

March 27, 2011

2300 EDT

## **Briefing Sheet Fukushima Daiichi**

### **Plant status updates:**

Freshwater injection to Units 1, 2, and 3—believed to be contributing to containment flooding.

Water in the Unit 1 turbine building lower level was pumped into a condenser bay. Significant contamination levels in lower levels of U2 and U3 turbine buildings (isotope analysis indicates communication with reactors).

One train of the Bechtel pumping system is being deployed to the site. One fresh water barge from USFJ was being moved to site. Plan is to dock, then resupply the barge from another that will be filled at a nearby port. The Japanese government has requested help with shielding, removal of spent fuel, and robotics. TEPCO has contracted with the Shaw Company for systems for decay heat removal and debris removal. (Source: Site Team).

The NRC Reactor Safety Team has provided a coordinated (GEH, EPRI, INPO, NR, DOE) set of recommendations pertaining to severe accident management strategies to the NRC team in Japan. In response to a request from the Ambassador, management from the contributing US Organizations has concurred on the strategies with industry providing further clarification.

Chuck Casto and John Monninger travelled to J-Village, and did not see the need for any NRC staff to relocate there. J-Village activities include Daiichi Reactor accident mitigation and Daiini site cleanup activities.

The White House has requested a white paper on the safety of US spent fuel storage, both wet and dry. Spent Fuel Storage safety paper has been transmitted to White House staff. Clarification provided (internally) regarding minimum time between spent fuel being removed from reactor and move to dry cask storage.

The Chairman has arrived in Japan and beginning a full day of meetings.

Japan has confirmed safety and location of 49 large sources and is working to locate 620 smaller sources.

March 27, 2011

0600 EDT

## Briefing Sheet Fukushima Daiichi

Plant status updates:

Freshwater injection to Units 1, 2, and 3—believed to be contributing to containment flooding

Water in the lower level of the turbine buildings of Units 2 and 3. Water in Unit 1 was pumped into a tank in the condenser bay of turbine building. Reviewing plans to dewater other units. Electrical power to all 6 units. Meggering and testing electrical components continues.

MITI issued a press release indicating that two of the workers who received beta burns while laying cables in the turbine building were estimated to receive extremity doses of 200-600 Rem.

One train of the spent fuel pool fill system is being deployed to the site. One fresh water barge arrived and one is on its way to the site. The Japanese government has requested help with shielding, removal of spent fuel, and robotics. TEPCO has contracted with the Shaw Company for systems for decay heat removal and debris removal. (Source: Site Team).

The NRC Reactor Safety Team has provided a coordinated (GEH, EPRI, INPO, NR, DOE) set of recommendations pertaining to severe accident management strategies to the NRC team in Japan.

Chuck Casto and John Monninger travelled to J-Village, productive, but did not lead to the need for any NRC staff to relocate there.

Chuck Casto said the top priorities are 1.) flooding Unit 1 containment, and 2) shielding (larger structures surrounding site structures to reduce dose rates at site boundary).

RST is developing a matrix with recommended accident strategies for site team to share with TEPCO in order to capture a list of actions and milestones that TEPCO is planning in each of the major areas.

The White House has requested a white paper on the safety of US spent fuel storage, both wet and dry. RST is finalizing and will have review by OGC and Chairman's Office. Due to White House by Sunday afternoon.

.PMT is preparing a response to a White House question on an apparent discrepancy in the source term used by NRC (will review how RASCAL models the event and if changes are needed to the model, and discuss with OSTP.)

The Chairman boarded a flight to Japan on Saturday evening.

DDJ/62



March 29, 2011

0600 EDT

## Briefing Sheet Fukushima Daiichi

NISA press conference 20:45hrs 28 March – TEPCO injecting fresh water into Units 1, 2 and 3; transitioning to temporary electric pumps for injection (all three units); Actions underway to pump water from flooded turbine building basements into condensers/other tanks. NRC Site team advises that turbine bldg water levels are not increasing.

The RST has developed a draft discussion paper on the Potential Leakage Paths to the Turbine Building. This paper was vetted internally and discussed with others (GEH, INPO, NR); comments will be incorporated prior to dispatch to site team.

Highly radioactive water (approx 100 R/hr) found in a "trench" (pipe and cable chase) outside Unit 2; source of water unclear. TEPCO stated that this water is not flowing into the ocean, though the water will overflow this trench if it rises about 1 meter (trench is 4 meters deep). There is water in the trenches outside of Units 1 and 3 as well. Actions have been taken, or are in progress, to preclude contaminated water in trenches from reaching the ocean (e.g., sandbags, etc.).

TEPCO is planning to install equipment to inert Unit 1 by 31 March.

One train of the Bechtel pumping system is being deployed to the site. Both barges are staged 40 miles from site conducting pump testing. Resupply barge from ship anchored at sea. The GOJ has requested help with shielding, removal of spent fuel, and robotics. The NRC Site Team indicates that TEPCO has contracted with the Shaw Company for decay heat removal systems and debris removal.

NEI is serving as a focal point for collecting U.S. nuclear plant monitoring data in environmental samples, and is developing an online database with data from US plants. NEI has committed to providing NRC data until the protected web site is online and functioning (anticipated on 29 March). NRC is sharing data with EPA and DOE in the interim. Press release from PA Governor regarding I-131 found in rainwater may result in public interest, PMT working a dose assessment to provide perspective (sharing with EPA for review).

The RST has provided a coordinated (GEH, EPRI, INPO, NR, DOE) set of recommendations pertaining to severe accident management strategies to the NRC team in Japan. Revisions to the severe accident management strategies are being considered in light of Unit 2 and Unit 3 containment conditions, and environmental release concerns. Any revision will be fully vetted with all parties.

The EPA commented on NRC recommendations for temporary re-entry into evacuated areas. The comments were incorporated into the original paper, and the paper was re-sent to NSS (WH). PMT participated in NSS-sponsored call with Federal partners and no significant issues were raised. LT is awaiting reply from NSS regarding how the paper will be provided to DOS.

The PMT evaluated information from TEPCO and NISA regarding levels of plutonium sampled on site. The levels ( $5.4 \times 10^{-1}$  Bq/kg) are very low, and below background levels applicable to the eastern range of the Rocky Mountains (in the US).

ET director will provide PACOM the NRC's assessment of conditions at the Fukushima Dai-ichi plants during a 15:00hrs 29 March IPC call, and whether conditions are getting worse. Vince Holahan has arrived in Hawaii, and plans to meet with PACOM at 12:15hrs 29 March EST.

The NRC/Consortium call is being re-established at 10:00hrs 29 March.

The Chairman is returning to U.S. at 11:05hrs 29 March.

DDO/63



March 30, 2011

0600 EDT

## Briefing Sheet Fukushima Daiichi

TEPCO injecting fresh water into Units 1, 2 and 3; and is using temporary electric pumps for injection (all three units). Actions are underway to pump water from flooded turbine building basements into condensers/other tanks. TEPCO plans to inject water into U-1 SFP from Cement Pumper truck on 30 March. Lighting returned to U-4 control room, however dose rates are preventing access. TEPCO is considering spraying Zeolite on the outside and interior of the Rx Bldgs in an effort to minimize re-suspension of fission products in the air but having difficulty planning application due to high dose rates.

Highly radioactive water (approx 100 R/hr) found in a "trench" (pipe and cable chase) outside Unit 2; source of water unclear. TEPCO stated that this water is not flowing into the ocean, though the water will overflow this trench if it rises about 1 meter (trench is 4 meters deep). There is water in the trenches outside of Units 1 and 3 as well. Actions have been taken, or are in progress, to preclude contaminated water in trenches from reaching the ocean (e.g., sandbags, etc.).

TEPCO is planning to install equipment to inert Unit 1 by 31 March.

One train of the Bechtel pumping system is being deployed to the site. Both barges are being moved to the site (10 hr cruise), intending to arrive 30 March (some reports indicate that barges have arrived). Resupply water ship anchored at sea. The GOJ has requested help with shielding, removal of spent fuel, and robotics. The NRC Site Team indicates that TEPCO has contracted with the Shaw Company for decay heat removal systems and debris removal.

NEI is collecting U.S. nuclear plant environmental monitoring sample data and has made an online database available for viewing by NRC and other agencies.

The RST has provided coordinated (GEH, EPRI, INPO, NR, DOE) recommendations pertaining to severe accident management strategies to the NRC team in Japan. Revisions are being considered in light of suspected Unit 2 and Unit 3 core and containment conditions, and environmental release concerns. NRC continues to recommend inerting containment and controlled flooding of containment. On 30 March the RST plans to assemble experts to assess what possible means for an energetic release of fission products might remain, given the extent of damage suspected to have already occurred.

The PMT evaluated information from TEPCO and NISA regarding levels of plutonium sampled on site. The levels ( $5.4 \times 10^{-1}$  Bq/kg) are very low, and below background levels applicable to the eastern range of the Rocky Mountains (in the US) and also falls within a range of known plutonium background levels in Japan.

Next Deputies Committee meeting at 08:00hrs 30 March EST, NRC Chairman's attendance is requested and Deputies have expressed interest in NRC's assessment of conditions at the Fukushima Daiichi plants.

Vince Holahan arrived in Hawaii to support PACOM, working out of a SCIF. Routine call-in time to NRC HQ is being established since Vince can't have his BlackBerry in the SCIF.

The NRC/Consortium call has been re-established. The request has been made that the NRC Site Team act as a clearinghouse reviewer for consistency of requests to avoid duplication. The list will be shared with the stakeholders. The daily calls will be at 20:00hrs EDT to support having a Site Team member participate. Still working to get another entity to lead this effort (i.e., vice NRC).

IAEA Director General is convening a meeting of the member states regarding the events at Fukushima. Seeking additional insight regarding the date, purpose and expected outcomes from Mark Schaeffer.

Chuck Casto is attempting to sort out some roles & responsibilities issues with other agency representatives that have recently arrived in Japan (e.g., DOE/Sandia NL, Naval Reactors).

DDP/64



**From:** [David Kenagy](#)  
**To:** [Rodriguez, Veronica](#); [HOO Hoc](#); [HOO2 Hoc](#); [Huffman, William](#); [doehqec@oem.doe.gov](mailto:doehqec@oem.doe.gov); [HOO Hoc](#); [Smith, Brooke](#); [zubarevie@state.gov](mailto:zubarevie@state.gov)  
**Subject:** RE: IAEA distributed documents  
**Date:** Monday, March 21, 2011 8:41:52 AM  
**Attachments:** [MEXT Environmental Radiation Measurement Data 2011-03-20-19-00\[1\].pdf](#)  
[NISA METI Press Release 38 attachment2.pdf](#)  
[NISA METI Press Release 38\(Japanese\).pdf](#)  
[Monitoring data on 20 March at the site \[2\].pdf](#)  
[MHLW Press Release 17 March 2011.pdf](#)

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DDP/65

# ENVIROMENTAL RADIATION MEASUREMENT RESULT (19:00, March 20, 2011)

19:00, March 20, 2011

( $\mu\text{Gy/h}$  (microgray per hour))

Prefecture (city)		19-Mar								20-Mar																RECORDED NORMA, LEVEL	
		17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17		
1	Hokkaido(Sapporo)	0.028	0.029	0.029	0.029	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.029	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.02~0.305	
2	Aomori(Aomori)	0.02	0.02	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021~0.032	
3	Iwate(Morioka)	0.027	0.027	0.027	0.026	0.026	0.027	0.027	0.026	0.027	0.027	0.026	0.027	0.027	0.027	0.027	0.027	0.027	0.026	0.026	0.026	0.026	0.026	0.025	0.026	0.024~0.084	
4	Miyagi(Sendai)																									0.0178~0.0513	
5	Akita(Akita)	0.034	0.034	0.034	0.034	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.034	0.034	0.034	0.034	0.034	0.034	0.034	0.022~0.086	
6	Yamagata(Yamagata)	0.041	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.041	0.041	0.041	0.041	0.04	0.041	0.041	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.025~0.082	
7	Fukushima(Futaba-gun)																									0.037~0.071	
8	Ibaraki(Mito)	0.109	0.108	0.107	0.107	0.107	0.108	0.106	0.106	0.105	0.104	0.104	0.104	0.103	0.103	0.102	0.101	0.101	0.101	0.101	0.101	0.101	0.101	0.101	0.101	0.036~0.056	
9	Tochigi(Utsunomiya)	0.148	0.148	0.147	0.147	0.146	0.146	0.145	0.145	0.145	0.145	0.144	0.144	0.143	0.142	0.142	0.141	0.139	0.138	0.137	0.136	0.14	0.144	0.153	0.153	0.030~0.087	
10	Gumma(Maebashi)	0.076	0.076	0.075	0.075	0.075	0.075	0.074	0.074	0.074	0.074	0.074	0.074	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.017~0.045	
11	Saitama(Saitama)	0.053	0.055	0.055	0.055	0.055	0.055	0.054	0.055	0.055	0.055	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.053	0.053	0.053	0.053	0.053	0.052	0.052	0.031~0.068	
12	Chiba(Chiba)	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.093	0.092	0.092	0.022~0.044	
13	Tokyo(Shinjuku)	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.028~0.079	
14	Kanagawa(Chigasaki)	0.046	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.035~0.069	
15	Nagata(Nagata)	0.047	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.031~0.153	
16	Toyama(Mizu)	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.051	0.054	0.029~0.147	
17	Ishikawa(Kanazawa)	0.046	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.048	0.048	0.048	0.048	0.047	0.047	0.048	0.048	0.048	0.052	0.052	0.0291~0.1275	
18	Fuku(Fuku)	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.047	0.047	0.032~0.087	
19	Yamanashi(Kofu)	0.043	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.040~0.084	
20	Nagano(Nagano)	0.065	0.066	0.066	0.067	0.067	0.068	0.067	0.067	0.067	0.067	0.067	0.066	0.066	0.067	0.067	0.066	0.066	0.064	0.064	0.064	0.063	0.063	0.063	0.063	0.0299~0.0824	
21	Gifu(Komatsu)	0.06	0.06	0.06	0.06	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.057~0.110	
22	Shizuoka(Shizuoka)	0.097	0.097	0.097	0.097	0.097	0.097	0.097	0.098	0.098	0.097	0.098	0.097	0.097	0.097	0.097	0.096	0.097	0.098	0.098	0.098	0.098	0.097	0.096	0.096	0.0281~0.0765	
23	Aichi(Nagoya)	0.039	0.039	0.039	0.039	0.039	0.04	0.04	0.04	0.041	0.041	0.041	0.041	0.042	0.042	0.042	0.042	0.042	0.042	0.041	0.04	0.04	0.04	0.039	0.04	0.035~0.074	
24	Mie(Tokushima)	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.047	0.046	0.047	0.047	0.046	0.047	0.046	0.046	0.046	0.046	0.0418~0.0789	



25	Siga(Sigma)	0.033	0.033	0.033	0.033	0.033	0.034	0.035	0.035	0.036	0.036	0.036	0.037	0.037	0.038	0.038	0.035	0.034	0.034	0.034	0.034	0.034	0.034	0.036	0.037	0.031~0.061	
26	Kyoto(Kyoto)	0.038	0.038	0.038	0.038	0.038	0.039	0.039	0.036	0.036	0.039	0.039	0.039	0.04	0.04	0.04	0.04	0.039	0.039	0.039	0.039	0.039	0.039	0.043	0.045	0.033~0.087	
27	Osaka(Osaka)	0.042	0.042	0.042	0.042	0.042	0.042	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.044	0.046	0.042~0.063		
28	Hyogo(Hyogo)	0.036	0.036	0.037	0.037	0.036	0.037	0.037	0.038	0.038	0.038	0.038	0.039	0.039	0.039	0.038	0.037	0.037	0.037	0.037	0.037	0.037	0.038	0.037	0.035~0.076		
29	Nara(Nara)	0.047	0.047	0.047	0.047	0.047	0.048	0.048	0.048	0.048	0.049	0.049	0.049	0.049	0.049	0.049	0.048	0.049	0.049	0.049	0.048	0.048	0.048	0.051	0.053	0.046~0.058	
30	Wakayama(Wakayama)	0.031	0.031	0.031	0.031	0.032	0.032	0.032	0.032	0.032	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.032	0.032	0.031	0.031	0.031	0.031	0.031~0.056		
31	Tottori(Tottori)	0.062	0.062	0.062	0.063	0.063	0.063	0.063	0.063	0.064	0.064	0.064	0.064	0.064	0.063	0.064	0.064	0.064	0.063	0.063	0.063	0.063	0.063	0.064	0.064	0.058~0.11	
32	Shimane(Shimane)	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.038	0.038	0.038	0.038	0.039	0.039	0.038	0.038	0.041	0.039	0.039	0.04	0.039	0.033~0.079	
33	Okayama(Okayama)	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.043~0.104	
34	Kioto(Kioto)	0.046	0.046	0.046	0.047	0.047	0.047	0.046	0.049	0.05	0.05	0.05	0.05	0.05	0.05	0.051	0.051	0.05	0.05	0.05	0.05	0.05	0.051	0.053	0.053	0.035~0.068	
35	Yamaguchi(Yamaguchi)	0.092	0.092	0.092	0.092	0.093	0.094	0.094	0.095	0.096	0.095	0.096	0.096	0.096	0.096	0.097	0.099	0.098	0.096	0.096	0.095	0.095	0.097	0.097	0.096	0.084~0.128	
36	Tokushima(Tokushima)	0.038	0.038	0.037	0.038	0.038	0.038	0.039	0.038	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.038	0.038	0.037	0.037	0.037	0.037	0.037	0.037~0.067	
37	Kagawa(Kagawa)	0.052	0.052	0.052	0.052	0.052	0.053	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.051~0.077	
38	Ehime(Ehime)	0.047	0.047	0.047	0.048	0.048	0.048	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.045~0.074	
39	Fukuoka(Fukuoka)	0.024	0.025	0.025	0.025	0.025	0.026	0.026	0.026	0.026	0.027	0.026	0.027	0.027	0.027	0.026	0.027	0.026	0.026	0.026	0.026	0.026	0.027	0.027	0.027	0.023~0.076	
40	Fukuoka(Fukuoka)	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.038	0.039	0.038	0.038	0.038	0.039	0.04	0.039	0.037	0.034~0.079
41	Saga(Saga)	0.039	0.039	0.039	0.039	0.04	0.04	0.04	0.04	0.04	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.037~0.086	
42	Nagasaki(Nagasaki)	0.028	0.028	0.029	0.029	0.029	0.029	0.028	0.029	0.028	0.028	0.029	0.028	0.029	0.029	0.029	0.03	0.03	0.03	0.032	0.031	0.033	0.033	0.033	0.032	0.027~0.069	
43	Kumamoto(Kumamoto)	0.026	0.026	0.027	0.027	0.027	0.027	0.027	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.029	0.031	0.03	0.028	0.027	0.028	0.028	0.03	0.032	0.031	0.021~0.067	
44	DoHa(Doha)	0.05	0.049	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.051	0.05	0.051	0.051	0.051	0.05	0.05	0.05	0.051	0.05	0.05	0.05	0.05	0.051	0.052	0.048~0.085	
45	Myosaki(Myosaki)	0.026	0.026	0.026	0.026	0.026	0.027	0.027	0.027	0.026	0.026	0.027	0.027	0.026	0.026	0.027	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.027	0.0243~0.0664	
46	Kagoshima(Kagoshima)	0.034	0.034	0.034	0.034	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.036	0.036	0.036	0.037	0.035	0.034	0.035	0.037	0.0306~0.0943	
47	Dokuwa(Dokuwa)	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.0133~0.0575	



# ENVIROMENTAL RADIATION MEASUREMENT RESULT (13:00, March 20, 2011)

13:00, March 20, 2011

( $\mu$  Gy / h (microgray per hour))

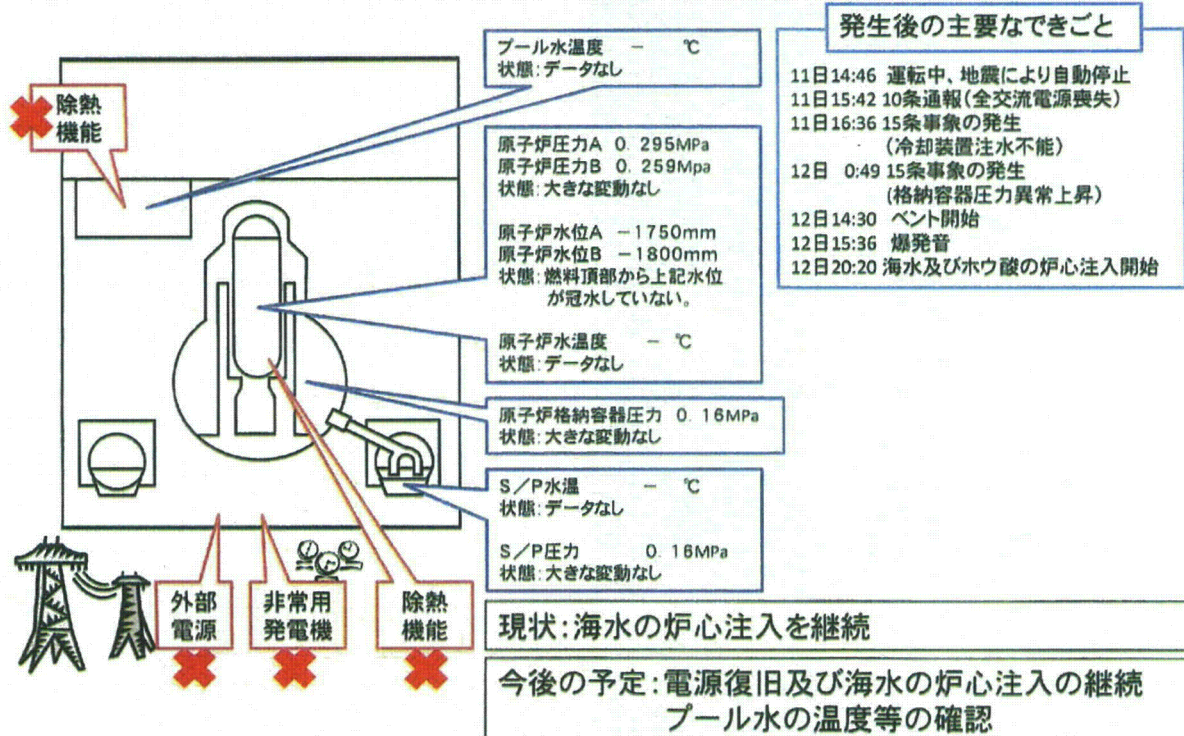
Prefecture (city)		19-Mar														20-Mar										RECORDED NORMAL LEVEL
		9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	
1	Hokkaido(Sapporo)	0.028	0.029	0.029	0.029	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.02~0.105
2	Aomori(Aomori)	0.02	0.02	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.019	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.017~0.102
3	Iwate(Morioka)	0.027	0.027	0.027	0.026	0.026	0.027	0.027	0.026	0.027	0.027	0.026	0.027	0.027	0.027	0.03	0.026	0.027	0.027	0.026	0.027	0.027	0.027	0.027	0.027	0.014~0.084
4	Miyagi(Sendai)																									0.0176~0.0513
5	Akita(Akita)	0.034	0.034	0.034	0.034	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.034	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.022~0.086
6	Yamagata(Yamagata)	0.041	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.041	0.041	0.041	0.041	0.043	0.04	0.04	0.04	0.041	0.041	0.041	0.041	0.04	0.041	0.025~0.082
7	Fukushima(Mutaba-gu)																									0.037~0.071
8	Ibaraki(Mito)	0.169	0.168	0.167	0.167	0.167	0.166	0.166	0.166	0.165	0.164	0.164	0.164	0.163	0.163	0.204	0.166	0.165	0.164	0.164	0.164	0.163	0.163	0.162	0.161	0.036~0.056
9	Tochigi(Utsunomiya)	0.148	0.148	0.147	0.147	0.146	0.146	0.146	0.145	0.145	0.145	0.144	0.144	0.143	0.142	0.182	0.145	0.145	0.145	0.144	0.144	0.143	0.142	0.142	0.141	0.030~0.067
10	Gumma(Maebashi)	0.076	0.076	0.075	0.075	0.075	0.075	0.075	0.074	0.074	0.074	0.074	0.074	0.073	0.073	0.093	0.074	0.074	0.074	0.074	0.074	0.073	0.073	0.073	0.073	0.017~0.045
11	Saitama(Saitama)	0.055	0.055	0.055	0.055	0.055	0.055	0.054	0.055	0.055	0.055	0.054	0.054	0.054	0.054	0.062	0.055	0.055	0.055	0.054	0.054	0.054	0.054	0.054	0.054	0.021~0.060
12	Chiba(Chiba)	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.034	0.034	0.034	0.036	0.033	0.033	0.033	0.033	0.034	0.034	0.034	0.034	0.033	0.022~0.044
13	Tokyo(Shinjuku)	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.05	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.045~0.079
14	Kanagawa(Chigasaki)	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.052	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048~0.069
15	Niigata(Niigata)	0.047	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.047	0.047	0.047	0.047	0.047	0.047	0.046	0.046	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.031~0.153
16	Tochigi(Mito)	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.048	0.048	0.048	0.048	0.049	0.048	0.049	0.049	0.048	0.048	0.048	0.048	0.049	0.049	0.049	0.049	0.049	0.049~0.147
17	Ishikawa(Kanazawa)	0.046	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.048	0.047	0.047	0.047	0.047	0.047	0.048	0.048	0.048	0.048	0.048~0.0791~0.1275
18	Fuku(Fuku)	0.045	0.045	0.045	0.045	0.045	0.046	0.045	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.044	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046~0.097
19	Yamanashi(Kofu)	0.043	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.045	0.044	0.045	0.045	0.045	0.045	0.044	0.044	0.044	0.044	0.045	0.045	0.045	0.045	0.045	0.045	0.045~0.064
20	Nagano(Nagano)	0.066	0.066	0.066	0.067	0.067	0.066	0.067	0.067	0.067	0.067	0.067	0.066	0.066	0.067	0.079	0.067	0.067	0.067	0.067	0.066	0.066	0.067	0.067	0.066	0.066~0.0974
21	Gifu(Komatsu)	0.06	0.06	0.06	0.06	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.062	0.062	0.062	0.06	0.061	0.061	0.061	0.061	0.062	0.062	0.062	0.063	0.063	0.057~0.110
22	Shizuoka(Shizuoka)	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.036	0.036	0.037	0.036	0.037	0.037	0.037	0.038	0.036	0.036	0.037	0.036	0.037	0.037	0.037	0.037	0.037	0.036~0.0765
23	Aichi(Nagoya)	0.039	0.039	0.039	0.039	0.039	0.04	0.04	0.04	0.041	0.041	0.041	0.041	0.042	0.042	0.042	0.039	0.04	0.041	0.041	0.041	0.042	0.042	0.042	0.042	0.042~0.074



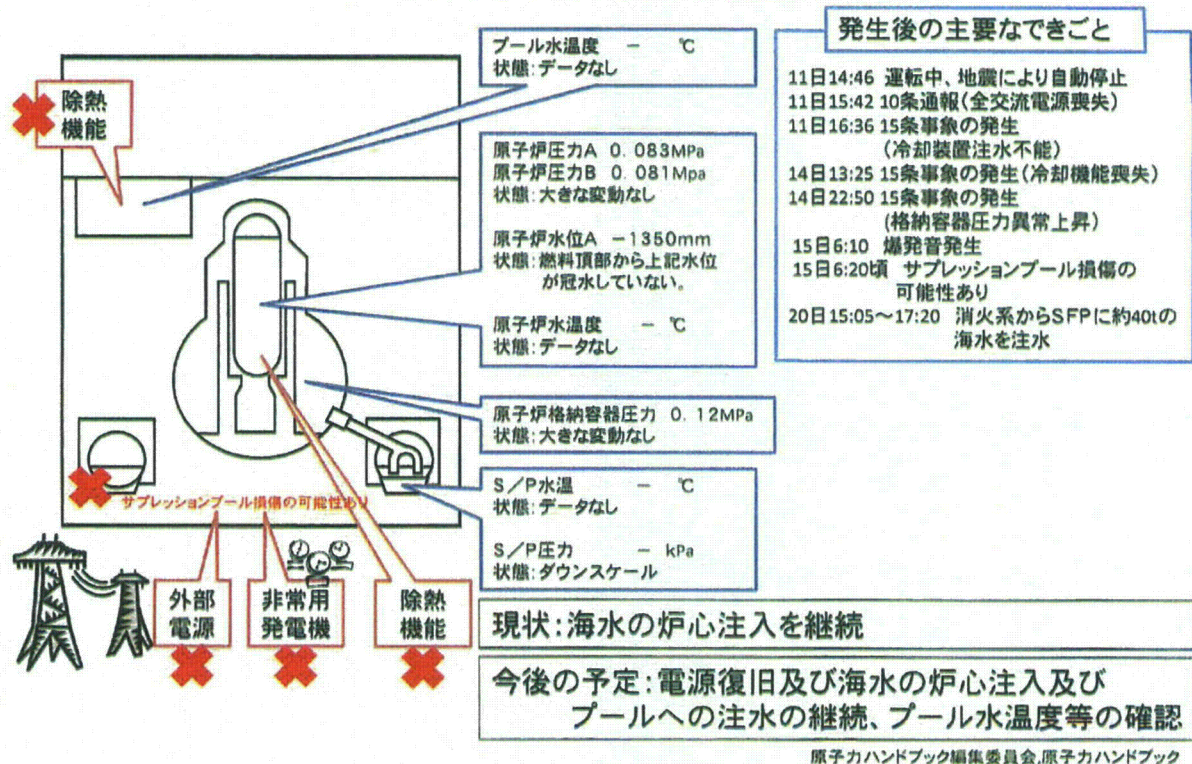




## 福島第一原子力発電所1号機の状況 (3月21日 05:00現在)

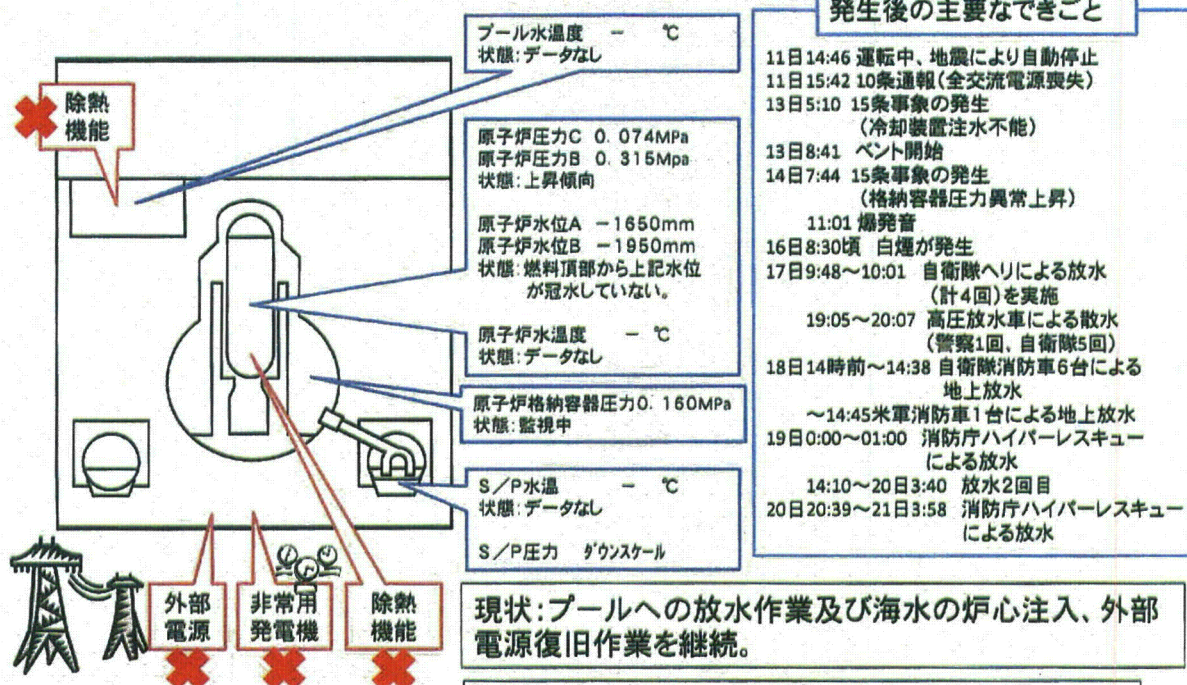


## 福島第一原子力発電所2号機の状況 (3月21日05:00現在)



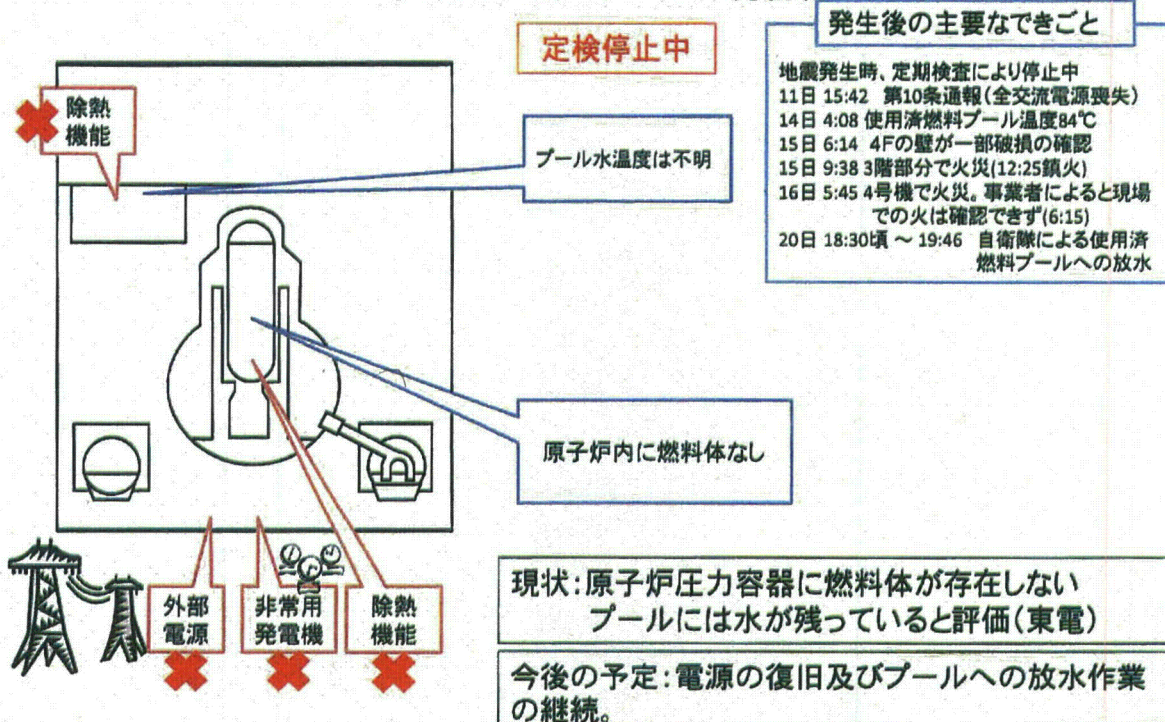


## 福島第一原子力発電所3号機の状況 (3月21日 05:00現在)



原子力ハンドブック編集委員会、原子力ハンドブック

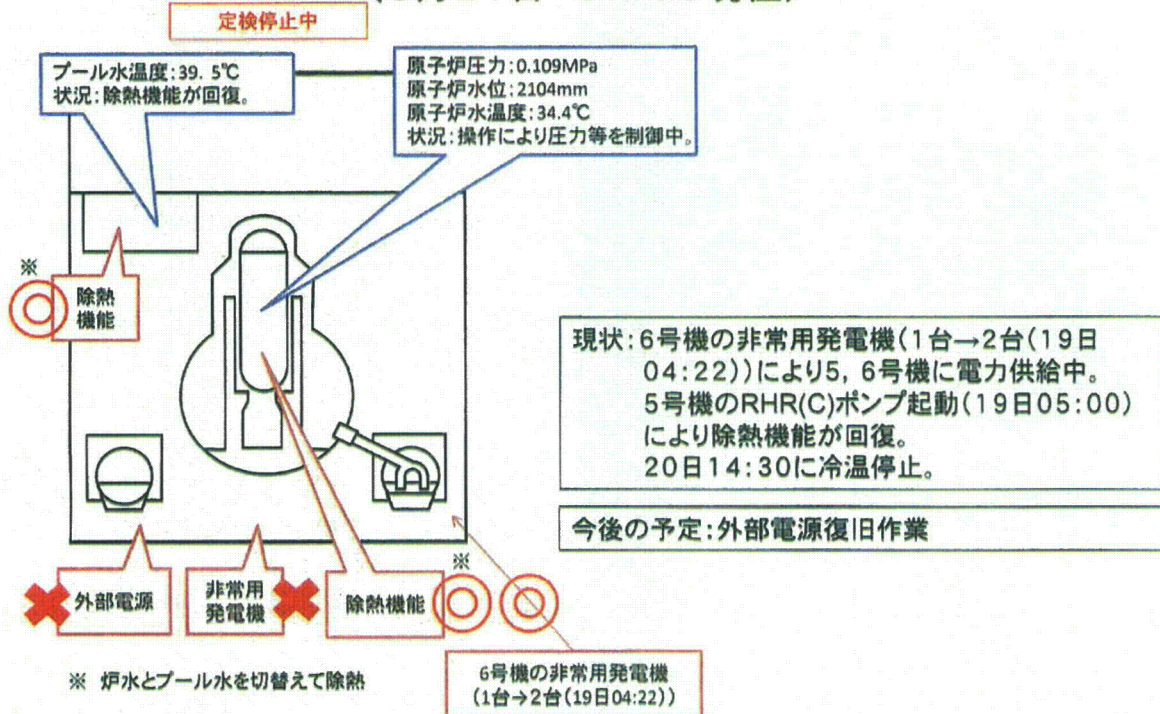
## 福島第一原子力発電所4号機の状況 (3月21日 05:00現在)



