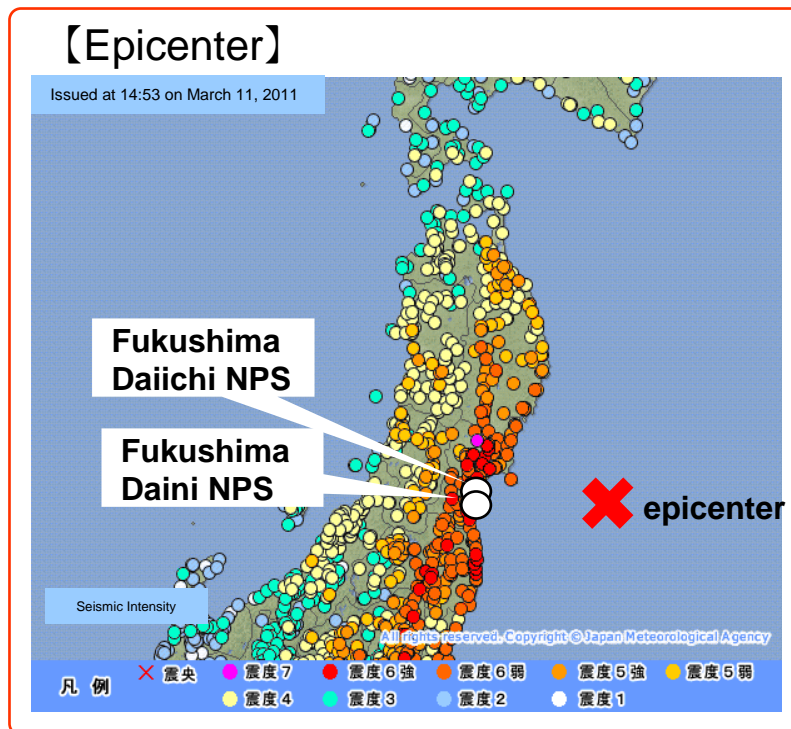
# 1. Overview

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- **The earthquake occurred at 2:46 pm on March 11, 2011 (Friday).**
- **Fukushima Daiichi Nuclear Power Station**
  - Units 1-3 shut down automatically (Units 4-6 had been cold shutdown due to annual outage).
  - Although emergency diesel generators had started after the loss of offsite power due to the earthquake, they were lost by the ensuing tsunami.
    - >Currently offsite power has been restored and lights in the main control room (all units) and some area in turbine building (Units 1-4) have been energized.
  - Core cooling functions were insufficient. Initially fresh water were used for cooling and then sea water (boric acid partially contained) were injected.
    - >Currently fresh water has been injected into the reactor core by the temporary motor driven pump (Units 1-3).
  - Implemented ventilation to reduce the pressure of Primary Containment Vessel (PCV) in Units 1-3 to prevent over pressurization of the PCV.
  - Reactor buildings were damaged due to possible hydrogen explosion (Units 1&3).
  - Abnormal sound was heard near the suppression chamber followed by a decrease in the suppression chamber pressure (Unit 2).
  - Large sound was heard, and the reactor building of Unit 4 was confirmed to be damaged.
  - Contaminated water with high radioactive materials have been found in large quantity in turbine buildings of Units 1-3, leakage of the water into the ocean was found via Unit 2 trench, sealing of the leakage was implemented on April 6. Pumping out the contaminated water is on progress. In order to transfer and store the contaminated water with extremely high radioactive dose in Unit 2 in Centralized Radioactive Waste Disposal Facility, approximately 10,000 tons of low level radioactive water stored therein was discharged into the ocean.
  - Units 5 and 6 are under cold shutdown.
- **Fukushima Daini Nuclear Power Station**
  - Units 1-4 shut down automatically.
  - All Units are under cold shutdown, and water level of the reactors are stable and controlled. Offsite power has been available (all Units).

## 2. Tohoku Pacific Ocean Earthquake

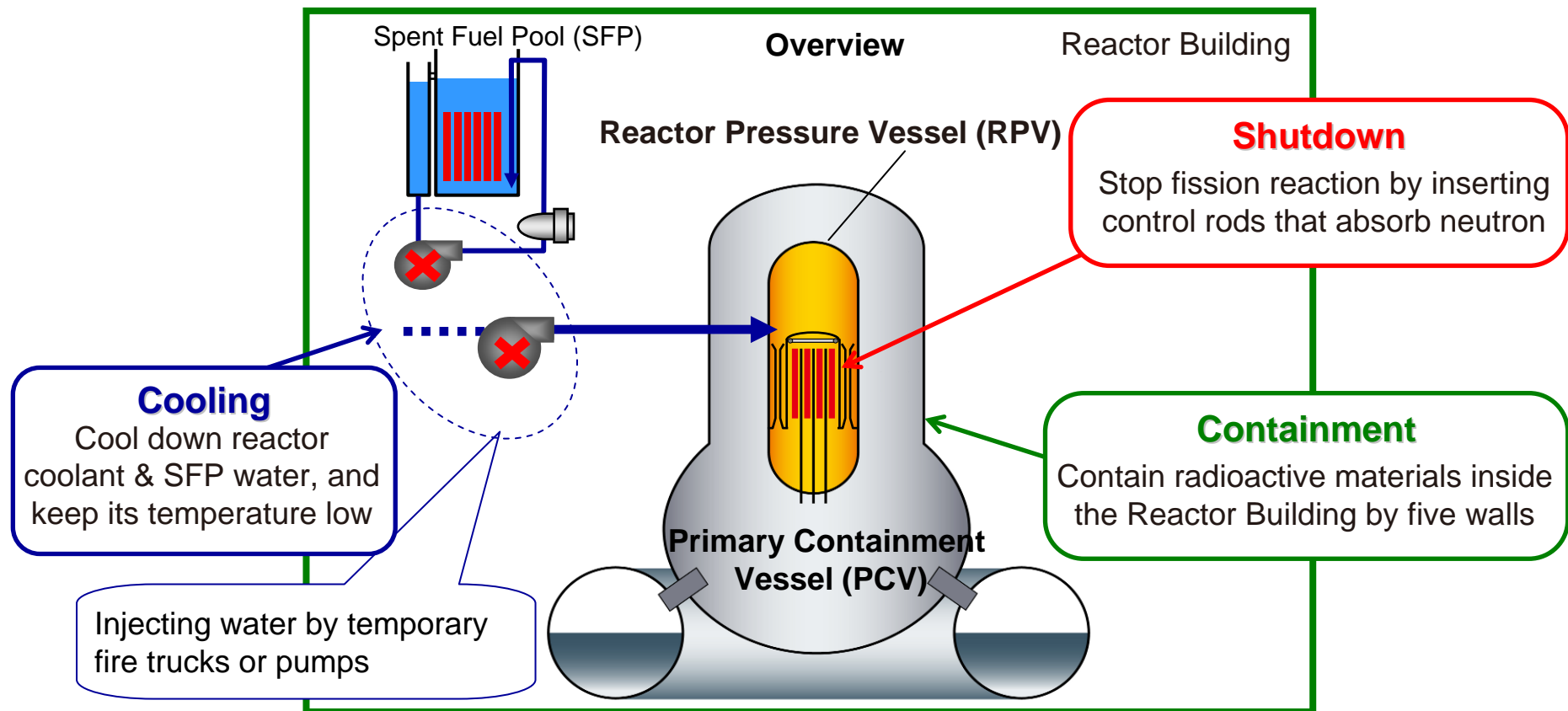
- **Time:** 2:46 pm on Fri, March 11, 2011.
- **Place:** Offshore Sanriku coast (northern latitude of 38 degrees, east longitude of 142.9), 24km in depth, Magnitude 9.0
- **Intensity:** **Level 7** at Kurihara in Miyagi Miyagi prefecture  
**Upper 6** at Naraha, Tomioka, Okuma, and Futaba in Fukushima 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  $\text{cm/s}^2$ .

### 3. Impacts for Safety Function

- “Shutdown” was secured by automatic shutdown of all control rods inserted at the same time of the earthquake
- Transmission line was damaged by the quake; diesel generators started but subsequently were lost due to the Tsunami, leading Station Black Out.
- Most of the “Cooling” function of reactor and spent fuel pool were lost by the loss of power supply caused by Tsunami  
->Currently freshwater is injected by temporary motor pumps.
- High level contaminated water has been found in turbine buildings, “Containment” function is presumed to be impaired.  
->Currently, preventative measures of expanding contaminations are in full force.



## 4. Plant Status: Fukushima Daiichi

- Units 1-3: Injecting fresh water by temporary motor-driven pumps in order to cool the fuels in reactors.
- Units 1-4: Injecting fresh water from the top or via Fuel Pool Cooling System intermittently in order to cool the fuels in spent fuel pool.
- Units 1-3: Found contaminated water with high radioactive materials in turbine buildings. Pumping out of the water into the condensers, etc. is in progress.
- Unit 1: Injecting N<sub>2</sub> into PCV to lower the possibility of hydrogen explosion. Also scheduled for Units 2&3.
- Units 5&6: Under cold shutdown.

		#1 460MW	#2 784MW	#3 784MW	#4 784MW	#5 784MW	#6 1,100MW	
<b>Pre-Earthquake Status</b>		<b>Operating</b>			<b>Shutdown for Outage</b>			
<b>After Earthquake</b>	<b>Shutdown</b>	○ Automatic Shutdown			—	—	—	
	<b>Cooling</b>	<b>Reactor</b>	△ Offsite Power Freshwater	△ Offsite Power Freshwater	△ Offsite Power Freshwater	— Fuels have been removed	○ Cold Shutdown	○ Cold Shutdown
		<b>Pool</b>	△	△	△	△	○	○
	<b>*Containment</b>		X Highly contaminated water	X Highly contaminated water	X Highly contaminated water	△	○	○

○ :functioning △: non-functioning (work in progress) X:non-functioning (not working)

\*There are damages on upper part of the Reactor buildings of Unit 1,3 and 4. There is a possibility of malfunction of containment in suppression chamber of Unit2. Holes are drilled on the roof of reactor buildings of Units 5 and 6 to prevent hydrogen accumulation.

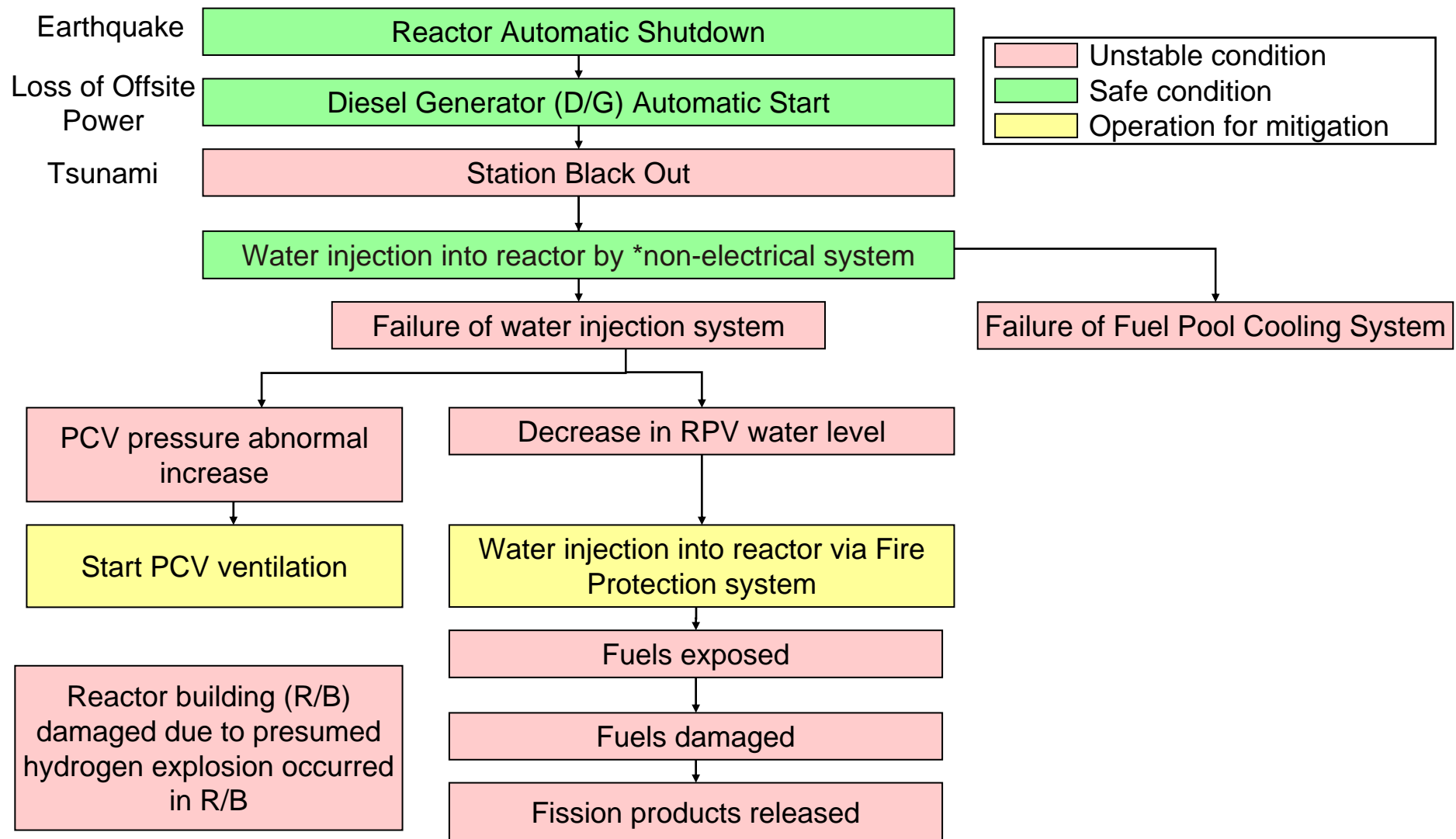
## 4. Plant Status: Fukushima Daini

- Unit1-4: Automatic Shutdown, although operating at the time of the earthquake
- Unit 3: Cold Shut down in 22hrs after the quake
- Unit1,2 & 4: Although offsite power maintained, heat removal facilities for reactors were submerged due to the Tsunami. The heat removal functions were restored by the following recovery work.

		Fukushima Daini Nuclear Power Station			
		# 1 1,100MW	# 2 1,100MW	# 3 1,100MW	# 4 1,100MW
Pre-Earthquake Status		Operating			
After Earthquake	Shutdown	○			
	Cooling	○ (Cold Shutdown)			
	Containment	○			

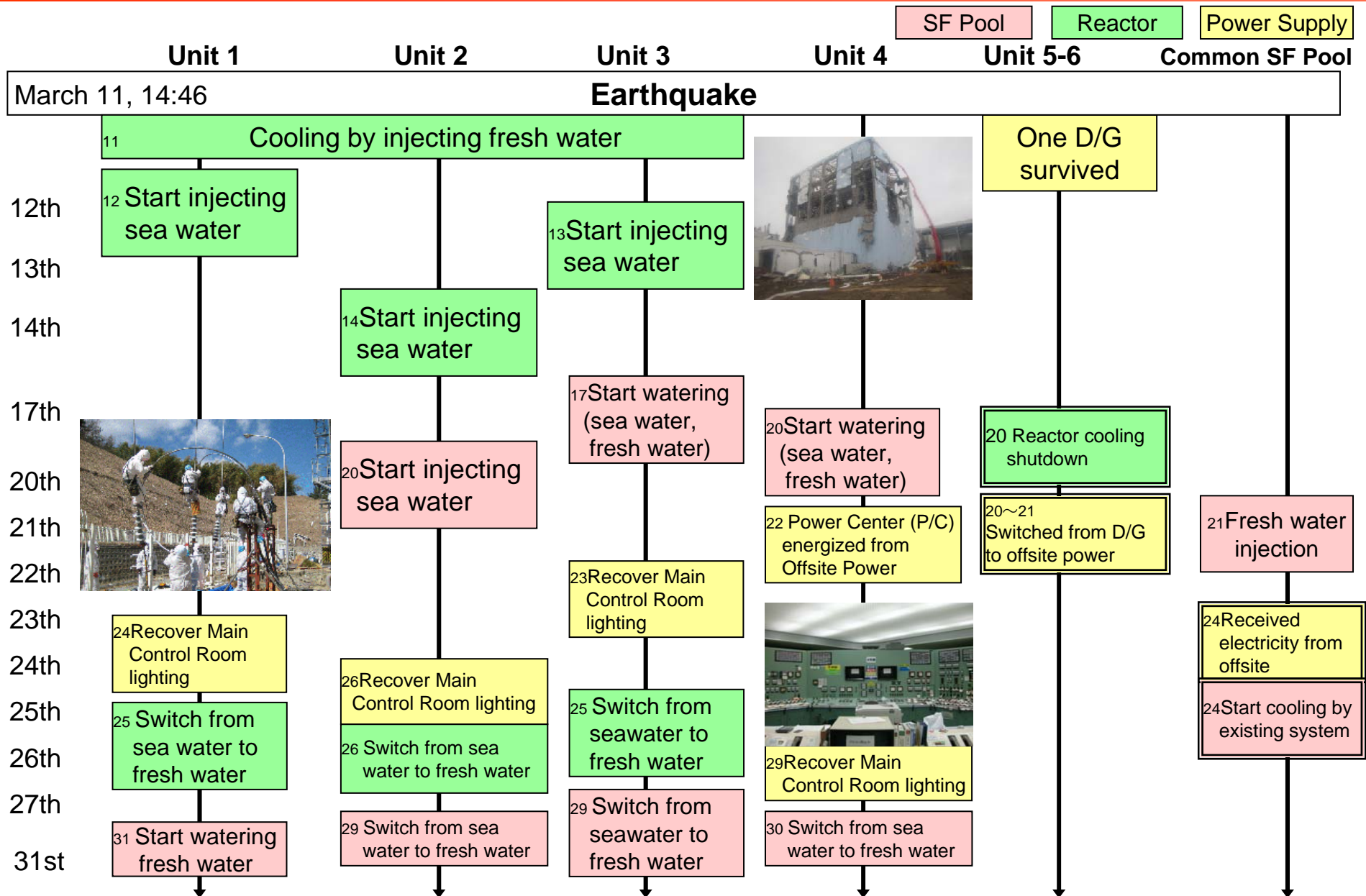
○ :functioning    △: non-functioning (work in progress)    X:non-functioning (not working)

# 5. Course of Events (Fukushima Daiichi Unit 3)



\*High Pressure Coolant Injection System (HPCI),  
Reactor Core Isolation Cooling System (RCIC)

# 6. Chronology of Fuel Cooling (Fukushima Daiichi)





## [Reference] Recovery Status (Main Control Room)

- Main Control Room Power recovered as the first step of restoration
  - March 22 at 22:45 Unit 3 Main Control Room lights turned on
  - March 24 at 11:30 Unit 1 Main Control Room lights turned on
  - March 26 at 16:46 Unit 2 Main Control Room lights turned on
  - March 29 at 11:50 Unit 4 Main Control Room lights turned on



Unit 1 Main Control Room lights turned on  
(The light covers come off by the earthquake)



Unit 4 Main Control lights turned on

# 7. Plant Parameters (Fukushima Daiichi) as of April 24 at 14:00

## RPV Pressure [MPa-g]

Unit 1	Unit 2	Unit 3
1.143	-0.018	-0.051

## RPV Temp [°C]

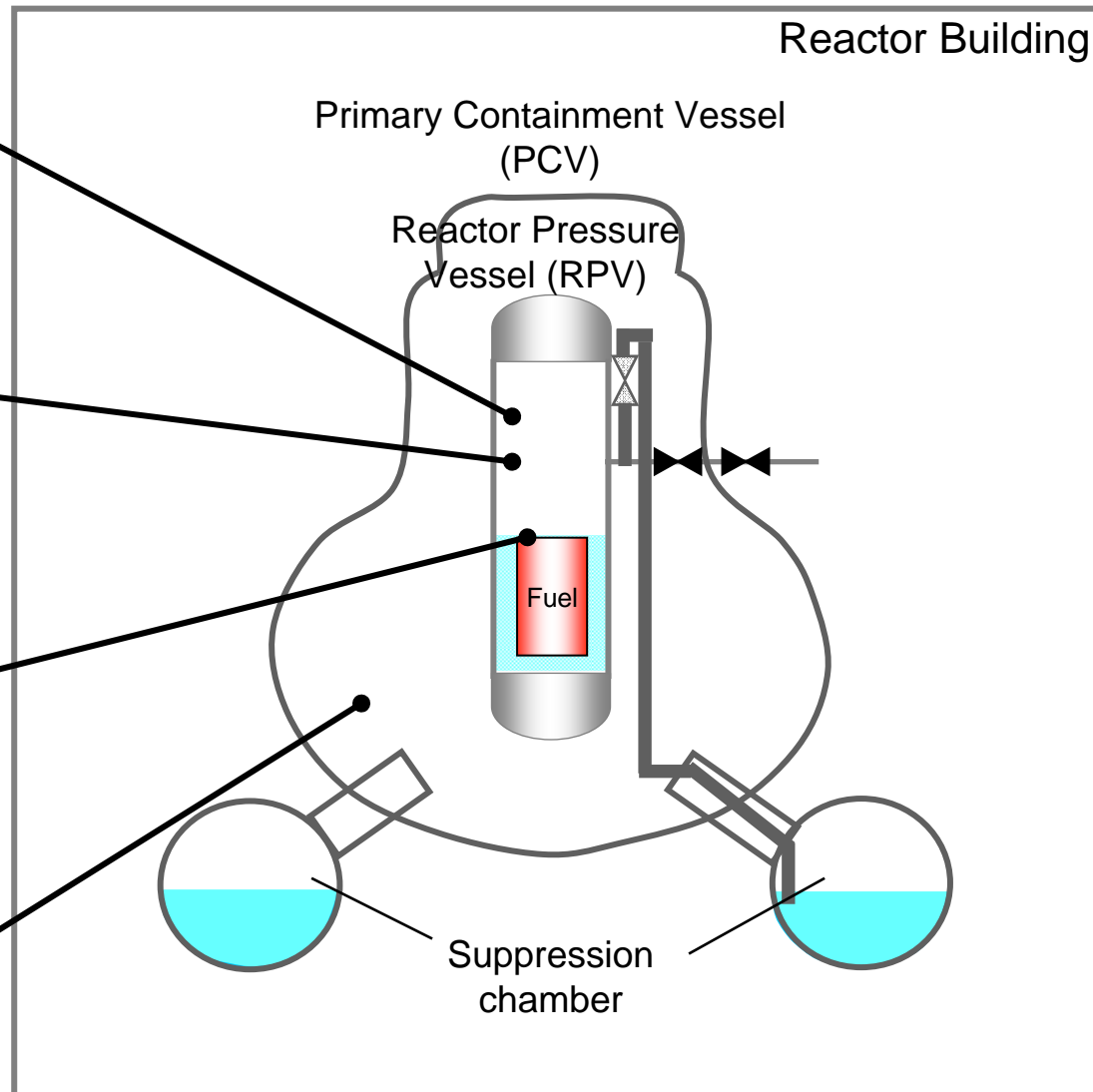
Unit 1	Unit 2	Unit 3
133.5 (Feedwater Nozzle)	124.2 (Feedwater Nozzle)	110.6 (bottom of RPV)