原子力ハンドブック編集委員会、原子力ハンドブック

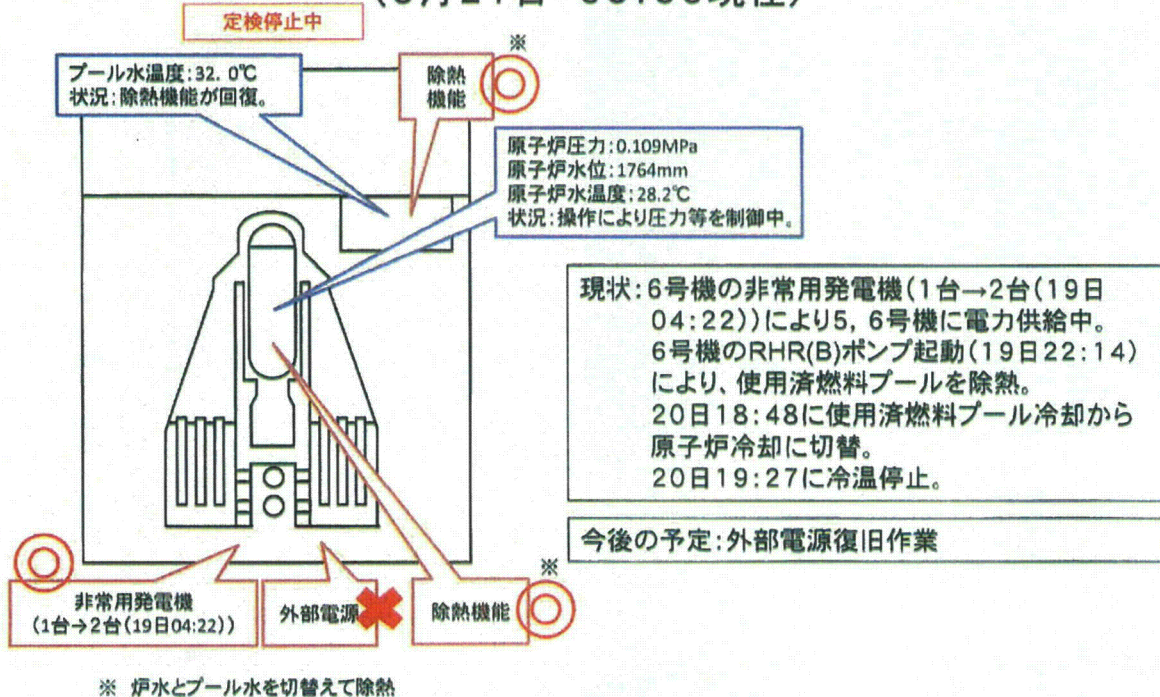


## 福島第一原子力発電所5号機の状況 (3月21日 05:00現在)



原子力ハンドブック編集委員会, 原子力ハンドブック

## 福島第一原子力発電所6号機の状況 (3月21日 05:00現在)



原子力ハンドブック編集委員会, 原子力ハンドブック



## 地震被害情報（第38報） （3月21日10時30分現在）

原子力安全・保安院が現時点で把握している東京電力(株)福島第一原子力発電所、福島第二原子力発電所、東北電力(株)女川原子力発電所、日本原子力発電(株)東海第二、電気、ガス、熱供給、コンビナート被害の状況は、以下のとおりです。

前回からの変更点は以下のとおり。

### 1. 原子力発電所関係

#### ○福島第一原子力発電所

- ・3号機の格納容器内圧力が上昇（20日11:00現在320kPa）。圧力下げするための準備を進めていたが、直ちに放出を必要とする状況ではないと判断し、圧力監視を継続（21日04:00 160 kPa）。

#### 【放水関係】

##### （3号関係）

- ・東京消防庁ハイパーレスキュー隊が、使用済燃料プールに向け20日21:39に放水を開始し、21日03:58終了。

##### （4号関係）

- ・自衛隊（13台）が、使用済燃料プールに向け21日06:37頃に放水を開始し、08:41に終了。

#### 【電源復旧関係】

- ・2号機のパワーセンターに受電（20日15:46）し、各負荷健全性確認中。
- ・4号機のパワーセンターまでのケーブル敷設工事中（21日完了予定）。

### 2. 産業保安関係

別紙参照



(別紙)

1 発電所の運転状況【自動停止号機数：10基】

○東京電力(株)福島第一原子力発電所（福島県双葉郡大熊町及び双葉町）

(1) 運転状況

1号機（46万kW）（自動停止）

2号機（78万4千kW）（自動停止）

3号機（78万4千kW）（自動停止）

4号機（78万4千kW）（定検により停止中）

5号機（78万4千kW）（定検により停止中、20日14:30冷温停止）

6号機（110万kW）（定検により停止中、20日19:27冷温停止）

(2) モニタリングの状況

別添参照

(3) 主なプラントパラメーター（21日10:30現在）

	1号機	2号機	3号機	4号機	5号機	6号機
原子炉圧力* <sup>1</sup> [MPa]	0.295(A) 0.259(B)	0.083(A) 0.081(B)	0.074(C) 0.315(B)	—	0.109	0.109
原子炉格納容器圧力 (D/W) [kPa]	160	120	160	—	—	—
原子炉水位* <sup>2</sup> [mm]	-1750(A) -1800(B)	-1350(A) 不明(B)	-1650(A) -1950(B)	—	2104	1764
原子炉格納容器内 S/C 水温 [°C]	—	—	—	—	—	—
原子炉格納容器内 S/C 圧力 [kPa]	160	D/S	D/S	—	—	—
使用済燃料プール 水温度 [°C]	—	—	—	不明* <sup>3</sup>	39.5	32.0
備 考	3/21 05:00 現在の値	3/21 03:00 現在の値	3/21 04:00 現在の値		3/21 05:00 現在の値	3/21 05:00 現在の値

\* 1 : 絶対圧に換算

\* 2 : 燃料頂部からの数値

\* 3 : 3月14日4:08現在、84°C



(4) その他対応状況等に関する報告

- ・ 原子力災害対策特別措置法第10条通報 (11日 15:42)
- ・ 同第15条 (非常用炉心冷却装置注水不能) 通報 (1、2号機) (11日 16:36)
- ・ 東北電力の送電線から受電するケーブルを敷設。放水作業後に2号機へ接続予定 (17日 17:30)。1～4号外部電源の復旧等に係る作業内容 (東北電力(株)送電系統からの受電、自社変電所よりルート変更を介しての受電)を確認中 (18日 06:30 現在)

< 1号機関係 >

- ・ 1号機の原子炉圧力容器内に消火系ラインを用いて海水注入開始(12日 20:20)→14日 01:10 一時中断
- ・ 1号機で爆発音。(12日 15:36)
- ・ 原子炉圧力容器へ海水注入中。(19日 12:00 現在)

< 2号機関係 >

- ・ 2号機は注水機能を維持 (13日 14:00)
- ・ 3号機の建屋の爆発に伴い、原子炉建屋ブローアウトパネル開放 (14日 11時過ぎ)
- ・ 2号機の原子炉圧力容器の水位が低下傾向 (14日 13:18)。原子力災害対策特別措置法第15条事象 (原子炉冷却機能喪失) である旨、受信 (14日 13:49)
- ・ 2号機の原子炉圧力容器内に消火系ラインを用いて海水注入準備(14日 19:20)
- ・ 2号機の原子炉圧力容器の水位が低下傾向 (14日 22:50)
- ・ 2号機で爆発音するとともに、サプレッションプール (圧力抑制室) の圧力低下 (15日 6:10)。同室に異常が発生したおそれ。(15日 6:20 頃)
- ・ 原子炉圧力容器へ海水注入中。(19日 12:00 現在)
- ・ 外部送電線から予備電源変電設備までの受電を完了し、そこから負荷側へのケーブル敷設を実施 (19日 13:30 現在)
- ・ 使用済燃料プールに海水を40t 注入開始 (20日 15:00～17:20)
- ・ 2号機のパワーセンター受電 (20日 15:46)

< 3号機関係 >

- ・ 3号機の原子炉圧力容器内に消火系ラインにて真水注入開始(13日 11:55)
- ・ 3号機の原子炉圧力容器内に消火系ラインを用いて海水注入開始(13日 13:12)
- ・ 3号機及び1号機の注入をくみ上げ箇所の海水が少なくなったため停止。



(14日 1:10)

- ・ 3号機の海水注入を再開(14日 3:20)
- ・ 3号機の格納容器圧力が異常上昇(14日 7:44)。原子力災害対策特別措置法第15条事象である旨、受信(14日 7:52)。
- ・ 3号機で1号機と同様に原子炉建屋付近で爆発(14日 11:01)
- ・ 3号機から白い湯気のような煙が発生(16日 8:30頃)
- ・ 3号機の格納容器が破損しているおそれがあるため、中央制御室(共用)から作業員退避(16日 10:45)。その後、作業員は中央制御室に復帰し、注水作業再開(16日 11:30)
- ・ 自衛隊のヘリにより3号機への海水の投下を4回実施(17日 9:48、9:52、9:58、10:01)
- ・ 機動隊が地上放水のため現場到着(17日 16:10)
- ・ 17日 19:35から、自衛隊により放水。
- ・ 警察庁機動隊による地上放水(17日 19:05～19:13)
- ・ 自衛隊消防車5台が地上放水を実施(17日)  
(各台放水開始時刻:17日 19:35、19:45、19:53、20:00、20:07)
- ・ 自衛隊消防車6台(6t放水/台)が地上放水を実施(18日 14時前～14:38)
- ・ 米軍消防車1台が地上放水を実施(18日 14:45終了)。
- ・ 原子炉圧力容器へ海水注入中(19日 10:00現在)。
- ・ ハイパーレスキュー(14台)が正門前に到着し(18日 23:10)、うち、6台が地上放水のため発電所に入構(18日 23:30)。
- ・ 東京消防庁ハイパーレスキュー隊が放水作業を実施し、完了(20日 3:40終了)。
- ・ 3号機の格納容器内圧力が上昇(20日 11:00現在 320kPa)。圧力下げるための準備を進めていたが、直ちに放出を必要とする状況ではないと判断し、圧力監視を継続(21日 4:00 160 kPa)。
- ・ ケーブル引き込みの現地調査(20日 11:00～16:00)
- ・ 東京消防庁ハイパーレスキュー隊が3号機の使用済燃料プールに向け20日 21:39放水開始し、21日 03:58まで実施。
- ・ 外部電源復旧工事中。

#### <4号機関係>

- ・ 4号機のオペレーションエリアの壁が一部破損していることを確認(15日 6:14)。
- ・ 4号機で火災発生。(15日 9:38)事業者によると、自然に火が消えていることを確認(15日 11:00頃)



- ・ 4号機の使用済燃料貯蔵プール水温度が上昇(3月14日4:08時点で84℃)
- ・ 4号機で火災が発生(16日5:45頃)。事業者によると、現場での火は確認できず(16日6:15頃)。
- ・ 原子炉圧力容器のシュラウド工事中のため、原子炉圧力容器内に燃料はなし。
- ・ 自衛隊が4号機の使用済燃料プールに向け放水作業を実施。(20日9:43)
- ・ ケーブル引き込みの現地調査(20日11:00～16:00)
- ・ 自衛隊による4号機の使用済燃料プールへの放水が20日18:30頃に開始され、20日19:46に終了。
- ・ 自衛隊(消防車13台)が使用済燃料プールに向け21日06:37に放水を開始し、08:41に終了。
- ・ パワーセンターまでのケーブル敷設工事中(21日完了予定)

#### <5号機、6号機関係>

- ・ 6号機の非常用 D/G (1台) は運転可能。これにより5、6号機に電力供給中。MUWC(復水補給水系)を用いて原子炉圧力容器及び使用済燃料プールへ注水。
- ・ 6号機の非常用ディーゼル発電機2台目(A)起動。(19日4:22)
- ・ 5号機の残留熱除去系(RHR)ポンプ(C)(19日5:00)及び6号機の残留熱除去系(RHR)ポンプ(B)(19日22:14)が起動し、除熱機能回復。使用済燃料貯蔵プールを優先的に冷却(電源:6号の非常用ディーゼル発電機)。(19日5:00)
- ・ 5号機、冷温停止(20日14:30)
- ・ 6号機、冷温停止(20日19:27)
- ・ 5号機及び6号機、起動用変圧器まで受電(20日19:52)

#### <使用済燃料共用プール>

- ・ 18日6:00過ぎ、プールはほぼ満水であることを確認。
- ・ 19日9時00分時点でのプール水温度は57℃程度。

### ○東京電力(株)福島第二原子力発電所(福島県双葉郡楢葉町及び富岡町)

#### (1) 運転状況

- 1号機(110万kW)(自動停止、14日17:00冷温停止)
- 2号機(110万kW)(自動停止)14日18:00冷温停止)
- 3号機(110万kW)(自動停止、12日12:15冷温停止)
- 4号機(110万kW)(自動停止、15日7:15冷温停止)



(2) モニタリングポスト等の指示値

別添参照

(3) 主なプラントパラメーター (21日 9:00 現在)

	単位	1号機	2号機	3号機	4号機
原子炉圧力* <sup>1</sup>	MPa	0.15	0.12	0.13	0.16
原子炉水温	℃	34.1	29.4	35.9	31.3
原子炉水位* <sup>2</sup>	mm	8246	10246	8467	8785
原子炉格納容器内 サブプレッションプール水温	℃	25	24	27	28
原子炉格納容器内 サブプレッションプール圧力	kPa (abs)	138	108	104	113
備 考		冷温停止中	冷温停止中	冷温停止中	冷温停止中

\* 1 : 絶対圧に換算

\* 2 : 燃料頂部からの数値

(4) その他異常等に関する報告

- ・ 1号機にて原子力災害対策特別措置法第10条通報 (11日 18:08)
- ・ 1、2、4号機にて同法第10条通報 (11日 18:33)
- ・ 1号機にて原子力災害対策特別措置法第15条事象 (圧力抑制機能喪失) 発生 (12日 5:22)
- ・ 2号機にて原子力災害対策特別措置法第15条事象 (圧力抑制機能喪失) 発生 (12日 5:32)
- ・ 4号機にて原子力災害対策特別措置法第15条事象 (圧力抑制機能喪失) 発生 (12日 6:07)

○東北電力(株)女川原子力発電所 (宮城県牡鹿郡女川町、石巻市)

(1) 運転状況

- 1号機 (52万4千kW) (自動停止、12日 0:58 冷温停止)
- 2号機 (82万5千kW) (自動停止、地震時点で冷温停止)
- 3号機 (82万5千kW) (自動停止、12日 1:17 冷温停止)

(2) モニタリングポスト等の指示値

MP2付近 (敷地最北敷地境界) 約 6,500nGy/h (14日 19:00)  
→約 5400 nGy/h (15日 19:00)

(3) その他異常に関する報告

- ・ タービン建屋地下1階の発煙は消火確認 (11日 22:55)
- ・ 原子力災害対策特別措置法第10条通報 (13日 13:09)

## 2 産業保安

### ○電気 (3月21日 10:30 現在)

#### ・東北電力 (3月21日 10:00 現在)

停電戸数：約24万戸 (延べ停電戸数 約486万戸)

停電地域：青森県 三八の一部地域 (約5百戸)

岩手県 一部地域 (約4万1千戸)

宮城県 一部地域 (約15万8千戸)

福島県 一部地域 (約3万8千戸)

#### ・東京電力

停電は19日01:00までに復旧済 (延べ停電戸数 約405万戸)

#### ・北海道電力

停電は12日14:00までに復旧済 (延べ停電戸数 約3千戸)

#### ・中部電力

停電は12日17:11に復旧済 (延べ停電戸数 約4百戸)

### ○一般ガス (3月21日 10:30 現在)

死亡事故：地震との関係も含め原因詳細調査中。

#### ・盛岡ガス (盛岡市) 死者1名、負傷者10名

14日08:00 デパートの地下での爆発

#### ・東部ガス (いわき市) 死者1名

12日11:30 一般住宅での漏えいガスに着火

北海道、山形県、秋田県においては、供給停止の報告はない。

各社の供給停止状況は以下の通り。

#### ・仙台市営ガス 358,781戸供給停止

#### ・塩釜ガス (塩釜市等) 12,382戸供給停止

#### ・福島ガス (福島市) 60戸供給停止

#### ・東部ガス (土浦市) 3,950戸供給停止

(水戸市) 52戸供給停止

#### ・釜石ガス (釜石市) 7,000戸供給停止

#### ・常磐共同ガス (いわき市) 12,322戸供給停止

#### ・京葉ガス (浦安市) 5,822戸供給停止

#### ・東北ガス (白河市) 230戸供給停止

#### ・常磐都市ガス (いわき市) 362戸供給停止

#### ・気仙沼市営ガス (気仙沼市) 2,800戸供給停止

#### ・石巻ガス (石巻市) 14,771戸供給停止



○簡易ガス（3月21日 10:30 現在）

各社の供給停止状況は以下の通り。

- ・ 宮城ガス（塩竈市）651 戸供給停止  
（仙台市）2,058 戸供給停止  
（黒川郡富谷町）2,318 戸供給停止
- ・ 岩沼市農業協同組合（岩沼市）753 戸供給停止
- ・ 橋本産業（東松島市）80 戸供給停止
- ・ 福陽ガス（須賀川市）81 戸供給停止
- ・ 釜石瓦斯（釜石市）1,357 戸供給停止
- ・ 仙台市ガス局（名取市）1,225 戸供給停止  
（仙台市）114 戸供給停止  
（岩沼市）342 戸供給停止  
（黒川郡富谷町）1,855 戸供給停止
- ・ 仙台プロパン（途米市）93 戸供給停止  
（亶理郡山元町）360 戸供給停止  
（宮城郡松島町）192 戸供給停止
- ・ 仙南ガス（白石市）409 戸供給停止  
（岩沼市）252 戸供給停止  
（柴田郡柴田市）1,806 戸供給停止
- ・ カメイ（亶理郡山元町）189 戸供給停止  
（白河市）596 戸供給停止  
（須賀川市）783 戸供給停止  
（いわき市）126 戸供給停止  
（宮古市）197 戸供給停止
- ・ 共同ガス（須賀川市）163 戸供給停止
- ・ 東北ガス（白河市）360 戸供給停止
- ・ いわきガス（いわき市）594 戸供給停止
- ・ 相馬ガス（相馬市）143 戸供給停止
- ・ 相馬市ガス（相馬市）100 戸供給停止
- ・ 勝田ガス事業協同組合（ひたちなか市）647 戸供給停止
- ・ 帝石プロパンガス（高萩市）747 戸供給停止
- ・ 倉島商事（福島市）248 戸供給停止
- ・ 若松ガス（福島市）1,061 戸供給停止
- ・ アイソン（安達郡本宮町）489 戸供給停止
- ・ トーホクガス（多賀城市）130 戸供給停止
- ・ 三重商会（大船渡市）81 戸供給停止

- ・名取岩沼農業協同組合（岩沼市）586 戸供給停止

○熱供給（3 月 21 日 10:30 現在）

- ・小名浜配湯（いわき市小名浜）供給停止

○LPGガス（3 月 21 日 10:30 現在）

死亡事故：地震との関係も含め原因詳細調査中

- ・福島県いわき市 死者 1 名  
13 日午前中 共同住宅でガス爆発

○コンビナート（3 月 21 日 10:30 現在現在）

- ・コスモ石油千葉製油所（千葉県市原市）  
LPG貯槽の支柱が折れ、破損。ガス漏れ火災。  
重傷者 1 名、軽傷 5 名。3 月 21 日 午前鎮火。
- ・JX 日鉱日石エネルギー(株)仙台製油所（宮城県仙台市）  
出荷設備エリアで爆発、火災が発生。3 月 15 日午後鎮火。

### 3 原子力安全・保安院等の対応

【3 月 11 日】

- 14：46 地震発生と同時に原子力安全・保安院に災害対策本部設置
- 15：42 福島第一原子力発電所にて原子力災害対策特別措置法第 10 条通報
- 16：36 福島第一原子力発電所 1、2 号機にて事業者が同法第 15 条事象（原子炉冷却機能喪失）発生判断（16：45 通報）
- 18：08 福島第二原子力発電所 1 号機にて原子力災害対策特別措置法第 10 条通報
- 18：33 福島第二原子力発電所 1、2、4 号機にて原子力災害対策特別措置法第 10 条通報
- 19：03 緊急事態宣言（政府原子力災害対策本部及び同現地対策本部設置）
- 20：50 福島県対策本部は、福島第一原子力発電所 1 号機の半径 2 km の住人に避難指示を出した。（2 km 以内の住人は 1864 人）
- 21：23 内閣総理大臣より、福島県知事、大熊町長及び双葉町長に対し、東京電力(株)福島第一原子力発電所で発生した事故に関し、原子力災害対策特別措置法第 15 条第 3 項の規定に基づく指示を出した。
  - ・福島第一原子力発電所から半径 3 km 圏内の住民に対する避難指示。
  - ・福島第一原子力発電所から半径 10 km 圏内の住民に対する屋



内退避指示。

24:00 池田経済産業副大臣現地対策本部到着

【3月12日】

- 5:22 福島第二原子力発電所1号機にて事業者が原子力災害対策特別措置法第15条事象（圧力抑制機能喪失）発生判断（6:27通報）
- 5:32 福島第二原子力発電所2号機にて事業者が原子力災害対策特別措置法第15条事象（圧力抑制機能喪失）発生判断（6:27通報）
- 5:44 総理指示により福島第一原子力発電所の10km圏内に避難指示
- 6:07 福島第二原子力発電所4号機にて原子力災害対策特別措置法第15条事象（圧力抑制機能喪失）発生
- 6:50 原子炉等規制法第64条第3項の規定に基づき、福島第一原子力発電所第1号機及び第2号機に設置された原子炉格納容器内の圧力を抑制することを命じた。
- 7:45 内閣総理大臣より、福島県知事、広野町長、楡葉町長、富岡町長及び大熊町長に対し、東京電力(株)福島第二原子力発電所で発生した事故に関し、原子力災害対策特別措置法第15条第3項の規定に基づく指示を出した。
  - ・福島第二原子力発電所から半径3km圏内の住民に対する避難指示。
  - ・福島第二原子力発電所から半径10km圏内の住民に対する屋内退避指示。
- 17:00 福島第一原子力発電所にて原子力災害対策特別措置法第15条事象（敷地境界放射線量異常上昇）である旨、受信
- 17:39 内閣総理大臣が福島第二原子力発電所の避難区域
  - ・福島第二原子力発電所から半径10km圏内の住民に対する避難を指示。
- 18:25 内閣総理大臣が福島第一原子力発電所の避難区域
  - ・福島第一原子力発電所から半径20km圏内の住民に対する避難を指示。
- 19:55 福島第一原子力発電所1号機の海水注入について総理指示
- 20:05 総理指示を踏まえ、原子炉等規制法第64条第3項の規定に基づき、福島第一原子力発電所第1号機の海水注入等を命じた。
- 20:20 福島第一原子力発電所1号機の海水注入を開始

【3月13日】

- 5:38 福島第一原子力発電所3号機にて原子力災害対策特別措置法第15条事象（全注水機能喪失）である旨、受信。  
当該サイトについて、東京電力において現在、電源及び注水機能の

回復と、ベントのための作業を実施中。

- 9 : 0 1 福島第一原子力発電所にて原子力災害対策特別措置法第 1 5 条事象（敷地境界放射線量異常上昇）である旨、受信
- 9 : 0 8 福島第一原子力発電所 3 号機の圧力抑制及び真水注入を開始
- 9 : 2 0 福島第一原子力発電所 3 号機の耐圧ベント弁開放
- 9 : 3 0 福島県知事、大熊町長、双葉町長、富岡町長、浪江町長に対し、原子力災害対策特別措置法に基づき、放射能除染スクリーニングの内容について指示
- 9 : 3 8 福島第一原子力発電所 1 号機にて原子力災害対策特別措置法第 1 5 条通報
- 1 3 : 0 9 女川原子力発電所にて原子力災害対策特別措置法第 1 0 条通報
- 1 3 : 1 2 福島第一原子力発電所 3 号機の注入を真水から海水に切り替え
- 1 4 : 3 6 福島第一原子力発電所にて原子力災害対策特別措置法第 1 5 条事象（敷地境界放射線量異常上昇）である旨、受信

【3 月 14 日】

- 1 : 1 0 福島第一原子力発電所 1 号機及び 3 号機の注入をくみ上げ箇所の海水が少なくなったため停止。
- 3 : 2 0 福島第一原子力発電所 3 号機の海水注入を再開
- 4 : 4 0 福島第一原子力発電所にて原子力災害対策特別措置法第 1 5 条事象（敷地境界放射線量異常上昇）である旨、受信
- 5 : 3 8 福島第一原子力発電所にて原子力災害対策特別措置法第 1 5 条事象（敷地境界放射線量異常上昇）である旨、受信
- 7 : 5 2 福島第一原子力発電所 3 号機にて原子力災害対策特別措置法第 1 5 条事象（格納容器圧力異常上昇）である旨、受信。
- 1 3 : 2 5 福島第一原子力発電所 2 号機にて原子力災害対策特別措置法第 1 5 条事象（原子炉冷却機能喪失）である旨、受信。
- 2 2 : 1 3 福島第二原子力発電所にて原子力災害対策特別措置法第 1 0 条通報
- 2 2 : 3 5 福島第一原子力発電所にて原子力災害対策特別措置法第 1 5 条事象（敷地境界放射線量異常上昇）である旨、受信

【3 月 15 日】

- 0 : 0 0 国際原子力（I A E A）専門家派遣の受け入れを決定  
I A E A 天野事務局長による原子力発電所の被害に関する専門家派遣の意向を受け、原子力安全・保安院は I A E A による知見ある専門家の派遣を受け入れることとした。なお、実際の受け入れ日程等については、今後調整を行う。
- 0 : 0 0 米国原子力規制委員会（N R C）専門家派遣の受け入れを決定



- 7 : 2 1 福島第一原子力発電所にて原子力災害対策特別措置法第 1 5 条事象（敷地境界放射線量異常上昇）である旨、受信
- 7 : 2 4 （独）日本原子力研究開発機構東海研究開発センター核燃料サイクル工学研究所にて原子力災害対策特別措置法第 1 0 条通報
- 7 : 4 4 （独）日本原子力研究開発機構原子力科学研究所にて原子力災害対策特別措置法第 1 0 条通報
- 8 : 5 4 福島第一原子力発電所にて原子力災害対策特別措置法第 1 5 条事象（敷地境界放射線量異常上昇）である旨、受信
- 1 0 : 3 0 経済産業大臣が原子炉等規制法に基づき、4 号機の消火及び再臨界の防止、2 号機の原子炉内への早期注水及びドライウェルのベントの実施について指示
- 1 0 : 5 9 今後の事態の長期化を考慮し、現地対策本部の機能を福島県庁内へ移転することを決定。
- 1 1 : 0 0 内閣総理大臣が福島第一原子力発電所の避難区域・炉内の状況を考慮して、新たに福島第一原子力発電所から半径 2 0 km 圏～3 0 km 圏内の住民に対する屋内退避を指示
- 1 6 : 3 0 福島第一原子力発電所にて原子力災害対策特別措置法第 1 5 条事象（敷地境界放射線量異常上昇）である旨、受信
- 2 2 : 0 0 経済産業大臣が原子炉等規制法に基づき、4 号機の使用済燃料プールへの注水の実施を指示
- 2 3 : 4 6 福島第一原子力発電所にて原子力災害対策特別措置法第 1 5 条事象（敷地境界放射線量異常上昇）である旨、受信

【3 月 18 日】

- 1 3 : 0 0 文部科学省にて、福島第一、第二原子力発電所の緊急時における全国的モニタリング調査の強化を決定
- 1 5 : 5 5 原子炉等規制法第 6 2 条の 3 に基づき、東京電力(株)福島第一原子力発電所第 1・2・3・4 号機における事故故障等（原子炉建屋内の放射性物質の非管理区域への漏えい）の報告を受理
- 1 6 : 4 8 原子炉等規制法第 6 2 条の 3 に基づき、日本原子力発電(株)東海第二発電所における事故故障等（非常用ディーゼル発電機 2 C 海水ポンプ用電動機の故障）の報告を受理

【3 月 19 日】

- 7 : 4 4 6 号機の非常用ディーゼル発電機 2 台目（A）起動  
5 号機の残留熱除去系（RHR）ポンプ（C）が起動し、使用済燃料貯蔵プールの冷却を開始（電源：6 号の非常用ディーゼル発電機）の旨を受信
- 8 : 5 8 福島第一原子力発電所にて原子力災害対策特別措置法第 1 5 条事

象（敷地境界放射線量異常上昇）である旨、受信



<被ばくの可能性（3月21日 10:30 現在）>

<住民の被ばく>

- (1) 二本松市福島県男女共生センターにおいて、双葉厚生病院からの避難者約60名を含む133名の測定を行い、13000cpm以上の23名に除染を実施した。
- (2) この他、福島県が用意した民間バスで、双葉厚生病院から川俣町済生会川俣病院へ移動した35名については、県対策本部は被ばくしていないと判断。
- (3) バスにより避難した双葉町の住民約100名について、100名のうち、9名について測定した結果、以下の通りだった。県外(宮城県)に分かれて避難したが、その後合流して二本松市福島男女共生センターへ移動。

カウント数	人数
18,000cpm	1名
30,000～36,000cpm	1名
40,000cpm	1名
40,000cpm 弱※	1名
ごく小さい値	5名

※（1回目の測定では100,000cpmを超え、その後靴を脱いで測定した結果計測されたもの）

- (4) 3月12日から3月15日にかけて、大熊町のオフサイトセンターにおいて、スクリーニングを開始。現在までに162名が検査済み。初め除染の基準値を6,000cpmとし、110名が6,000cpm未満、41名が6,000cpm異常の値を示した。後に基準値を13,000cpmと引き上げた際には、8名が13,000cpm未満、3名が13,000cpm以上の値を示した。  
検査を受けた162名のうち、5名が除染処置を施した後、病院へ搬送された。
- (5) 福島県において、避難した10km圏内の入院患者と病院関係者の避難を実施。関係者のスクリーニングを行った結果、3名について除染後も高い数値が検出されたため、第2次被ばく医療機関へ搬送。この搬送に関係した消防職員60名のスクリーニングで3名について、バックグラウンドの2倍以上程度の放射線が検出されたため、60名に対し除染を行った。

#### <従業員等の被ばく>

- (1) 福島第一原発で作業していた従業員18名。測定の結果、1名は106.3mSv、その他の方は健康に影響ないレベルであるが具体的な数値は不明。106.3mSvの1名は、内部被ばくの恐れはなく医療的処置は不要とのこと。
- (2) 福島第一原発3号機の爆発の際に近くで作業していて負傷した従業員7名（意識あり）負傷。そのうち6名については福島第二の産業医で除染処置を施し、問題ないことを確認。1名については病院で除染し、治療中。

#### <その他>

- (1) 福島県は3月13日からスクリーニングを開始。避難所を巡回、保健所等12ヶ所（常設）で実施中。実施結果は集計中。
- (2) 福島第一原発で給水作業に従事していた自衛隊員5名が被ばく。作業終了後（12日）、OFCへ移動後の測定では30,000cpm。除染後の測定では、5,000～10,000cpm。1名は放医研に搬送。防衛省において、その他自衛官の被ばくは確認されず。
- (3) 警察官について、警察庁において2名の除染の実施を確認。異常の報告はなし。

#### <避難時における安定ヨウ素剤投与の指示>

16日、原子力災害対策現地本部から、「避難区域（半径20km）からの避難時における安定ヨウ素剤投与の指示」を県知事及び市町村（富岡町、双葉町、大熊町、浪江町、川内村、楡葉町、南相馬市、田村市、葛尾村、広野町、いわき市、飯館村）宛に発出。

#### <負傷者の状況（3月21日10:30現在）>

##### 1. 地震による被害

- ・社員2名（軽傷）
- ・協力会社2名（うち1名両足骨折）
- ・行方不明2名（社員。4号タービン建屋内）
- ・急病人1名発生（脳梗塞、救急車搬送、県情報）
- ・管理区域外にて社員1名が左胸の痛みを訴えて救急車を要請（意識あり）
- ・社員2名が中央制御室での全面マスク着用中に不調を訴え、福島第二の産業医の受診を受けるべく搬送

2. 福島第一原子力発電所1号機爆発による被害

- ・1号機付近で爆発と発煙が発生した際に4名が1号タービン建屋付近（管理区域外）で負傷。川内診療所で診療。

3. 福島第一原子力発電所3号機の爆発による負傷

- ・社員4名
- ・協力会社3名
- ・自衛隊4名（うち1名は内部被ばくの可能性を考慮し、「（独）放射線医学総合研究所」へ搬送。診察の結果内部被ばくはなし。3月16日退院）

4. その他の被害

- ・福島第二原子力発電所内の診療所に変電所から腹痛を訴える人が来たが、被ばくをしていないことからいわき市の診療所へ搬送。

<住民避難の状況（3月21日10:30現在）>

3月15日11:00、内閣総理大臣の指示により、福島第一原子力発電所半径20kmから30km圏内の住民に対して、屋内退避を指示。その旨を福島県及び関係自治体へ連絡。

福島第一原子力発電所20km圏外及び福島第二原子力発電所10km圏外への避難は、措置済。

- ・福島第一原子力発電所20kmから30km圏内の屋内退避について、徹底中。
- ・福島県と連携して、屋内退避圏内の住民の生活支援等を実施。

（本発表資料のお問い合わせ）

原子力安全・保安院

原子力安全広報課：渡邊、金城

電話：03-3501-1505

03-3501-5890



(参考)

【東北地方太平洋沖地震】

1. 災害概要

(1) 発生日時：平成 23 年 3 月 11 日（金） 14：46 発生

(2) 発生場所：震源三陸沖（北緯 38 度、東経 142.9 度）

深さ 10km、マグニチュード 9.0

(3) 各地の震度

○震度 4 以上の地域

震度 7 宮城県北部

震度 6 強 茨城県北部、茨城県南部

震度 5 強 青森県三八上北

震度 5 弱 新潟県中越

震度 4

○震度 4 以上の市町村

震度 6 強 福島県楢葉町、富岡町、大熊町、双葉町

震度 6 弱 宮城県石巻市、女川町（発電所の震度計による）、東海村

震度 5 弱 新潟県刈羽村

震度 4 青森県六ヶ所村、東通村、新潟県柏崎市、神奈川県横須賀市

震度 1 北海道泊村

3月20日

福島第一(1F) 測定場所

①事務本館北(2号機より北西約0.5キ口) ②体育館付近(MP-5東側)(2号機より西北西約0.9キ口)  
 ③西門付近(MP-5付近)(2号機より西約1.1キ口) ④正門付近前(MP-6付近)(2号機より西南西約1.0キ口)

測定場所	①																						
モニタリングカー	7:20	7:30	7:40	7:50	8:00	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50	11:00
測定値(μSv/h)	2659.0	2652.0	2653.0	2637.0	2630.0	2629.0	2627.0	2625.0	2619.0	2617.0	2614.0	2614.0	2608.0	2623.0	2661.0	2742.0	2726.0	2608.0	2605.0	2596.0	2589.0	2583.0	2579.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	南南東	北東	北東	北	北東	北東	北東	東	北北東	東北東	東	東北東	南東	東南東	南南東	北東	南南東	東	東	北東	東	北東	東北東
風速(m/s)	0.6	0.6	0.8	0.9	1.3	1.3	1.5	1.3	1.5	1.4	1.2	1.2	1.0	1.0	1.5	1.2	1.2	1.1	1.2	1.3	0.7	1.3	1.4

測定場所	①																						
モニタリングカー	11:10	11:20	11:30	11:40	11:50	12:00	12:10	12:20	12:30	12:40	12:50	13:00	13:10	13:20	13:30	13:40	13:50	14:00	14:10	14:20	14:30	14:40	14:50
測定値(μSv/h)	2578.0	2569.0	2571.0	2562.0	2564.0	2559.0	2558.0	2552.0	2551.0	2551.0	2550.0	2567.0	2588.0	2660.0	2593.0	2654.0	2741.0	2768.0	2999.0	2923.0	3056.0	3202.0	3346.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	東北東	北東	東北東	北東	北東	東	南	南東	南東	北東	南東	東	南東	南東	南東	南東	南東	南東	南	南東	南東	南南東	南
風速(m/s)	1.8	1.5	1.4	1.2	1.3	1.3	1.1	1.2	1.0	1.1	1.3	1.5	1.4	1.6	1.7	1.8	2.0	1.6	1.7	1.8	1.9	2.3	2.1

測定場所	①																						
モニタリングカー	15:00	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:30	16:40	16:50	17:00	17:10	17:20	17:30	17:40	17:50	18:00	18:10	18:20	18:30	18:40
測定値(μSv/h)	3054.0	3071.0	3342.0	3337.0	3003.0	3046.0	3171.0	2940.0	2851.0	2830.0	2960.0	2839.0	2773.0	2763.0	2758.0	2729.0	2715.0	2707.0	2693.0	2680.0	2673.0	2658.0	2651.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	南南東	南	南	南	南	南南東	南	南	南	南南西	南	南南西	南	南西	南南西	南東	南南西	南西	南南西	南	南	南西	西南西
風速(m/s)	2.0	1.9	1.9	1.7	1.9	2.1	1.8	2.0	1.9	2.2	2.0	2.1	2.1	1.8	2.0	1.7	2.1	1.7	1.6	2.6	2.6	2.4	1.8

測定場所	①																						
モニタリングカー	18:50	19:00	19:10	19:20	19:30	19:40	19:50	20:00	20:10	20:20	20:30	20:40	20:50	21:00	21:10	21:20	21:30	21:40	21:50	22:00	22:10	22:20	22:30
測定値(μSv/h)	2658.0	2623.0	2683.0	2614.0	2602.0	2595.0	2632.0	2828.0	2704.0	2682.0	2586.0	2552.0	2550.0	2542.0	2537.0	2532.0	2518.0	2517.0	2510.0	2506.0	2503.0	2492.0	2487.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	北北東	西	西南	南西	南西	北北西	北東	西	北東	北西	西	西北西	北西	西北西	西	西北西	西	西	西北西	西北西	北西	北西	西北西
風速(m/s)	1.0	1.4	1.0	2.0	1.8	0.8	1.2	1.2	1.4	1.0	1.6	1.2	1.0	2.0	2.2	2.4	2.4	2.0	2.0	2.2	1.6	2.2	2.6

3月19日

福島第一(1F)

測定場所

①事務本館北(2号機より北西約0.5キロ) ②体育館付近(MP-5東側)(2号機より西北西約0.9キロ)  
 ③西門付近(MP-5付近)(2号機より西約1.1キロ) ④正門付近前(MP-6付近)(2号機より西南西約1.0キロ)

測定場所	①																						
モニタリングカー	18:50	19:00	19:10	19:20	19:30	19:40	19:50	20:00	20:10	20:20	20:30	20:40	20:50	21:00	21:10	21:20	21:30	21:40	21:50	22:00	22:10	22:20	22:30
測定値(μSv/h)	2978.0	2972.0	2965.0	2961.0	2957.0	2946.0	2941.0	2937.0	2931.0	2924.0	2917.0	2912.0	2909.0	2906.0	2906.0	2895.0	2891.0	2883.0	2880.0	2880.0	2876.0	2855.0	2854.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	西	西南西	西南西	西南西	西	西	西	西	西	西	西	西	西	西	西	西	西	西	西北西	東北東	西南西	西	西
風速(m/s)	4.4	4.1	3.2	2.7	2.8	2.7	2.2	2.6	3.1	2.6	2.5	2.6	3.1	3.4	3.4	2.3	1.8	2.0	2.2	1.2	0.8	1.0	2.0

測定場所	①							
モニタリングカー	22:40	22:50	23:00	23:10	23:20	23:30	23:40	23:50
測定値( $\mu\text{Sv/h}$ )	2847.0	2844.0	2841.0	2836.0	2828.0	2828.0	2826.0	2823.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND
風向	西北西	西	西	西北西	西	西北西	西北西	西
風速(m/s)	1.4	1.8	2.5	2.4	2.4	2.9	2.5	2.8

3月20日

福島第一(1F)

測定場所

①事務本館北(2号機より北西約0.5キロ) ②体育館付近(MP-5東側)(2号機より西北西約0.9キロ)  
 ③西門付近(MP-5付近)(2号機より西約1.1キロ) ④正門付近前(MP-6付近)(2号機より西南西約1.0キロ)

測定場所	①																						
モニタリングカー	0:00	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50	2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30	3:40
測定値(μSv/h)	2821.0	2814.0	2808.0	2805.0	2803.0	2791.0	2797.0	2794.0	2793.0	2788.0	2785.0	2781.0	2778.0	2773.0	2771.0	2767.0	2764.0	2761.0	2759.0	2745.0	2745.0	2741.0	2758.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	南西	南西	西	南西	西南西	西南西	北西	北西	西	北東	南西	西	南西	西北西	西	西	北西	北西	西北西	西南西	南東	北北東	西
風速(m/s)	4.5	3.7	2.8	3.5	3.0	3.4	4.6	3.2	3.0	2.9	2.1	2.5	1.8	2.1	1.6	1.8	1.5	2.3	2.1	1.0	1.1	1.0	1.1

測定場所	①					測定 位置 変更 ※1.4	③							測定 位置 変更 ※1.5	①										
モニタリングカー	3:50	4:00	4:10	4:20	4:30		4:40	4:50	5:00	5:10	5:20	5:30	5:40		5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10		
測定値(μSv/h)	3185.0	2939.0	2771.0	2743.0	2739.0		273.2	271.8	271.2	270.9	270.4	269.8	269.5		2683.1	2679.0	2679.0	2677.0	2670.0	2664.0	2664.0	2661.0	2661.0		
中性子	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND		
風向	南	西	北西	南	南西	北北西	北	北北西	西北西	北	北北東	北東	北	北東	北東	東北東	東北東	東北東	東	東北東	東南東				
風速(m/s)	1.0	0.9	0.5	0.8	0.8	3.5	1.6	1.5	1.5	0.7	0.6	0.6	2.2	0.6	0.7	0.9	0.8	0.6	0.9	1.1	0.6				

※14 西門付近(MP-5付近)(2号機より西約1.1キロ) ※定点で測定するため移動

※15 事務本館北(2号機より北西約0.5キロ) ※放水活動による効果を測定するためにより近傍へ移動



3月19日

福島第一(1F) 測定場所

 ①事務本館北(2号機より北西約0.5キロ) ②体育館付近(MP-5東側)(2号機より北西約0.9キロ)  
 ③西門付近(MP-5付近)(2号機より西約1.1キロ) ④正門付近前(MP-6付近)(2号機より西南西約1.0キロ)

測定場所	③																							
モニタリングカー	3:40	3:50	4:00	4:10	4:20	4:30	4:40	4:50	5:00	5:10	5:20	5:30	5:40	5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10	7:20	
測定値(μSv/h)	303.6	303.1	301.7	301.3	300.5	299.2	299.2	298.5	297.5	296.4	295.8	295.1	295.4	294.3	293.8	293.6	292.6	292.3	291.5	290.9	290.6	289.8	289.1	
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
風向	南南東	西北西	東	西	西北西	南東	西	南	南	南	東	北西	東	南東	西	南東	東北東	東南東	南南東	東	北西	西	西	
風速(m/s)	0.9	0.6	0.6	0.5	0.4	0.6	0.6	0.4	0.5	0.5	0.9	0.9	0.9	0.6	0.9	0.7	0.5	0.4	0.3	0.4	0.7	0.3	0.7	

測定場所	③																							
モニタリングカー	7:30	7:40	7:50	8:00	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50	11:00	11:10	
測定値(μSv/h)	288.9	288.6	287.2	399.0	830.8	670.6	431.9	390.5	522.6	364.5	336.5	323.8	425.2	657.3	358.3	346.1	341.2	338.4	334.3	330.2	327.1	322.6	319.8	
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
風向	西南西	南西	南東	北北東	西北西	西北西	東	東北東	東北東	北東	東	東	東	東	南東	南東	南	南東	東	南南東	南南東	南西	西	
風速(m/s)	0.8	0.6	0.6	0.3	0.5	0.3	0.4	0.6	0.6	0.9	1.6	2.1	2.0	1.5	1.8	1.8	1.9	1.9	1.7	1.5	1.5	1.6	2.2	

測定場所	③		測定 位置 変更 ※13	①																					
モニタリングカー	11:20	11:30		11:40	11:50	12:00	12:10	12:20	12:30	12:40	12:50	13:00	13:10	13:20	13:30	13:40	13:50	14:00	14:10	14:20	14:30	14:40	14:50		
測定値(μSv/h)	315.1	313.1		3954.0	3901.0	3882.0	3828.0	3802.0	3749.0	3704.0	3655.0	3629.0	3594.0	3565.0	3529.0	3491.0	3473.0	3443.0	3417.0	3396.0	3375.0	3348.0	3340.0		
中性子	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
風向	西北西	南西		西北西	西	西	西	西北西	西	西南西	西南西	北西	西	北西	西	西	南南西	西	北東	西	北	南南西	南東		
風速(m/s)	2.9	3.4	4.0	4.7	6.8	5.7	5.6	5.7	5.9	6.1	4.2	3.7	5.3	4.3	5.1	4.9	5.8	3.4	4.6	4.9	3.1	2.6			

測定場所	①																							
モニタリングカー	15:00	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:30	16:40	16:50	17:00	17:10	17:20	17:30	17:40	17:50	18:00	18:10	18:20	18:30	18:40	
測定値(μSv/h)	3279.0	3281.0	3229.0	3194.0	3474.0	3167.0	3165.0	3137.0	3135.0	3126.0	3111.0	3089.0	3078.0	3071.0	3058.0	3051.0	3033.0	3024.0	3020.0	3007.0	3002.0	2998.0	2992.0	
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	
風向	西	西	西	南西	南西	南	北西	西	西	西南西	西南西	西	西	西	北西	西	西	西	西	西	西	西	西	
風速(m/s)	4.9	4.6	3.4	3.8	4.6	3.9	2.4	4.8	5.0	4.5	6.1	5.1	5.7	4.5	4.1	3.3	3.8	3.5	3.6	2.7	2.8	4.1	3.5	

※13 事務本館北(2号機より北西約0.5キロ) ※放水活動による効果を測定するためにより近傍へ移動

3月18日

福島第一(1F) 測定場所

 ①事務本館北(2号機より北西約0.5キロ) ②体育館付近(MP-5東側)(2号機より西北西約0.9キロ)  
 ③西門付近(MP-5付近)(2号機より西約1.1キロ) ④正門付近前(MP-6付近)(2号機より西南西約1.0キロ)

測定場所	①																						
モニタリングカー	14:45	14:50	14:55	15:00	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:30	16:40	16:50	17:00	17:10	17:20	17:30	17:40	17:50	18:00	18:10
測定値(μSv/h)	3357.0	3339.0	3346.0	3345.0	3368.0	3582.0	4075.0	3823.0	4396.0	4485.0	4352.0	4535.0	4419.0	4277.0	4735.0	5055.0	5033.0	4952.0	4251.0	4182.0	4090.0	4084.0	4069.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	南南東	東南東	南	南東	南	南南東	南南東	南南東	南南東	南南東	東南東	南	南南東	東	南南東	南	南南東	南南東	南	南	南南西	南南西	南
風速(m/s)	1.6	1.5	1.5	1.4	1.7	1.9	2.3	2.1	2.2	2.4	2.0	2.1	1.8	2.1	2.1	2.0	2.1	3.1	2.3	1.8	1.8	1.2	1.2

測定場所	①											測定 位置 変更 ※10	③										
モニタリングカー	18:20	18:30	18:40	18:50	19:00	19:10	19:20	19:30	19:40	19:50	20:00		20:10	20:20	20:30	20:40	20:50	21:00	21:10	21:20	21:30	21:40	21:50
測定値(μSv/h)	4069.0	3922.0	3885.0	3832.0	3788.0	3745.0	3728.0	3699.0	3669.0	3634.0	3611.0		447.6	441.2	434.5	429.2	423.9	419.1	414.2	409.4	405.2	401.6	397.8
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	南	南南西	南南西	南南西	西	南西	南西	南南西	南	西南西	西南西		南	西	西北西	南西	西南西	南南西	西	西	西	北北西	西
風速(m/s)	1.2	1.5	1.5	1.4	1.5	1.3	1.4	1.4	1.3	1.5	1.3	3.0	0.5	0.7	0.8	0.6	0.5	0.6	0.3	0.3	0.4	0.5	

測定場所	③									測定 位置 変更 ※11	①		
モニタリングカー	22:00	22:10	22:20	22:30	22:40	22:50	23:00	23:10	23:20		23:30	23:40	23:50
測定値(μSv/h)	393.9	389.2	385.9	382.9	379.6	375.9	373.6	371.2	368.9		3254.0	3256.0	3244.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
風向	南西	南西	西	西	南西	西	北	北西	西南西		西南西	南西	西南西
風速(m/s)	0.5	0.7	0.5	0.5	0.4	0.4	0.3	0.4	0.3	2.8	1.2	1.2	

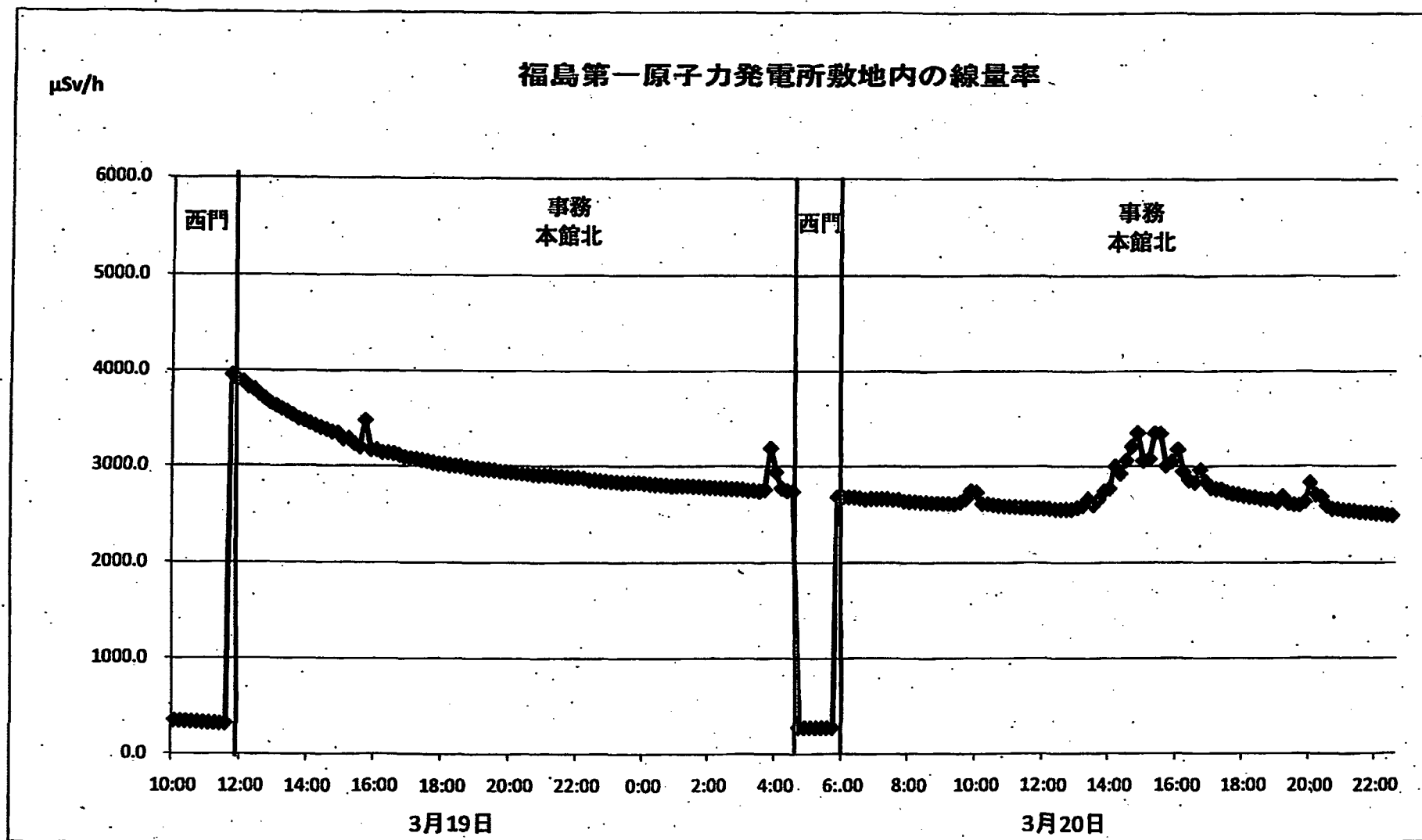
3月19日

測定場所	①												測定 位置 変更 ※12	③									
モニタリングカー	0:00	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50		2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30
測定値(μSv/h)	3229.0	3224.0	3219.0	3231.0	3342.0	3284.0	3248.0	3279.0	3247.0	3195.0	3188.0	3181.0		313.7	312.2	311.1	310.0	309.1	308.6	306.9	306.0	305.1	304.3
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	西南西	西南西	南西	南西	西南西	西	西南西	西南西	西南西	西南西	南西	西南西		北	北	南	西南西	西南西	北北東	西北西	南西	南南東	東
風速(m/s)	1.4	1.4	1.2	1.1	0.9	1.4	1.3	1.3	1.3	1.4	1.6	1.3	3.0	0.3	0.3	0.6	0.3	0.4	0.6	0.7	0.7	0.7	

※10 西門付近(MP-5付近)(2号機より西約1.1キロ) ※定点で測定するため移動

※11 事務本館北(2号機より北西約0.5キロ) ※放水活動による効果を測定するためにより近傍へ移動

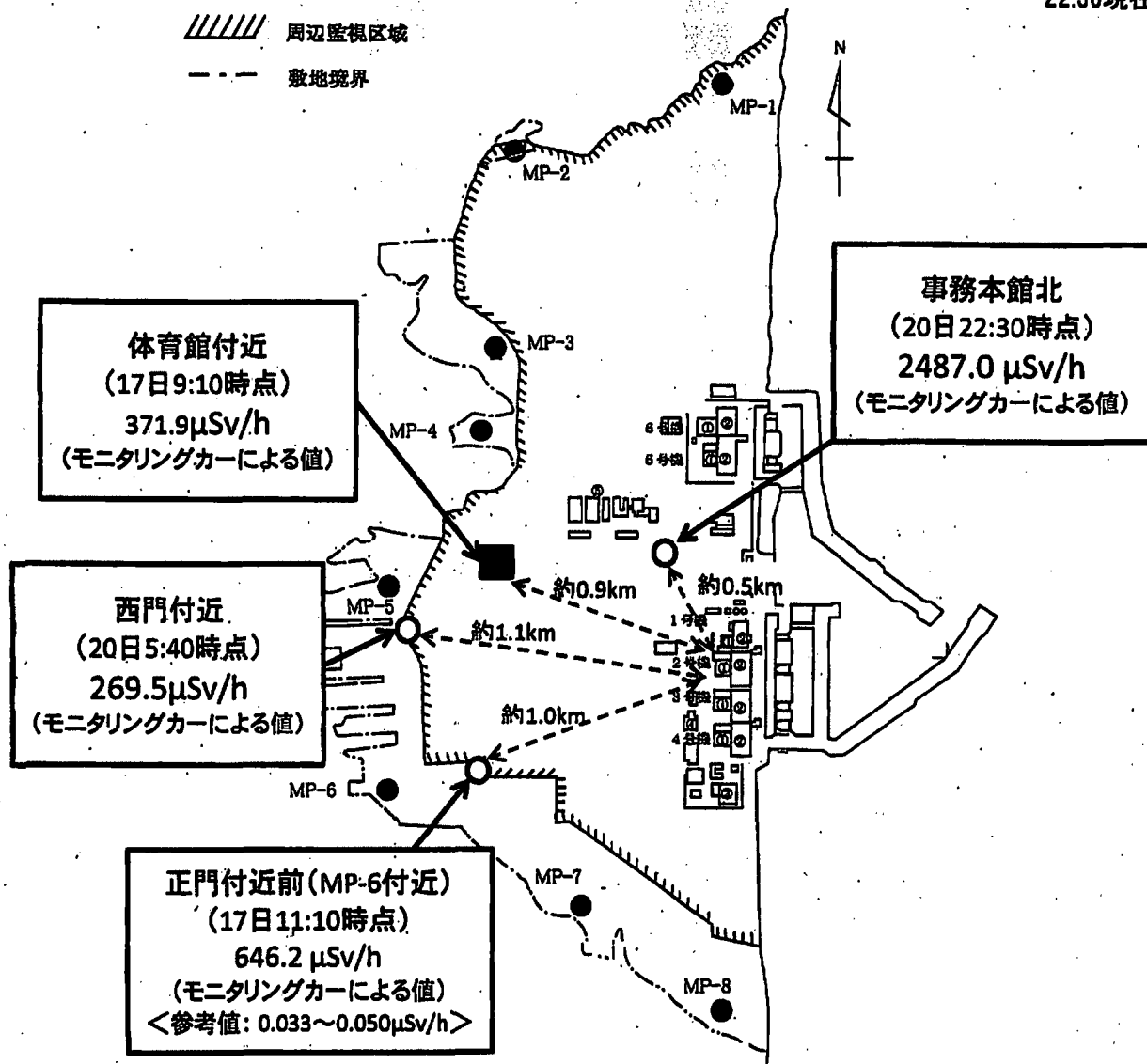
※12 西門付近(MP-5付近)(2号機より西約1.1キロ) ※定点で測定するため移動





# 福島第一原子力発電所

2011/3/20  
22:30現在



## 福島第二(2F) (事業者のモニタリングポスト)

3月20日																						
モニタリングポスト	14:40	14:50	15:00	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:30	16:40	16:50	17:00	17:10	17:20	17:30	17:40	17:50	18:00	18:10
MP1(μSv/h)	15.553	15.543	15.560	15.507	15.453	15.470	15.457	15.473	15.453	15.477	15.423	15.390	15.357	15.387	15.380	15.350	15.340	15.347	15.327	15.323	15.270	15.307
MP2(μSv/h)	9.330	9.333	9.340	9.367	9.283	9.300	9.270	9.280	9.293	9.280	9.283	9.233	9.267	9.230	9.243	9.203	9.230	9.207	9.210	9.227	9.190	9.230
MP3(μSv/h)	15.743	15.777	15.730	15.723	15.693	15.693	15.663	15.610	15.663	15.583	15.557	15.593	15.500	15.540	15.497	15.520	15.517	15.537	15.437	15.503	15.450	15.453
MP4(μSv/h)	10.997	10.970	10.940	10.923	10.967	10.920	10.883	10.843	10.880	10.883	10.870	10.827	10.850	10.803	10.803	10.820	10.787	10.817	10.823	10.767	10.753	10.750
MP5(μSv/h)	10.707	10.687	10.680	10.680	10.680	10.627	10.680	10.587	10.633	10.587	10.587	10.580	10.580	10.587	10.587	10.587	10.587	10.553	10.540	10.587	10.520	10.480
MP6(μSv/h)	12.033	12.077	12.020	11.960	12.000	11.963	11.937	11.943	11.930	11.900	11.900	11.890	11.863	11.880	11.860	11.853	11.847	11.843	11.863	11.803	11.843	11.820
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	南東	南南東	南南東	南南東	南	南	南南西	南	南	北西	北北西	西	北	南	南	南南西	南	東北東	南西	南	西南西	西
風速(m/s)	1.9	2.2	3.2	3.6	2.9	2.9	0.7	0.4	1.2	0.6	0.8	0.7	0.2	0.2	0.3	1.2	0.7	0.1	0.8	0.6	0.5	0.6

3月20日																						
モニタリングポスト	18:20	18:30	18:40	18:50	19:00	19:10	19:20	19:30	19:40	19:50	20:00	20:10	20:20	20:30	20:40	20:50	21:00	21:10	21:20	21:30	21:40	21:50
MP1(μSv/h)	15.263	15.250	15.290	15.210	15.223	15.213	15.183	15.137	15.150	15.153	15.173	15.203	15.127	15.150	15.140	15.173	15.127	15.093	15.073	15.097	14.997	15.060
MP2(μSv/h)	9.197	9.180	9.160	9.197	9.187	9.147	9.133	9.200	9.173	9.160	9.170	9.143	9.123	9.157	9.140	9.140	9.117	9.097	9.093	9.083	9.120	9.067
MP3(μSv/h)	15.400	15.360	15.383	15.393	15.333	15.393	15.360	15.357	15.370	15.310	15.317	15.280	15.270	15.330	15.353	15.263	15.337	15.247	15.247	15.193	15.203	15.247
MP4(μSv/h)	10.777	10.730	10.740	10.680	10.717	10.703	10.703	10.717	10.680	10.697	10.683	10.670	10.677	10.650	10.670	10.653	10.673	10.627	10.610	10.620	10.573	10.620
MP5(μSv/h)	10.480	10.513	10.480	10.480	10.480	10.433	10.487	10.447	10.480	10.487	10.440	10.400	10.427	10.433	10.387	10.473	10.387	10.387	10.387	10.387	10.380	10.380
MP6(μSv/h)	11.820	11.820	11.803	11.787	11.737	11.767	11.730	11.767	11.783	11.763	11.763	11.680	11.720	11.707	11.717	11.693	11.717	11.687	11.697	11.717	11.660	11.653
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西南西	北西	南西	南西	西南西	南西	北北東	北東	北東	北東	南	北東	西北西	南南東	東北東	北北東	北北東	北	北	北	北北西	北北西
風速(m/s)	0.8	0.5	1.3	1.1	1.3	0.3	0.7	0.6	0.5	0.9	0.0	0.5	0.0	0.2	0.5	1.4	1.3	1.3	1.1	1.4	1.9	2.2

3月20日				
モニタリングポスト	22:00	22:10	22:20	22:30
MP1( $\mu\text{Sv/h}$ )	15.097	15.923	17.843	15.900
MP2( $\mu\text{Sv/h}$ )	9.090	9.200	10.477	9.813
MP3( $\mu\text{Sv/h}$ )	15.260	15.213	15.573	15.393
MP4( $\mu\text{Sv/h}$ )	10.607	10.587	10.957	10.900
MP5( $\mu\text{Sv/h}$ )	10.387	10.380	10.680	10.933
MP6( $\mu\text{Sv/h}$ )	11.613	11.633	12.037	12.517
MP7( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測
風向	北北西	北	北	北北西
風速(m/s)	2.4	2.5	2.4	1.2

## 福島第二(2F) (事業者のモニタリングポスト)

3月20日																						
モニタリングポスト	3:40	3:50	4:00	4:10	4:20	4:30	4:40	4:50	5:00	5:10	5:20	5:30	5:40	5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10
MP1(μSv/h)	16.073	15.957	15.970	16.007	16.010	15.953	15.973	15.940	15.937	15.910	15.900	15.910	18.700	20.417	17.670	20.740	17.830	17.177	16.870	19.260	21.310	20.917
MP2(μSv/h)	9.687	9.720	9.697	9.667	9.663	9.693	9.660	9.673	9.647	9.653	9.643	9.647	10.020	16.447	10.903	14.283	11.443	10.787	10.640	12.560	14.973	15.303
MP3(μSv/h)	16.153	16.100	16.117	16.130	16.050	16.073	16.083	16.087	16.033	16.017	16.043	16.037	16.040	24.170	17.930	19.593	18.590	17.777	17.330	20.087	21.017	23.634
MP4(μSv/h)	11.093	11.130	11.130	11.083	11.110	11.107	11.080	11.087	11.057	11.060	11.060	11.043	11.133	19.093	12.487	15.200	12.433	13.427	12.733	16.243	16.413	21.604
MP5(μSv/h)	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	11.387	20.974	12.533	12.533	15.500	14.153	13.013	15.927	17.160	25.774
MP6(μSv/h)	12.447	12.453	12.387	12.360	12.333	12.370	12.400	12.360	12.353	12.313	12.333	12.343	16.200	18.430	13.497	14.823	15.540	14.193	13.573	14.993	15.853	21.450
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西北西	西北西	西北西	西北西	西北西	西北西	北西	北西	北西	北西	北北西	北北西	北	北東	北東	北東	北東	北東	北北東	北北東	北東	北北東
風速(m/s)	8.8	9.0	6.9	6.1	4.0	3.8	3.8	4.4	5.5	5.2	4.7	3.9	1.2	3.3	6.0	6.3	6.0	4.7	4.4	5.0	4.1	4.1

3月20日																						
モニタリングポスト	7:20	7:30	7:40	7:50	8:00	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50
MP1(μSv/h)	20.984	19.613	19.030	19.127	18.153	17.680	17.250	17.170	17.063	16.980	16.900	16.830	16.760	16.647	16.553	16.603	16.467	16.430	16.413	16.333	16.263	16.257
MP2(μSv/h)	14.313	13.543	12.443	12.077	11.403	10.913	10.303	10.227	10.173	10.153	10.077	10.053	10.013	9.973	9.893	9.887	9.863	9.830	9.770	9.780	9.757	9.730
MP3(μSv/h)	20.984	20.460	19.863	19.963	19.510	18.550	17.657	17.553	17.470	17.360	17.267	17.117	17.030	17.010	16.913	16.800	16.770	16.753	16.683	16.560	16.517	16.523
MP4(μSv/h)	16.437	15.540	15.287	16.093	14.427	13.650	12.923	12.693	12.573	12.470	12.390	12.297	12.217	12.110	12.023	11.983	11.907	11.870	11.800	11.773	11.697	11.720
MP5(μSv/h)	17.227	15.687	16.147	16.393	14.200	13.193	12.240	12.053	11.953	11.920	11.807	11.760	11.707	11.587	11.567	11.480	11.467	11.420	11.367	11.320	11.267	11.267
MP6(μSv/h)	15.593	15.467	17.017	15.437	14.340	13.860	13.240	13.187	13.117	13.050	13.003	12.937	12.897	12.820	12.810	12.767	12.713	12.670	12.640	12.587	12.527	12.537
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	北北東	北北東	北	南	東	東北東	東北東	北東	東北東	東北東	東	南東	南東	東南東	南東	南東	東南東	東北東	東	北東	北東	北東
風速(m/s)	3.7	3.3	1.8	0.8	0.9	1.6	2.5	3.3	4.3	3.0	3.2	1.5	1.8	2.7	2.6	2.2	1.9	1.3	1.1	3.3	2.7	2.5

3月20日																						
モニタリングポスト	11:00	11:10	11:20	11:30	11:40	11:50	12:00	12:10	12:20	12:30	12:40	12:50	13:00	13:10	13:20	13:30	13:40	13:50	14:00	14:10	14:20	14:30
MP1(μSv/h)	16.230	16.143	16.027	16.070	16.027	15.923	15.937	15.967	15.917	15.880	15.850	15.790	15.787	15.797	15.710	15.717	15.713	15.687	15.697	15.667	15.643	15.587
MP2(μSv/h)	9.683	9.693	9.657	9.617	9.603	9.570	9.563	9.567	9.527	9.527	9.507	9.513	9.487	9.487	9.463	9.423	9.420	9.403	9.400	9.377	9.340	9.353
MP3(μSv/h)	16.510	16.403	16.390	16.360	16.220	16.270	16.163	16.060	16.163	16.117	16.103	16.050	15.987	15.987	15.933	15.947	15.863	15.900	15.850	15.803	15.803	15.780
MP4(μSv/h)	11.630	11.570	11.520	11.497	11.480	11.427	11.420	11.403	11.343	11.320	11.270	11.263	11.257	11.190	11.180	11.127	11.133	11.097	11.067	11.057	11.057	11.030
MP5(μSv/h)	11.220	11.167	11.167	11.073	11.073	11.073	11.067	10.973	10.973	10.973	10.880	10.873	10.873	10.873	10.873	10.847	10.780	10.780	10.813	10.780	10.773	10.733
MP6(μSv/h)	12.460	12.500	12.453	12.460	12.400	12.383	12.337	12.347	12.277	12.307	12.263	12.210	12.193	12.147	12.160	12.130	12.123	12.123	12.063	12.063	12.063	12.043
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	北東	北東	東	北東	北東	北東	北東	北東	東	東北東	東	東	東	東南東	南南東	東南東	東南東	東南東	南南東	南南東	南東	南南東
風速(m/s)	2.2	1.9	1.6	2.2	2.9	2.4	1.2	2.0	1.3	1.7	2.6	2.5	2.5	2.2	1.9	1.5	1.4	1.9	2.4	1.8	2.7	2.5



## 福島第二(2F) (事業者のモニタリングポスト)

3月19日																						
モニタリングポスト	18:20	18:30	18:40	18:50	19:00	19:10	19:20	19:30	19:40	19:50	20:00	20:10	20:20	20:30	20:40	20:50	21:00	21:10	21:20	21:30	21:40	21:50
MP1( $\mu\text{Sv/h}$ )	16.723	16.720	16.743	16.803	16.773	16.747	16.740	16.730	16.707	16.710	16.657	16.710	16.623	16.613	16.610	16.590	16.583	16.550	16.547	16.583	16.510	16.557
MP2( $\mu\text{Sv/h}$ )	10.193	10.157	10.167	10.163	10.167	10.153	10.143	10.133	10.107	10.090	10.083	10.103	10.083	10.097	10.077	10.077	10.080	10.037	10.000	10.730	9.990	10.027
MP3( $\mu\text{Sv/h}$ )	16.963	16.890	16.860	16.890	16.980	16.853	16.887	16.797	16.797	16.807	16.820	16.800	16.817	16.763	16.760	16.727	16.737	16.703	16.707	16.710	16.713	16.650
MP4( $\mu\text{Sv/h}$ )	11.643	11.650	11.637	11.593	11.617	11.620	11.607	11.590	11.547	11.557	11.550	11.560	11.503	11.523	11.513	11.497	11.480	11.497	11.477	11.440	11.493	11.507
MP5( $\mu\text{Sv/h}$ )	11.527	11.567	11.560	11.507	11.553	11.513	11.507	11.467	11.467	11.467	11.467	11.467	11.373	11.467	11.387	11.467	11.467	11.367	11.380	11.367	11.367	11.367
MP6( $\mu\text{Sv/h}$ )	12.960	12.967	12.937	12.930	12.887	12.917	12.863	12.933	12.883	12.920	12.887	12.867	12.867	12.810	12.837	12.827	12.787	12.807	12.800	12.770	12.793	12.787
MP7( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西	西北西	北西	西北西	西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	北北西	北北西	北	南	南	南南西	西南西	西南西	西南西
風速(m/s)	2.6	3.5	1.8	2.5	3.7	2.7	5.3	6.5	5.5	4.7	2.6	1.4	1.6	1.8	0.9	3.2	1.9	1.8	3.4	5.1	8.8	10.8

3月19日												
モニタリングポスト	22:00	22:10	22:20	22:30	22:40	22:50	23:00	23:10	23:20	23:30	23:40	23:50
MP1( $\mu\text{Sv/h}$ )	16.517	16.483	16.470	16.470	16.420	16.453	16.423	16.420	16.433	16.443	16.367	16.400
MP2( $\mu\text{Sv/h}$ )	10.017	10.003	9.997	9.973	9.967	9.990	9.950	9.933	9.970	9.923	9.910	9.953
MP3( $\mu\text{Sv/h}$ )	16.657	16.657	16.603	16.663	16.620	16.627	16.560	16.533	16.493	16.537	16.480	16.553
MP4( $\mu\text{Sv/h}$ )	11.457	11.457	11.447	11.443	11.470	11.440	11.387	11.423	11.420	11.387	11.410	11.400
MP5( $\mu\text{Sv/h}$ )	11.367	11.373	11.367	11.313	11.360	11.313	11.273	11.280	11.267	11.267	11.287	11.267
MP6( $\mu\text{Sv/h}$ )	12.747	12.730	12.743	12.730	12.703	12.717	12.710	12.703	12.663	12.673	12.650	12.643
MP7( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西北西	西	西南西	西	西南西	西南西	西	西	西	西	西南西	西
風速(m/s)	11.9	10.8	5.7	4.8	6.8	7.1	8.4	9.0	8.3	6.8	6.0	7.1

3月20日																						
モニタリングポスト	0:00	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50	2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30
MP1(μSv/h)	16.353	16.340	16.333	16.300	16.927	16.267	16.327	16.243	16.243	16.257	16.200	16.227	16.160	16.153	16.133	16.090	16.117	16.147	16.123	16.087	16.027	16.020
MP2(μSv/h)	9.903	9.920	9.863	9.917	9.887	9.863	9.880	9.867	9.840	9.890	9.813	9.820	9.783	9.770	9.757	9.787	9.750	9.733	9.743	9.710	9.727	9.710
MP3(μSv/h)	16.503	16.483	16.460	16.407	16.410	16.427	16.363	16.327	16.377	16.343	16.333	16.297	16.263	16.253	16.293	16.233	16.207	16.093	16.173	16.130	16.147	16.080
MP4(μSv/h)	11.367	11.323	11.323	11.303	11.320	11.303	11.300	11.303	11.290	11.233	11.310	11.277	11.267	11.247	11.190	11.187	11.197	11.210	11.150	11.177	11.170	11.157
MP5(μSv/h)	11.267	11.267	11.260	11.213	11.207	11.300	11.167	11.167	11.173	11.167	11.167	11.140	11.133	11.067	11.120	11.073	11.113	11.073	11.073	11.073	11.067	11.073
MP6(μSv/h)	12.590	12.613	12.647	12.603	12.600	11.167	12.597	12.563	12.557	12.587	12.533	12.503	12.513	12.527	12.523	12.527	12.490	12.470	12.460	12.487	12.443	12.423
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西	西	西南西	西	西	西	西南西	西北西	西	西北西	北西	北西	北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西
風速(m/s)	6.3	6.8	7.7	10.2	9.6	6.4	7.9	9.1	8.9	9.0	10.8	9.4	9.4	10.3	9.0	11.2	8.8	10.5	9.7	8.8	9.8	8.6

## 福島第二(2F)(事業者のモニタリングポスト)

3月19日																						
モニタリングポスト	7:20	7:30	7:40	7:50	8:00	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50
MP1(μSv/h)	17.4	17.4	17.3	17.3	17.3	17.3	17.3	17.3	17.2	17.2	17.2	17.1	17.0	17.1	17.1	17.1	17.0	16.9	17.0	16.9	16.9	16.9
MP2(μSv/h)	10.6	10.5	10.5	10.5	10.5	10.5	10.5	10.4	10.4	10.4	10.3	10.3	10.3	10.2	10.3	10.2	10.2	10.2	10.2	10.2	10.1	16.1
MP3(μSv/h)	17.7	17.7	17.7	17.7	17.7	17.6	17.7	17.6	17.7	17.6	17.6	17.5	17.4	17.4	17.5	17.4	17.4	17.4	17.4	17.3	17.3	17.3
MP4(μSv/h)	12.4	12.4	12.3	12.3	12.3	12.3	12.3	12.3	12.2	12.2	12.2	12.2	12.2	12.2	12.1	12.1	12.1	12.1	12.1	12.0	12.0	12.0
MP5(μSv/h)	11.0	11.0	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	南南西	南	南南西	南南西	南	南西	西	南西	南	南	南南東	南	南	南	南	南	南	南	南	南南東	南東	南東
風速(m/s)	4.2	4.0	3.9	4.4	5.5	5.8	1.7	2.9	2.5	1.7	3.5	4.1	4.3	6.3	6.4	7.7	6.8	7.1	7.8	8.1	4.6	5.0

3月19日																						
モニタリングポスト	11:00	11:10	11:20	11:30	11:40	11:50	12:00	12:10	12:20	12:30	12:40	12:50	13:00	13:10	13:20	13:30	13:40	13:50	14:00	14:10	14:20	14:30
MP1(μSv/h)	16.9	16.9	16.9	16.9	16.8	16.9	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.7	16.8	16.7	16.7
MP2(μSv/h)	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.5	10.5	10.5	10.4	10.5	10.5	10.4	10.4	10.4	10.4	10.4	10.2	10.3	10.3
MP3(μSv/h)	17.3	17.2	17.2	17.1	17.1	17.1	17.1	17.0	17.0	17.1	17.0	17.0	17.0	17.0	17.0	17.0	16.9	16.9	17.0	17.0	16.9	16.9
MP4(μSv/h)	12.0	12.0	12.0	11.9	11.9	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.7	11.8	11.7	11.7	11.7	11.7	11.7
MP5(μSv/h)	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.7	10.7	10.8	10.7	10.7	10.7	10.6
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	南南東	南南東	南南東	南東	南南東	南南東	南南東	南南東	南南東	南南東	南南西	西	西	西	西	西北西	西北西	西	西	西	西	西
風速(m/s)	7.5	8.0	8.3	6.3	7.4	8.3	8.2	9.4	6.3	5.6	5.0	8.9	11.2	10.2	11.9	11.0	7.2	6.0	7.1	5.8	8.6	5.4

3月19日																						
モニタリングポスト	14:40	14:50	15:00	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:30	16:40	16:50	17:00	17:10	17:20	17:30	17:40	17:50	18:00	18:10
MP1(μSv/h)	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.6	16.6	16.5	16.5	16.5	16.5	16.5	16.4	16.913	16.867	16.840	16.890	16.820	16.800	16.827
MP2(μSv/h)	10.3	10.2	10.3	10.3	10.3	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.220	10.190	10.220	10.180	10.210	10.207	10.160
MP3(μSv/h)	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.8	16.8	16.9	16.8	16.8	17.027	17.067	17.003	17.040	17.027	17.007	16.997
MP4(μSv/h)	11.7	11.7	11.7	11.7	11.6	11.6	11.6	11.6	11.5	11.6	11.6	11.5	11.6	11.5	11.5	11.633	11.640	11.683	11.680	11.647	11.660	11.663
MP5(μSv/h)	10.6	10.6	10.5	10.5	10.5	10.6	10.5	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.3	11.567	11.560	11.567	11.567	11.567	11.567	11.567
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	13.020	12.997	13.003	12.970	12.960	12.980	12.967
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西	西	西北西	西	西北西	西	西	西	西	西	西	西	西	西	西	西	西	西	西	西	西	西北西
風速(m/s)	8.6	10.6	8.3	8.1	4.1	6.9	5.0	2.8	3.3	6.2	7.7	9.7	10.7	7.7	7.9	8.0	5.5	6.8	2.7	5.4	6.1	3.0