## Reactor water level [mm]

Unit 1	Unit 2	Unit 3
-1,700	-2,050	-2,250

## Drywell pressure [MPa-abs]

Unit 1	Unit 2	Unit 3
0.155	0.080	0.1031



Pressure conversion: Gauge pressure (MPa-g)=absolute pressure (MPa-abs)-atmospheric pressure(0.1013Mpa)

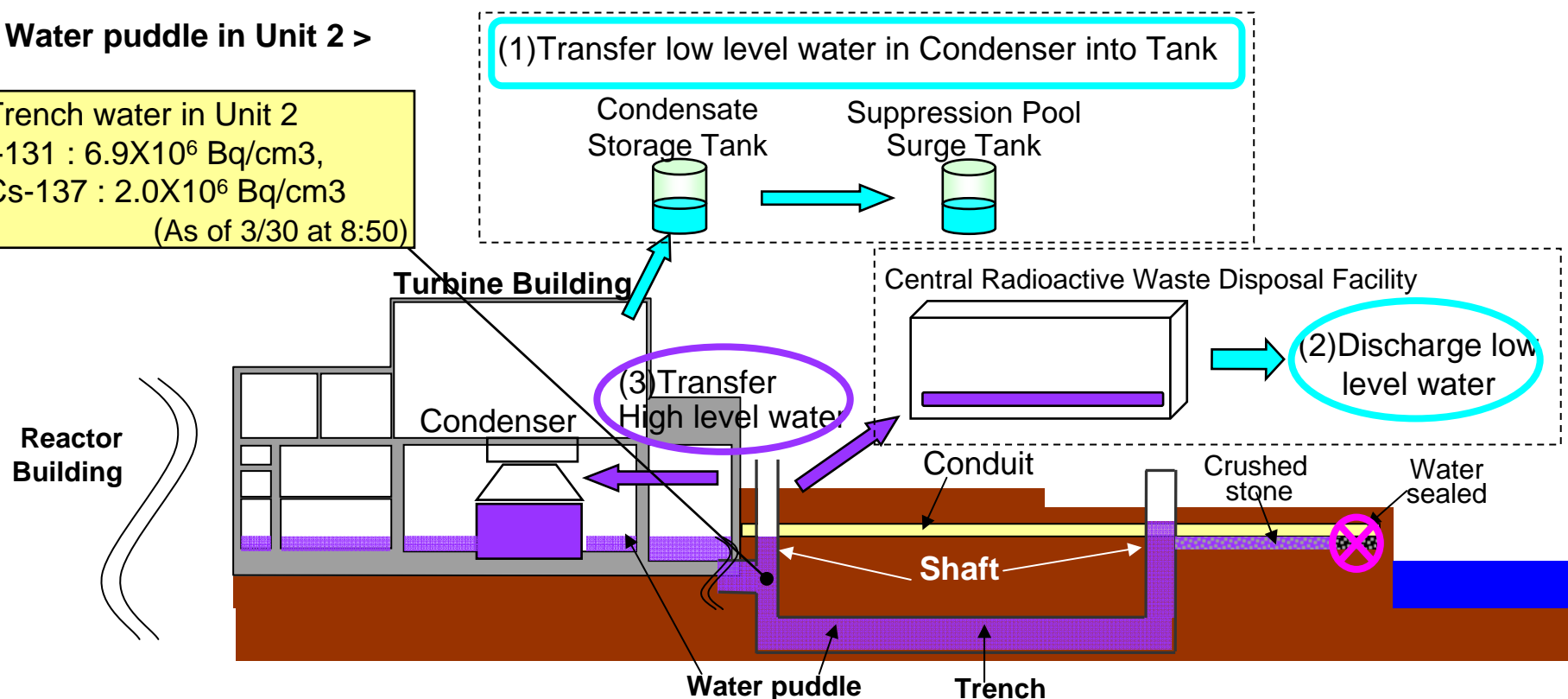
\*Posted in one gauging

## 8. Measure to water puddle at Fukushima Daiichi

- Contaminated water with high radioactive materials have been found in large quantity in Turbine buildings of Units 1-3 etc. Following measures will be taken to store them safely.
- Transfer the water to Condenser or Central Radioactive Waste Disposal Facility (CRWDF) and store them safely in order not to run off outside the boundary.
  - ✓ Transfer the low level radioactive wastewater stored in Condenser to the tanks outside (1).
  - ✓ Discharged 10,000 tons of low level radioactive water stored in CRWDF into the sea (2).(Radioactivity in 10,000 tons of the low level water is equivalent to 10 liter of high level water in Unit 2)
- ✓ Transferred high level water into Condenser. Began to transfer the water in Trench to CRWDF in Unit 2 (3).

### < Water puddle in Unit 2 >

- Trench water in Unit 2
- I-131 :  $6.9 \times 10^6$  Bq/cm<sup>3</sup>,
- Cs-137 :  $2.0 \times 10^6$  Bq/cm<sup>3</sup>  
(As of 3/30 at 8:50)



## 9. Countermeasures to Prevent Diffusion of Radioactive Materials

- Sprayed dust inhibitor agents to reduce spreading of powder dust containing radioactive materials on the ground. (Have been spraying intermittently since April 1<sup>st</sup>)
- Took following measures in order to prevent radioactive contaminated water from running off into the sea.
  - ✓ Injected coagulants from the holes near the shaft. Have confirmed the outflow from the crack on the concrete wall of the pit stopped. (at 5:38 am, April 6)
  - ✓ Installed a rubber plate and jig to enhance water sealing.
  - ✓ Monitoring continuously for any existence of leakage.
- Took following measures in order to prevent contaminated water from running off from a plant's port .
  - ✓ Launched construction of installing large sandbags around the breakwater at southern part of site.
  - ✓ Installed silt fences, etc around the breakwater or in front of screens at southern part of site.



Spraying dust inhibitor agents



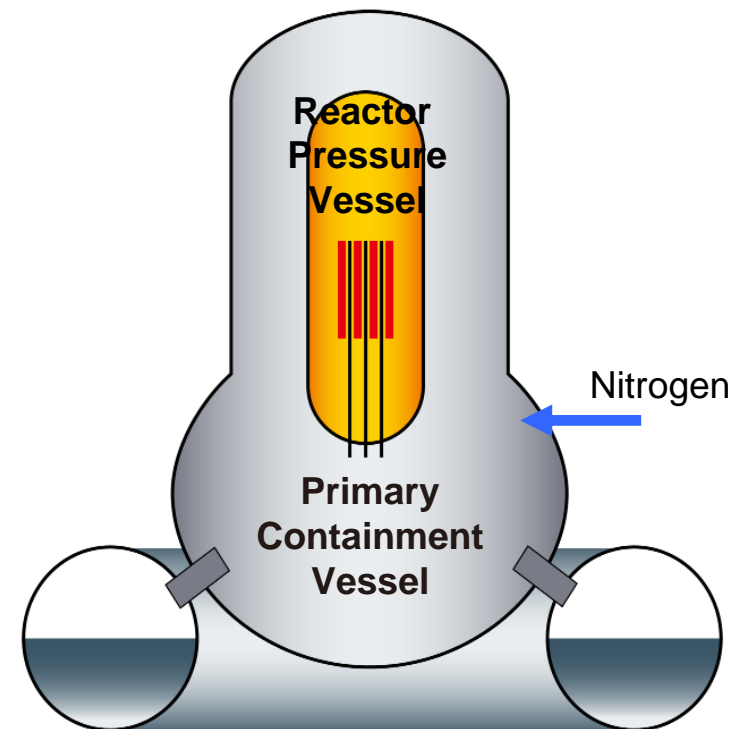
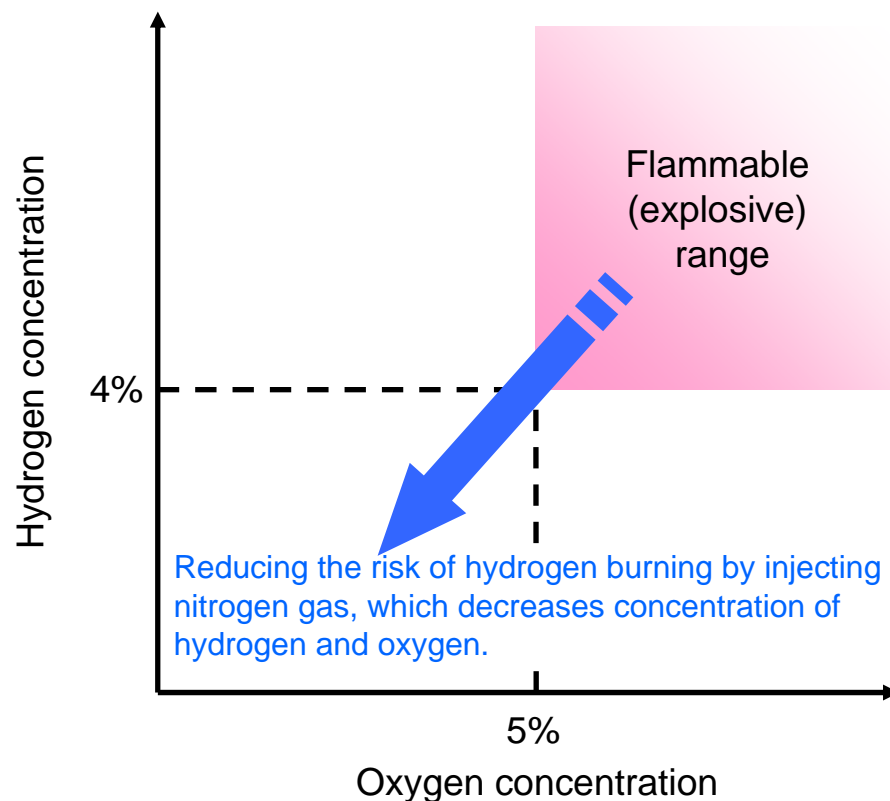
Coagulant injection to stop outflow

## 10. Injection of Nitrogen Gas into the Primary Containment Vessel (PCV)

- Injecting nitrogen gas into PCV since April 6th to mitigate the risk of hydrogen gas accumulation in the PCV (Fukushima Daiichi Unit 1).
- Same measures are scheduled to be take for Units 2 and 3.

As of April 13

### Flammability limit of hydrogen gas



# 11. 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 directed by the PM (Daini)
- 18:25 20 km radius evacuation directed by the PM (Daiichi)

## Tue, 15 March

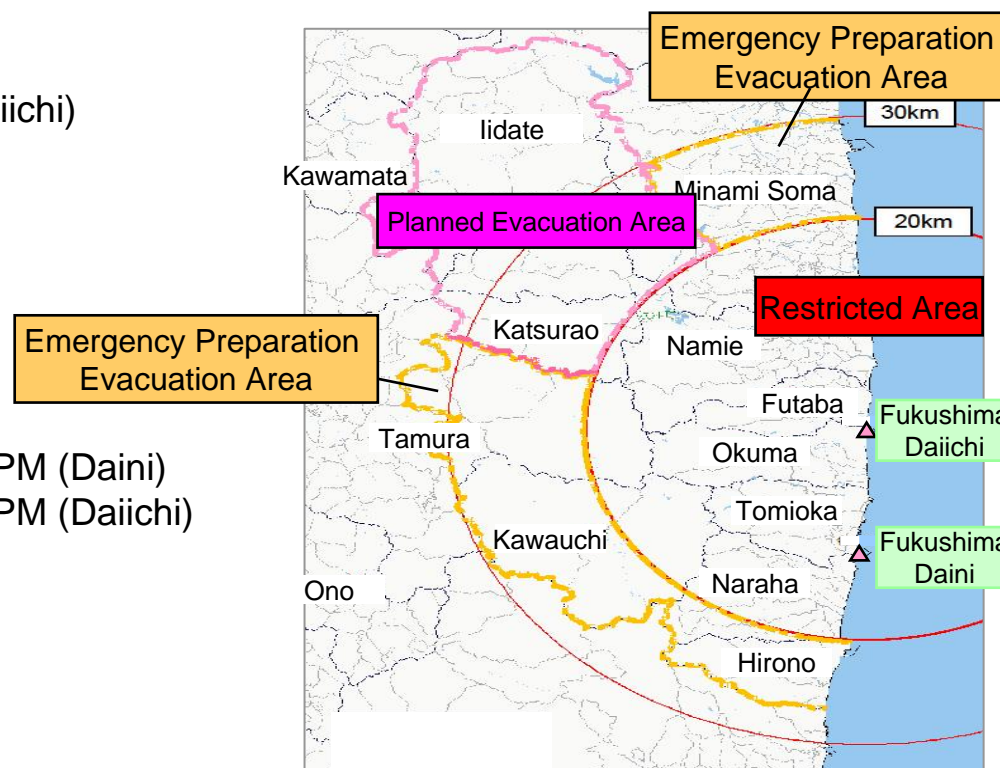
- 11:00 20-30 km radius taking shelter (Daiichi)

## 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"



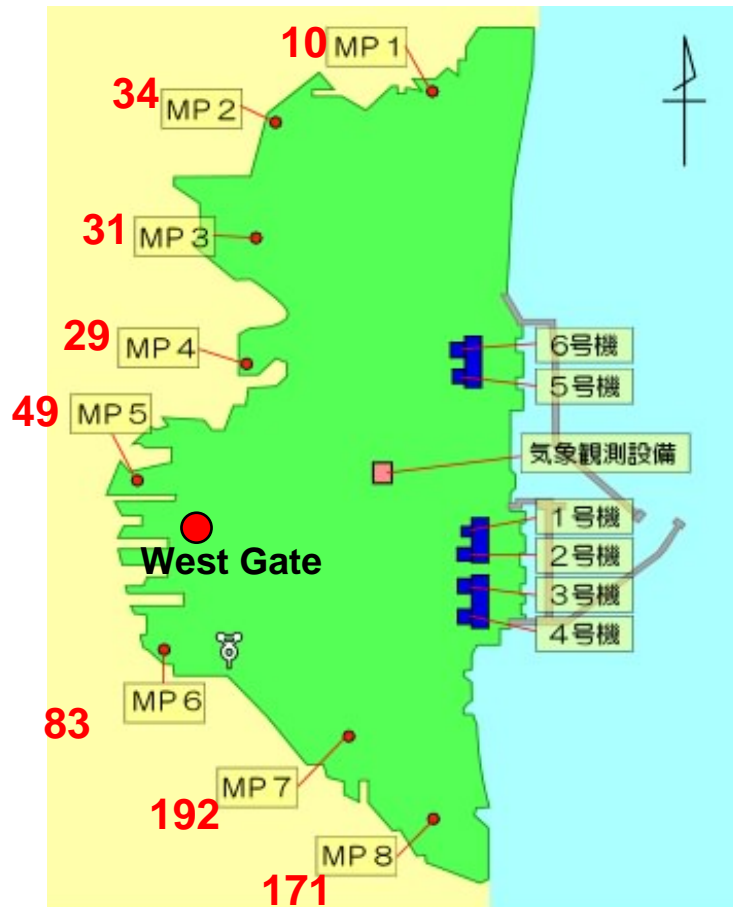
Source: NISA website

## 12. Monitoring Data (at Site Boundary of Fukushima Daiichi)

- Monitoring data at the site boundary of Fukushima Daiichi
- Continue to monitor the surrounding environment

### Monitoring post air dose rate

:  $\mu\text{Sv/h}$  as of 17. April 2011 21:00



### Dose rate at the surrounding area of Nuclear Power Station

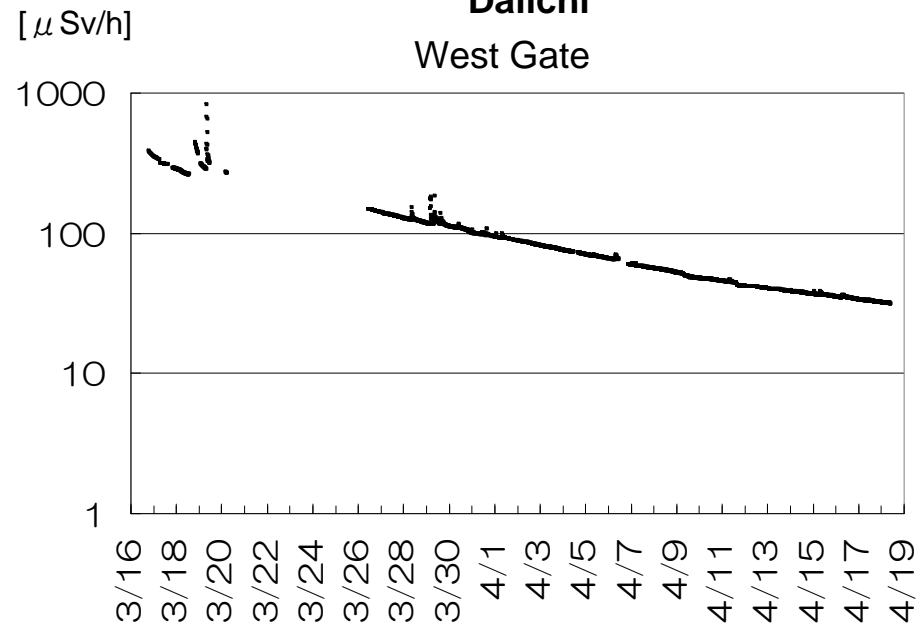
Daiichi (maximum):

Area around Unit 3: 400mSv/h (3/15 10:00)

Site boundary: 12mSv/h (3/15 9:00)