## 福島第二(2F) (事業者のモニタリングポスト)

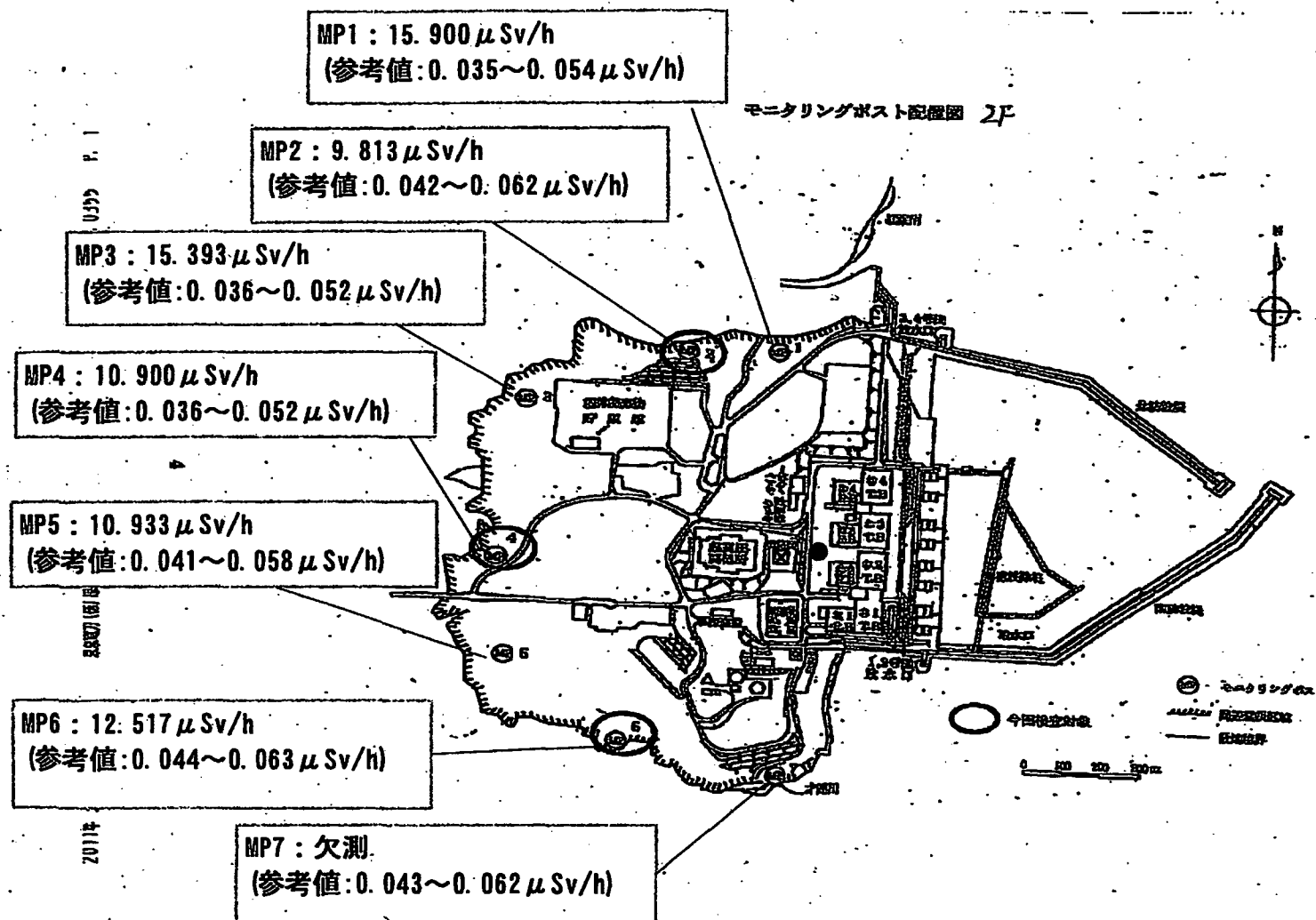
3月18日												
モニタリングポスト	22:00	22:10	22:20	22:30	22:40	22:50	23:00	23:10	23:20	23:30	23:40	23:50
MP1( $\mu\text{Sv/h}$ )	18.5	18.5	18.5	18.4	18.4	18.4	18.3	18.3	18.3	18.3	18.2	18.2
MP2( $\mu\text{Sv/h}$ )	11.2	11.2	11.1	11.2	11.1	11.1	11.2	11.1	11.1	11.1	11.1	11.1
MP3( $\mu\text{Sv/h}$ )	18.8	18.8	18.8	18.8	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.6
MP4( $\mu\text{Sv/h}$ )	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	12.9	13.0	12.9	12.9
MP5( $\mu\text{Sv/h}$ )	11.8	11.9	11.6	11.6	11.8	11.9	11.9	11.7	11.7	11.7	11.7	11.7
MP6( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
MP7( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西	西	西	西	西南西	南西	西南西	南西	南西	南西	南西	南
風速(m/s)	5.0	5.0	3.9	4.5	3.9	2.5	2.6	2.3	2.0	2.5	1.7	1.4

3月19日																						
モニタリングポスト	0:00	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50	2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30
MP1(μSv/h)	18.2	18.2	18.2	18.2	18.1	18.1	18.1	18.1	18.1	18.1	18.0	18.0	17.9	18.0	18.0	17.9	17.8	17.9	17.8	17.8	17.9	17.8
MP2(μSv/h)	11.1	10.9	11.0	11.0	11.0	10.8	10.9	10.9	10.9	10.8	10.9	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
MP3(μSv/h)	18.7	18.7	18.6	18.6	18.5	18.5	18.5	18.5	18.5	18.4	18.4	18.4	18.4	18.4	18.3	18.4	18.3	18.3	18.3	18.2	18.3	18.2
MP4(μSv/h)	12.9	12.9	12.9	12.9	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.7	12.8	12.7	12.7	12.7	12.7	12.7	12.7	12.7
MP5(μSv/h)	11.7	11.7	11.7	11.6	11.7	11.7	11.7	11.7	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.5	11.6	11.6	11.5	11.5	11.5	11.5
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	南西	南西	南西	南	南	南	南	南	南	南南西	南	南南西	南南西	南	南	南	南	南	南	南	南	南
風速(m/s)	0.3	1.6	1.4	0.6	0.6	1.2	1.5	3.5	3.6	3.6	5.4	5.1	5.8	6.5	6.6	5.8	5.6	4.9	4.4	3.6	4.1	5.8

3月19日																						
モニタリングポスト	3:40	3:50	4:00	4:10	4:20	4:30	4:40	4:50	5:00	5:10	5:20	5:30	5:40	5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10
MP1(μSv/h)	17.8	17.7	17.7	17.7	17.6	17.0	17.7	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.5	17.5	17.5	17.5	17.5	17.5	17.4	17.4
MP2(μSv/h)	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.6	10.7	10.6	10.6	10.7	10.6	10.6
MP3(μSv/h)	18.2	18.2	18.2	18.1	18.0	18.0	18.0	17.9	18.0	17.9	17.9	17.9	17.8	17.9	17.9	17.8	17.8	17.8	17.8	17.7	17.7	17.8
MP4(μSv/h)	12.7	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.5	12.6	12.6	12.5	12.5	12.5	12.5	12.5	12.4	12.4	12.4	12.4	12.4	12.4
MP5(μSv/h)	11.4	11.5	11.4	11.4	11.5	11.4	11.4	11.4	11.4	11.3	11.3	11.3	11.2	11.2	11.2	11.1	11.1	11.1	11.2	11.1	11.0	11.0
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	南南西	南	南	南	南南西	南	南	南	南	南南西	南南西	南西	南西	南南西	南	南南西	南	南	南	南	南南西	南南西
風速(m/s)	4.9	3.3	3.8	4.0	5.9	5.6	3.6	5.1	5.2	5.9	5.0	7.2	8.3	6.6	6.1	6.1	6.2	7.7	6.4	6.5	6.0	5.7

# 福島第二原子力発電所

2011/3/20  
22:30現在





各発電所等の環境モニタリング結果

単位:  $\mu\text{Sv/h}$

通常の平常値の範囲	会社名	発電所名	3月20日											
			0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
0.023~0.027	北海道電力㈱	泊原発所	0.023	0.023	0.024	0.024	0.024	0.024	0.025	0.025	0.025	0.025	0.025	0.025
0.024~0.060	東北電力㈱	女川原子力発電所	2.10	2.10	2.10	2.10	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
0.012~0.060		東通原子力発電所	0.018	0.018	0.018	0.017	0.017	0.017	0.018	0.017	0.017	0.018	0.018	0.017
0.033~0.060		福島第一原子力発電所	2821	2797	2778	2759	2939	2712	2679	2661	2630	2614	2726	2579
0.036~0.052	東京電力㈱	福島第二原子力発電所	16.503	16.363	16.263	16.173	16.117	16.033	17.93	21.017	19.51	17.267	16.77	16.51
0.011~0.169		柏崎刈羽原子力発電所	0.064	0.064	0.065	0.065	0.065	0.064	0.065	0.065	0.064	0.066	0.066	0.066
0.036~0.053		東海第二発電所	0.567	0.562	0.561	0.558	0.561	0.557	0.554	0.550	0.548	0.543	0.544	0.540
0.039~0.110	日本原子力発電㈱	敦賀発電所	0.073	0.074	0.073	0.074	0.074	0.073	0.073	0.074	0.074	0.074	0.074	0.074
0.064~0.108	中部電力㈱	浜岡原子力発電所	0.069	0.069	0.068	0.068	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069
0.0207~0.132	北陸電力㈱	志賀原子力発電所	0.033	0.033	0.032	0.033	0.032	0.032	0.032	0.033	0.033	0.033	0.032	0.033
0.028~0.130	中国電力㈱	島根原子力発電所	0.030	0.030	0.030	0.030	0.030	0.028	0.030	0.030	0.030	0.030	0.030	0.030
0.070~0.077		美浜発電所	0.073	0.072	0.073	0.073	0.072	0.073	0.074	0.074	0.074	0.072	0.073	0.072
0.045~0.047	関西電力㈱	高浜発電所	0.042	0.042	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.044	0.043
0.036~0.040		大飯発電所	0.035	0.035	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
0.011~0.080	四国電力㈱	伊方発電所	0.014	0.013	0.014	0.014	0.013	0.013	0.013	0.013	0.013	0.013	0.014	0.014
0.023~0.087		玄海原子力発電所	0.025	0.026	0.026	0.026	0.026	0.026	0.029	0.029	0.027	0.027	0.027	0.028
0.034~0.120	九州電力㈱	川内原子力発電所	0.038	0.038	0.038	0.036	0.037	0.037	0.038	0.037	0.041	0.038	0.039	0.040
0.009~0.069	日本原燃(株)	六ヶ所 再処理工場	0.015	0.015	0.015	0.014	0.015	0.015	0.015	0.015	0.015	0.015	0.014	0.016
0.009~0.071		六ヶ所 埋設事業所	0.018	0.018	0.018	0.018	0.017	0.018	0.018	0.017	0.018	0.017	0.018	0.018

※福島第一原子力発電所については、作業状況により若干測定時間のずれ及び測定位置の変更が生じることもございます。

通常の平常値の範囲	会社名	発電所名	3月20日											
			12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
0.023~0.027	北海道電力㈱	泊原発所	0.024	0.024	0.024	0.023	0.024	0.024	0.024	0.023	0.024	0.024		
0.024~0.060	東北電力㈱	女川原子力発電所	2.00	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.80		
0.012~0.060		東通原子力発電所	0.017	0.018	0.017	0.017	0.017	0.018	0.017	0.017	0.017	0.017		
0.033~0.060		福島第一原子力発電所	2659	2567	2768	3054	3171	2773	2693	2623	2828	2542		
0.036~0.052	東京電力㈱	福島第二原子力発電所	16.163	15.987	15.85	15.73	15.653	15.497	15.45	15.333	15.317	15.337		
0.011~0.169		柏崎刈羽原子力発電所	0.065	0.065	0.066	0.066	0.066	0.069	0.070	0.073	0.074	0.072		
0.036~0.053		東海第二発電所	0.592	0.571	0.565	0.555	0.549	0.546	0.543	0.539	0.538	0.539		
0.039~0.110	日本原子力発電㈱	敦賀発電所	0.074	0.075	0.078	0.076	0.077	0.076	0.076	0.075	0.075	0.074		
0.064~0.108	中部電力㈱	浜岡原子力発電所	0.069	0.069	0.068	0.068	0.068	0.071	0.075	0.074	0.070	0.068		
0.0207~0.132	北陸電力㈱	志賀原子力発電所	0.032	0.033	0.033	0.035	0.041	0.048	0.055	0.054	0.048	0.047		
0.028~0.130	中国電力㈱	島根原子力発電所	0.033	0.033	0.032	0.035	0.034	0.033	0.042	0.047	0.042	0.038		
0.070~0.077		美浜発電所	0.071	0.073	0.075	0.074	0.076	0.076	0.072	0.073	0.073	0.075		
0.045~0.047	関西電力㈱	高浜発電所	0.044	0.043	0.043	0.042	0.044	0.044	0.042	0.043	0.044	0.045		
0.036~0.040		大飯発電所	0.035	0.035	0.035	0.035	0.037	0.036	0.034	0.035	0.035	0.038		
0.011~0.080	四国電力㈱	伊方発電所	0.014	0.017	0.017	0.023	0.027	0.024	0.019	0.015	0.018	0.018		
0.023~0.087		玄海原子力発電所	0.030	0.030	0.036	0.033	0.033	0.031	0.031	0.032	0.033	0.030		
0.034~0.120	九州電力㈱	川内原子力発電所	0.037	0.038	0.037	0.044	0.046	0.044	0.043	0.043	0.043	0.039		
0.009~0.069	日本原燃(株)	六ヶ所 再処理工場	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.016	0.018		
0.009~0.071		六ヶ所 埋設事業所	0.018	0.017	0.017	0.018	0.018	0.018	0.018	0.018	0.018	0.020		

※福島第一原子力発電所については、作業状況により若干測定時間のずれ及び測定位置の変更が生じることもございます。

3/20(日) 21時時点

Press Release

March 17, 2011  
Policy Planning and Communication Division,  
Standards and Evaluation Division,  
Inspection and Safety Division,  
Department of Food Safety

Handling of food contaminated by radioactivity  
(Relating to the accident at the Fukushima Nuclear Power Plant)

- Due to the accident at the Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Plant which occurred on March 11, 2011, radioactivity has been detected in the surrounding environment. Therefore, from the perspective of the Food Sanitation Act, which aims to prevent sanitation hazards resulting from eating and drinking, and thereby protect citizen's good health, the "Indices relating to limits on food and drink ingestion" indicated by the Nuclear Safety Commission of Japan shall be adopted for the time being as provisional regulation values, and foods which exceed these levels shall be deemed to be regulated by Article 6, Item 2 of the Food Sanitation Act. Measures shall be taken to ensure that such foods are not supplied to the public to eat, and local governments have been notified as indicated on the separate sheet.

<Reference 1> Food Sanitation Act, Article 1

Article 1

The purpose of this Act is to prevent the sanitation hazards resulting from eating and drinking by enforcing the regulations and other measures necessary, from the viewpoint of public health, to ensure food safety and thereby to protect citizens' good health.

<Reference 2> Food Sanitation Act, Article 6, Item 2 (Extracts)

Article 6

The following food and additives shall not be sold (including cases of being delivered but not being sold to many and unspecified persons; the same shall apply hereinafter), or collected, produced, imported, processed, used, cooked, stored, or displayed for the purpose of marketing:

- (ii). Articles which contain or are covered with toxic or harmful substances or are suspected to contain or be covered with such substances; provided, however, that this shall not apply to cases where the Minister of Health, Labour and Welfare specifies that such articles involve no risk to human health;

**[Original: Japanese]**

Notice No. 0317 Article 3 of the Department of Food Safety

March 17, 2011

**To: All Prefectural Governors**

**All Mayors in cities with Public Health Centers**

**All Mayors of Special Wards**

**Director-General, Department of Food Safety, Pharmaceutical and Food Safety Bureau, Ministry of  
Health, Labour and Welfare**

**Handling of food contaminated by radioactivity**

On March 11, 2011, the Prime Minister issued a declaration of a nuclear state of emergency relating for the accident at Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Plant.

Therefore, from the perspective of the Food Sanitation Act, which aims to prevent sanitation hazards resulting from eating and drinking, and thereby protect citizen's good health, the "indices relating to limits on food and drink ingestion" indicated by the Nuclear Safety Commission of Japan shall be adopted for the time being as provisional regulation values, and foods which exceed these levels shall be deemed to be regulated by Article 6, Item 2 of the Food Sanitation Act. We would like you to take adequate measures in terms of sales and other areas, to ensure that such foods are not supplied to the public to eat.

Inspections shall be conducted by referring to the office memo "Manual for Measuring Radioactivity of Foods in Case of Emergency" dated May 9, 2002.

Attachment

○Indices relating to limits on food and drink ingestion

Nuclide	Index values relating to ingestion limits in guidelines for coping with disasters at nuclear facilities etc. (Bq/kg)	
Radioactive iodine (Representative radio-nuclides among mixed radio-nuclides: $^{131}\text{I}$ )	Drinking water	300
	Milk, dairy products *	
	Vegetables (Except root vegetables and tubers)	2,000
Radioactive cesium	Drinking water	200
	Milk, dairy products	
	Vegetables	500
	Grains	
	Meat, eggs, fish, etc.	
Uranium	Infant foods	20
	Drinking water	
	Milk, dairy products	
	Vegetables	100
	Grains	
	Meat, eggs, fish, etc.	
Alpha-emitting nuclides of plutonium and transuranic elements (Total radioactive concentration of $^{238}\text{Pu}$ , $^{239}\text{Pu}$ , $^{240}\text{Pu}$ , $^{242}\text{Pu}$ , $^{241}\text{Am}$ , $^{242}\text{Cm}$ , $^{243}\text{Cm}$ , $^{244}\text{Cm}$ )	Infant foods	1
	Drinking water	
	Milk, dairy products	
	Vegetables	10
	Grains	
	Meat, eggs, fish etc.	

\*) Provide guidance so that materials exceeding 100 Bq/kg are not used in milk supplied for use in powdered baby formula or for direct drinking to baby.



福島第一原子力発電事故に起因する食の安全の問題に関する、関連省庁の担当部署の  
コンタクトパーソン

## 1. 食品関連

(1) 食品・農産物への放射能による汚染状況について

担当部署：厚生労働省食品安全部企画情報課

連絡先：03-3592-2326（直通）

担当者：佐久間敦（サクマアツシ）課長補佐

電子メール：sakuma-atsushi@mhlw.go.jp

担当部署：厚生労働省食品安全部監視安全課

連絡先：03-3595-2337（直通）

担当者：大原拓（オオハラタク）健康影響対策専門官

電子メール：oohara-taku@mhlw.go.jp

(2) 懸案となっている農作物の栽培実態（出荷量、栽培の方法等）について

担当部署：農林水産省大臣官房政策課技術調整室

連絡先：03-6744-2136（直通）

担当者：吉岡修（ヨシオカオサム）室長

電子メール：osamu\_yoshioka@nm.maff.go.jp

## 2. 水関連

(1) 上水（蛇口水）の放射能水準調査について

担当部署：文部科学省原子力災害対策支援本部

連絡先：03-5510-1076（本部直通）

担当者：堀田（ホリタ）氏、新田（ニッタ）氏（内線4604もしくは4605）

(2) 被災地の給水状況一般について

担当部署：厚生労働省健康局水道課

連絡先：電話：03-3595-2368（直通）

担当者1：松本公男（マツモトキミオ）水道水質管理官

電子メール：matsumoto-kimio@mhlw.go.jp

担当者2：名倉良雄（ナクラヨシオ）課長補佐

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**From:** [David Kenagy](#)  
**To:** [Rodriguez, Veronica](#); [HOO Hoc](#); [HOO2 Hoc](#); [Huffman, William](#); [doehqeoc@oem.doe.gov](#); [HOO Hoc](#); [Smith, Brooke](#); [zubarevie@state.gov](#); [David Kenagy](#)  
**Subject:** RE: IAEA distributed documents  
**Date:** Monday, March 21, 2011 8:40:14 AM  
**Attachments:** [NISA METI Press Release 38 attachment1.pdf](#)  
[Summary of reactor unit status at 0500 UTC 21-March - correction to table only.pdf](#)  
[NISA METI press release 38 \(English\).pdf](#)  
[Letter - Summary of reactor unit status at 21-March 0500 UTC.pdf](#)  
[NISA METI Press Release 38 attachment3.pdf](#)

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福島第一原子力発電所 プラント関連パラメータ

3月21日 05:00現在

号機	1u	2u	3u	4u	5u	6u
注水状況	消火系ラインを用いた海水注入中。 流量 2m³/hr (本設計値) (3/21 03:00)	消火系ラインを用いた海水注入中。 流量 20m³/hr (本設計値) (3/21 03:00)	消火系ラインを用いた海水注入中。 流量 1m³/hr (本設計値) (3/21 04:00)	停止中	停止中	停止中
原子炉水位	燃料域A: -1750mm 燃料域B: -1800mm (3/21 03:00 現在)	燃料域A: -1350mm (3/21 03:00 現在)	燃料域A: -1650mm 燃料域B: -1950mm (3/21 04:00 現在)	-	停止域 2104mm (3/21 05:00 現在)	停止域 1764mm (3/21 05:00 現在)
原子炉圧力	0.194MPag (A) 0.158MPag (B) (3/21 03:00 現在)	-0.018MPag (A) -0.020MPag (B) (3/21 03:00 現在)	-0.027MPag (C) 0.214MPag (A) (3/21 04:00 現在)	-	0.008MPag (3/21 05:00 現在)	0.008MPag (3/21 05:00 現在)
原子炉水温度	-			-	34.4℃ (3/21 05:00 現在)	28.2℃ (3/21 05:00 現在)
D/W・S/C 圧力	D/W 0.16 MPaabs S/C 0.16 MPaabs (3/21 03:00 現在)	D/W 0.12MPaabs S/C ダウンスケール (3/21 03:00 現在)	D/W 0.160MPaabs S/C ダウンスケール (3/21 04:00 現在)	-		
CAMS	D/W 4.66×10⁴Sv/h S/C 3.85×10⁴Sv/h (3/21 03:00 現在)	D/W 6.01×10⁴Sv/h S/C 2.09×10⁴Sv/h (3/21 03:00 現在)	D/W 6.92×10⁴Sv/h S/C 1.88×10⁴Sv/h (3/21 04:00 現在)	-		
D/W 設計使用圧力	384kPag	384kPag	384kPag	-		
D/W 最高使用圧力	427kPag	427kPag	427kPag			
使用済燃料プール 水温度	-	-	-	84℃ (3/14 4:08)	39.5℃ (3/21 05:00 現在)	32.0℃ (3/21 05:00 現在)
電源	1Aトリップ 1Bトリップ	2Aトリップ 2Bトリップ	3Aトリップ 3Bトリップ	4A 地震時点検中 につき使用不可 4Bトリップ	5Aトリップ 5Bトリップ	6A 動作中 6B 動作中 HPCS 作動
その他情報						





Unit	1	2	3	4
Power (MWe /MWth)	460/1380	784/2381	784/2381	784/2381
Type of Reactor	BWR-3	BWR-4	BWR-4	BWR-4
Status at time of EQ	In service – auto shutdown	In service – auto shutdown	In service – auto shutdown	Outage
Core and fuel integrity	Damaged	Damaged	Damaged	No fuel in the Reactor
RPV & RCS integrity	Unknown	Unknown	Unknown	Not applicable due to outage plant status
Containment integrity	Not Damaged	Damage suspected	No information	
AC Power	Substation connected	<u>AC Power available – Load check is ongoing</u>	Not available	Not available
Building	Severe damage	Slight damage	Severe damage	Severe damage
Water level of RPV	Around half of Fuel is uncovered (Stable)	Around half of Fuel is uncovered (Stable)	Around half of Fuel is uncovered (Stable)	Not applicable due to outage plant status



Pressure of RPV	Stabilized	Unreliable Readings	<u>Decreased</u>	
CV Pressure Drywell	Stable	Stable	<u>Decreased</u>	
Water injection to RPV	Seawater	Seawater	Seawater	
Water injection to CV	No information	No information	No information	
Spent Fuel Pool Status	No information	<u>Periodic spraying from outside</u>	<u>Periodic spraying from outside</u>	<u>Periodic spraying from outside</u>



Unit	5	6
Power	784/2381	1100/3293
Type of Reactor	BWR-4	BWR-5
Status at the EQ occurred	Outage	Outage
Core and Fuel	<u>Cold Shutdown</u>	<u>Cold Shutdown</u>
RPV & RCS integrity	Intact	Intact
Containment int.	No damage expected	No damage expected
AC Power	2 <sup>nd</sup> Emergency diesel from Unit 6	<u>Off-site power available</u>
Building	No damage reported	No damage reported
Water level of RPV	Above fuel	Above fuel
Pressure of RPV	Cooling restored	Cooling restored
Containment Pressure	No information	No information
Water injection to RPV	Injection in Progress	Injection in Progress
Water injection to CV	Not needed now	Not needed now
Spent Fuel Pool Status	Cooling restored	Cooling restored







March 21, 2011

Nuclear and Industrial Safety Agency

**Seismic Damage Information (the 38th Release)**  
(As of 10:30 March 21st, 2011)

Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa NPS, Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai Dai-ni NPS, Japan Atomic Power Co. Inc. as follows:

Major updates are as follows.

1. Nuclear Power Stations (NPS)

● Fukushima Dai-ichi NPS

- The pressure in the Primary Containment Vessel of Unit 3 rose (320 kPa as of 11:00 March 20th). Preparation to lower the pressure was carried. Judging from the situation, immediate pressure relief was not required. Monitoring the pressure continues (160 kPa at 04:00 March 21st).

<Situation of Water Spray>

(Unit 3)

- Water spray over the Spent Fuel Pool by Hyper Rescue Unit of Tokyo Fire Department was started at 21:39 March 20th and finished at 03:58 March 21st.

(Unit 4)

- Water spray over the Spent Fuel Pool by Self-Defence Force (13 fire engines) was started at around 06:37 March 21st and finished at 08:41 March 21st.

<Recovery of Power Source>

- Power Center of Unit 2 received electricity (15:46 March 20th) and the integrity of each load is being confirmed.
- Works for laying electricity cable to the Power Center of Unit 4 is being carried out (Scheduled to be completed on March 21st)

(Attached sheet)

## 1. The state of operation at NPS (Number of automatic shutdown units: 10)

### ● Fukushima Dai-ichi NPS, TEPCO

(Okuma Town and Futaba Town, Futaba County, Fukushima Prefecture)

#### (1) The state of operation

Unit 1 (460MWe): automatic shutdown  
 Unit 2 (784MWe): automatic shutdown  
 Unit 3 (784MWe): automatic shutdown  
 Unit 4 (784MWe): in periodic inspection outage  
 Unit 5 (784MWe): in periodic inspection outage, cold shutdown  
 at 14:30 March 20th  
 Unit 6 (1,100MWe): in periodic inspection outage, cold shutdown  
 at 19:27 March 20th

#### (2) Major Plant Parameters (10:30 March 21st)

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Reactor Pressure*1 [MPa]	0.295(A) 0.259(B)	0.083(A) 0.081(B)	0.074(C) 0.315(B)	—	0.109	0.109
CV Pressure (D/W) [kPa]	160	120	160	—	—	—
Reactor Water Level*2 [mm]	−1,750(A) −1,800(B)	−1,350(A) Not available(B)	−1,650(A) −1,950(B)	—	2,104	1,764
Suppression Pool Water Temperature (S/C) [°C]	—	—	—	—	—	—
Suppression Pool Pressure (S/C) [kPa]	160	down scale	down scale	—	—	—
Spent Fuel Pool Water Temperature [°C]	—	—	—	Not available*3	39.5	32.0
Time of Measurement	05:00 March 21st	03:00 March 21st	04:00 March 21st		05:00 March 21st	05:00 March 21st

\*1: Converted from reading value to absolute pressure

\*2: Distance from the top of fuel

\*3: As of 04:08 March 14<sup>th</sup>, 84°C

### (3) Report concerning other incidents

- TEPCO reported to NISA the event in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (15:42 March 11th)
- TEPCO reported to NISA the event (Inability of water injection of the Emergency Core Cooling System) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness (Units 1 and 2). (16:36 March 11th)
- The cable for receiving electricity from the transmission line of Tohoku Electric Power Company was installed. It is scheduled to be connected to Unit 2 after the completion of discharge work. (17:30 March 17th)  
The content of operations for recovery of external power supply to Units 1 to 4 (Power supply from electric transmission grid of Tohoku Electric Power Co. and from the route via transformer sub-station of TEPCO) is being confirmed. (06:30 March 18th)

### <Unit 1>

- Seawater injection to the Reactor Pressure Vessel (RPV) via the Fire Extinguish Line started. (20:20 March 12th)  
→Temporary interruption of the injection (01:10 March 14th)
- The sound of explosion in Unit 1 occurred. (15:36 March 12th)
- Seawater is being injected. (As of 12:00 March 19th)

### <Unit 2>

- Water injection function was sustained. (14:00 March 13th)
- The Blow-out Panel of reactor building was opened due to the explosion in the reactor building of Unit 3. (After 11:00 March 14th)
- Reactor water level tended to decrease. (13:18 March 14th) TEPCO reported to NISA the event (Loss of reactor cooling functions) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (13:49 March 14th)
- Seawater injection to RPV via the Fire Extinguish line was ready. (19:20



March 14th)

- Water level in RPV of Unit 2 tended to decrease. (22:50 March 14th)
- A sound of explosion was made in Unit 2. As the pressure in Suppression Chamber decreased (06:10 March 15th), there was a possibility that an incident occurred in the Chamber. (About 06:20 March 15th)
- Seawater injection to RPV continues. (As of 12:00 March 19th)
- Electric power receiving at the emergency power source transformer from the external transmission line was completed. The work for laying the electric cable from the facility to the load side was carried out. (As of 13:30 March 19th)
- Injection of 40t of Seawater to the Spent Fuel Pool of Unit 2 was started.(from 15:00 till 17:20 March 20th)
- Power Center of Unit 2 received electricity (15:46 March 20th)

<Unit 3>

- Fresh water started to be injected to RPV via the Fire Extinguish Line. (11:55 March 13th)
- Seawater started to be injected to RPV via the Fire Extinguish Line. (13:12 March 13th)
- Seawater injection for Units 1 and 3 was interrupted due to the lack of seawater in pit. (01:10 March 14th)
- Seawater injection to RPV for Unit 3 was restarted (03:20 March 14th)
- The pressure in Primary Containment Vessel (PCV) of Unit 3 rose unusually. (07:44 March 14th) TEPCO reported to NISA on the event falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (7:52 March 14th)
- In Unit 3, the explosion like Unit 1 occurred around the Reactor Building (11:01 March 14th)
- The white smoke like steam generated from Unit 3. (08:30 March 16th)
- Because of the possibility that PCV of Unit 3 was damaged, the workers evacuated from the main control room of Units 3 and 4 (common control room). (10:45 March 16th) Thereafter the operators returned to the room and restarted the operation of water injection. (11:30 March 16th)
- Seawater was discharged 4 times to Unit 3 by the helicopters of the Self-Defence Force. (9:48, 9:52, 9:58 and 10:01 March 17th)



- The riot police arrived at the site for the water spray from the grand. (16:10 March 17th)
- The Self-Defence Force started the water spray from 19:35 March 17th.
- The water spray from the ground was carried out by the riot police (From 19:05 till 19:13 March 17th)
- The water spray from the ground was carried out by the Self-Defense Force using 5 fire engines. (March 17th)  
(The starting time of water spray by each engine: 19:35, 19:45, 19:53, 20:00 and 20:07 March 17th)
- The water spray from the ground using 6 fire engines (6 tons of water spray per engine) was carried out by the Self-Defence Force. (From before 14:00 till 14:38 March 18th)
- The water spray from the ground using a fire engine provided by the US Military was carried out. (Finished at 14:45 March 18th)
- Seawater is being injected to RPV. (As of 10:00 March 19th)
- Hyper Rescue Unit (14 vehicles) arrived at the Main Gate (23:10 March 18th) and 6 vehicles of them entered the NPS in order to spray water from the ground. (23:30 March 18th)
- Hyper Rescue Unit of Tokyo Fire Department carried out and completed the water spray. (Finished at 03:40 March 20th)
- The pressure in PCV of Unit 3 rose (320 kPa as of 11:00 March 20th). Preparation to lower the pressure was carried. Judging from the situation, immediate pressure relief was not required. Monitoring the pressure continues (160 kPa at 04:00 March 21st).
- On-site survey for leading electric cable (From 11:00 till 16:00 March 20th)
- Water spray over the Spent Fuel Pool of Unit 3 by Hyper Rescue Unit of Tokyo Fire Department was started at 21:39 March 20th and finished at 03:58 March 21st.
- Works for the recovery of external power supply is being carried out.

#### <Unit 4>

- It was confirmed that a part of wall in the operation area of Unit 4 was damaged. (06:14 March 15th)
- The fire at Unit 4 occurred. (09:38 March 15th) TEPCO reported that the fire was extinguished spontaneously. (11:00 March 15th)

- The temperature of water in the Spent Fuel Pool at Unit 4 had increased. (84 °C as of 04:08 March 14th)
- The fire occurred at Unit 4. (5:45 March 15th) TEPCO reported that no fire could be confirmed on the ground. (06:15 March 16th)
- Because of the replacement work of the Shroud of RPV, no fuel was inside the RPV.
- The Self-Defence Force started water spray over the Spent Fuel Pool of Unit 4 (09:43 March 20th).
- On-site survey for leading electric cable (From 11:00 till 16:00 March 20th)
- Water spray over the Spent Fuel Pool of Unit 4 by Self-Defence Force was started at around 18:30 March 20th and finished at 19:46 March 20th.
- Water spray over the Spent Fuel Pool by Self-Defence Force (13 fire engines) started at 06:37 March 21st and finished at 08:41 March 21st.
- Works for laying electricity cable to the Power Center is being carried out (Scheduled to be completed on March 21st).

## <Units 5 and 6>

- Emergency Diesel Generator (1 unit) for Unit 6 is operable and supplying electricity to Units 5 and 6. Water injection to RPV and Spent Fuel Pool through the system of Make up Water Condensate (MUWC) is being carried.
- The second unit of Emergency Diesel Generator (A) for Unit 6 started up. (04:22 March 19th)
- The pumps for Residual Heat Removal (RHR) (C) for Unit 5 (05:00 March 19th) and RHR (B) for Unit 6 (22:14 March 19th) started up and recovered heat removal function. It cools Spent Fuel Storage Pool with priority. (Power supply : Emergency Diesel Generator for Unit 6) (05:00 March 19th)
- Unit 5 under cold shut down (14:30 March 20th)
- Unit 6 under cold shut down (19:27 March 20th)
- Receiving electricity reached to the transformer of starter. (19:52 March 20th)

## <Common Spent Fuel Pool>

- It was confirmed that the water level of Spent Fuel Pool was maintained full at after 06:00 March 18th.
- As of 09:00 March 19th, the water temperature in the pool is 57°C.

## ● Fukushima Dai-ni NPS (TEPCO)

(Naraha Town / Tomioka Town, Futaba County, Fukushima Prefecture.)

### (1) The state of operation

- Unit1 (1,100MWe): automatic shutdown, cold shut down at 17:00, March 14th
- Unit2 (1,100MWe): automatic shutdown, cold shut down at 18:00, March 14th
- Unit3 (1,100MWe): automatic shutdown, cold shut down at 12:15, March 12th
- Unit4 (1,100MWe): automatic shutdown, cold shut down at 07:15, March 15th

### (2) Major plant parameters (As of 09:00 March 21st)

	Unit	Unit 1	Unit 2	Unit 3	Unit 4
Reactor Pressure*1	MPa	0.15	0.12	0.13	0.16
Reactor water temperature	°C	34.1	29.4	35.9	31.3
Reactor water level*2	mm	8,246	10,246	8,467	8,785
Suppression pool water temperature	°C	25	24	27	28
Suppression pool pressure	kPa (abs)	138	108	104	113
Remarks		cold shutdown	cold shutdown	cold shutdown	cold shutdown

\*1: Converted from reading value to absolute pressure

\*2: Distance from the top of fuel



(3) Report concerning other incidents

- TEPCO reported to NISA the event in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 1. (18:08 March 11th)
- TEPCO reported to NISA the events in accordance with the Article 10 regarding Units 1, 2 and 4. (18:33 March 11th)
- TEPCO reported to NISA the event (Loss of pressure suppression function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 1. (5:22 March 12th)
- TEPCO reported to NISA the event (Loss of pressure suppression function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 2. (5:32 March 12th)
- TEPCO reported to NISA the event (Loss of pressure suppression function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 4 of Fukushima Dai-ni NPS. (6:07 March 12th)

● Onagawa NPS (Tohoku Electric Power Co. Inc.)

(Onagawa Town, Oga County and Ishinomaki City, Miyagi Prefecture)

(1) The state of operation

- Unit 1 (524MWe): automatic shutdown, cold shut down at 0:58, March 12th
- Unit 2 (825MWe): automatic shutdown, cold shut down at earthquake
- Unit 3 (825MWe): automatic shutdown, cold shut down at 1:17, March 12th

(2) Readings of monitoring post, etc.

MP2 (Monitoring at the North End of Site Boundary)

approx. 6,500 nGy/h (19:00 March 14th)

→approx. 5,400 nGy/h (19:00 March 15th)

(3) Report concerning other incidents

- Fire Smoke on the first basement of the Turbine Building was confirmed to be extinguished. (22:55 on March 11th)



- Tohoku Electric Power Co. reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (13:09 March 13th)

## 2. Action taken by NISA

(March 11th)

- 14:46 Set up of the NISA Emergency Preparedness Headquarters (Tokyo) immediately after the earthquake
- 15:42 TEPCO reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 16:36 TEPCO recognized the event (Loss of reactor cooling function) in accordance with the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Units 1 and 2 of Fukushima Dai-ichi NPS. (Reported to NISA at 16:45)
- 18:08 Regarding Unit 1 of Fukushima Dai-ichi NPS, TEPCO reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 18:33 Regarding Units 1, 2 and 4 of Fukushima Dai-ichi NPS, TEPCO reported to NISA in accordance with the Article 10 of Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 19:03 The Government declared the state of nuclear emergency. (Establishment of Government Nuclear Emergency Response Headquarters and Local Emergency Response Headquarters)
- 20:50 Fukushima Prefecture's Emergency Response Headquarters issued a direction for the residents within 2 km radius from Unit 1 of Fukushima Dai-ichi NPS to evacuate. (The population of this area is 1,864.)
- 21:23 Directives from Prime Minister to the Governor of Fukushima Prefecture, the Mayor of Okuma Town and the Mayor of Futaba Town were issued regarding the event occurred at Fukushima Dai-ichi NPS, TEPCO, in accordance with the Paragraph 3, the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness as follows:
  - Direction for the residents within 3km radius from Unit 1 of

Fukushima Dai-ichi NPS to evacuate

- Direction for the residents within 10km radius from Unit 1 of Fukushima Dai-ichi NPS to stay in-house

24:00 Vice Minister of Economy, Trade and Industry, Ikeda arrived at the Local Emergency Response Headquarters

(March 12th)

05:22 Regarding Unit 1 of Fukushima Dai-ichi NPS, TEPCO recognized the event (Loss of pressure suppression function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (Reported to NISA at 06:27)

05:32 Regarding Unit 2 of Fukushima Dai-ichi NPS, TEPCO recognized the event (Loss of pressure suppression function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.

05:44 Residents within 10km radius from Unit 1 of Fukushima Dai-ichi NPS shall evacuate by the Prime Minister Direction.