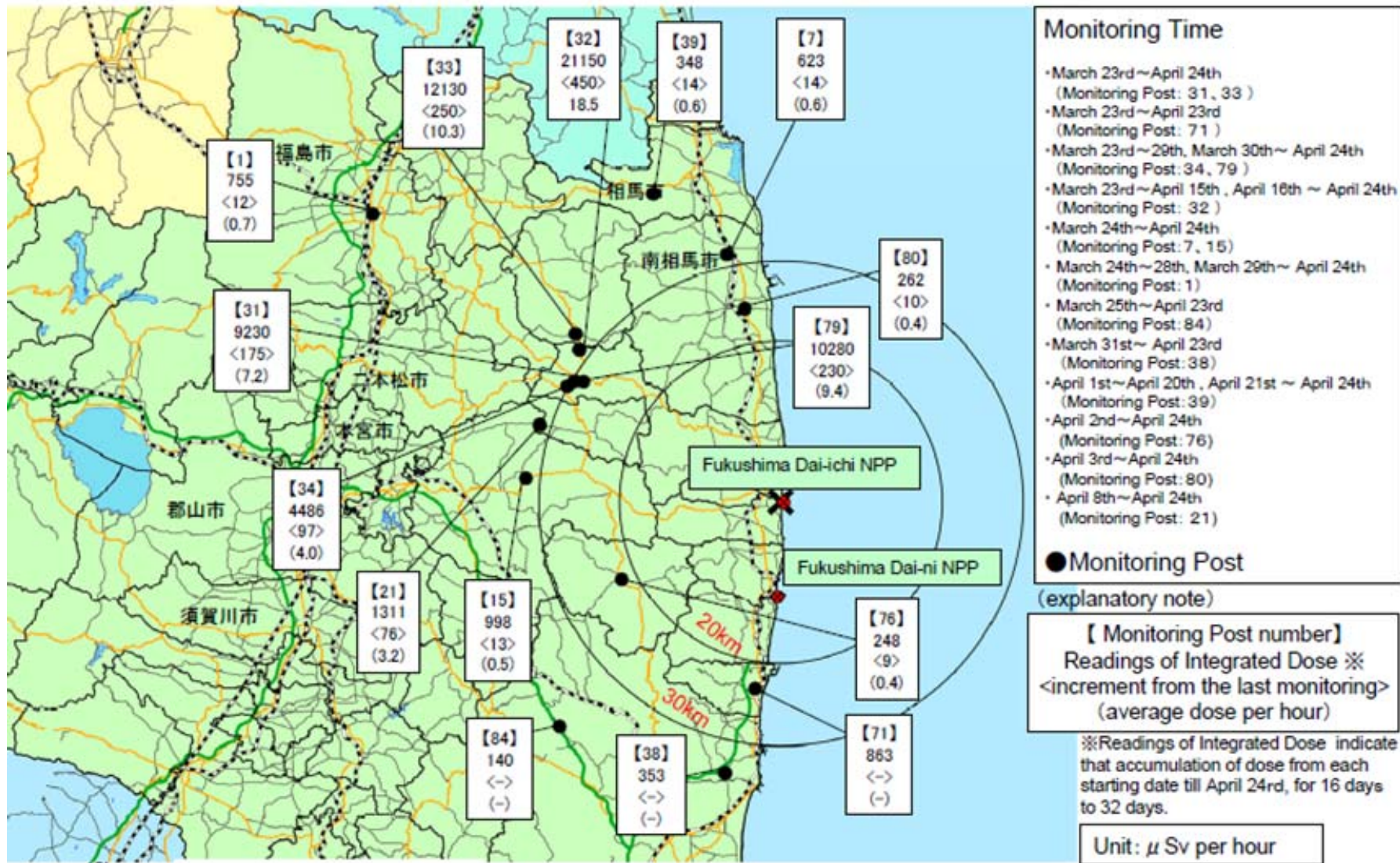
Daini: 0.03-183  $\mu\text{Sv/h}$

### Dose Rate Trend at the Site Boundary of Fukushima Daiichi



# 12. Monitoring Data (Surroundings of Fukushima Daiichi)

## ➤ Integrated Dose surroundings of Fukushima Daiichi (~25 April)



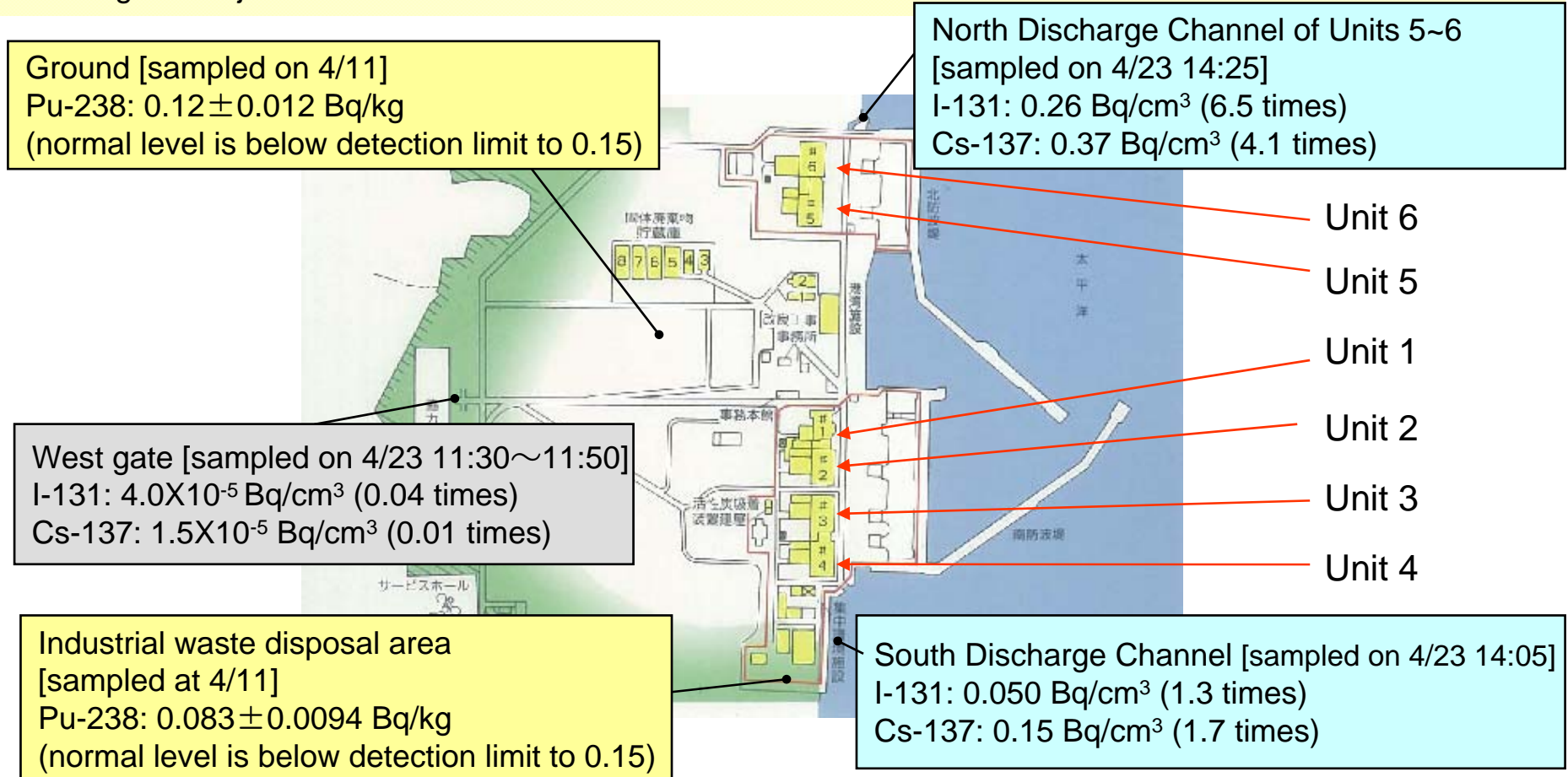
10km Circles indicate approximate range.

Source: Ministry of Education, Culture, Sports, Science and Technology



## 12. Nuclide Analysis Data Sampled in and Near the Site

- Plutonium was detected from the soil at the site sampled after March 21.
- Concentration of Plutonium detected was as same level as that under usual environment and it is considered not to be harmful to human health. Environmental monitoring at the site and surroundings were strengthened just in case.



\*Representative nuclides concentration described out of detected nuclides  
 (times in the bracket is the ratio of concentration limit by law)

(  : sea water     : air     : soil )  
 I : Iodine, Cs : Cesium, Pu : Plutonium

## [Reference] Impacts to Food and Water

- Since March 21, radioactive materials that exceed provisional standard set by the Ministry of Health, Labour and Welfare have been detected from vegetables, milk and tap water, which leads to the restriction of food distribution etc.

Vegetables, Milk, fish		Fukushima pref.		Ibaraki pref.	Tochigi pref.		Gunma pref.	Chiba pref.
		All area	By region	Kitaibaraki city, Takahagi city	All area	By region		
Non-head leaf vegetables	spinach	D.R. C.R.	—	D.R.	D.R.	Lifted****	—	—
	Kakina, Shungiku, qing-geng-cai, sangchu	D.R. C.R.	—	—	—	—	—	—
	Other Non-head leaf vegetables	D.R. C.R.	—	—	—	—	—	—
head leaf vegetables, flowerhead brassicas, turnip		D.R. C.R.	—	—	—	—	—	—
parsley celery		—	—	—	—	—	—	—
log-grown shiitake (grown outdoor)		—	D.R.* C.R.**	—	—	—	—	—
sand lance (juvenile)		D.R. C.R.	—	—	—	—	—	—
raw milk		D.R.	Lifted***	—	—	—	—	—

Tap water	—	C.R. for infant
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D.R.: Distribution Restricted, C.R.: Consumption Restricted (as of April 22)

\*Fukushima, Date, Iitate, Soma, Minami Soma, Tamura, Iwaki, Shinchi, Kawamata, Namie, Futaba, Okuma, Tomioka, Naraha, Hirono, Kasturao, Kawauchi

\*\*Iitate

\*\*\*Kitakata, Bandai, Inawashiro, Mishima, Aizumisato, Shimogo, Minamiaizu, Fukushima, Nihonmatsu, Date, Motomiya, Kunimi, Otamamura, Koriyama, Sukagawa, Tamura (Excluding Miyakoji area), Miharu, Ono, Kagamiishi, Ishikawa, Asakawa, Hirata, Furudono, Shirakawa, Yabuki, Izumizaki, Nakajima, Saigo, Samekawa, Hanawa, Yamatsuri, Iwaki, Soma, Shinchi were lifted

\*\*\*\* Nasushiobara, Sioya were lifted



Source : web site by the Ministry of Health, Labour and Welfare

## [Reference] Payment of “Temporary Compensation” for damages cause by evacuation

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- Pursuant to Act of Special Measures Concerning Nuclear Emergency Preparedness, the government’s “ Economic Damage Response Headquarters” decided TEPCO to pay “Temporary Compensation (1,000,000 yen per household and 750,000 yen per individual’s household)” to the people forced to evacuate due to the accident. (press release April 15<sup>th</sup>)
- Compensation for Nuclear damages including evacuating expense, business losses for fishery or agriculture, shall be paid pursuant to the guidance from the dispute reconciliation committee for nuclear damage compensation set up under MEXT on April 11th.

### <Intended Areas for Payment of Temporary Compensation>

#### ■ Areas under Evacuation Order

Within 20km radius of the periphery of Fukushima Daiichi Nuclear Power Station

Within 10km radius of the periphery of Fukushima Daini Nuclear Power Station

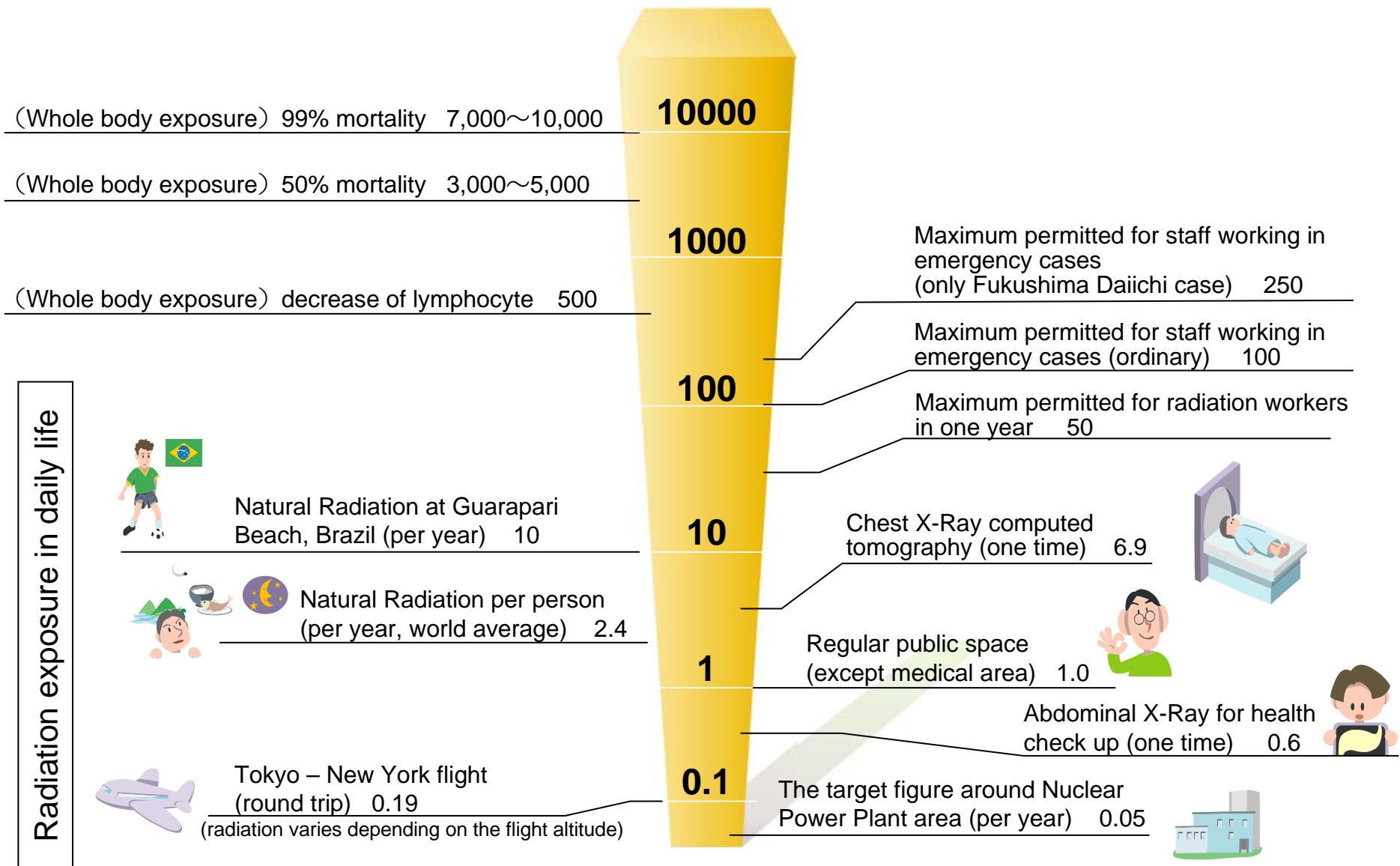
#### ■ Areas under Shelter in Place Order

Between 20km and 30km radius of the periphery of Fukushima Daiichi Nuclear Power Station

\*Specific bound of intended areas for payment of temporary compensation are decided on the basis of the alignments with municipalities under evacuation order or shelter in place order.

\*The areas where designated as “Areas under Planned Evacuation Order” pursuant to Act on Special Measures Concerning Nuclear Emergency Preparedness hereafter also will be included in the area for the payment

# [Reference] Relationship between Health and Radiation Dose



(Note) The amount of natural radiation is including the effect of inhalation of Radon.  
 (source) UNSCEAR 2000 Report, "Sources and Effects of Ionizing Radiation" etc.

# 13. INES (International Nuclear Event Scale ) Evaluation

- On April 12, Nuclear and Industrial Safety Agency released as below;
  - Tentatively assigned Level 7 on INES for the accident at Fukushima Daiichi Nuclear Power Station.
  - In this regard however, the amount of released radioactive materials is one-tenth as much as the accident at Chernobyl.
- We are wrestling with hurdles such as cooling the reactors or reducing the diffusion of radioactive materials in order to resolve the situation as soon as possible. We will commit in full force to resolve this situation along with the close coordination and cooperation with the national and local governments.

	Estimated release from Fukushima Daiichi		(Reference) Release from Chernobyl
	by NISA	by Nuclear Safety Commission	
Iodine 131 (a)	130 thousands T Bq ( $1.3 \times 10^{17}$ Bq)	150 thousands T Bq ( $1.5 \times 10^{17}$ Bq)	1,800 thousands T Bq ( $1.5 \times 10^{17}$ Bq)
Cesium 137	6 thousands T Bq ( $6.0 \times 10^{15}$ Bq)	12 thousands T Bq ( $1.2 \times 10^{16}$ Bq)	85 thousands T Bq ( $8.5 \times 10^{16}$ Bq)
Iodine value conversion (b)	240 thousands T Bq ( $2.4 \times 10^{17}$ Bq)	480 thousands T Bq ( $4.8 \times 10^{17}$ Bq)	3,400 thousands T Bq ( $3.4 \times 10^{18}$ Bq)
(a) + (b)	370 thousands T Bq ( $3.7 \times 10^{17}$ Bq)	630 thousands T Bq ( $6.3 \times 10^{17}$ Bq)	5,200 thousands T Bq ( $5.2 \times 10^{18}$ Bq)

INES level 7 equivalent : over 10 thousands Tera Becquerel (T Bq) (over  $10^{16}$ Bq)

# 14. Roadmap towards Restoration from the Accident

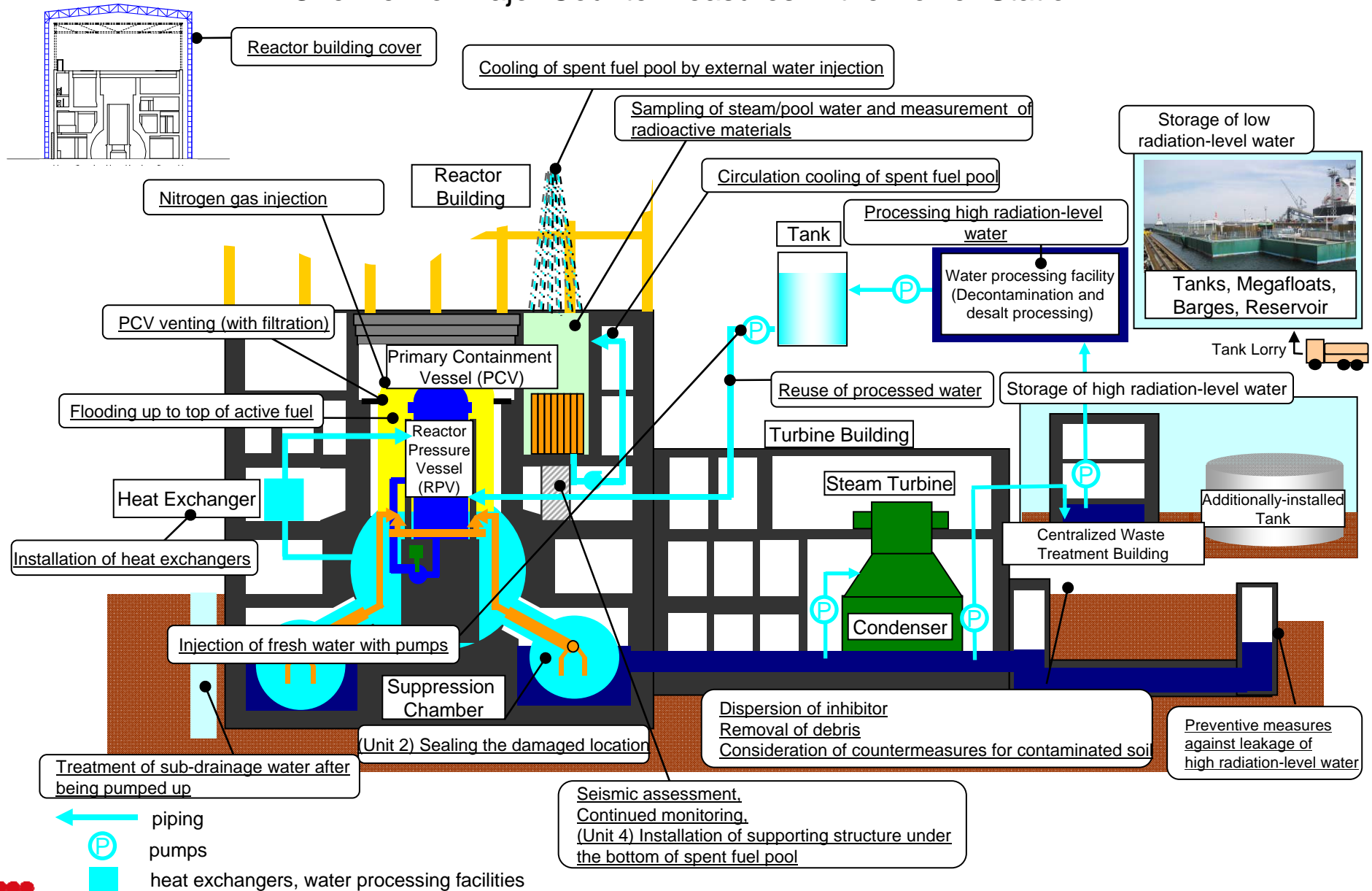
- By bringing the reactors and spent fuel pools to a stable cooling condition and mitigating the release of radioactive materials, we will make every effort to enable evacuees to return to their homes and for all citizens to be able to secure a sound life.

## < Roadmap for Immediate Actions (Issues / Targets / Major Countermeasures) >

		Current Status	STEP1 (around 3 months) "Radiation dose is in steady decline"	STEP2 (around 3 to 6 months after achieving Step 1) "Release of radioactive materials is under control and radiation dose is being significantly held down"	Mid-term Issues
I. Cooling	(1) Reactors	Injecting fresh water	Nitrogen gas injection (Unit1・3) Flooding up to top of active fuel Examination and implementation of heat exchange function (Unit 2) Sealing the damaged location	Stable cooling Flooding up to top of active fuel	Prevention of breakage of structural materials, etc.
	(2) Spent Fuel Pools	Injecting fresh water	Enhance reliability of water injection Restore coolant circulation system (Unit 4) Install supporting structure	Stable cooling Remote control of water injection Examination and implementation of heat exchange function	Removal of fuels
II. Mitigation	(3) 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	Decrease contaminated water Expansion of storage / processing facilities Decontamination / Desalt processing (reuse), etc	Installation of full-fledged water treatment facilities
	(4) Atmosphere / Soil		Dispersion of inhibitor Removal of debris	Installing reactor building cover	Installation of reactor building cover (container with concrete) Solidification of contaminated soil, etc
III. Monitoring/Decontamination	(5) Measurement, Reduction and Arrangement	Monitoring of radiation dose in and out of the power station	Expand/enhance monitoring and inform of results fast and accurately	Sufficiently reduce radiation dose in evacuation order / planned evacuation / emergency evacuation preparation areas	Continue monitoring and informing environmental safety

# 14. Roadmap towards Restoration from the Accident

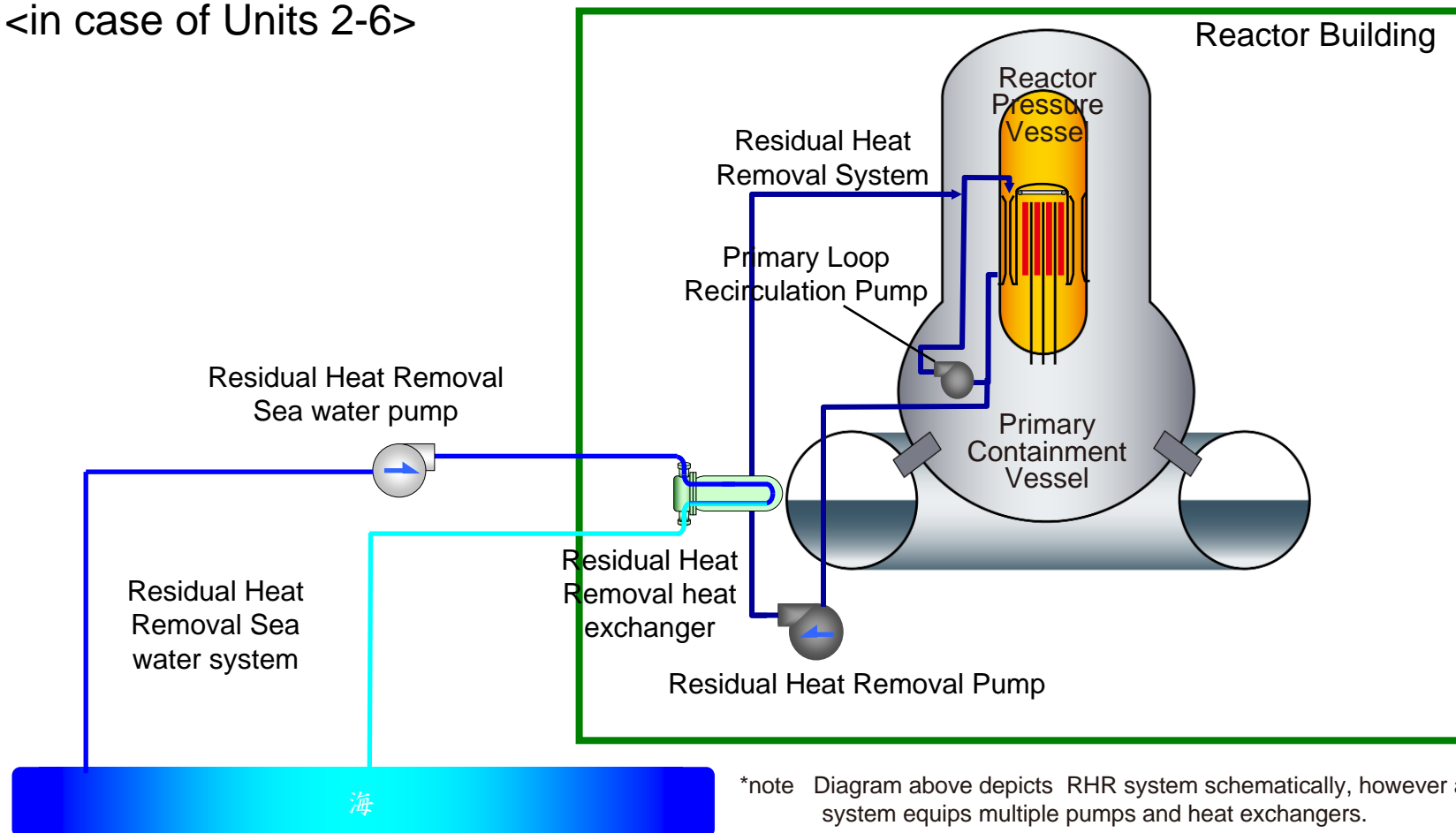
## <Overview of Major Countermeasures in the Power Station >