06:07 Regarding Unit 4 of Fukushima Dai-ichi NPS, TEPCO recognized the event (Loss of pressure suppression function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.

06:50 In accordance with the Paragraph 3, the Article 64 of the Nuclear Regulation Act, the order was issued to control the internal pressure of PCV of Units 1 and 2 of Fukushima Dai-ichi NPS.

07:45 Directives from Prime Minister to the Governor of Fukushima Prefecture, the Mayors of Hirono Town, Naraha Town, Tomioka Town and Okuma Town were issued regarding the event occurred at Fukushima Dai-ichi NPS, TEPCO, pursuant to the Paragraph 3, the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness as follows:

- Direction for the residents within 3km radius from Fukushima Dai-ichi NPS to evacuate
- Direction for the residents within 10km radius from Fukushima Dai-ichi NPS to stay in-house

17:00 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on



Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

17:39 Prime Minister directed evacuation of the residents within the 10 km radius from Fukushima Dai-ichi NPS.

18:25 Prime Minister directed evacuation of the residents within the 20km radius from Fukushima Dai-ichi NPS.

19:55 Directives from Prime Minister was issued regarding seawater injection to Unit 1 of Fukushima Dai-ichi NPS.

20:05 Considering the Directives from Prime Minister and pursuant to the Paragraph 3, the Article 64 of the Nuclear Regulation Act, order was issued to inject seawater to Unit 1 of Fukushima Dai-ichi NPS and so on.

20:20 At Unit 1 of Fukushima Dai-ichi NPS, seawater injection started.

(March 13th)

05:38 TEPCO reported to NISA the event (Total loss of coolant injection function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 3 of Fukushima Dai-ichi NPS. Recovering efforts by TEPCO of the power source and coolant injection function and the work on venting were under way.

09:01 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

09:08 Pressure suppression and fresh water injection started for Unit 3 of Fukushima Dai-ichi NPS.

09:20 The Pressure Vent Valve of Unit 3 of Fukushima Dai-ichi NPS was opened.

09:30 The order was issued for the Governor of Fukushima Prefecture, the Mayors of Okuma Town, Futaba Town, Tomioka Town and Namie Town in accordance with the Act on Special Measures Concerning Nuclear Emergency Preparedness on the contents of radioactivity decontamination screening.

09:38 TEPCO reported to NISA that Unit 1 of Fukushima Dai-ichi NPS reached a situation specified in the Article 15 of the Act on Special

## Measures Concerning Nuclear Emergency Preparedness.

- 13:09 Tohoku Electric Power Co. reported to NISA that Onagawa NPS reached a situation specified in the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 13:12 Fresh water injection was switched to seawater injection for Unit 3 of Fukushima Dai-ichi NPS.
- 14:36 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

(March 14th)

- 01:10 Seawater injection for Units 1 and 3 of Fukushima Dai-ichi NPS were temporarily interrupted due to the lack of seawater in pit.
- 03:20 Seawater injection for Unit 3 of Fukushima Dai-ichi NPS was restarted.
- 04:40 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 05:38 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 07:52 TEPCO reported to NISA the event (Unusual rise of the pressure in PCV) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 3 of Fukushima Dai-ichi NPS.
- 13:25 Regarding Unit 2 of Fukushima Dai-ichi NPS, TEPCO recognised the event (Loss of reactor cooling function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 22:13 TEPCO reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 22:35 TEPCO reported to NISA the event (Unusual increase of radiation



dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

(March 15th)

00:00: The acceptance of experts from IAEA was decided. NISA agreed to accept the offer of dispatching of the expert on NPS damage from IAEA considering the intention by Mr. Amano, Director General of IAEA. Therefore, the schedule of expert acceptance will be planned from now on according to the situation.

00:00: NISA also decided the acceptance of experts dispatched from NRC.

07:21 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

07:24 Incorporated Administration Agency, Japan Atomic Energy Agency (JAEA) reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Nuclear Fuel Cycle Engineering Laboratories, Tokai Research and Development Centre.

07:44 JAEA reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Nuclear Science Research Institute.

08:54 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

10:30 According to the Nuclear Regulation Act, Minister of Economy, Trade and Industry issued the directives as follows.

For Unit 4: To extinguish fire and to prevent the occurrence of re-criticality

For Unit 2: To inject water to reactor vessel promptly and to vent Drywell.

10:59 Considering the possibility of lingering situation, it was decided that the function of the Local Emergency Response Headquarter was moved to the Fukushima Prefectural Office.

11:00 Prime Minister directed the in-house stay area.

In-house stay was additionally directed to the residents in the area from 20 km to 30 km radius from Fukushima Dai-ichi NPS considering in-reactor situation.

16:30 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

22:00 According to the Nuclear Regulation Act, Minister of Economy, Trade and Industry issued the following directive.

For Unit 4: To implement the injection of water to the Spent Fuel Pool.

23:46 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

(March 18th)

13:00 Ministry of Education, Culture, Sports, Science and Technology decided to reinforce the nation-wide monitoring survey in the emergency of Fukushima Dai-ichi and Dai-ni NPS.

15:55 TEPCO reported to NISA on the accidents and failure at Units 1, 2, 3 and 4 of Fukushima Dai-ichi NPS (Leakage of the radioactive materials inside of the reactor buildings to non-controlled area of radiation) pursuant to the Article 62-3 of the Nuclear Regulation Act.

16:48 Japan Atomic Power Co. reported to NISA accidents and failures in Tokai NPS (Failure of the seawater pump motor of the emergency diesel generator 2C) pursuant to the Article 62-3 of the Nuclear Regulation Act.

(March 19th)

07:44 The second unit of Emergency Diesel Generator (A) for Unit 6 started up.

TEPCO reported to NISA that the pump for RHR (C) for Unit 5 started up and started to cooling Spent Fuel Storage Pool. (Power supply: Emergency Diesel Generator for Unit 6)



08:58 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

< Possibility on radiation exposure (As of 10:30 March 21st) >

<Exposure of residents>

- (1) Including the about 60 evacuees from Futaba Public Welfare Hospital to Nihonmatsu City Fukushima Gender Equality Centre, as the result of measurement of 133 persons at the Centre, 23 persons counted more than 13,000 cpm were decontaminated.
- (2) The 35 residents transferred from Futaba Public Welfare Hospital to Kawamata Town Saiseikai Kawamata Hospital by private bus arranged by Fukushima Prefecture were judged to be not contaminated by the Prefectural Response Centre.
- (3) As for the about 100 residents in Futaba Town evacuated by bus, the results of measurement for 9 of the 100 residents were as follows. The evacuees, moving outside the Prefecture (Miyagi Prefecture), were divided into two groups, which joined later to Nihonmatsu City Fukushima Gender Equality Centre.

No. of Counts	No. of Persons
18,000cpm	1
30,000-36,000cpm	1
40,000cpm	1
little less than 40,000cpm*	1
very small counts	5

\*(These results were measured without shoes, though the first measurement exceeded 100,000cpm)

- (4) The screening was started at the Off site Centre in Okuma Town from March 12th to 15th. 162 people received examination until now. At the beginning, the reference value was set at 6,000cpm. 110 people were at

the level below 6,000 cpm and 41 people were at the level of 6,000 cpm or more. When the reference value was increased to 13,000 cpm afterward, 8 people were at the level below 13,000 cpm and 3 people are at the level of 13,000 cpm or more.

The 5 out of 162 people examined were transported to hospital after being decontaminated.

- (5) The Fukushima Prefecture carried out the evacuation of patients and personnel of the hospitals located within 10km area. The screening of all the members showed that 3 persons have the high counting rate. These members were transported to the secondary medical institute of exposure. As a result of the screening on 60 fire fighting personnel involved in the transportation activities, the radioactivity higher than twice of the back ground was detected on 3 members. Therefore, all the 60 members were decontaminated.

#### <Exposure of workers>

- (1) As for the 18 workers conducting operations in Fukushima Dai-ichi NPS, results of measurements are as follows;

One worker: At the level of exposure as 106.3 mSv, no risk of internal exposure and no medical treatment required.

Other workers: At the level of no risk for health but concrete numerical value is unknown.

- (2) As for the 7 people working at the time of explosion at around the Unit 3 of Fukushima Dai-ichi NPS who were injured and conscious, 6 out of 7 people were decontaminated by an industrial doctor of the clinic in Fukushima Dai-ni NPS, and confirmed to have no risk. The other one is having a medical treatment at the clinic after decontaminated.

#### <Others>

- (1) Fukushima Prefecture has started the screening from 13 March. It is carried out by rotating the evacuation sites and at the 12 places (set up permanently) such as health offices. The results of screening are being totalled up.
- (2) 5 members of Self-Defence Force who worked for water supply in Fukushima Dai-ichi NPS were exposed. After the work (March 12th),



30,000 cpm was counted by the measurement at Off site Centre. The counts after decontamination were between 5,000 and 10,000 cpm. One member was transferred to National Institute of Radiological Science. No other exposure of the Self-Defence Force member was confirmed at the Ministry of Defence.

- (3) As for policeman, the decontaminations of two policemen were confirmed by the National Police Agency. Nothing unusual was reported.

<Direction of administrating stable Iodine during evacuation>

On March 16th, the Local Emergency Response Headquarter issued “the direction to administer the stable Iodine during evacuation from the evacuation area (20 km radius)” to the Prefectural Governor and the heads of cities, towns and villages (Tomioka Town, Hutaba Town, Okuma Town, Namie Town, Kawauchi Village, Naraha Town, Minamisouma City, Tamura City, Kazurao Village, Hirono Town, Iwaki City and Iidate Village).

<Situation of the injured (As of 10:30 March 21st)>

1. Injury due to earthquake
  - Two employees (slightly)
  - Two subcontract employees (one fracture in both legs)
  - Two missing (TEPCO's employee, missing in the turbine building of Unit 4)
  - One emergency patient (According to the local prefecture, one patient of cerebral infarction was transported by the ambulance).
  - Ambulance was requested for one employee complaining the pain at left chest outside of control area (conscious).
  - Two employees complaining discomfort wearing full-face mask in the main control room were transported to Fukushima Dai-ni NPS for a consultation with an industrial doctor.
2. Injury due to the explosion of Unit 1 of Fukushima Dai-ichi NPS
  - Four employees were injured at the explosion and smoke of Unit 1 around turbine building (non-controlled area of radiation) and were examined by Kawauchi Clinic.
3. Injury due to the explosion of Unit 3 of Fukushima Dai-ichi NPS

- Four TEPCO's employees
- Three subcontractor employees
- Four members of Self-Defence Force (one of them was transported to National Institute of Radiological Sciences considering internal possible exposure. The examination resulted in no internal exposure. The member was discharged from the institute on March 16th.)

#### 4. Other injuries

- A person who visited the clinic in Fukushima Dai-ni NPS from a transformer sub-station, claiming of a stomach ache, was transported to a clinic in Iwaki City, because the person was not contaminated.

#### <Situation of Resident Evacuation (As of 10:30 March 21st)>

At 11:00 March 15th, Prime Minister directed in-house stay to the residents in the area from 20 km to 30 km radius from Fukushima Dai-ichi NPS. The directive was conveyed to Fukushima Prefecture and related municipalities.

Regarding the evacuation as far as 20-km from Fukushima Dai-ichi NPS and 10-km from Fukushima Dai-ni NPS, necessary measures have already been taken.

- The in-house stay in the area from 20 km to 30 km from Fukushima Dai-ichi NPS is made fully known to the residents concerned.
- Cooperating with Fukushima Prefecture, livelihood support to the residents in the in-house stay area are implemented.

(Contact Person)

Mr. Toshihiro Bannai

Director, International Affairs Office,  
NISA/METI

Phone: +81-(0)3-3501-1087



21 MARCH 2011 05:00 UTC



IAEA

International Atomic Energy Agency

Incident and Emergency Centre

**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.

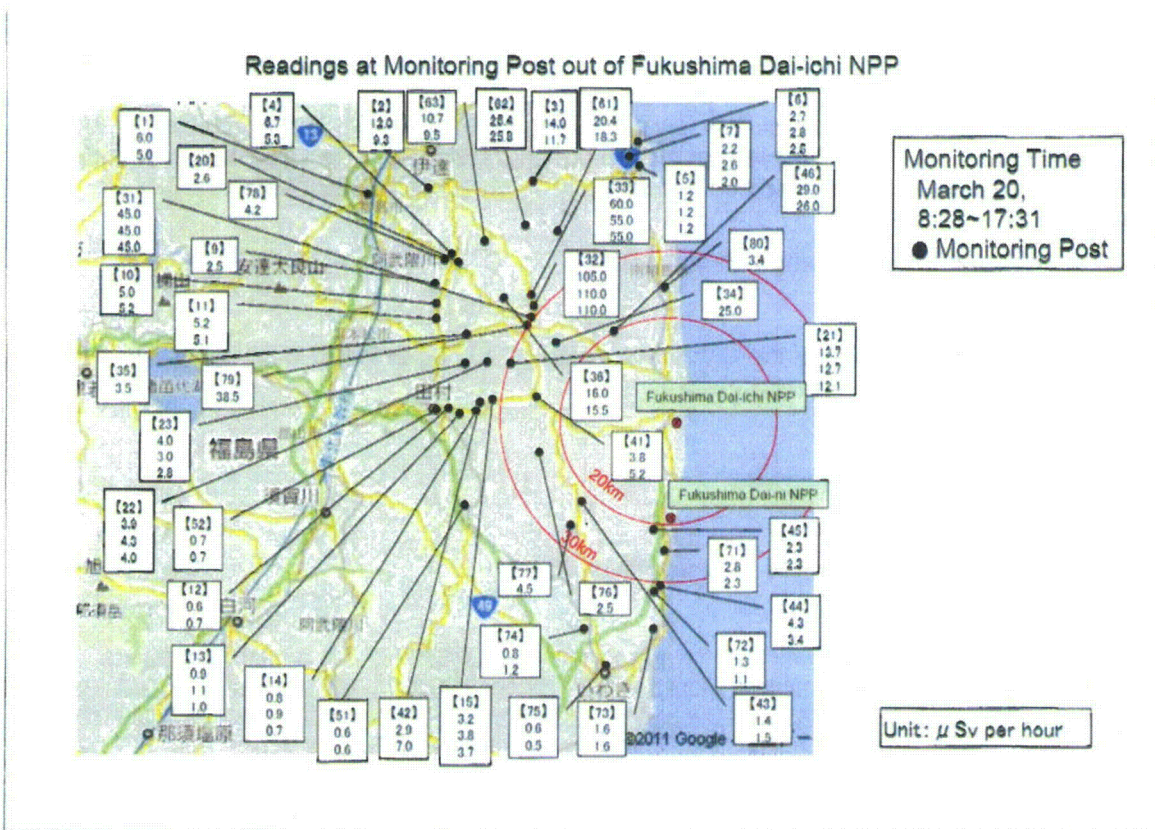
Based on information received by 5:00 UTC on March 21, 2011 the following updated information for the reactor units at the Fukushima Daiichi Nuclear Power Plant is provided:

**Radiation Monitoring Data**

**Off-Site Environmental Radiation Measurements**

Dose rates have been provided by Ministry of Education, Culture, Sport, Science and Technology for all 47 prefectures (excluding Fukushima). The data set covers the period from 15 March 08:00 UTC to 20 March 08:00 UTC.

A new update for the environmental measurements carried out at various locations in Fukushima prefecture has been provided (see the map below). There are no significant changes to report, except to note that environmental radiation measurements were somewhat elevated in the north of Fukushima prefecture outside of the 30 km exclusion zone.





Detailed radiation monitoring in cities in the Fukushima prefecture has been updated (now ranging from 15:00 UTC March 17<sup>th</sup> to 08:31 UTC March 20<sup>th</sup>). Results are consistent with previously reported radiation measurements. The highest detected values are in Fukushima city.

#### **Radioactivity in food, milk and drinking water**

Since the status note of 20 March 04:00 UTC, the IAEA has received further information from the Japanese Ministry of Health Labor and Welfare and prefectural authorities regarding the presence of radioactivity in milk, drinking water and vegetables. The data were based on laboratory analysis of samples taken over the last three days from different areas. The results of some samples were above the limits specified in the Japanese food hygiene law for emergency monitoring criteria for intake of vegetables.

Those limits are:

Nuclide	I-131	Cs-137
Drinking water and Milk	300	200
Vegetables	2000	500

In Fukushima prefecture four milk samples and one drinking water sample had shown concentration of Iodine 131 in excess of the limits. In Ibaraki and Tochigi both I-131 and Cs-137 were detected in spinach samples and the concentration was in some of these samples above the limits. The concentration values vary considerably among the samples and range from a few hundreds to a few thousands Bq/kg.

#### **Deposition Data for Prefectures**

MEXT has published deposition data for all prefectures (excluding Fukushima) for I-131 and Cs-137 covering the period March 18 and 19. Deposition over a 24 hour period was measured at what is assumed to be a single monitoring location. Most prefectures report no detection of either Cs-137 or I-131 deposition, however, eight prefectures did report detectable I-131 or Cs-137. Depositions range from a few tens to a few hundreds of MBq/km<sup>2</sup>, with one exception: the March 18 measurement of I-131 in Tochigi that measured 1300 MBq/km<sup>2</sup>. This value is less than default criteria for protective actions based on deposition in Table B3 of TECDOC-955.

#### **On-Site Environmental Radiation Measurements**

Fukushima Daiichi NPP: Since the last status report of 20 March 04:30 UTC, there has been little change in reported radiation levels on-site.

Fukushima Daiini NPP: nothing to report.

#### **Status of the Fukushima Daiichi Nuclear Power Plant**

##### **Units 1 to 4**

The restoration work of off-site power from the grid operated by TOHOKU EPC is currently in progress. On-site activities for connecting electric cable to Units 3 and 4 were completed. Power is restored to the transformer of Units 5 and 6. Power Center of Unit 2 is already connected to electricity and the integrity of each load is under confirmation. Work for the recovery of off-site power supply to Units 3 and 4 is being carried out (Scheduled to be completed on March 21st).

### Unit 1

Seawater is continued being injected as of 03:00 UTC, March 19. Drywell pressure indication restored on March 19.

### Unit 2

Seawater is being injected as of 03:00 March 19. No smoke or vapour was observed coming from the Unit-2 reactor building on the March 19 11:30 UTC (satellite image). Injection of 40t of Seawater to the Spent Fuel Pool of Unit 2 was performed from 6:00 until 18:20 UTC March 20. Power Center of Unit 2 has received electricity (6:46 UTS March 20th)

### Unit 3

Water spraying was planned to continue until 15:30 UTC, March 19. Seawater is being injected to the reactor pressure vessel since 13:00 UTC March 18. White smoke/vapor from the reactor building is still observed, but less intense than for previous days. Additional fire trucks for external spraying have arrived and spraying of the reactor building is in progress. The pressure in PCV of Unit 3 initially raised to 320 kPa at 2:00 UTC March 20th. Monitoring continues and shows that the pressure has decreased to 225 kPa at 13:00 UTC on March 20th. Water spray over the Spent Fuel Pool of Unit 3 by Hyper Rescue Unit of Tokyo Fire Department was started at 1:39 UTC March 20th and planned to last for about 15 hours. Work for the recovery of external power supply is being carried out (Scheduled to be completed on March 21st).

### Unit 4

No information is available regarding the spent fuel pool water level. Around 08:30 UTC 17 March the seawater injection into the spent fuel pool was terminated. The most recent satellite image (19-March, 01:44 UTC) showed no smoke/vapor coming out from the Unit-4 spent fuel pool area. At 23:20 UTC March 19 spraying to direct water into the spent fuel pool was started. Water spraying over the Spent Fuel Pool of Unit 4 by Self-Defense Force was resumed at around 9:30 UTC March 20th and finished at 10:46 UTC March 20th. Works for the recovery of external power supply are being carried out (Scheduled to be completed on March 21st).

### Unit 5

The reactor vessel water level remains stable at approximately 2m above the top of the fuel. Residual Heat Removal system (RHR) is in service to cool both the reactor and spent fuel pool, using power from diesel generators. Reactor is in cold shutdown state. Spent fuel temperature continue to decrease (from 37.1° to 35.1°C).

### Unit 6

The reactor vessel water level is maintained between 1.5 to 2.5 meters above the top of the fuel. RHR system is in service to cool both the reactor and spent fuel pool, using power from diesel generators. Unit 6 is in the state of cold shut down (10:27 UTC March 20th). Offsite power is partially restored on 10:52 UTC March 20th.

### Spent Fuel Pools

Latest temperatures of the water in the spent fuel pools in Units 4, 5 and 6 have been measured with the results below:

Unit 4	Unit 5	Unit 6
84°C at 19:08 UTC 13-Mar	64.2 °C at 03:00 UTC 17-Mar	62.5 °C at 03:00 UTC 17-Mar
Not measurable since	65.5 °C at 18:00 UTC 17-Mar	62.0 °C at 18:00 UTC 17-Mar



Unit 4	Unit 5	Unit 6
04:08 JST March 14	66.3 °C at 04:00 UTC 18-Mar	64.0 °C at 04:00 UTC 18-Mar
	67.6 °C at 13:00 UTC 18-Mar	65.0 °C at 13:00 UTC 18-Mar
	68.8 °C at 00:00 UTC 19-Mar	66.5 °C at 00:00 UTC 19-Mar
	66.6 °C at 02:00 UTC 19-Mar	66.5 °C at 02:00 UTC 19-Mar
	48.1 °C at 09:00 UTC 19-Mar	67.0 °C at 09:00 UTC 19-Mar
	37.1 °C At 22:00 UTC 19-Mar	41.0 °C at 22:00 UTC 19-Mar
	35.1 °C At 10:00 UTC 20-Mar	28.0 °C at 16:00 UTC 20-Mar

As for the Common Use Spent Fuel Pool, it was reported that the spent fuels are fully covered by water with the temperature of 57°C, as of 10:52 UTC March 20 (pool design temperature is 66 °C).



Hilaire Mansoux  
Emergency Response Manager  
21-March-2011 05:00 UTC

**Units 1, 2, 3, 4, 5 and 6 Plant Status**

Parameter / Indications	Unit	Fukushima Daiichi					
		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Reactor Pressure Vessel Pressure	MPa	<u>0.288 (A)</u> <u>0.259 (B)</u>	<u>0.085 (A)</u> <u>0.081 (B)</u>	<u>0.220 (A)</u> <u>0.263 (B)</u>	-	<u>0.248</u>	<u>0.791</u>
	atm	<u>2.88 (A)</u> <u>2.59 (B)</u>	<u>0.85 (A)</u> <u>0.81 (B)</u>	<u>2.20 (A)</u> <u>2.63 (B)</u>	-	<u>2.48</u>	<u>7.91</u>
Reactor Pressure Vessel Level	mm (above the top of active fuel)	-1700 (A) -1750 (B)	-1400 (A) (B) not available	-1650 (A) -2000 (B)	-	<u>2501</u>	<u>2376</u>
Containment Vessel (Drywell) Pressure	kPa	<u>170</u>	<u>125</u>	<u>290</u>	-	-	-
	atm	<u>1.7</u>	<u>1.25</u>	<u>2.9</u>	-	-	-
Suppression Pool Temperature	°C	No Data	No Data	No Data	No Data	No Data	No Data
Suppression Pool Pressure	kPa	<u>160</u>	Below the scale	Below the scale	-	-	-
	atm	<u>1.6</u>					
Adding water to Reactor Pressure Vessel	• Adding • Not adding Unknown	Sea water injection is continued using fire extinguish line into RPV	Sea water injection is continued using fire extinguish line into RPV	Sea water injection is continued using fire extinguish line into RPV	-	Injection to RPV and the Spent Fuel Pool using make up water	Injection to RPV and the Spent Fuel Pool using make up water
Date/Time of Data Acquisition		<u>March 20</u> <u>6:00 UTC</u>	<u>March 20</u> <u>6:00 UTC</u>	<u>March 20</u> <u>07:00 UTC</u>	-	<u>March 20</u> <u>07:00 UTC</u>	<u>March 20</u> <u>07:00 UTC</u>

\* All pressures are absolute pressure (pressure including normal atmospheric pressure)

\*\* (A) and (B) refer to two measurement channels

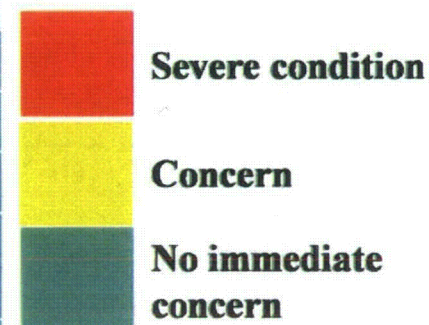


Unit	1	2	3	4
Power (MWe /MWth)	460/1380	784/2381	784/2381	784/2381
Type of Reactor	BWR-3	BWR-4	BWR-4	BWR-4
Status at time of EQ	In service – auto shutdown	In service – auto shutdown	In service – auto shutdown	Outage
Core and fuel integrity	Damaged	Damaged	Damaged	No fuel in the Reactor
RPV & RCS integrity	Unknown	Unknown	Unknown	Not applicable due to outage plant status
Containment integrity	Not Damaged	Damage suspected	No information	
AC Power	Substation connected	<u>AC Power available – Load check is ongoing</u>	Not available	Not available
Building	Severe damage	Slightly damage	Severe damage	Severe damage
Water level of RPV	Around half of Fuel is uncovered (Stable)	Around half of Fuel is uncovered (Stable)	Around half of Fuel is uncovered (Stable)	Not applicable due to outage plant status
Pressure of RPV	Constant	Unreliable Readings	<u>Decreased</u>	
CV Pressure Drywell	Constant	Constant	<u>Decreased</u>	
Water injection to RPV	Seawater	Seawater	Seawater	
Water injection to CV	No information	No information	No information	Periodic spraying from outside
Spent Fuel Pool Status	No information	<u>Periodic spraying from outside</u>	<u>Periodic spraying from outside</u>	

3/21/2011 4:00 AM



Unit	5	6
Power	784/2381	1100/3293
Type of Reactor	BWR-4	BWR-5
Status at the EQ occurred	Outage	Outage
Core and Fuel	<u>Cold Shutdown</u>	<u>Cold Shutdown</u>
RPV & RCS integrity	Intact	Intact
Containment int.	No damage expected	No damage expected
AC Power	2 <sup>nd</sup> Emergency diesel from Unit 6	<u>Off-site power available</u>
Building	No damage reported	No damage reported
Water level of RPV	Above fuel	Above fuel
Pressure of RPV	Cooling restored	Cooling restored
Containment Pressure	No information	No information
Water injection to RPV	Injection in Progress	Injection in Progress
Water injection to CV	Not needed now	Not needed now
Spent Fuel Pool Status	Cooling restored	Cooling restored





3月20日

福島第一(1F)

測定場所

①事務本館北(2号機より北西約0.5キ口) ②体育館付近(MP-5東側)(2号機より西北西約0.9キ口)  
 ③西門付近(MP-5付近)(2号機より西約1.1キ口) ④正門付近前(MP-6付近)(2号機より西南西約1.0キ口)

測定場所	①																							
モニタリングカー	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50	2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30	3:40	3:50	4:00
測定値( $\mu\text{Sv/h}$ )	2814.0	2808.0	2805.0	2803.0	2791.0	2797.0	2794.0	2793.0	2788.0	2785.0	2781.0	2778.0	2773.0	2771.0	2767.0	2764.0	2761.0	2759.0	2745.0	2745.0	2741.0	2758.0	3185.0	2939.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	南西	西	南西	西南西	西南西	北西	北西	西	北東	南西	西	南西	西北西	西	西	北西	北西	西北西	西南西	南東	北北東	西	南	西
風速(m/s)	3.7	2.8	3.5	3.0	3.4	4.6	3.2	3.0	2.9	2.1	2.5	1.8	2.1	1.6	1.8	1.5	2.3	2.1	1.0	1.1	1.0	1.1	1.0	0.9

測定場所	①				③				①															
モニタリングカー	4:10	4:20	4:30	4:40	4:50	5:00	5:10	5:20	5:30	5:40	5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10	7:20	7:30	7:40	7:50	8:00
測定値( $\mu\text{Sv/h}$ )	2771.0	2743.0	2739.0	273.2	271.8	271.2	270.9	270.4	269.8	269.5	2683.1	2679.0	2679.0	2677.0	2670.0	2664.0	2664.0	2661.0	2661.0	2659.0	2652.0	2653.0	2637.0	2630.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	北西	南	南西	北北西	北	北北西	西北西	北	北北東	北東	北	北東	北東	東北東	東北東	東北東	東	東北東	東南東	南南東	北東	北東	北	北東
風速(m/s)	0.5	0.8	0.8	3.5	1.6	1.5	1.5	0.7	0.6	0.6	2.2	0.6	0.7	0.9	0.8	0.6	0.9	1.1	0.6	0.6	0.6	0.8	0.9	1.3

①→③ 西門付近(MP-5付近)(2号機より西約1.1キ口) ※定地点で測定するため移動

③→① 事務本館北(2号機より北西約0.5キ口) ※放水活動による効果を測定するためにより近傍へ移動

測定場所	①																							
モニタリングカー	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50	11:00	11:10	11:20	11:30	11:40	11:50	12:00
測定値( $\mu\text{Sv/h}$ )	2629.0	2627.0	2625.0	2619.0	2617.0	2614.0	2614.0	2608.0	2623.0	2661.0	2742.0	2726.0	2608.0	2605.0	2596.0	2589.0	2583.0	2579.0	2578.0	2569.0	2571.0	2562.0	2564.0	2559.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	北東	北東	東	北北東	東北東	東	東北東	南東	東南東	南南東	北東	南南東	東	東	北東	東	北東	東北東	東北東	北東	東北東	北東	北東	東
風速(m/s)	1.3	1.5	1.3	1.5	1.4	1.2	1.2	1.0	1.0	1.5	1.2	1.2	1.1	1.2	1.3	0.7	1.3	1.4	1.8	1.5	1.4	1.2	1.3	1.3

測定場所	①																							
モニタリングカー	12:10	12:20	12:30	12:40	12:50	13:00	13:10	13:20	13:30	13:40	13:50	14:00	14:10	14:20	14:30	14:40	14:50	15:00	15:10	15:20	15:30	15:40	15:50	16:00
測定値( $\mu\text{Sv/h}$ )	2558.0	2552.0	2551.0	2551.0	2550.0	2567.0	2588.0	2660.0	2593.0	2654.0	2741.0	2768.0	2999.0	2923.0	3056.0	3202.0	3346.0	3054.0	3071.0	3342.0	3337.0	3003.0	3046.0	3171.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	南	南東	南東	北東	南東	東	南東	南東	南東	南東	南東	南東	南	南東	南東	南南東	南	南南東	南	南	南	南	南南東	南
風速(m/s)	1.1	1.2	1.0	1.1	1.3	1.5	1.4	1.6	1.7	1.8	2.0	1.6	1.7	1.8	1.9	2.3	2.1	2.0	1.9	1.9	1.7	1.9	2.1	1.8

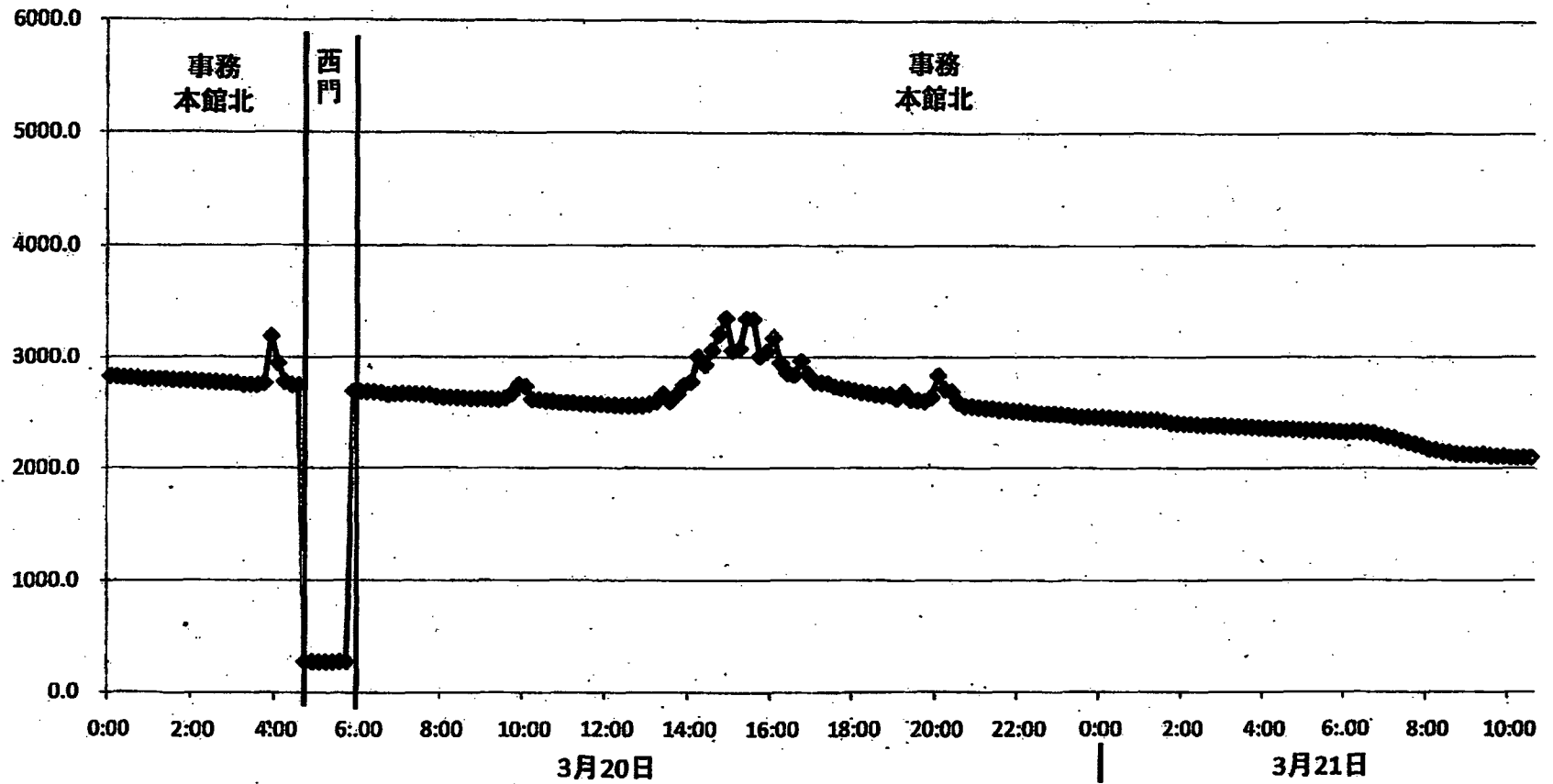
測定場所	①																							
モニタリングカー	16:10	16:20	16:30	16:40	16:50	17:00	17:10	17:20	17:30	17:40	17:50	18:00	18:10	18:20	18:30	18:40	18:50	19:00	19:10	19:20	19:30	19:40	19:50	20:00
測定値( $\mu\text{Sv/h}$ )	2940.0	2851.0	2830.0	2960.0	2839.0	2773.0	2763.0	2768.0	2729.0	2715.0	2707.0	2693.0	2680.0	2673.0	2658.0	2651.0	2658.0	2623.0	2683.0	2614.0	2602.0	2595.0	2632.0	2828.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	南	南	南南西	南	南南西	南	南西	南南西	南東	南南西	南西	南南西	南	南	南西	西南西	北北東	西	西南西	南西	南西	北北西	北東	西
風速(m/s)	2.0	1.9	2.2	2.0	2.1	2.1	1.8	2.0	1.7	2.1	1.7	1.6	2.6	2.6	2.4	1.8	1.0	1.4	1.0	2.0	1.8	0.8	1.2	1.2

測定場所	①																							
モニタリングカー	20:10	20:20	20:30	20:40	20:50	21:00	21:10	21:20	21:30	21:40	21:50	22:00	22:10	22:20	22:30	22:40	22:50	23:00	23:10	23:20	23:30	23:40	23:50	0:00
測定値( $\mu\text{Sv/h}$ )	2704.0	2682.0	2586.0	2552.0	2550.0	2542.0	2537.0	2532.0	2518.0	2517.0	2510.0	2506.0	2503.0	2492.0	2487.0	2485.0	2483.0	2475.0	2469.0	2462.0	2455.0	2457.0	2453.0	2452.0
中性子	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
風向	北東	北西	西	西北西	北西	西北西	西	西北西	西	西	西北西	西北西	北西	北西	西北西	北西	西	西北西	西北西	西	西北西	西	西	西
風速(m/s)	1.4	1.0	1.6	1.2	1.0	2.0	2.2	2.4	2.4	2.0	2.0	2.2	1.6	2.2	2.6	3.2	1.2	1.3	0.8	1.0	1.2	1.0	0.8	1.0



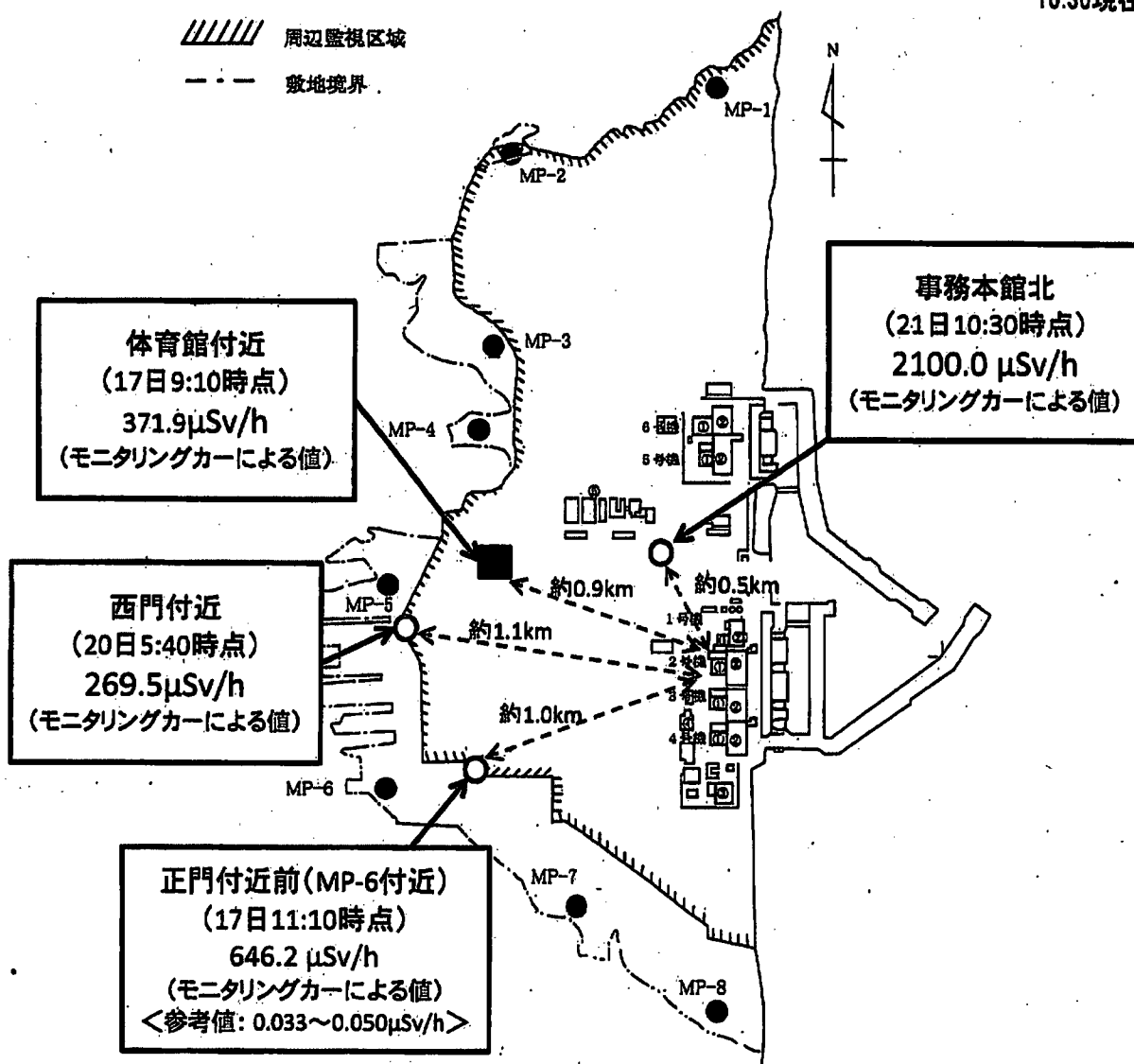
# 福島第一原子力発電所敷地内の線量率

μSv/h



# 福島第一原子力発電所

2011/3/21  
10:30現在



4

## 福島第二(2F) (事業者のモニタリングポスト)

3月21日																								
モニタリングポスト	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50	2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30	3:40	3:50	4:00
MP1(μSv/h)	15.153	15.113	15.130	15.070	15.060	15.103	15.193	15.243	15.350	15.587	15.420	15.757	15.497	16.813	16.227	15.260	15.037	15.030	15.027	14.950	15.040	14.943	14.973	14.940
MP2(μSv/h)	9.223	9.193	9.137	9.113	9.093	9.110	9.143	9.220	9.293	9.370	9.373	9.513	9.490	10.510	9.877	9.167	9.003	8.997	8.990	8.977	8.957	8.990	8.957	8.943
MP3(μSv/h)	15.273	15.277	15.237	15.213	15.180	15.137	15.160	15.110	15.260	15.317	15.363	15.413	15.247	16.433	15.583	15.030	15.030	14.977	14.993	14.943	14.973	14.953	14.950	14.960
MP4(μSv/h)	10.730	10.673	10.693	10.640	10.637	10.603	10.610	10.623	10.690	10.760	10.800	10.820	10.880	11.757	12.027	10.517	10.467	10.457	10.460	10.430	10.433	10.467	10.450	10.427
MP5(μSv/h)	10.533	10.487	10.487	10.387	10.387	10.387	10.380	10.413	10.433	10.480	10.633	10.640	10.913	11.633	12.513	10.433	10.287	10.287	10.287	10.227	10.287	10.240	10.220	10.187
MP6(μSv/h)	11.733	11.693	11.677	11.633	11.607	11.660	11.613	11.667	11.663	11.697	11.747	11.707	11.923	12.087	13.337	11.780	11.517	11.547	11.513	11.470	11.510	11.507	11.483	11.497
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	北西	北北西	北北西	北北西	北	北	北北西	北西	北北西	北西	北	北北西	北西	北西	北西	西北西	西北西	西北西	北西	北北西	西北西	北西	北西	西北西
風速(m/s)	1.3	1.7	1.6	2.0	3.2	1.9	1.8	1.4	1.1	1.3	1.3	1.4	1.3	1.1	0.9	0.5	0.6	0.5	0.4	1.0	1.0	0.7	1.4	0.4

3月21日																								
モニタリングポスト	4:10	4:20	4:30	4:40	4:50	5:00	5:10	5:20	5:30	5:40	5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10	7:20	7:30	7:40	7:50	8:00
MP1(μSv/h)	14.883	14.930	14.883	14.840	14.893	15.123	15.580	14.997	14.923	14.917	15.013	14.957	14.823	14.737	14.690	14.633	14.563	14.547	14.473	14.473	14.467	14.487	15.623	15.413
MP2(μSv/h)	8.960	8.920	8.927	8.907	8.917	8.950	9.670	9.027	9.000	8.953	9.260	9.063	8.917	8.837	8.797	8.747	8.633	8.627	8.553	8.617	8.590	9.017	12.857	10.767
MP3(μSv/h)	14.937	14.897	14.870	14.893	14.880	14.853	15.290	14.983	15.007	14.973	15.240	15.193	15.107	14.877	14.757	14.727	14.677	14.567	14.707	15.710	16.007	20.413	24.880	22.844
MP4(μSv/h)	10.450	10.460	10.433	10.380	10.413	10.407	11.043	10.730	10.547	10.540	10.710	10.740	10.740	10.407	10.340	10.237	10.173	10.170	10.113	10.763	10.863	13.090	19.050	17.527
MP5(μSv/h)	10.187	10.193	10.193	10.187	10.100	10.153	10.873	10.667	10.333	10.387	10.533	10.633	10.613	10.193	10.193	10.073	9.947	9.900	9.833	10.387	10.480	11.860	19.647	18.053
MP6(μSv/h)	11.433	11.450	11.417	11.423	11.457	11.433	11.863	11.693	11.440	11.473	11.627	11.547	11.573	11.357	11.333	11.277	11.190	11.183	11.047	11.057	11.167	11.373	13.073	16.087
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	北西	北北西	北北西	北	北	北	北東	北北東	北北東	北北東	北東	北東	北北東	北北東	北北東	北	北北東	北	北	北	北	北	北	北
風速(m/s)	0.7	0.5	1.9	1.8	1.3	0.9	2.5	2.9	2.9	3.7	2.9	3.3	3.5	3.0	5.6	6.1	5.4	6.5	5.8	5.0	4.4	4.3	3.3	4.6

3月21日																								
モニタリングポスト	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50	11:00	11:10	11:20	11:30	11:40	11:50	12:00
MP1(μSv/h)	20.987	36.294	50.254	34.704	33.504	35.174	38.697	24.467	23.794	22.160	21.834	21.374	21.094	20.884	20.760									
MP2(μSv/h)	20.380	38.340	42.694	24.630	18.920	24.397	17.813	13.593	12.667	12.127	11.977	11.823	11.683	11.550	11.610									
MP3(μSv/h)	28.370	34.600	28.524	20.160	18.797	18.727	17.970	17.653	17.447	17.273	17.263	17.100	17.057	16.997	16.953									
MP4(μSv/h)	22.714	28.377	26.327	18.713	15.777	16.687	15.243	13.660	13.500	13.403	13.330	13.263	13.250	13.190	13.187									
MP5(μSv/h)	21.687	30.114	28.907	20.053	16.767	17.547	16.427	12.700	12.607	12.507	12.460	12.347	12.347	12.347	12.300									
MP6(μSv/h)	16.027	23.500	31.797	26.607	24.197	20.367	21.160	15.370	15.250	14.847	14.723	14.607	14.533	14.463	14.420									
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	北	北	北	北北東	北北東	北	北北東	北	北	北	北	北	北	北	北									
風速(m/s)	5.4	4.2	3.7	6.2	5.3	13.7	6.6	7.4	7.1	6.3	8.0	8.2	8.8	7.9	6.3									



## 福島第二(2F) (事業者のモニタリングポスト)

3月20日																								
モニタリングポスト	12:10	12:20	12:30	12:40	12:50	13:00	13:10	13:20	13:30	13:40	13:50	14:00	14:10	14:20	14:30	14:40	14:50	15:00	15:10	15:20	15:30	15:40	15:50	16:00
MP1( $\mu\text{Sv/h}$ )	15.967	15.917	15.880	15.850	15.790	15.787	15.797	15.710	15.717	15.713	15.687	15.697	15.667	15.643	15.587	15.553	15.543	15.560	15.507	15.453	15.470	15.457	15.473	15.453
MP2( $\mu\text{Sv/h}$ )	9.567	9.527	9.527	9.507	9.513	9.487	9.487	9.463	9.423	9.420	9.403	9.400	9.377	9.340	9.353	9.330	9.333	9.340	9.367	9.283	9.300	9.270	9.280	9.293
MP3( $\mu\text{Sv/h}$ )	16.060	16.163	16.117	16.103	16.050	15.987	15.987	15.933	15.947	15.863	15.900	15.850	15.803	15.803	15.780	15.743	15.777	15.730	15.723	15.693	15.693	15.663	15.610	15.663
MP4( $\mu\text{Sv/h}$ )	11.403	11.343	11.320	11.270	11.263	11.257	11.190	11.180	11.127	11.133	11.097	11.067	11.057	11.057	11.030	10.997	10.970	10.940	10.923	10.967	10.920	10.883	10.843	10.880
MP5( $\mu\text{Sv/h}$ )	10.973	10.973	10.973	10.880	10.873	10.873	10.873	10.873	10.847	10.780	10.780	10.813	10.780	10.773	10.733	10.707	10.687	10.680	10.680	10.680	10.627	10.680	10.587	10.633
MP6( $\mu\text{Sv/h}$ )	12.347	12.277	12.307	12.263	12.210	12.193	12.147	12.160	12.130	12.123	12.123	12.063	12.063	12.063	12.043	12.033	12.077	12.020	11.960	12.000	11.963	11.937	11.943	11.930
MP7( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	北東	東	東北東	東	東	東	東南東	南南東	東南東	東南東	南南東	南南東	南南東	南東	南東	南南東	南東	南南東	南南東	南	南	南南西	南	南
風速(m/s)	2.0	1.3	1.7	2.6	2.5	2.5	2.2	1.9	1.5	1.4	1.9	2.4	1.8	2.7	2.5	1.9	2.2	3.2	3.6	2.9	2.9	0.7	0.4	1.2

3月20日																								
モニタリングポスト	16:10	16:20	16:30	16:40	16:50	17:00	17:10	17:20	17:30	17:40	17:50	18:00	18:10	18:20	18:30	18:40	18:50	19:00	19:10	19:20	19:30	19:40	19:50	20:00
MP1( $\mu\text{Sv/h}$ )	15.477	15.423	15.390	15.357	15.387	15.380	15.350	15.340	15.347	15.327	15.323	15.270	15.307	15.263	15.250	15.290	15.210	15.223	15.213	15.183	15.137	15.150	15.153	15.173
MP2( $\mu\text{Sv/h}$ )	9.280	9.283	9.233	9.267	9.230	9.243	9.203	9.230	9.207	9.210	9.227	9.190	9.230	9.197	9.180	9.160	9.197	9.187	9.147	9.133	9.200	9.173	9.160	9.170
MP3( $\mu\text{Sv/h}$ )	15.583	15.557	15.593	15.500	15.540	15.497	15.520	15.517	15.537	15.437	15.503	15.450	15.453	15.400	15.360	15.383	15.393	15.333	15.393	15.360	15.357	15.370	15.310	15.317
MP4( $\mu\text{Sv/h}$ )	10.883	10.870	10.827	10.850	10.803	10.803	10.820	10.787	10.817	10.823	10.767	10.753	10.750	10.777	10.730	10.740	10.680	10.703	10.703	10.703	10.717	10.680	10.697	10.683
MP5( $\mu\text{Sv/h}$ )	10.587	10.587	10.580	10.580	10.587	10.587	10.587	10.587	10.553	10.540	10.587	10.520	10.480	10.480	10.513	10.480	10.480	10.480	10.433	10.487	10.447	10.480	10.487	10.440
MP6( $\mu\text{Sv/h}$ )	11.900	11.900	11.890	11.863	11.880	11.860	11.853	11.847	11.843	11.863	11.803	11.843	11.820	11.820	11.820	11.803	11.787	11.737	11.767	11.730	11.767	11.783	11.763	11.763
MP7( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	北西	北北西	西	北	南	南	南南西	南	東北東	南西	南	西南西	西	西南西	北西	南西	南西	西南西	南西	北北東	北東	北東	北東	南
風速(m/s)	0.6	0.8	0.7	0.2	0.2	0.3	1.2	0.7	0.1	0.8	0.6	0.5	0.6	0.8	0.5	1.3	1.1	1.3	0.3	0.7	0.6	0.5	0.9	0.0

3月20日																								
モニタリングポスト	20:10	20:20	20:30	20:40	20:50	21:00	21:10	21:20	21:30	21:40	21:50	22:00	22:10	22:20	22:30	22:40	22:50	23:00	23:10	23:20	23:30	23:40	23:50	0:00
MP1( $\mu\text{Sv/h}$ )	15.203	15.127	15.150	15.140	15.173	15.127	15.093	15.073	15.097	14.997	15.060	15.097	15.923	17.843	15.900	15.823	15.667	15.617	15.357	15.377	15.377	15.273	15.243	15.213
MP2( $\mu\text{Sv/h}$ )	9.143	9.123	9.157	9.140	9.140	9.117	9.097	9.093	9.083	9.120	9.067	9.090	9.200	10.477	9.813	9.693	9.610	9.657	9.437	9.447	9.363	9.313	9.303	9.270
MP3( $\mu\text{Sv/h}$ )	15.280	15.270	15.330	15.353	15.263	15.337	15.247	15.247	15.193	15.203	15.247	15.260	15.213	15.573	15.393	15.723	15.647	15.757	15.513	15.507	15.423	15.370	15.400	15.353
MP4( $\mu\text{Sv/h}$ )	10.670	10.677	10.650	10.670	10.653	10.673	10.627	10.610	10.620	10.573	10.620	10.607	10.587	10.957	10.900	11.127	11.013	11.167	11.007	10.857	10.907	10.817	10.873	10.787
MP5( $\mu\text{Sv/h}$ )	10.400	10.427	10.433	10.387	10.473	10.387	10.387	10.387	10.387	10.380	10.380	10.387	10.380	10.680	10.933	11.067	10.880	11.120	10.973	10.760	10.780	10.680	10.680	10.580
MP6( $\mu\text{Sv/h}$ )	11.680	11.720	11.707	11.717	11.693	11.717	11.687	11.697	11.717	11.660	11.653	11.613	11.633	12.037	12.517	12.293	12.077	12.133	12.040	11.900	11.890	11.790	11.810	11.780
MP7( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	北東	西北西	南南東	東北東	北北東	北北東	北	北	北	北北西	北北西	北北西	北	北	北北西	北北西	北	北	北	北	北北西	北北西	北北西	北北西
風速(m/s)	0.5	0.0	0.2	0.5	1.4	1.3	1.3	1.1	1.4	1.9	2.2	2.4	2.5	2.4	1.2	0.8	0.6	2.3	5.1	2.5	1.3	1.6	1.9	2.4

## 福島第二(2F)(事業者のモニタリングポスト)

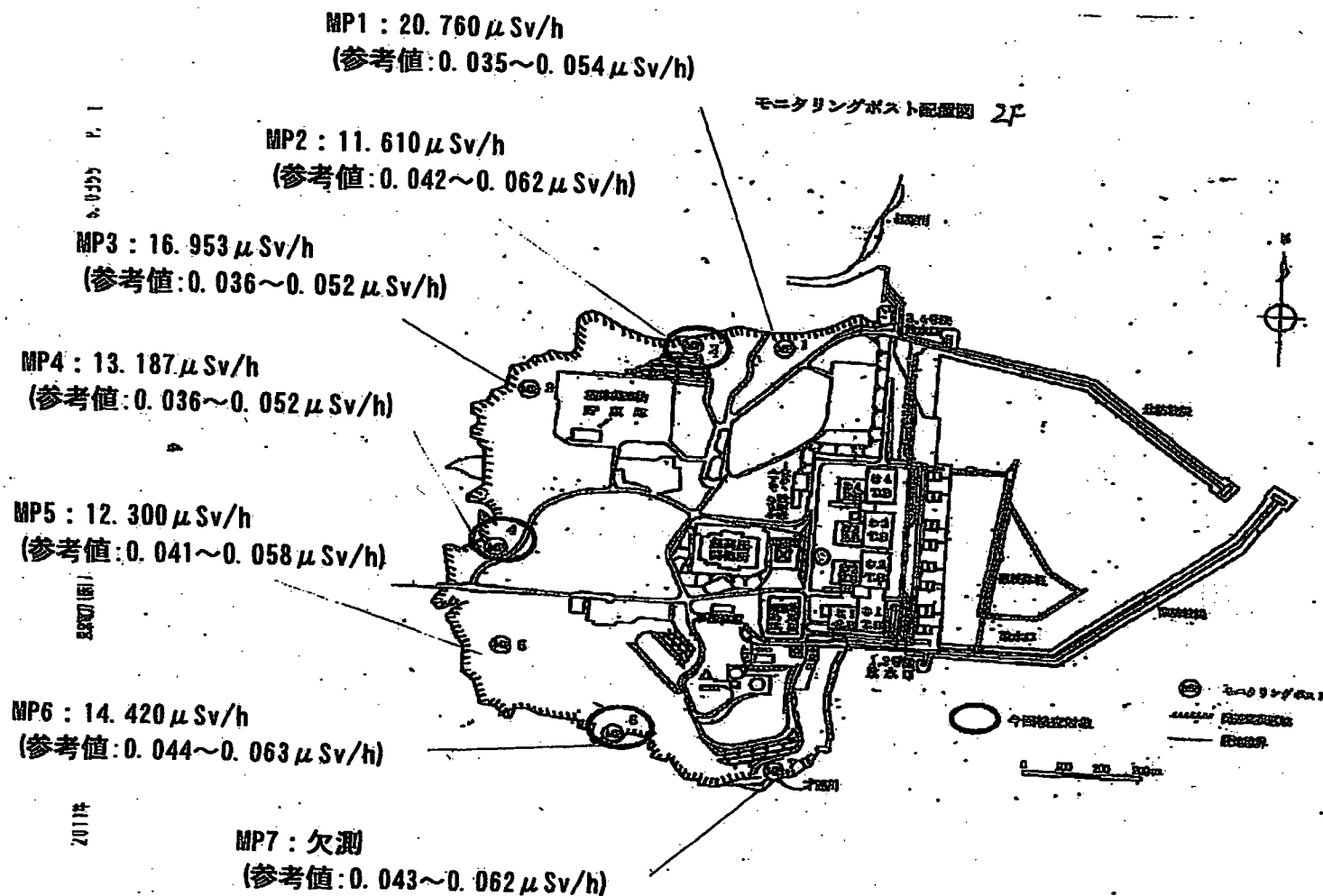
3月20日																								
モニタリングポスト	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50	2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30	3:40	3:50	4:00
MP1( $\mu\text{Sv/h}$ )	16.340	16.333	16.300	16.927	16.267	16.327	16.243	16.243	16.257	16.200	16.227	16.160	16.153	16.133	16.090	16.117	16.147	16.123	16.087	16.027	16.020	16.073	15.957	15.970
MP2( $\mu\text{Sv/h}$ )	9.920	9.863	9.917	9.887	9.863	9.880	9.867	9.840	9.890	9.813	9.820	9.783	9.770	9.757	9.787	9.750	9.733	9.743	9.710	9.727	9.710	9.687	9.720	9.697
MP3( $\mu\text{Sv/h}$ )	16.483	16.460	16.407	16.410	16.427	16.363	16.327	16.377	16.343	16.333	16.297	16.263	16.253	16.293	16.233	16.207	16.093	16.173	16.130	16.147	16.080	16.153	16.100	16.117
MP4( $\mu\text{Sv/h}$ )	11.323	11.323	11.303	11.320	11.303	11.300	11.303	11.290	11.233	11.310	11.277	11.267	11.247	11.190	11.187	11.197	11.210	11.150	11.177	11.170	11.157	11.093	11.130	11.130
MP5( $\mu\text{Sv/h}$ )	11.267	11.260	11.213	11.207	11.300	11.167	11.167	11.173	11.167	11.167	11.140	11.133	11.067	11.120	11.073	11.113	11.073	11.073	11.073	11.067	11.073	10.973	10.973	10.973
MP6( $\mu\text{Sv/h}$ )	12.613	12.647	12.603	12.600	11.167	12.597	12.563	12.557	12.587	12.533	12.503	12.513	12.527	12.523	12.527	12.490	12.470	12.460	12.487	12.443	12.423	12.447	12.453	12.387
MP7( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西	西南西	西	西	西	西南西	西北西	西	西北西	北西	北西	北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西
風速(m/s)	6.8	7.7	10.2	9.6	6.4	7.9	9.1	8.9	9.0	10.8	9.4	9.4	10.3	9.0	11.2	8.8	10.5	9.7	8.8	9.8	8.6	8.8	9.0	6.9

3月20日																								
モニタリングポスト	4:10	4:20	4:30	4:40	4:50	5:00	5:10	5:20	5:30	5:40	5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10	7:20	7:30	7:40	7:50	8:00
MP1( $\mu\text{Sv/h}$ )	16.007	16.010	15.953	15.973	15.940	15.937	15.910	15.900	15.910	18.700	20.417	17.670	20.740	17.830	17.177	16.870	19.260	21.310	20.917	20.984	19.613	19.030	19.127	18.153
MP2( $\mu\text{Sv/h}$ )	9.667	9.663	9.693	9.660	9.673	9.647	9.653	9.643	9.647	10.020	16.447	10.903	14.283	11.443	10.787	10.640	12.560	14.973	15.303	14.313	13.543	12.443	12.077	11.403
MP3( $\mu\text{Sv/h}$ )	16.130	16.050	16.073	16.083	16.087	16.033	16.017	16.043	16.037	16.040	24.170	17.930	19.593	18.590	17.777	17.330	20.087	21.017	23.634	20.984	20.460	19.863	19.963	19.510
MP4( $\mu\text{Sv/h}$ )	11.083	11.110	11.107	11.080	11.087	11.057	11.060	11.060	11.043	11.133	19.093	12.487	15.200	12.433	13.427	12.733	16.243	16.413	21.604	16.437	15.540	15.287	16.093	14.427
MP5( $\mu\text{Sv/h}$ )	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	11.387	20.974	12.533	12.533	15.500	14.153	13.013	15.927	17.160	25.774	17.227	15.687	16.147	16.393	14.200
MP6( $\mu\text{Sv/h}$ )	12.360	12.333	12.370	12.400	12.360	12.353	12.313	12.333	12.343	16.200	18.430	13.497	14.823	15.540	14.193	13.573	14.993	15.853	21.450	15.593	15.467	17.017	15.437	14.340
MP7( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西北西	西北西	西北西	北西	北西	北西	北西	北北西	北北西	北	北東	北東	北東	北東	北東	北北東	北北東	北東	北北東	北北東	北北東	北	南	東
風速(m/s)	6.1	4.0	3.8	3.8	4.4	5.5	5.2	4.7	3.9	1.2	3.3	6.0	6.3	6.0	4.7	4.4	5.0	4.1	4.1	3.7	3.3	1.8	0.8	0.9

3月20日																								
モニタリングポスト	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50	11:00	11:10	11:20	11:30	11:40	11:50	12:00
MP1( $\mu\text{Sv/h}$ )	17.680	17.250	17.170	17.063	16.980	16.900	16.830	16.760	16.647	16.553	16.603	16.467	16.430	16.413	16.333	16.263	16.257	16.230	16.143	16.027	16.070	16.027	15.923	15.937
MP2( $\mu\text{Sv/h}$ )	10.913	10.303	10.227	10.173	10.153	10.077	10.053	10.013	9.973	9.893	9.887	9.863	9.830	9.770	9.780	9.757	9.730	9.683	9.693	9.657	9.617	9.603	9.570	9.563
MP3( $\mu\text{Sv/h}$ )	18.550	17.657	17.553	17.470	17.360	17.267	17.117	17.030	17.010	16.913	16.800	16.770	16.753	16.683	16.560	16.517	16.523	16.510	16.403	16.390	16.360	16.220	16.270	16.163
MP4( $\mu\text{Sv/h}$ )	13.650	12.923	12.693	12.573	12.470	12.390	12.297	12.217	12.110	12.023	11.983	11.907	11.870	11.800	11.773	11.697	11.720	11.630	11.570	11.520	11.497	11.480	11.427	11.420
MP5( $\mu\text{Sv/h}$ )	13.193	12.240	12.053	11.953	11.920	11.807	11.760	11.707	11.587	11.567	11.480	11.467	11.420	11.367	11.320	11.267	11.267	11.220	11.167	11.167	11.073	11.073	11.073	11.067
MP6( $\mu\text{Sv/h}$ )	13.860	13.240	13.187	13.117	13.050	13.003	12.937	12.897	12.820	12.810	12.767	12.713	12.670	12.640	12.587	12.527	12.537	12.460	12.500	12.453	12.460	12.400	12.383	12.337
MP7( $\mu\text{Sv/h}$ )	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	東北東	東北東	北東	東北東	東北東	東	南東	南東	東南東	南東	南東	東南東	東北東	東	北東	北東	北東	北東	北東	東	北東	北東	北東	北東
風速(m/s)	1.6	2.5	3.3	4.3	3.0	3.2	1.5	1.8	2.7	2.6	2.2	1.9	1.3	1.1	3.3	2.7	2.5	2.2	1.9	1.6	2.2	2.9	2.4	1.2

# 福島第二原子力発電所

2011/3/21  
10:30現在





各発電所等の環境モニタリング結果

単位:  $\mu\text{Sv/h}$ 

通常の平常値の範囲	会社名	発電所名	3月20日											
			0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
0.023~0.027	北海道電力	泊原発所	0.023	0.023	0.024	0.024	0.024	0.024	0.025	0.025	0.025	0.025	0.025	0.025
0.024~0.060	東北電力	女川原子力発電所	2.10	2.10	2.10	2.10	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
0.012~0.060		東通原子力発電所	0.018	0.018	0.018	0.017	0.017	0.017	0.018	0.017	0.017	0.018	0.018	0.017
0.033~0.050	東京電力	福島第一原子力発電所*	2821	2797	2778	2759	2939	271.2	2679	2661	2630	2614	2726	2579
0.036~0.052		福島第二原子力発電所	16.503	16.363	16.263	16.173	16.117	16.033	17.93	21.017	19.51	17.267	16.77	16.51
0.011~0.159		柏崎刈羽原子力発電所	0.064	0.064	0.065	0.065	0.065	0.064	0.065	0.065	0.064	0.066	0.066	0.066
0.036~0.053		東海第二発電所	0.567	0.562	0.561	0.558	0.561	0.557	0.554	0.550	0.548	0.543	0.544	0.540
0.039~0.110	中部電力	敦賀発電所	0.073	0.074	0.073	0.074	0.074	0.073	0.073	0.074	0.074	0.074	0.074	0.074
0.064~0.108		浜岡原子力発電所	0.069	0.069	0.068	0.068	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069
0.0207~0.132	北陸電力	志賀原子力発電所	0.033	0.033	0.032	0.033	0.032	0.032	0.032	0.033	0.033	0.033	0.032	0.033
0.028~0.130	中国電力	島根原子力発電所	0.030	0.030	0.030	0.030	0.030	0.028	0.030	0.030	0.030	0.030	0.030	0.030
0.070~0.077		美浜発電所	0.073	0.072	0.073	0.073	0.072	0.073	0.074	0.074	0.074	0.072	0.073	0.072
0.045~0.047	関西電力	高浜発電所	0.042	0.042	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.044	0.043
0.036~0.040		大飯発電所	0.036	0.035	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036
0.011~0.080	四国電力	伊方発電所	0.014	0.013	0.014	0.014	0.013	0.013	0.013	0.013	0.013	0.014	0.014	0.014
0.023~0.087	九州電力	玄海原子力発電所	0.025	0.026	0.026	0.026	0.026	0.026	0.029	0.029	0.027	0.027	0.027	0.028
0.034~0.120		川内原子力発電所	0.038	0.038	0.038	0.036	0.037	0.037	0.038	0.037	0.041	0.038	0.039	0.040
0.009~0.069	日本原燃(株)	六ヶ所 再処理事業所	0.015	0.015	0.015	0.014	0.015	0.015	0.015	0.015	0.015	0.015	0.014	0.016
0.009~0.071		六ヶ所 埋没事業所	0.018	0.018	0.018	0.018	0.017	0.018	0.018	0.017	0.018	0.017	0.018	0.018

※福島第一原子力発電所については、作業状況により若干測定時間のずれ及び測定位置の変更が生じることもございます。

通常の平常値の範囲	会社名	発電所名	3月20日											
			12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
0.023~0.027	北海道電力	泊原発所	0.024	0.024	0.024	0.023	0.024	0.024	0.024	0.023	0.024	0.024		
0.024~0.060	東北電力	女川原子力発電所	2.00	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90		
0.012~0.060		東通原子力発電所	0.017	0.018	0.017	0.017	0.017	0.018	0.017	0.017	0.017	0.017		
0.033~0.050	東京電力	福島第一原子力発電所*	2559	2567	2768	3054	3171	2773	2693	2623	2828	2542		
0.036~0.052		福島第二原子力発電所	16.163	15.987	16.85	16.73	16.663	15.497	15.45	15.333	15.317	15.337		
0.011~0.159		柏崎刈羽原子力発電所	0.065	0.065	0.066	0.066	0.066	0.069	0.070	0.073	0.074	0.072		
0.036~0.053		東海第二発電所	0.592	0.571	0.565	0.555	0.549	0.546	0.543	0.539	0.538	0.539		
0.039~0.110	中部電力	敦賀発電所	0.074	0.075	0.078	0.076	0.077	0.076	0.076	0.075	0.075	0.074		
0.064~0.108		浜岡原子力発電所	0.069	0.069	0.068	0.068	0.068	0.071	0.075	0.074	0.070	0.068		
0.0207~0.132	北陸電力	志賀原子力発電所	0.032	0.033	0.033	0.036	0.041	0.048	0.055	0.064	0.048	0.047		
0.028~0.130	中国電力	島根原子力発電所	0.033	0.033	0.032	0.035	0.034	0.033	0.042	0.047	0.042	0.038		
0.070~0.077		美浜発電所	0.071	0.073	0.075	0.074	0.076	0.075	0.072	0.073	0.073	0.075		
0.045~0.047	関西電力	高浜発電所	0.044	0.043	0.043	0.042	0.044	0.044	0.042	0.043	0.044	0.045		
0.036~0.040		大飯発電所	0.035	0.035	0.035	0.035	0.037	0.036	0.034	0.035	0.035	0.038		
0.011~0.080	四国電力	伊方発電所	0.014	0.017	0.017	0.023	0.027	0.024	0.019	0.015	0.018	0.018		
0.023~0.087	九州電力	玄海原子力発電所	0.030	0.030	0.036	0.033	0.033	0.031	0.031	0.032	0.033	0.030		
0.034~0.120		川内原子力発電所	0.037	0.038	0.037	0.044	0.046	0.044	0.043	0.043	0.043	0.039		
0.009~0.069	日本原燃(株)	六ヶ所 再処理事業所	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.016	0.018		
0.009~0.071		六ヶ所 埋没事業所	0.018	0.017	0.017	0.018	0.018	0.018	0.018	0.018	0.018	0.020		

※福島第一原子力発電所については、作業状況により若干測定時間のずれ及び測定位置の変更が生じることもございます。

3/20(日) 21時時点

**From:** [Batkin, Joshua](#)  
**To:** [HOO Hoc](#)  
**Cc:** [Borchardt, Bill](#); [Jaczo, Gregory](#)  
**Subject:** Fw: <re send> Update on Seismic Damages to Nuclear Power Stations  
**Date:** Monday, March 21, 2011 10:23:02 PM  
**Attachments:** [IMO notice.pdf](#)  
[110321 radioactivity level map .pdf](#)  
[110321 radioactivity level change.pdf](#)  
[110321 radioactive nuclide analysis.pdf](#)  
[110321 situation of NPSs.pdf](#)  
[110321\\_1030 factsheet.pdf](#)

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To feed in as a piece of our information gathering efforts.

Joshua C. Batkin  
Chief of Staff  
Chairman Gregory B. Jaczo  
(301) 415-1820

----- Original Message -----

From: GOTO KENJI <[kenji.goto-3@mofa.go.jp](mailto:kenji.goto-3@mofa.go.jp)>  
To: Borchardt, Bill; Batkin, Joshua  
Cc: Yamachika, Hidehiko <[yamachika-hidehiko@jnes-usa.org](mailto:yamachika-hidehiko@jnes-usa.org)>  
Sent: Mon Mar 21 22:03:32 2011  
Subject: <re send> Update on Seismic Damages to Nuclear Power Stations

\*\*\* Mr. Borchardt, please disregard the previous email. \*\*\*

Dear Mr. Borchardt,  
Dear Mr. Batkin,

It was nice to meet both of you and Chairman Jaczo at our Embassy last week.

I would like to let you know that today, METI's headquarters began sending factual information regarding the Fukushima Dai-ichi nuclear power plant, including situation of individual reactor units as well as radioactivity levels in several regions in Japan. The latest sample files are attached, with a sample cover mail which you can find below. The information will be distributed via email almost daily.

I thought you might be interested in receiving this information, daily, and so I am ready to register your email address to a mailing list managed by METI.

If you do not need this information, please let me know. I will refrain from registering your address to the mailing list. And if you would like to suspend receiving the data after you start getting, please feel free to send "unsubscribe" notification to me (and/or METI).

FYI, you can also find the daily updated information by visiting the Japanese Embassy's web site ( <http://www.us.emb-japan.go.jp/english/html/index.html> ).

Best regards,

Kenji Goto

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(cover mail)

For your reference, Ministry of Economy, Trade and Industry of Japan (METI) is providing the latest information on the seismic damages to the nuclear power stations (NPSs) in Japan, including those caused to Fukushima Dai-ichi NPS.

We will continue to send out updates if there is any development. If you seek further information, please refer to the website of METI's Nuclear and Industrial Safety Agency (NISA) at <http://www.nisa.meti.go.jp/english/index.html>

In this update, the following six documents are attached:

1.Tohoku-Pacific Ocean Earthquake and the Seismic Damages to the NPSs 2.Current Situation of Onagawa, Fukushima Dai-ichi, Fukushima Dai-ni, Tokai Dai-ni NPSs 3.Result of Radioactive Nuclide Analysis inside Fukushima Dai-ichi NPS 4.Press Briefing of International Maritime Organization (IMO) 5.Radioactivity Level Change in Selected Cities [Chart] 6.Radioactivity Level Map [Chart]

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/////////  
Kenji Goto  
Minister (Economy, Trade, Industry and Energy) Embassy of Japan 2520 Massachusetts Ave. NW, Washington, DC 20008  
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/////////

*Handwritten signature/initials: DDD/66*

IMO briefing:

**No restrictions on travel to Japan**

International flight and maritime operations can continue normally into and out of Japan's major airports and sea ports, excluding those damaged by the tsunami, according to the latest information available from the World Health Organization, the International Atomic Energy Agency, the World Meteorological Organization, the International Maritime Organization and the International Civil Aviation Organization.

While there is currently no medical basis for imposing restrictions, the United Nations organizations are monitoring the situation closely and will advise of any changes.

Screening for radiation of international passengers from Japan is not considered necessary at this time. Currently available information indicates that increased levels have been detected at some airports, but these do not represent any health risk.