## [Reference] Core Cooling System under Normal Shutdown

- Nuclear fuels continue to generate decay heat even after stop fission by control rod insertion
- In order to remove this decay heat, “Residual Heat Removal System (RHR)” is installed. RHR pumps circulate reactor coolant and remove heat by sea water through heat exchanger in “Residual Heat Removal Sea water System”
- This will enable the fuels in reactors to keep them stabilized cooling state (under 65°C).

<in case of Units 2-6>

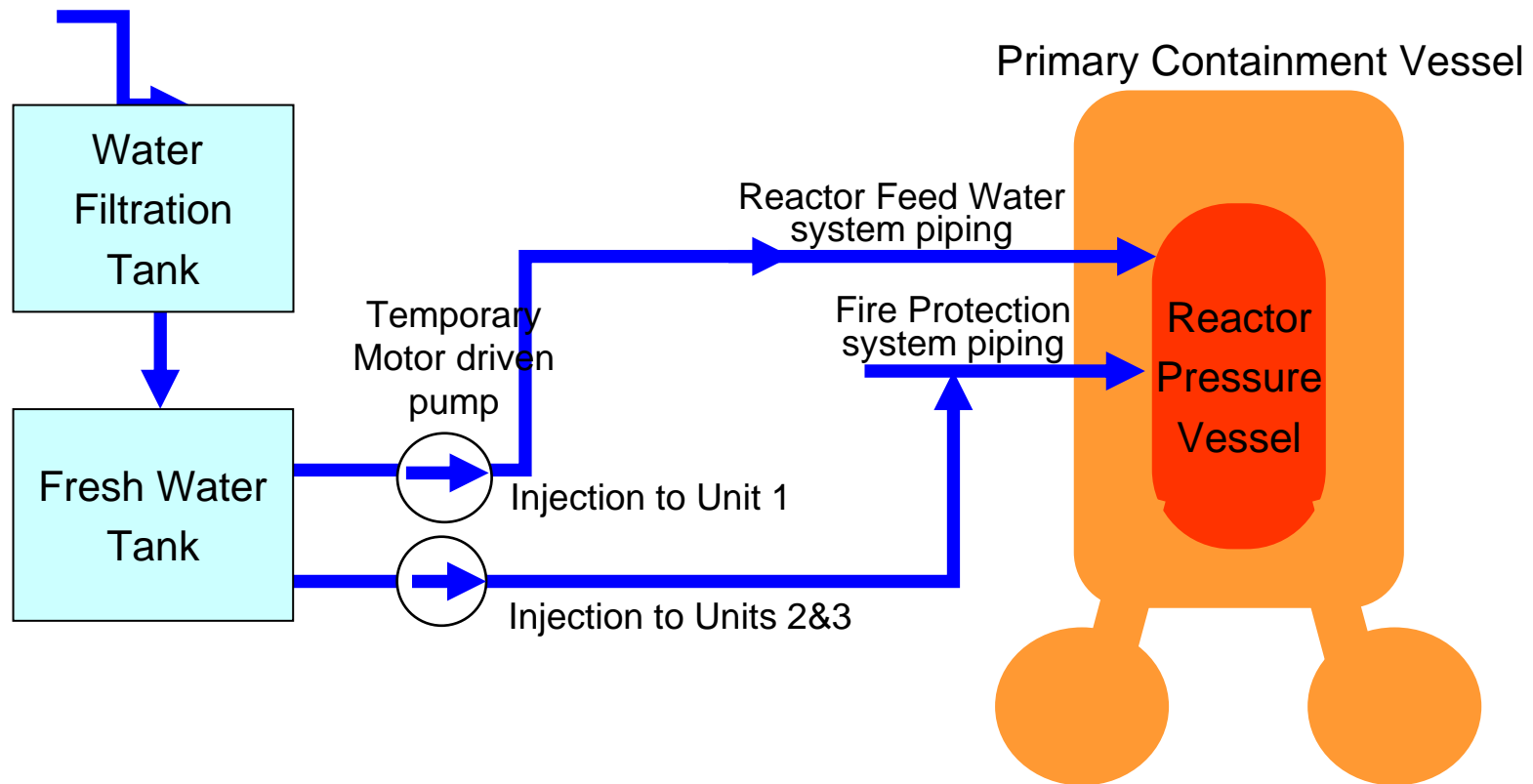




## [Reference] Reactor Feed Water System

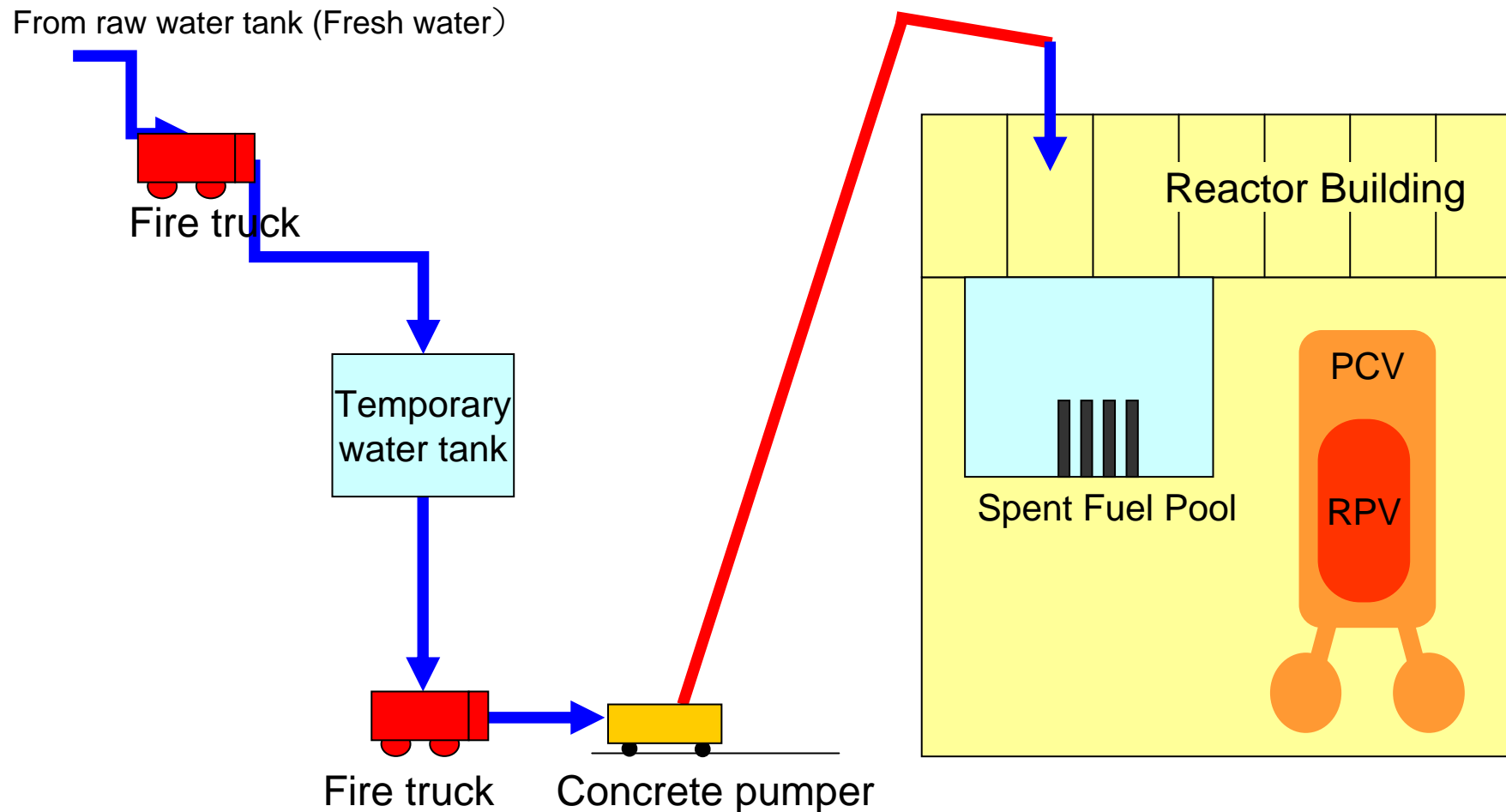
- Injected fresh water to cool the reactor just after the earth quake, changed over from fresh water to sea water (boric acid contained) after that , and then changed over again from sea water to fresh water for the injection.

From raw water tank (Fresh water)



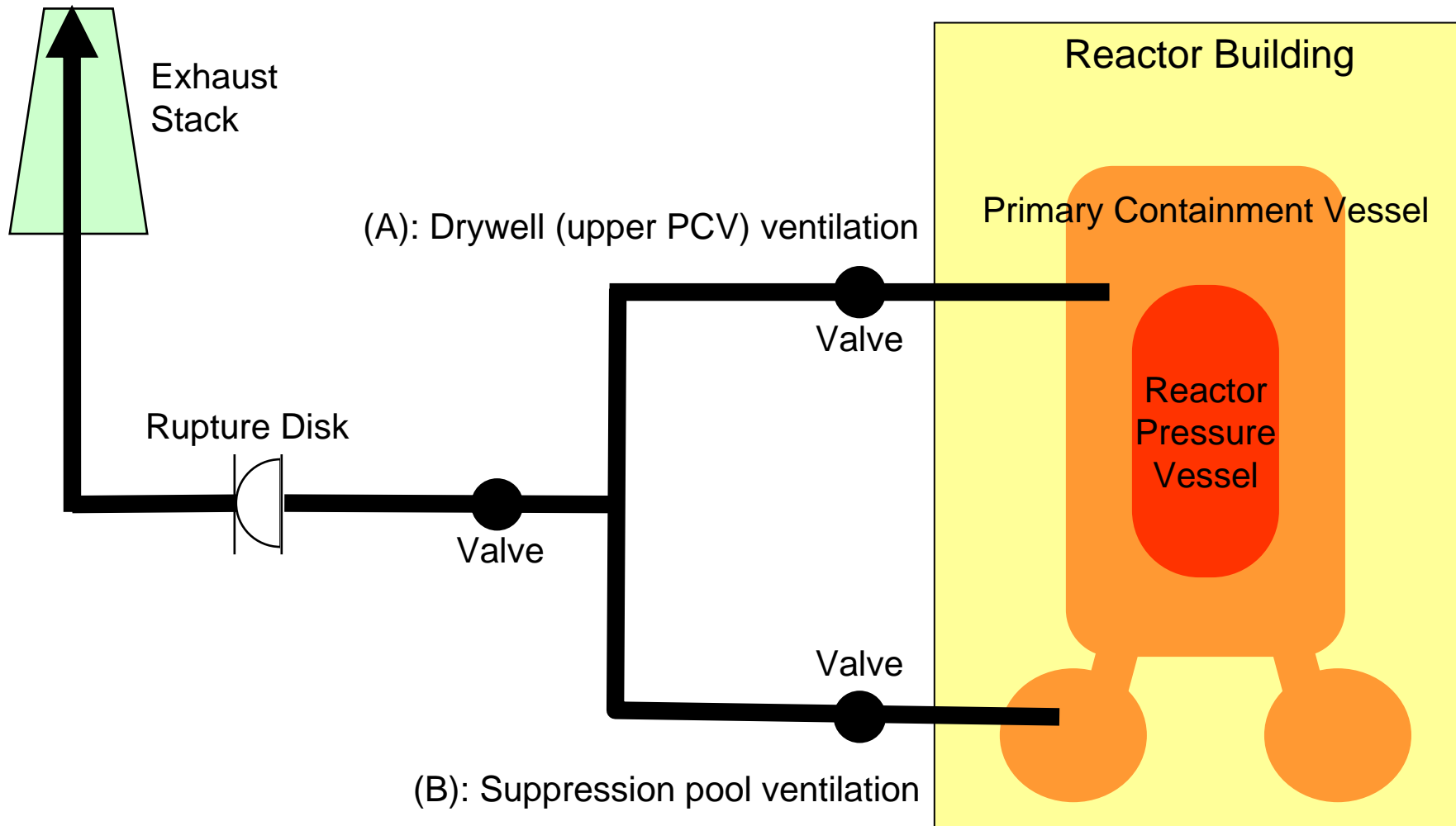
## [Reference] Water Spray into Spent Fuel Pool

- Injecting freshwater although injected seawater just after the earth quake.
- Monitoring continuously the status of spent fuel pools, and will spray/inject fresh water into the pools if it is necessary.



## [Reference] Measure to Decrease Pressure of PCV (Ventilation)

- Implemented ventilation to reduce the pressure of Primary Containment Vessel (PCV) in Units 1-3 to prevent PCV from getting over pressured.



# [Reference] Survey inside reactor buildings by robots

- Measured a dose of radiation, etc by remote control robots “inside the double doors” in reactor buildings of Units 1-3 where were inhibited to enter due to high radiation dose assumed.
- Examining how to utilized the robots for field survey such as measuring radiation dose indoors or not.







Opening a double door (April 18)

<measurement results>

	Unit 1	Unit 3
Measurement area	Reactor building 1 <sup>st</sup> floor From northern double doors to elevator	Reactor building 1 <sup>st</sup> floor Around southern double doors
Radiation dose	49mSv/h(Maximum) 10mSv/h(Minimum)	57mSv/h(Maximum) 28mSv/h(Minimum)
Temperature	About 28~29°C	About 19~22°C
Humidity	About 49~56%	About 32~35%
oxygen density	About 21%	About 21%

(provisional figure)

<The list of provided robots>

maker	Robots by iRobot		Robots by QinetiQ	
				
name	Packbot	Warrior	Talon	Dragon Runner
Monitoring function	image	Image only	image	Image only
	Radiation etc.	—	Radiation etc.	—
Arm keeping function	○	◎	○	○

## [Reference] Seismic Observed Data

➤ Will endeavor to keep collecting as much data as possible and analyze these in more detail

Comparison between Basic Earthquake Ground Motion and the record of intensity

Observation Point (The lowest basement of reactor buildings)		Observed data (*interim)			Maximum Response Acceleration against Basic Earthquake Ground Motion (Gal)		
		Maximum Response Acceleration (gal)					
		Horizontal (N-S)	Horizontal (E-W)	Vertical	Horizontal (N-S)	Horizontal (E-W)	Vertical
Fukushima Daiichi	Unit 1	460* <sup>2</sup>	447* <sup>2</sup>	258 <sup>2</sup>	487	489	412
	Unit 2	348* <sup>2</sup>	550* <sup>2</sup>	302* <sup>2</sup>	441	438	420
	Unit 3	322* <sup>2</sup>	507* <sup>2</sup>	231* <sup>2</sup>	449	441	429
	Unit 4	281* <sup>2</sup>	319* <sup>2</sup>	200* <sup>2</sup>	447	445	422
	Unit 5	311* <sup>2</sup>	548* <sup>2</sup>	256* <sup>2</sup>	452	452	427
	Unit 6	298* <sup>2</sup>	444* <sup>2</sup>	244	445	448	415
Fukushima Daini	Unit 1	254	230* <sup>2</sup>	305	434	434	512
	Unit 2	243	196* <sup>2</sup>	232* <sup>2</sup>	428	429	504
	Unit 3	277* <sup>2</sup>	216* <sup>2</sup>	208* <sup>2</sup>	428	430	504
	Unit 4	210* <sup>2</sup>	205* <sup>2</sup>	288* <sup>2</sup>	415	415	504

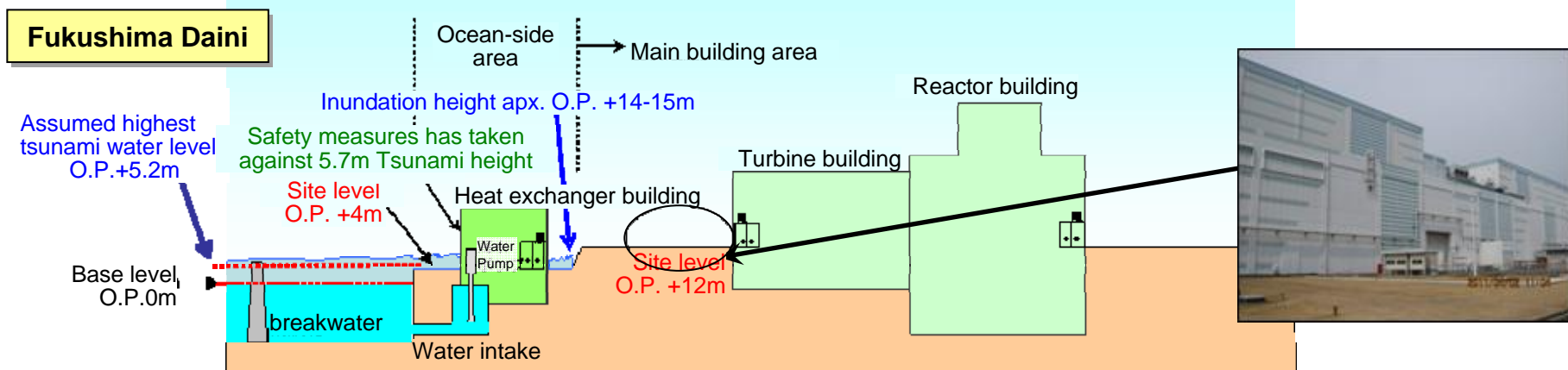
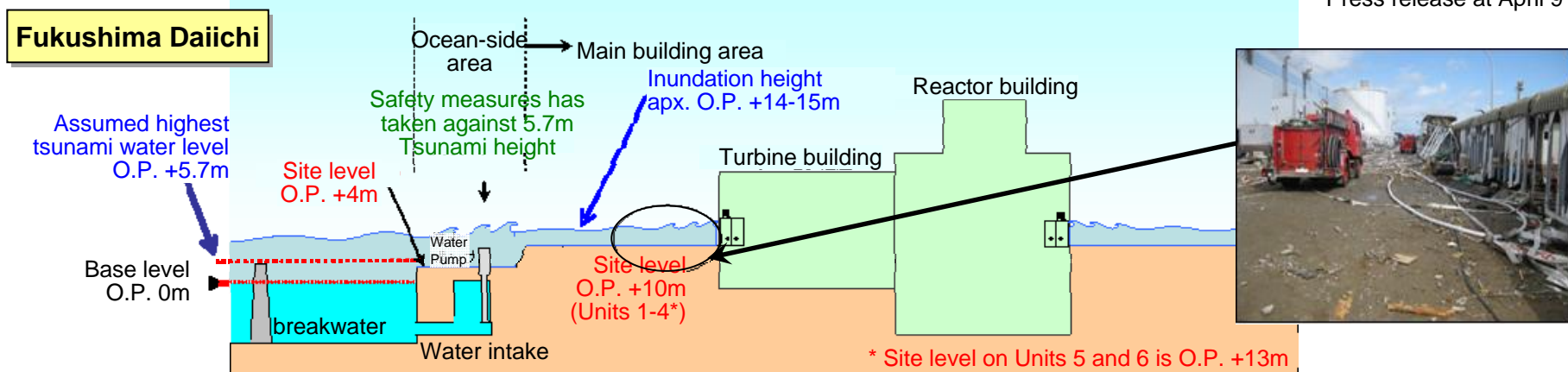
\*1: The data above is interim and is subject to change.

\*2: The recording time was about 130-150 seconds

# [Reference] Height of Tsunami

- Based on the evaluation method by the Japan Society Civil Engineers revised on 2002, we conducted an assessment regarding Tsunami of O.P. 5.1~5.7m, and based on this evaluation, we have taken safety measures.
- At Fukushima Daiichi Nuclear Power Station, inundation with inundation height of approximately O.P. + 14 to 15 meters and inundation depth approximately 4 to 5 meters occurred in most of the area.
- At Fukushima Daini Nuclear Power Station, inundation with inundation height of approximately O.P. + 6.5 to 7 meters occurred in the ocean-side areas, however, only surrounding areas of Unit 1 and 2 buildings and the south side of Unit 3 building was inundated within the main building area.
- **Accordingly, we have confirmed that the impact of tsunami was relatively larger in Fukushima Daiichi Nuclear Power Station than Fukushima Daini Nuclear Power Station.**

Press release at April 9



# [Reference] Inundated and Inflowed Area at Fukushima Daiichi and Daini Site