Further information is available on the website of the World Health Organization:

<http://www.who.int/en/>

Public Information Services (External Relations Office)

International Maritime Organization (IMO)

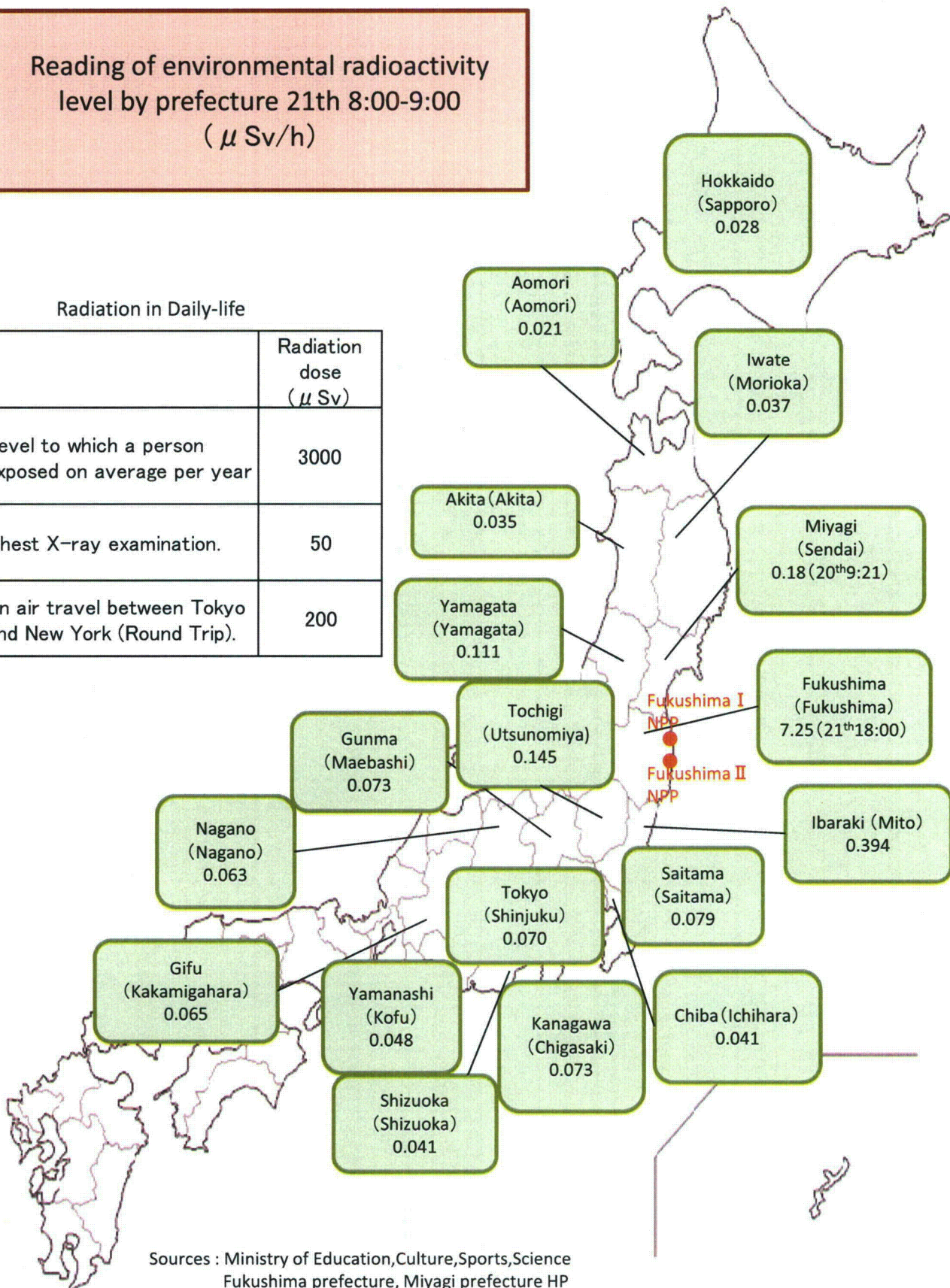
[media@imo.org](mailto:media@imo.org)



Reading of environmental radioactivity  
level by prefecture 21th 8:00-9:00  
( $\mu$  Sv/h)

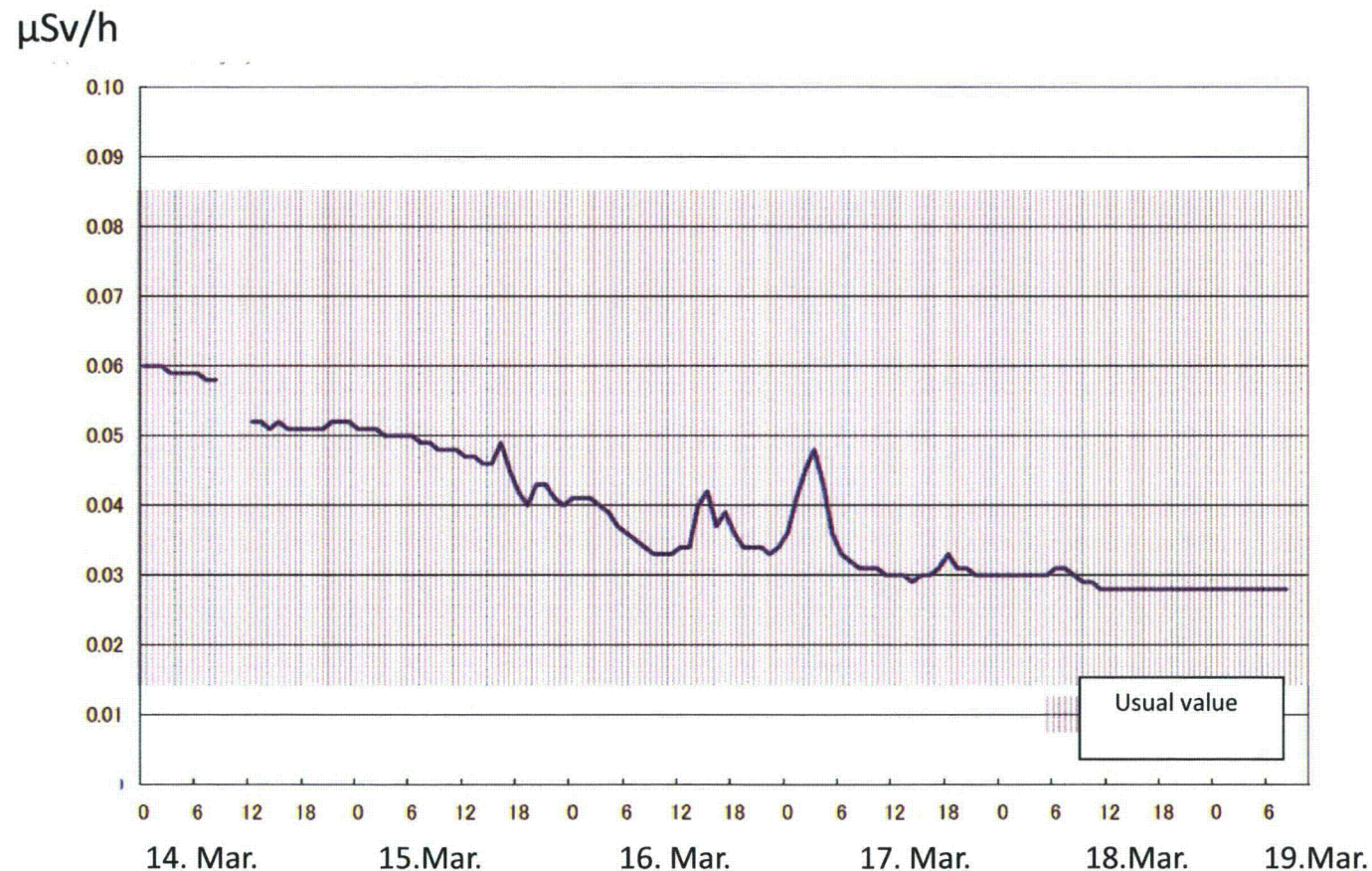
Radiation in Daily-life

	Radiation dose ( $\mu$ Sv)
Level to which a person exposed on average per year	3000
Chest X-ray examination.	50
An air travel between Tokyo and New York (Round Trip).	200



Sources : Ministry of Education, Culture, Sports, Science  
Fukushima prefecture, Miyagi prefecture HP

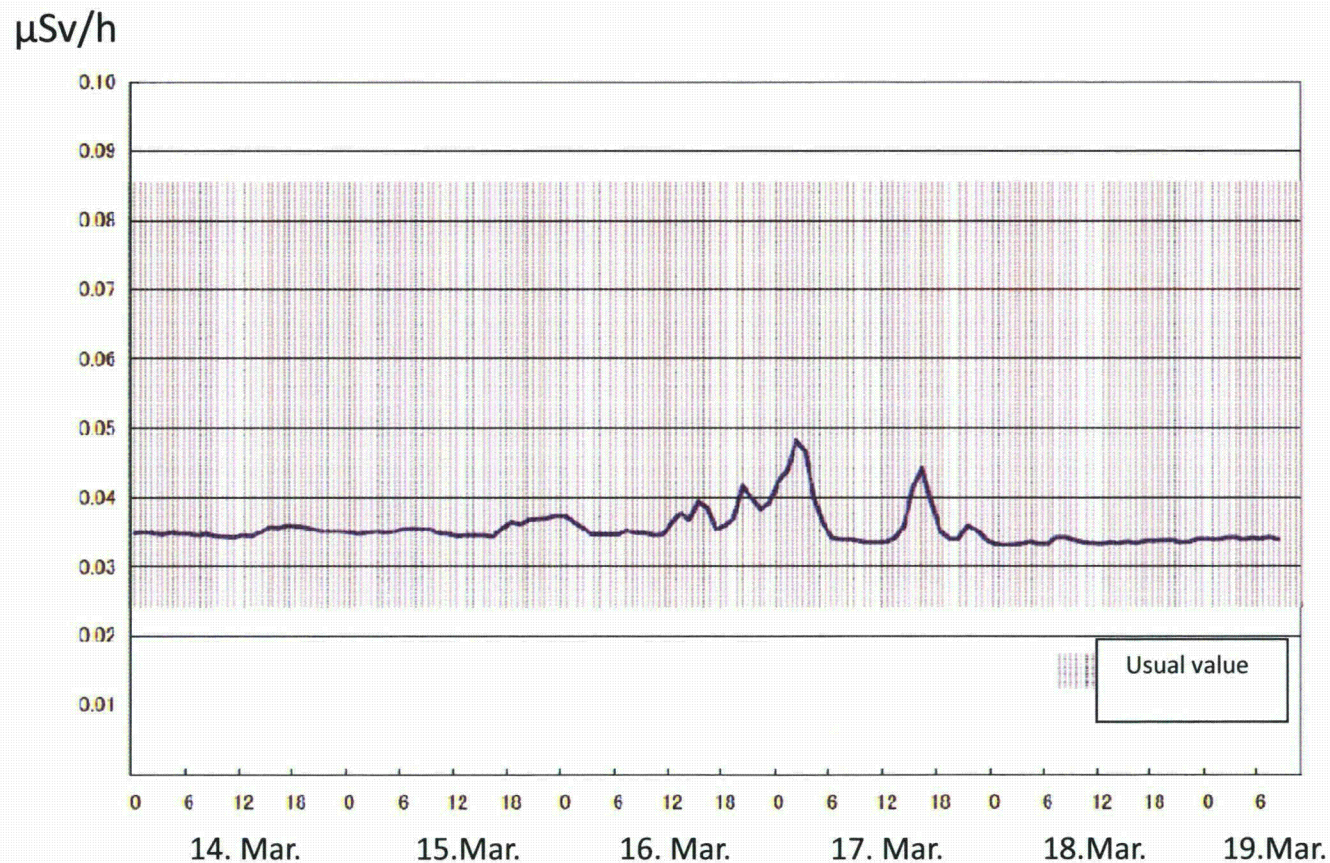
# Environmental radioactivity level in Morioka (Iwate)



source: Ministry of Education, Culture, Sports, Science and Technology (MEXT)



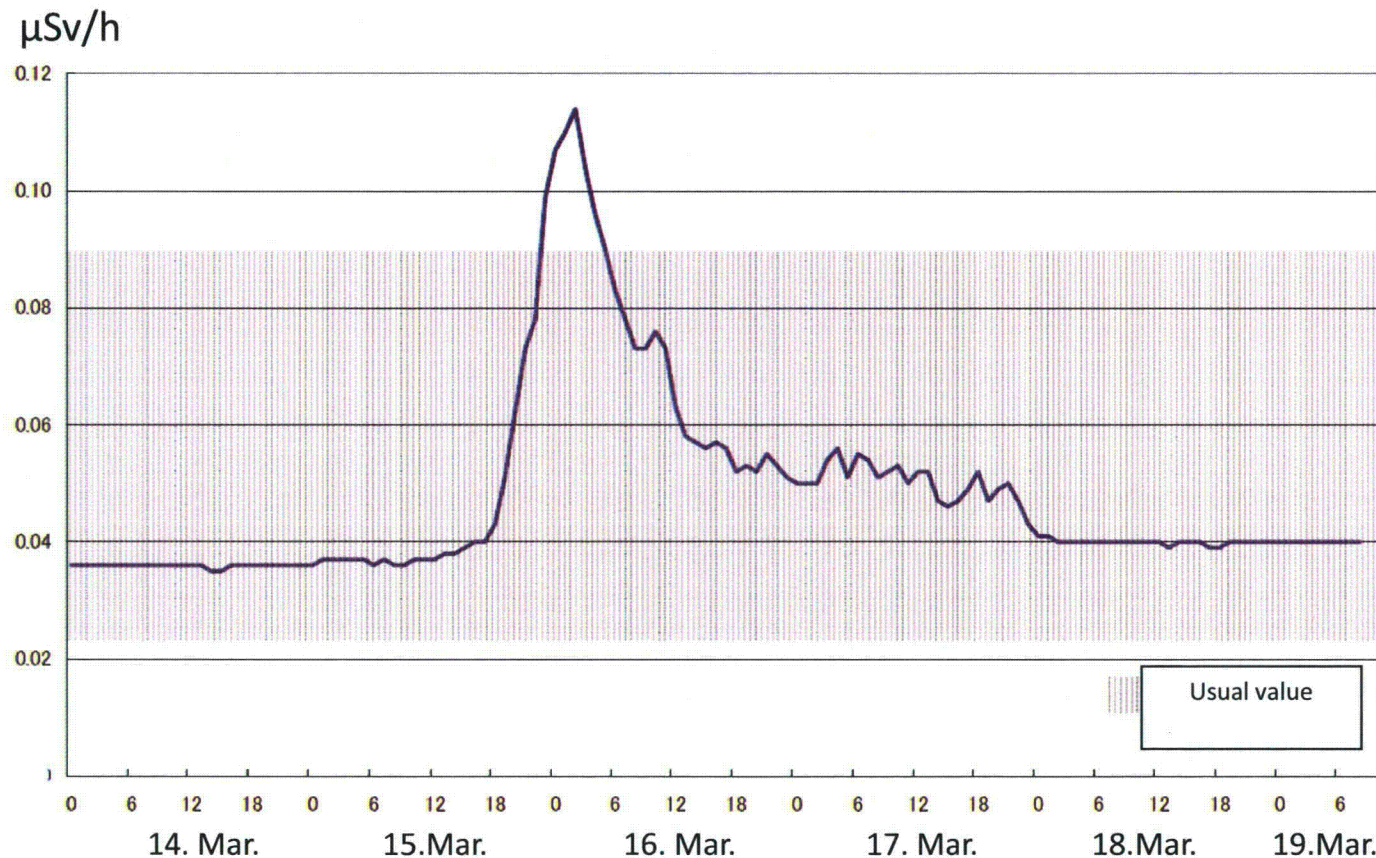
# Environmental radioactivity level in Akita (Akita)



source: Ministry of Education, Culture, Sports, Science and Technology (MEXT)

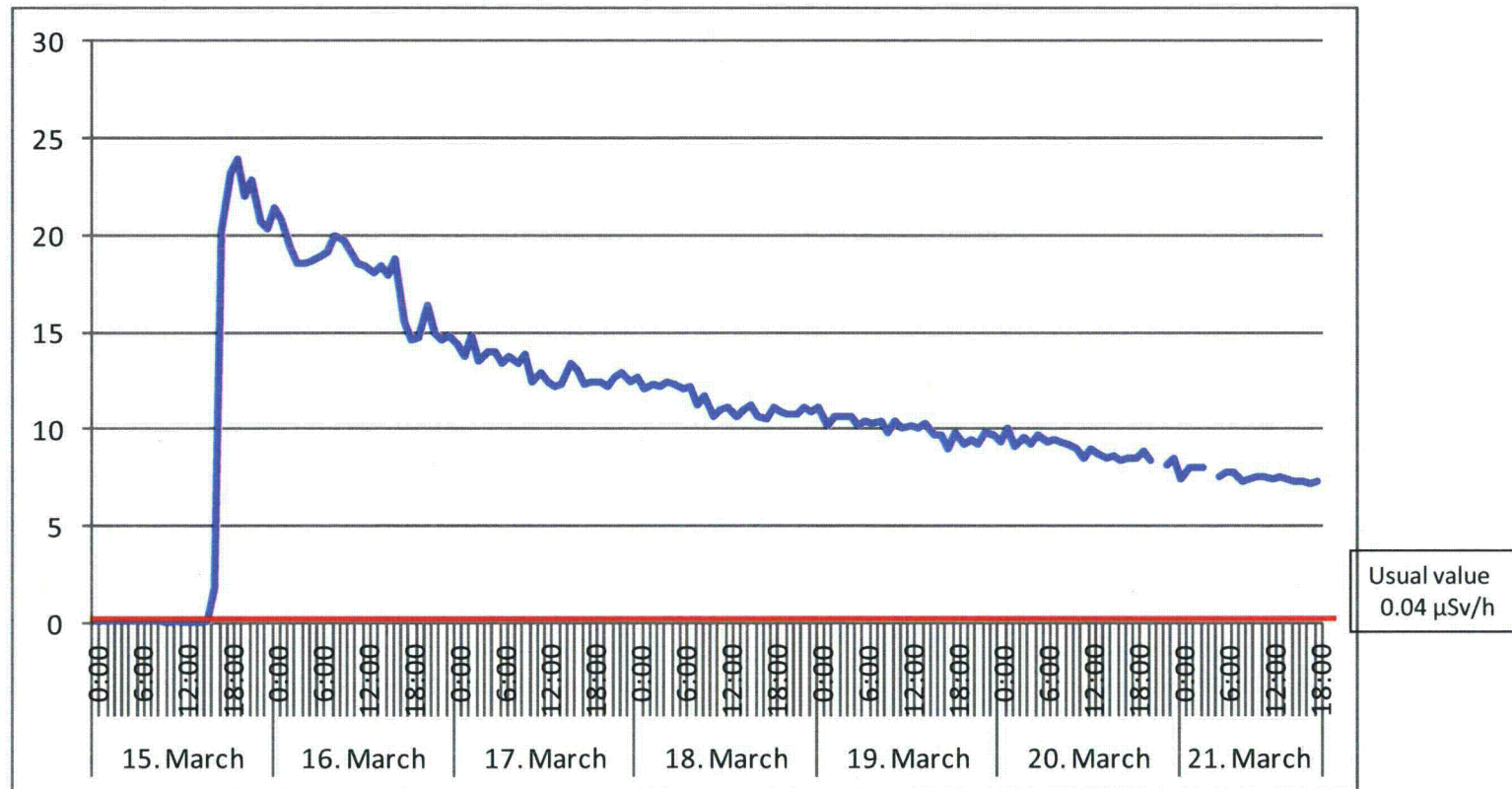


# Environmental radioactivity level in Yamagata (Yamagata)



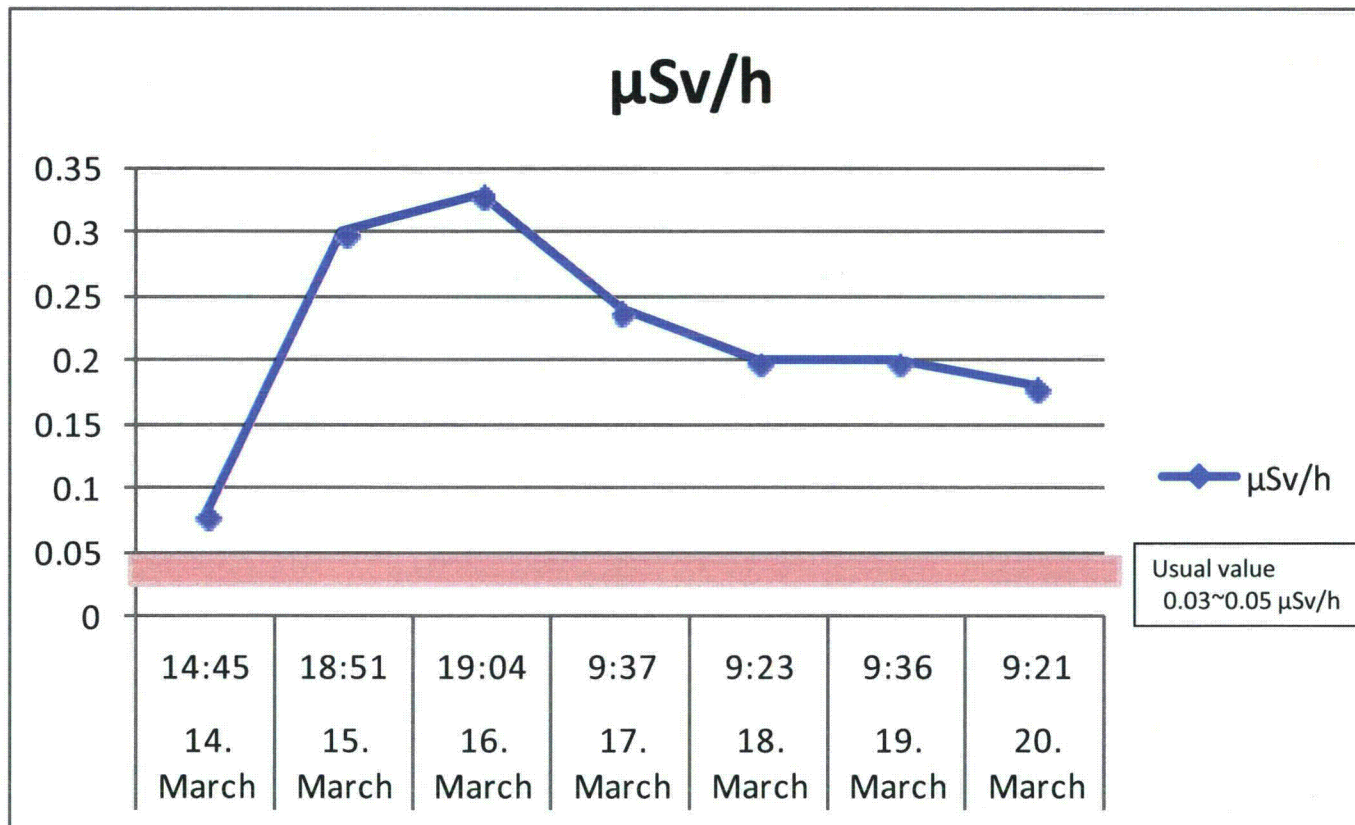
source: Ministry of Education, Culture, Sports, Science and Technology (MEXT)

# Environmental radioactivity level in Fukushima (Fukushima)



source: Fukushima Prefecture

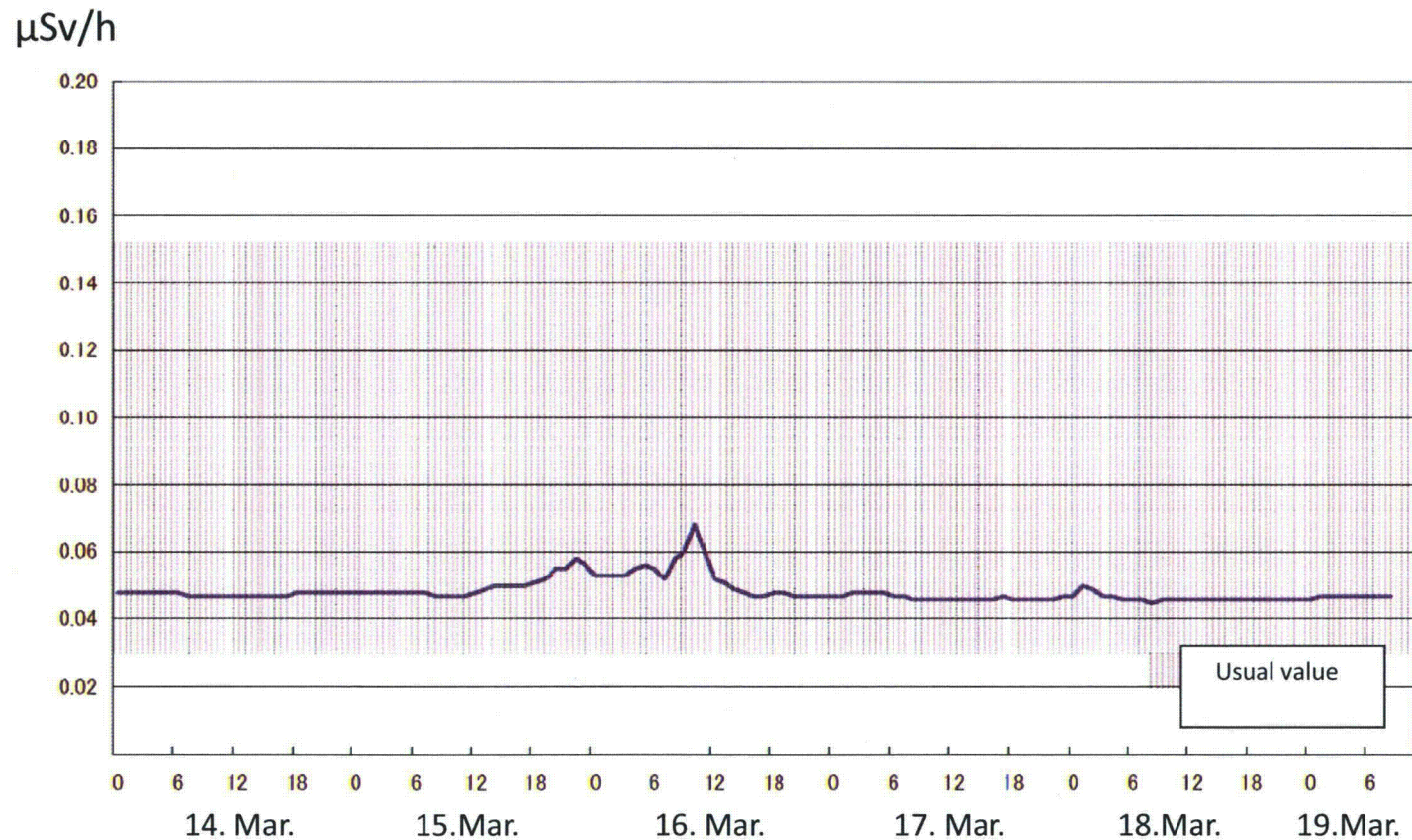
# Environmental radioactivity level in Miyagi (Miyagi)



source: Miyagi Prefecture

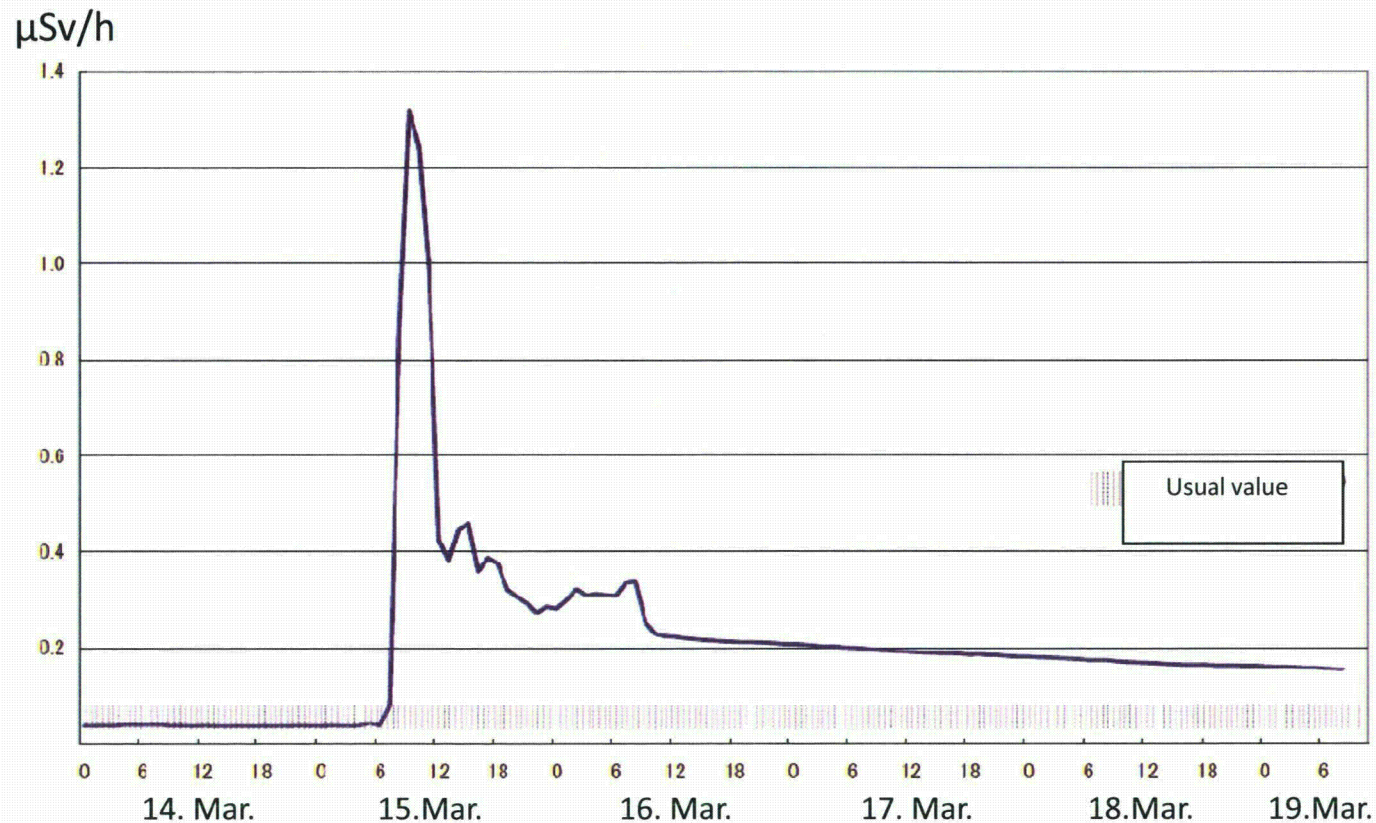


# Environmental radioactivity level in Niigata (Niigata)



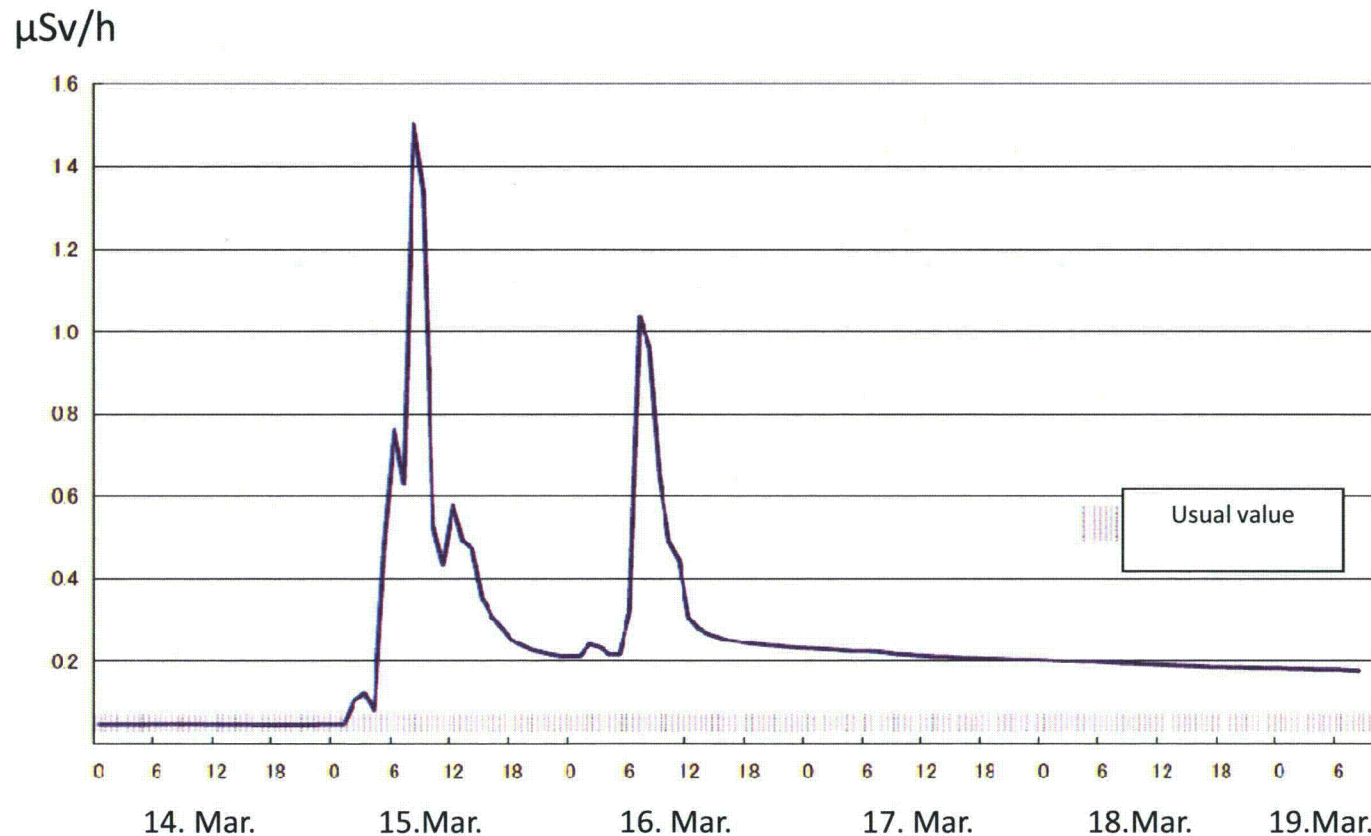
source: Ministry of Education, Culture, Sports, Science and Technology (MEXT)

# Environmental radioactivity level in Utsunomiya (Tochigi)



source: Ministry of Education, Culture, Sports, Science and Technology (MEXT)

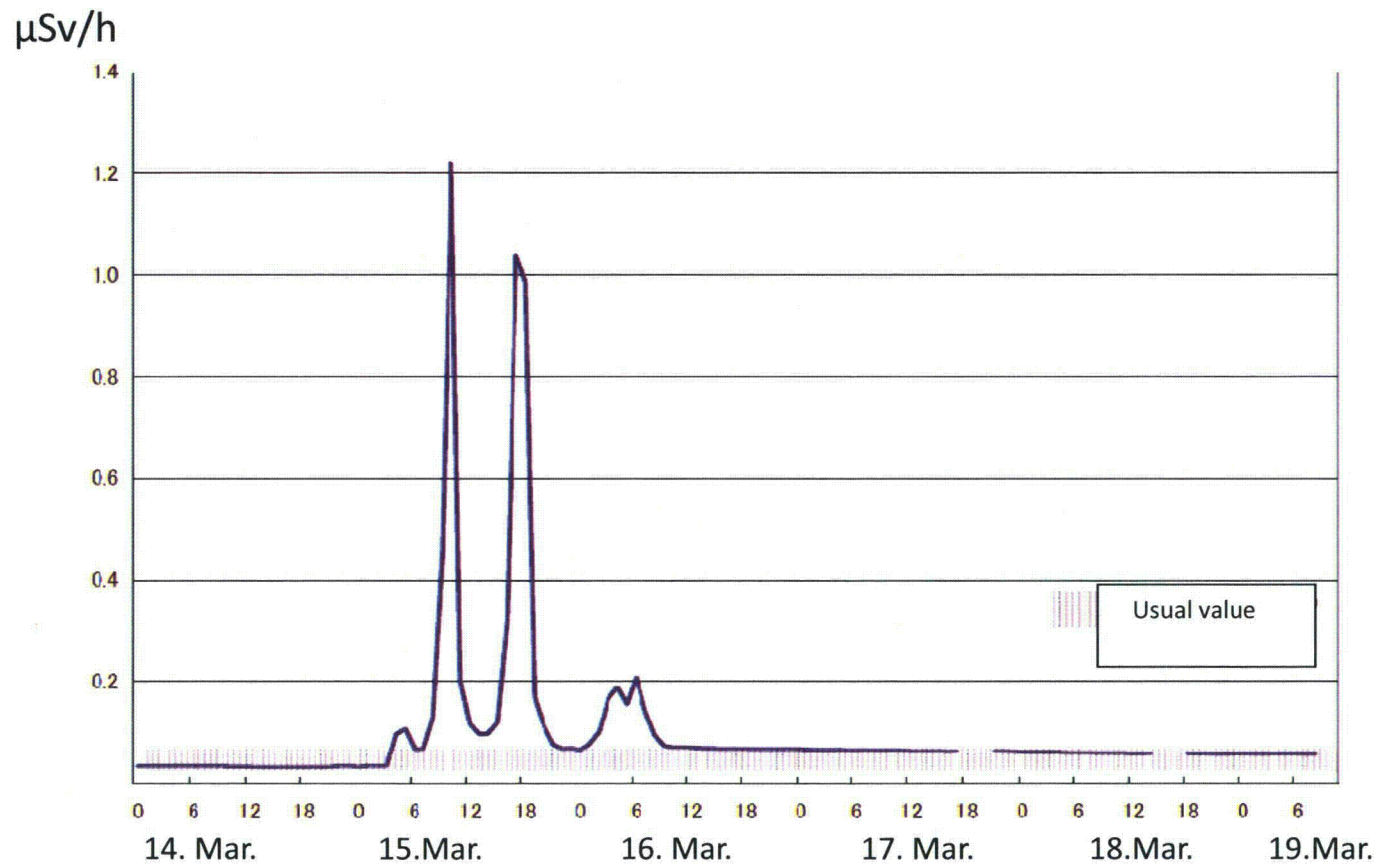
# Environmental radioactivity level in Mito (Ibaraki)



source: Ministry of Education, Culture, Sports, Science and Technology (MEXT)

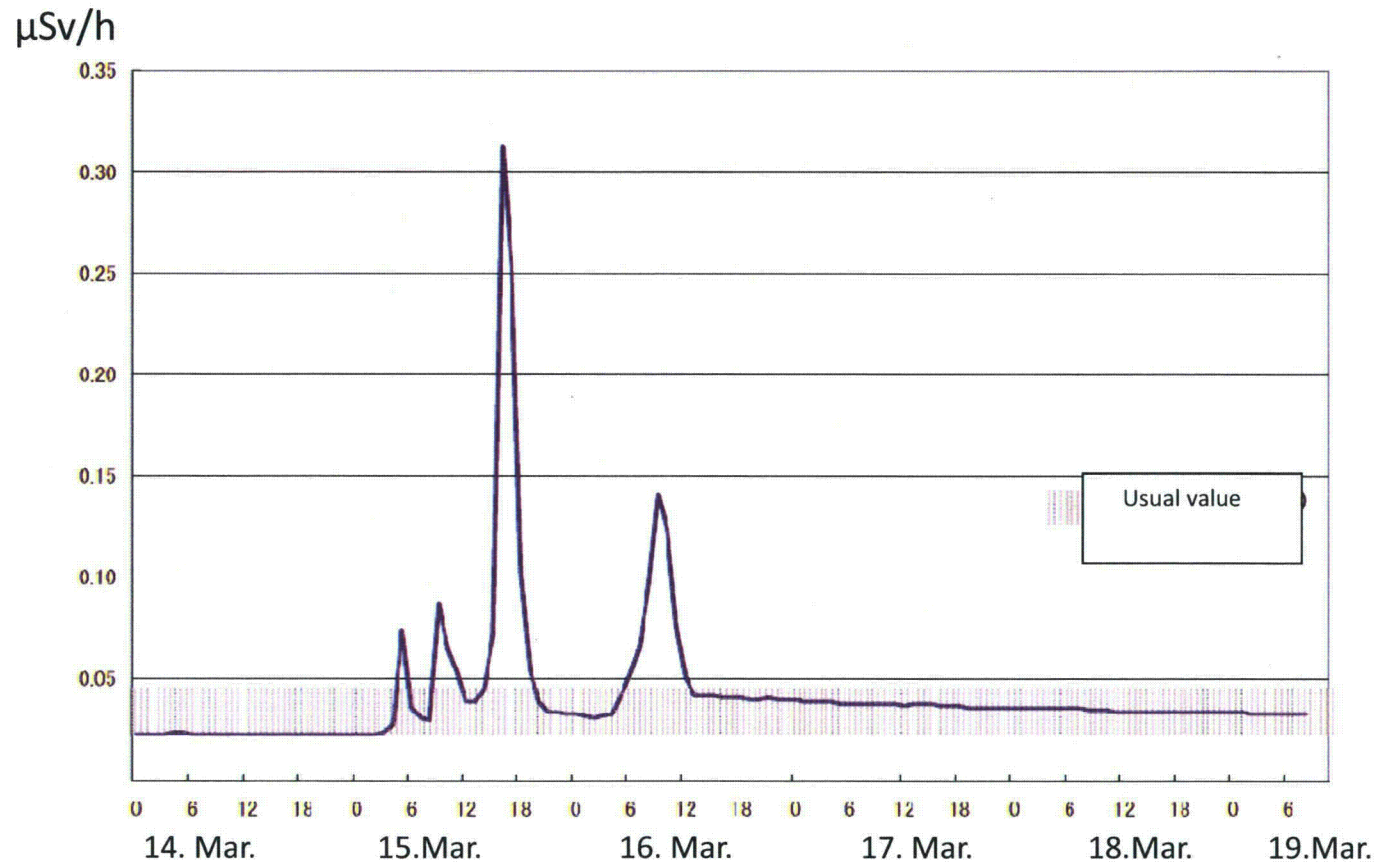


# Environmental radioactivity level in Saitama (Saitama)



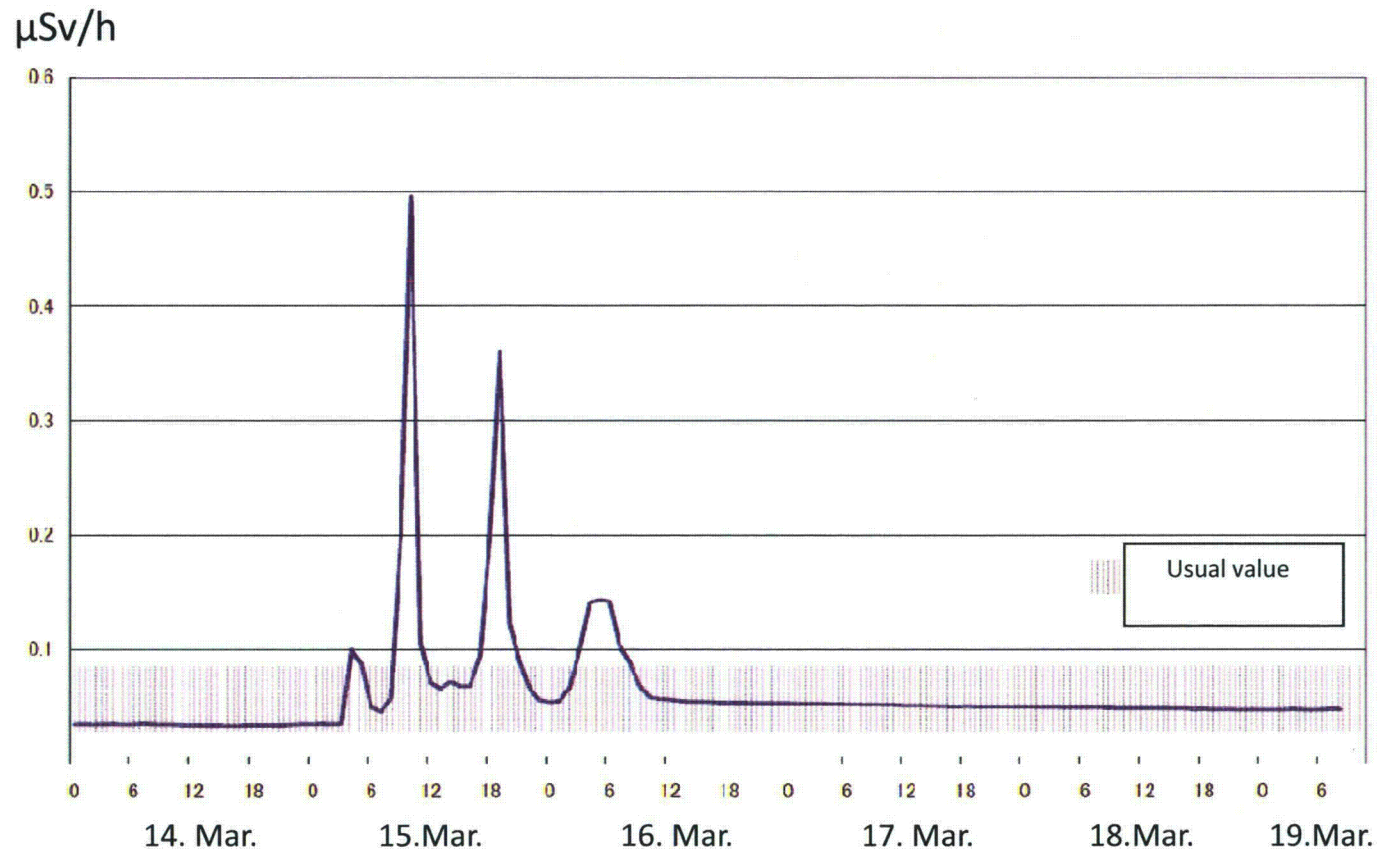
source: Ministry of Education, Culture, Sports, Science and Technology (MEXT)

# Environmental radioactivity level in Ichikawa (Chiba)



source: Ministry of Education, Culture, Sports, Science and Technology (MEXT)

# Environmental radioactivity level in Shinjuku (Tokyo)



source: Ministry of Education, Culture, Sports, Science and Technology (MEXT)



March 20, 2011

## Nuclear and Industrial Safety Agency

Regarding the result of Radioactive Nuclide Analysis inside Fukushima Dai-ichi Nuclear Power Station of Tokyo Electric Power Co. (North side of the main office building)

1. Tokyo Electric Power Co., at around 12:00 March 19th, took the sample of dust in the air for the first time using a monitoring car in front of the main building in Fukushima Dai-ichi Nuclear Power Station and carried out Radioactive Nuclide Analysis.
2. The result of the analysis was reported on 20 March. It showed that the radioactive nuclides of Iodine, Cesium and so on were detected as given in the table below.
3. Iodine-131 was the only nuclide among detected that exceeded the allowable criteria of concentration.
4. If a person breathes the air containing the detected radioactive nuclides, there is a possibility to have internal exposure. As for the operations by now, workers put on Full Face-piece Respirator with charcoal filter, TYVEK Suit and so on, which are effective radiation protection equipments, and after the operations contamination was examined. Therefore, the internal exposure of the workers was controlled at very low level. Until now the internal exposure has not been reported.
5. The radioactive nuclide analysis is planned to be continued to confirm the situation.

Major radioactive nuclides detected		Concentration of radioactive nuclide (Bq/cm <sup>3</sup> )	Allowable concentration of radioactive nuclide in the air for radiation workers (Bq/cm <sup>3</sup> )
Volatile	Iodine-131	$5.940 \times 10^{-3}$	$1.0 \times 10^{-3}$
	Iodine-132	$0.220 \times 10^{-2}$	$7.0 \times 10^{-2}$
	Iodine-133	$0.035 \times 10^{-3}$	$5.0 \times 10^{-3}$
Particulate	Cesium-134	$0.022 \times 10^{-3}$	$2.0 \times 10^{-3}$
	Cesium-137	$0.024 \times 10^{-3}$	$3.0 \times 10^{-3}$

(Contact Person)

Mr. Toshihiro Bannai

Director, International Affairs Office,

NISA/METI

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March 21, 2011

Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 38th Release)

(As of 10:30 March 21st, 2011)

Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa NPS, Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai Dai-ni NPS, Japan Atomic Power Co. Inc. as follows:

Major updates are as follows.

### 1. Nuclear Power Stations (NPS)

#### ● Fukushima Dai-ichi NPS

- The pressure in the Primary Containment Vessel of Unit 3 rose (320 kPa as of 11:00 March 20th). Preparation to lower the pressure was carried. Judging from the situation, immediate pressure relief was not required. Monitoring the pressure continues (160 kPa at 04:00 March 21st).

#### <Situation of Water Spray>

##### (Unit 3)

- Water spray over the Spent Fuel Pool by Hyper Rescue Unit of Tokyo Fire Department was started at 21:39 March 20th and finished at 03:58 March 21st.

##### (Unit 4)

- Water spray over the Spent Fuel Pool by Self-Defence Force (13 fire engines) was started at around 06:37 March 21st and finished at 08:41 March 21st.

#### <Recovery of Power Source>

- Power Center of Unit 2 received electricity (15:46 March 20th) and the integrity of each load is being confirmed.
- Works for laying electricity cable to the Power Center of Unit 4 is being carried out (Scheduled to be completed on March 21st)



(Attached sheet)

## 1. The state of operation at NPS (Number of automatic shutdown units: 10)

### ● Fukushima Dai-ichi NPS, TEPCO

(Okuma Town and Futaba Town, Futaba County, Fukushima Prefecture)

#### (1) The state of operation

Unit 1 (460MWe): automatic shutdown  
 Unit 2 (784MWe): automatic shutdown  
 Unit 3 (784MWe): automatic shutdown  
 Unit 4 (784MWe): in periodic inspection outage  
 Unit 5 (784MWe): in periodic inspection outage, cold shutdown  
 at 14:30 March 20th  
 Unit 6 (1,100MWe): in periodic inspection outage, cold shutdown  
 at 19:27 March 20th

#### (2) Major Plant Parameters (10:30 March 21st)

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Reactor Pressure*1 [MPa]	0.295(A) 0.259(B)	0.083(A) 0.081(B)	0.074(C) 0.315(B)	—	0.109	0.109
CV Pressure (D/W) [kPa]	160	120	160	—	—	—
Reactor Water Level*2 [mm]	−1,750(A) −1,800(B)	−1,350(A) Not available(B)	−1,650(A) −1,950(B)	—	2,104	1,764
Suppression Pool Water Temperature (S/C) [°C]	—	—	—	—	—	—
Suppression Pool Pressure (S/C) [kPa]	160	down scale	down scale	—	—	—
Spent Fuel Pool Water Temperature [°C]	—	—	—	Not available*3	39.5	32.0
Time of Measurement	05:00 March 21st	03:00 March 21st	04:00 March 21st		05:00 March 21st	05:00 March 21st

\*1: Converted from reading value to absolute pressure

\*2: Distance from the top of fuel

\*3: As of 04:08 March 14<sup>th</sup>, 84°C

### (3) Report concerning other incidents

- TEPCO reported to NISA the event in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (15:42 March 11th)
- TEPCO reported to NISA the event (Inability of water injection of the Emergency Core Cooling System) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness (Units 1 and 2). (16:36 March 11th)
- The cable for receiving electricity from the transmission line of Tohoku Electric Power Company was installed. It is scheduled to be connected to Unit 2 after the completion of discharge work. (17:30 March 17th)  
The content of operations for recovery of external power supply to Units 1 to 4 (Power supply from electric transmission grid of Tohoku Electric Power Co. and from the route via transformer sub-station of TEPCO) is being confirmed. (06:30 March 18th)

#### <Unit 1>

- Seawater injection to the Reactor Pressure Vessel (RPV) via the Fire Extinguish Line started. (20:20 March 12th)  
→Temporary interruption of the injection (01:10 March 14th)
- The sound of explosion in Unit 1 occurred. (15:36 March 12th)
- Seawater is being injected. (As of 12:00 March 19th)

#### <Unit 2>

- Water injection function was sustained. (14:00 March 13th)
- The Blow-out Panel of reactor building was opened due to the explosion in the reactor building of Unit 3. (After 11:00 March 14th)
- Reactor water level tended to decrease. (13:18 March 14th) TEPCO reported to NISA the event (Loss of reactor cooling functions) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (13:49 March 14th)
- Seawater injection to RPV via the Fire Extinguish line was ready. (19:20



March 14th)

- Water level in RPV of Unit 2 tended to decrease. (22:50 March 14th)
- A sound of explosion was made in Unit 2. As the pressure in Suppression Chamber decreased (06:10 March 15th), there was a possibility that an incident occurred in the Chamber. (About 06:20 March 15th)
- Seawater injection to RPV continues. (As of 12:00 March 19th)
- Electric power receiving at the emergency power source transformer from the external transmission line was completed. The work for laying the electric cable from the facility to the load side was carried out. (As of 13:30 March 19th)
- Injection of 40t of Seawater to the Spent Fuel Pool of Unit 2 was started.(from 15:00 till 17:20 March 20th)
- Power Center of Unit 2 received electricity (15:46 March 20th)

<Unit 3>

- Fresh water started to be injected to RPV via the Fire Extinguish Line. (11:55 March 13th)
- Seawater started to be injected to RPV via the Fire Extinguish Line. (13:12 March 13th)
- Seawater injection for Units 1 and 3 was interrupted due to the lack of seawater in pit. (01:10 March 14th)
- Seawater injection to RPV for Unit 3 was restarted (03:20 March 14th)
- The pressure in Primary Containment Vessel (PCV) of Unit 3 rose unusually. (07:44 March 14th) TEPCO reported to NISA on the event falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (7:52 March 14th)
- In Unit 3, the explosion like Unit 1 occurred around the Reactor Building (11:01 March 14th)
- The white smoke like steam generated from Unit 3. (08:30 March 16th)
- Because of the possibility that PCV of Unit 3 was damaged, the workers evacuated from the main control room of Units 3 and 4 (common control room). (10:45 March 16th) Thereafter the operators returned to the room and restarted the operation of water injection. (11:30 March 16th)
- Seawater was discharged 4 times to Unit 3 by the helicopters of the Self-Defence Force. (9:48, 9:52, 9:58 and 10:01 March 17th)



- The riot police arrived at the site for the water spray from the grand. (16:10 March 17th)
- The Self-Defence Force started the water spray from 19:35 March 17th.
- The water spray from the ground was carried out by the riot police (From 19:05 till 19:13 March 17th)
- The water spray from the ground was carried out by the Self-Defense Force using 5 fire engines. (March 17th)  
(The starting time of water spray by each engine: 19:35, 19:45, 19:53, 20:00 and 20:07 March 17th)
- The water spray from the ground using 6 fire engines (6 tons of water spray per engine) was carried out by the Self-Defence Force. (From before 14:00 till 14:38 March 18th)
- The water spray from the ground using a fire engine provided by the US Military was carried out. (Finished at 14:45 March 18th)
- Seawater is being injected to RPV. (As of 10:00 March 19th)
- Hyper Rescue Unit (14 vehicles) arrived at the Main Gate (23:10 March 18th) and 6 vehicles of them entered the NPS in order to spray water from the ground. (23:30 March 18th)
- Hyper Rescue Unit of Tokyo Fire Department carried out and completed the water spray. (Finished at 03:40 March 20th)
- The pressure in PCV of Unit 3 rose (320 kPa as of 11:00 March 20th). Preparation to lower the pressure was carried. Judging from the situation, immediate pressure relief was not required. Monitoring the pressure continues (160 kPa at 04:00 March 21st).
- On-site survey for leading electric cable (From 11:00 till 16:00 March 20th)
- Water spray over the Spent Fuel Pool of Unit 3 by Hyper Rescue Unit of Tokyo Fire Department was started at 21:39 March 20th and finished at 03:58 March 21st.
- Works for the recovery of external power supply is being carried out.

#### <Unit 4>

- It was confirmed that a part of wall in the operation area of Unit 4 was damaged. (06:14 March 15th)
- The fire at Unit 4 occurred. (09:38 March 15th) TEPCO reported that the fire was extinguished spontaneously. (11:00 March 15th)

- The temperature of water in the Spent Fuel Pool at Unit 4 had increased. (84 °C as of 04:08 March 14th)
- The fire occurred at Unit 4. (5:45 March 15th) TEPCO reported that no fire could be confirmed on the ground. (06:15 March 16th)
- Because of the replacement work of the Shroud of RPV, no fuel was inside the RPV.
- The Self-Defence Force started water spray over the Spent Fuel Pool of Unit 4 (09:43 March 20th).
- On-site survey for leading electric cable (From 11:00 till 16:00 March 20th)
- Water spray over the Spent Fuel Pool of Unit 4 by Self-Defence Force was started at around 18:30 March 20th and finished at 19:46 March 20th.
- Water spray over the Spent Fuel Pool by Self-Defence Force (13 fire engines) started at 06:37 March 21st and finished at 08:41 March 21st.
- Works for laying electricity cable to the Power Center is being carried out (Scheduled to be completed on March 21st).

## <Units 5 and 6>

- Emergency Diesel Generator (1 unit) for Unit 6 is operable and supplying electricity to Units 5 and 6. Water injection to RPV and Spent Fuel Pool through the system of Make up Water Condensate (MUWC) is being carried.
- The second unit of Emergency Diesel Generator (A) for Unit 6 started up. (04:22 March 19th)
- The pumps for Residual Heat Removal (RHR) (C) for Unit 5 (05:00 March 19th) and RHR (B) for Unit 6 (22:14 March 19th) started up and recovered heat removal function. It cools Spent Fuel Storage Pool with priority. (Power supply : Emergency Diesel Generator for Unit 6) (05:00 March 19th)
- Unit 5 under cold shut down (14:30 March 20th)
- Unit 6 under cold shut down (19:27 March 20th)
- Receiving electricity reached to the transformer of starter. (19:52 March 20th)

## <Common Spent Fuel Pool>

- It was confirmed that the water level of Spent Fuel Pool was maintained full at after 06:00 March 18th.
- As of 09:00 March 19th, the water temperature in the pool is 57°C.

## ● Fukushima Dai-ni NPS (TEPCO)

(Naraha Town / Tomioka Town, Futaba County, Fukushima Prefecture.)

### (1) The state of operation

Unit1 (1,100MWe): automatic shutdown, cold shut down at 17:00, March 14th

Unit2 (1,100MWe): automatic shutdown, cold shut down at 18:00, March 14th

Unit3 (1,100MWe): automatic shutdown, cold shut down at 12:15, March 12th

Unit4 (1,100MWe): automatic shutdown, cold shut down at 07:15, March 15th

### (2) Major plant parameters (As of 09:00 March 21st)

	Unit	Unit 1	Unit 2	Unit 3	Unit 4
Reactor Pressure*1	MPa	0.15	0.12	0.13	0.16
Reactor water temperature	°C	34.1	29.4	35.9	31.3
Reactor water level*2	mm	8,246	10,246	8,467	8,785
Suppression pool water temperature	°C	25	24	27	28
Suppression pool pressure	kPa (abs)	138	108	104	113
Remarks		cold shutdown	cold shutdown	cold shutdown	cold shutdown

\*1: Converted from reading value to absolute pressure

\*2: Distance from the top of fuel



(3) Report concerning other incidents

- TEPCO reported to NISA the event in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 1. (18:08 March 11th)
- TEPCO reported to NISA the events in accordance with the Article 10 regarding Units 1, 2 and 4. (18:33 March 11th)
- TEPCO reported to NISA the event (Loss of pressure suppression function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 1. (5:22 March 12th)
- TEPCO reported to NISA the event (Loss of pressure suppression function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 2. (5:32 March 12th)
- TEPCO reported to NISA the event (Loss of pressure suppression function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 4 of Fukushima Dai-ni NPS. (6:07 March 12th)

● Onagawa NPS (Tohoku Electric Power Co. Inc.)

(Onagawa Town, Oga County and Ishinomaki City, Miyagi Prefecture)

(1) The state of operation

Unit 1 (524MWe): automatic shutdown, cold shut down at 0:58, March 12th  
Unit 2 (825MWe): automatic shutdown, cold shut down at earthquake  
Unit 3 (825MWe): automatic shutdown, cold shut down at 1:17, March 12th

(2) Readings of monitoring post, etc.

MP2 (Monitoring at the North End of Site Boundary)

approx. 6,500 nGy/h (19:00 March 14th)

→approx. 5,400 nGy/h (19:00 March 15th)

(3) Report concerning other incidents

- Fire Smoke on the first basement of the Turbine Building was confirmed to be extinguished. (22:55 on March 11th)

- Tohoku Electric Power Co. reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (13:09 March 13th)

## 2. Action taken by NISA

(March 11th)

- 14:46 Set up of the NISA Emergency Preparedness Headquarters (Tokyo) immediately after the earthquake
- 15:42 TEPCO reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 16:36 TEPCO recognized the event (Loss of reactor cooling function) in accordance with the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Units 1 and 2 of Fukushima Dai-ichi NPS. (Reported to NISA at 16:45)
- 18:08 Regarding Unit 1 of Fukushima Dai-ni NPS, TEPCO reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 18:33 Regarding Units 1, 2 and 4 of Fukushima Dai-ni NPS, TEPCO reported to NISA in accordance with the Article 10 of Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 19:03 The Government declared the state of nuclear emergency. (Establishment of Government Nuclear Emergency Response Headquarters and Local Emergency Response Headquarters)
- 20:50 Fukushima Prefecture's Emergency Response Headquarters issued a direction for the residents within 2 km radius from Unit 1 of Fukushima Dai-ichi NPS to evacuate. (The population of this area is 1,864.)
- 21:23 Directives from Prime Minister to the Governor of Fukushima Prefecture, the Mayor of Okuma Town and the Mayor of Futaba Town were issued regarding the event occurred at Fukushima Dai-ichi NPS, TEPCO, in accordance with the Paragraph 3, the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness as follows:
  - Direction for the residents within 3km radius from Unit 1 of



Fukushima Dai-ichi NPS to evacuate

- Direction for the residents within 10km radius from Unit 1 of Fukushima Dai-ichi NPS to stay in-house

24:00 Vice Minister of Economy, Trade and Industry, Ikeda arrived at the Local Emergency Response Headquarters

(March 12th)

05:22 Regarding Unit 1 of Fukushima Dai-ichi NPS, TEPCO recognized the event (Loss of pressure suppression function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (Reported to NISA at 06:27)

05:32 Regarding Unit 2 of Fukushima Dai-ichi NPS, TEPCO recognized the event (Loss of pressure suppression function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.

05:44 Residents within 10km radius from Unit 1 of Fukushima Dai-ichi NPS shall evacuate by the Prime Minister Direction.

06:07 Regarding Unit 4 of Fukushima Dai-ichi NPS, TEPCO recognized the event (Loss of pressure suppression function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.

06:50 In accordance with the Paragraph 3, the Article 64 of the Nuclear Regulation Act, the order was issued to control the internal pressure of PCV of Units 1 and 2 of Fukushima Dai-ichi NPS.

07:45 Directives from Prime Minister to the Governor of Fukushima Prefecture, the Mayors of Hirono Town, Naraha Town, Tomioka Town and Okuma Town were issued regarding the event occurred at Fukushima Dai-ichi NPS, TEPCO, pursuant to the Paragraph 3, the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness as follows:

- Direction for the residents within 3km radius from Fukushima Dai-ichi NPS to evacuate
- Direction for the residents within 10km radius from Fukushima Dai-ichi NPS to stay in-house

17:00 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on



Special Measures Concerning Nuclear Emergency Preparedness  
regarding Fukushima Dai-ichi NPS.

- 17:39 Prime Minister directed evacuation of the residents within the 10 km radius from Fukushima Dai-ichi NPS.
- 18:25 Prime Minister directed evacuation of the residents within the 20km radius from Fukushima Dai-ichi NPS.
- 19:55 Directives from Prime Minister was issued regarding seawater injection to Unit 1 of Fukushima Dai-ichi NPS.
- 20:05 Considering the Directives from Prime Minister and pursuant to the Paragraph 3, the Article 64 of the Nuclear Regulation Act, order was issued to inject seawater to Unit 1 of Fukushima Dai-ichi NPS and so on.
- 20:20 At Unit 1 of Fukushima Dai-ichi NPS, seawater injection started.

(March 13th)

- 05:38 TEPCO reported to NISA the event (Total loss of coolant injection function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 3 of Fukushima Dai-ichi NPS. Recovering efforts by TEPCO of the power source and coolant injection function and the work on venting were under way.
- 09:01 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 09:08 Pressure suppression and fresh water injection started for Unit 3 of Fukushima Dai-ichi NPS.
- 09:20 The Pressure Vent Valve of Unit 3 of Fukushima Dai-ichi NPS was opened.
- 09:30 The order was issued for the Governor of Fukushima Prefecture, the Mayors of Okuma Town, Futaba Town, Tomioka Town and Namie Town in accordance with the Act on Special Measures Concerning Nuclear Emergency Preparedness on the contents of radioactivity decontamination screening.
- 09:38 TEPCO reported to NISA that Unit 1 of Fukushima Dai-ichi NPS reached a situation specified in the Article 15 of the Act on Special

## Measures Concerning Nuclear Emergency Preparedness.

- 13:09 Tohoku Electric Power Co. reported to NISA that Onagawa NPS reached a situation specified in the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 13:12 Fresh water injection was switched to seawater injection for Unit 3 of Fukushima Dai-ichi NPS.
- 14:36 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

(March 14th)

- 01:10 Seawater injection for Units 1 and 3 of Fukushima Dai-ichi NPS were temporarily interrupted due to the lack of seawater in pit.
- 03:20 Seawater injection for Unit 3 of Fukushima Dai-ichi NPS was restarted.
- 04:40 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 05:38 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 07:52 TEPCO reported to NISA the event (Unusual rise of the pressure in PCV) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 3 of Fukushima Dai-ichi NPS.
- 13:25 Regarding Unit 2 of Fukushima Dai-ichi NPS, TEPCO recognised the event (Loss of reactor cooling function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 22:13 TEPCO reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 22:35 TEPCO reported to NISA the event (Unusual increase of radiation



dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

(March 15th)

00:00: The acceptance of experts from IAEA was decided. NISA agreed to accept the offer of dispatching of the expert on NPS damage from IAEA considering the intention by Mr. Amano, Director General of IAEA. Therefore, the schedule of expert acceptance will be planned from now on according to the situation.

00:00: NISA also decided the acceptance of experts dispatched from NRC.

07:21 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

07:24 Incorporated Administration Agency, Japan Atomic Energy Agency (JAEA) reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Nuclear Fuel Cycle Engineering Laboratories, Tokai Research and Development Centre.

07:44 JAEA reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Nuclear Science Research Institute.

08:54 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

10:30 According to the Nuclear Regulation Act, Minister of Economy, Trade and Industry issued the directives as follows.

For Unit 4: To extinguish fire and to prevent the occurrence of re-criticality

For Unit 2: To inject water to reactor vessel promptly and to vent Drywell.

10:59 Considering the possibility of lingering situation, it was decided that the function of the Local Emergency Response Headquarter was moved to the Fukushima Prefectural Office.



11:00 Prime Minister directed the in-house stay area.

In-house stay was additionally directed to the residents in the area from 20 km to 30 km radius from Fukushima Dai-ichi NPS considering in-reactor situation.

16:30 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

22:00 According to the Nuclear Regulation Act, Minister of Economy, Trade and Industry issued the following directive.

For Unit 4: To implement the injection of water to the Spent Fuel Pool.

23:46 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

(March 18th)

13:00 Ministry of Education, Culture, Sports, Science and Technology decided to reinforce the nation-wide monitoring survey in the emergency of Fukushima Dai-ichi and Dai-ni NPS.

15:55 TEPCO reported to NISA on the accidents and failure at Units 1, 2, 3 and 4 of Fukushima Dai-ichi NPS (Leakage of the radioactive materials inside of the reactor buildings to non-controlled area of radiation) pursuant to the Article 62-3 of the Nuclear Regulation Act.

16:48 Japan Atomic Power Co. reported to NISA accidents and failures in Tokai NPS (Failure of the seawater pump motor of the emergency diesel generator 2C) pursuant to the Article 62-3 of the Nuclear Regulation Act.

(March 19th)

07:44 The second unit of Emergency Diesel Generator (A) for Unit 6 started up.

TEPCO reported to NISA that the pump for RHR (C) for Unit 5 started up and started to cooling Spent Fuel Storage Pool. (Power supply: Emergency Diesel Generator for Unit 6)

08:58 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

< Possibility on radiation exposure (As of 10:30 March 21st) >

<Exposure of residents>

- (1) Including the about 60 evacuees from Futaba Public Welfare Hospital to Nihonmatsu City Fukushima Gender Equality Centre, as the result of measurement of 133 persons at the Centre, 23 persons counted more than 13,000 cpm were decontaminated.
- (2) The 35 residents transferred from Futaba Public Welfare Hospital to Kawamata Town Saiseikai Kawamata Hospital by private bus arranged by Fukushima Prefecture were judged to be not contaminated by the Prefectural Response Centre.
- (3) As for the about 100 residents in Futaba Town evacuated by bus, the results of measurement for 9 of the 100 residents were as follows. The evacuees, moving outside the Prefecture (Miyagi Prefecture), were divided into two groups, which joined later to Nihonmatsu City Fukushima Gender Equality Centre.

No. of Counts	No. of Persons
18,000cpm	1
30,000-36,000cpm	1
40,000cpm	1
little less than 40,000cpm*	1
very small counts	5

\*(These results were measured without shoes, though the first measurement exceeded 100,000cpm)

- (4) The screening was started at the Off site Centre in Okuma Town from March 12th to 15th. 162 people received examination until now. At the beginning, the reference value was set at 6,000cpm. 110 people were at



the level below 6,000 cpm and 41 people were at the level of 6,000 cpm or more. When the reference value was increased to 13,000 cpm afterward, 8 people were at the level below 13,000 cpm and 3 people are at the level of 13,000 cpm or more.

The 5 out of 162 people examined were transported to hospital after being decontaminated.

- (5) The Fukushima Prefecture carried out the evacuation of patients and personnel of the hospitals located within 10km area. The screening of all the members showed that 3 persons have the high counting rate. These members were transported to the secondary medical institute of exposure. As a result of the screening on 60 fire fighting personnel involved in the transportation activities, the radioactivity higher than twice of the back ground was detected on 3 members. Therefore, all the 60 members were decontaminated.

#### <Exposure of workers>

- (1) As for the 18 workers conducting operations in Fukushima Dai-ichi NPS, results of measurements are as follows:

One worker: At the level of exposure as 106.3 mSv, no risk of internal exposure and no medical treatment required.

Other workers: At the level of no risk for health but concrete numerical value is unknown.

- (2) As for the 7 people working at the time of explosion at around the Unit 3 of Fukushima Dai-ichi NPS who were injured and conscious, 6 out of 7 people were decontaminated by an industrial doctor of the clinic in Fukushima Dai-ni NPS, and confirmed to have no risk. The other one is having a medical treatment at the clinic after decontaminated.

#### <Others>

- (1) Fukushima Prefecture has started the screening from 13 March. It is carried out by rotating the evacuation sites and at the 12 places (set up permanently) such as health offices. The results of screening are being totalled up.
- (2) 5 members of Self-Defence Force who worked for water supply in Fukushima Dai-ichi NPS were exposed. After the work (March 12th),



30,000 cpm was counted by the measurement at Off site Centre. The counts after decontamination were between 5,000 and 10,000 cpm. One member was transferred to National Institute of Radiological Science. No other exposure of the Self-Defence Force member was confirmed at the Ministry of Defence.

- (3) As for policeman, the decontaminations of two policemen were confirmed by the National Police Agency. Nothing unusual was reported.

<Direction of administrating stable Iodine during evacuation>

On March 16th, the Local Emergency Response Headquarter issued “the direction to administer the stable Iodine during evacuation from the evacuation area (20 km radius)” to the Prefectural Governor and the heads of cities, towns and villages (Tomioka Town, Hutaba Town, Okuma Town, Namie Town, Kawauchi Village, Naraha Town, Minamisouma City, Tamura City, Kazurao Village, Hirono Town, Iwaki City and Iidate Village).

<Situation of the injured (As of 10:30 March 21st)>

1. Injury due to earthquake
  - Two employees (slightly)
  - Two subcontract employees (one fracture in both legs)
  - Two missing (TEPCO's employee, missing in the turbine building of Unit 4)
  - One emergency patient (According to the local prefecture, one patient of cerebral infarction was transported by the ambulance).
  - Ambulance was requested for one employee complaining the pain at left chest outside of control area (conscious).
  - Two employees complaining discomfort wearing full-face mask in the main control room were transported to Fukushima Dai-ni NPS for a consultation with an industrial doctor.
2. Injury due to the explosion of Unit 1 of Fukushima Dai-ichi NPS
  - Four employees were injured at the explosion and smoke of Unit 1 around turbine building (non-controlled area of radiation) and were examined by Kawauchi Clinic.
3. Injury due to the explosion of Unit 3 of Fukushima Dai-ichi NPS

- Four TEPCO's employees
- Three subcontractor employees
- Four members of Self-Defence Force (one of them was transported to National Institute of Radiological Sciences considering internal possible exposure. The examination resulted in no internal exposure. The member was discharged from the institute on March 16th.)

#### 4. Other injuries

- A person who visited the clinic in Fukushima Dai-ni NPS from a transformer sub-station, claiming of a stomach ache, was transported to a clinic in Iwaki City, because the person was not contaminated.

#### <Situation of Resident Evacuation (As of 10:30 March 21st)>

At 11:00 March 15th, Prime Minister directed in-house stay to the residents in the area from 20 km to 30 km radius from Fukushima Dai-ichi NPS. The directive was conveyed to Fukushima Prefecture and related municipalities.

Regarding the evacuation as far as 20-km from Fukushima Dai-ichi NPS and 10-km from Fukushima Dai-ni NPS, necessary measures have already been taken.

- The in-house stay in the area from 20 km to 30 km from Fukushima Dai-ichi NPS is made fully known to the residents concerned.
- Cooperating with Fukushima Prefecture, livelihood support to the residents in the in-house stay area are implemented.

(Contact Person)

Mr. Toshihiro Bannai

Director, International Affairs Office,  
NISA/METI

Phone: +81-(0)3-3501-1087



## Tohoku Pacific Earthquake and the seismic damage to the NPSs

2011 Mar 21 as of 10:30 am (JST)

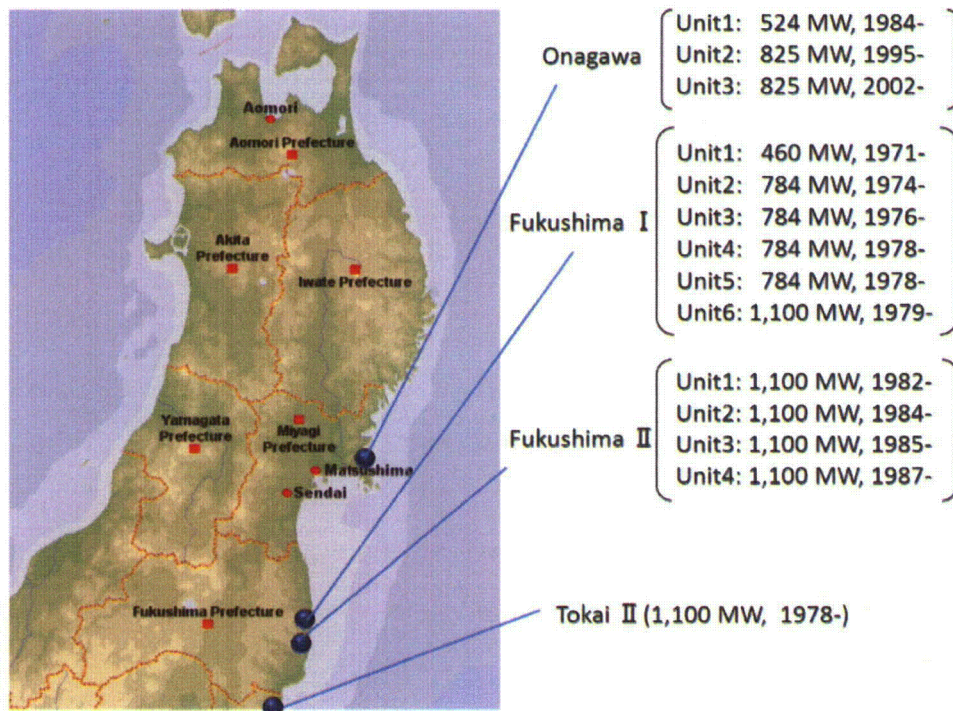
Ministry of Economy, Trade and industry

### Earthquake occurrence and automatic shut-down of nuclear reactors

The Tohoku Pacific Earthquake of historic magnitude 9.0 struck the northeastern part of Japan at 2:46 pm on March 11th, 2011.

At the time of the earthquake occurrence, 3 reactors (Units 4, 5 and 6 at Fukushima Dai-ichi (I) Nuclear Power Station of Tokyo Electric Power Co. Inc.(TEPCO)) were under periodic inspection outage, and 11 reactors (Units 1, 2 and 3 at Onagawa Nuclear Power Station of Tohoku Electric Power Co. Ltd.; Units 1, 2 and 3 at Fukushima Dai-ichi (I) Nuclear Power Station of TEPCO; Units 1, 2, 3 and 4 of Fukushima-Dai-ni (II) Nuclear Power Station of TEPCO; and an unit of Tokai Dai-ni (II) Nuclear Power Station of Japan Atomic Power Co. Ltd.) were automatically shut-down.

After the automatic shut-down, Units 1, 2 and 3 at Onagawa, Unit 3 at Fukushima II, and the Unit at Tokai II have been cold shut down safely. As for the Units 1, 2 and 4 at Fukushima II, TEPCO operator of the station reported the nuclear emergency situation to Nuclear and Industrial Safety Agency (NISA), but afterward the three units have been cold shut down.



## **Report concerning incidents at the Fukushima Dai-ichi (I) Nuclear Power Station**

The massive earthquake triggered the devastating Tsunami wiping away houses, buildings, cars along the widespread areas of the northeast coast. The Tsunami also knocked out the emergency power generators and the pumps supplying seawater to the cooling system and disabled other function necessary for cooling down the reactor cores of Units 1, 2, and 3 as well as spent fuel kept in the pools inside reactor buildings of all units at Fukushima I. Consequently, the pressure and temperature of reactor cores and the water temperature of spent fuel storage pools went up.

For counter measures, seawater is being injected into the reactor pressure vessels of Units 1, 2 and 3. At the same time, police, fire brigade and the Self Defense Force are attempting to pour water into the spent fuel storage pool of Unit 3 by spraying seawater from helicopters, water cannon trucks and fire engine. Further, TEPCO engineers are working to restore external power supply by installing the electricity cable connecting to the transmission line of Tohoku Electric Power Co. Ltd. and other transmission route.

### ***Unit 1 Seawater is being injected into the reactor pressure vessel as of 12:00 March 19th.***

- After the reactor was automatically shut-down and the Tsunami disabled the equipments, the temperature of the reactor core went up and the water level inside the pressure vessel dropped and the reaction of cladding metal of fuel and water generated hydrogen. The hydrogen leaked outside of the containment vessel and caused the explosion at the upper-part of a concrete building housing at 15:36 on March 12.
- Seawater is being injected into the reactor pressure vessel. There is no risk of a hydrogen explosion in the containment vessel because there is no oxygen in it. There is no high probability of leaking large amount of radioactive material currently.

### ***Unit 2 Injection of 40 tons of Seawater to the Spent Fuel Pool of Unit 2 was started as of March 20th.***

- After the automatic shut-down of the reactor, the water injection function was sustained, but the reactor water level tended to decrease.

- At 6:10 on March 15th, TEPCO reported that there was an explosion sound at Unit 2. Given the fact that the pressure in the suppression chamber of Unit 2 decreased. It is presumed that the possibility of certain damage on the suppression chamber.
- Seawater is being injected into the reactor pressure vessel as of 12:00 March 19th. The work to recover external power supply is underway as of 13:30 on March 19th. (Electric power receiving at the emergency power source transformer from the external transmission line was completed. And the work for laying the electric cable from the facility to the load side is being carried out.)
- Injection of 40 tons of seawater to the spent fuel pool of Unit 2 was started (from 15:00 till 17:20 March 20th), and Power Center of Unit 2 received electricity at 15:46 March 20th.

***Unit 3 Several counter measures are being used to cool down Unit 3 as of March 21st.***

- After the automatic shut-down of the reactor, fresh water and subsequently seawater were injected into the reactor pressure vessel through the fire extinguishing system line. However, the pressure in the primary containment vessel rose up unusually and the explosion took place around the reactor building of Unit 3 at 11:01 on March 14th.
- At 8:30 on March 16th, white smoke like steam was generated from Unit 3. Because of the possibility that the containment vessel of Unit 3 was damaged, the operators evacuated from the central control room of Unit 3 and 4 at 10:45 on March 16th. Thereafter, the operators returned to the room and restarted the operation for water injection into the reactor pressure vessel at 11:30 on March 16th.
- Currently, seawater is being injected into the reactor pressure vessel. At the same time, to pour water into the spent fuel storage pool, helicopters and water cannon trucks of Self Defense Forces discharge water to Unit 3 from sky and ground. Riot Police and Hyper Rescue Unit of Tokyo Fire Department sprayed water.
- The pressure in Primary Containment Vessel (PCV) of Unit 3 rose (320 kPa as of 11:00 March 20th). Preparation to relieve the pressure had started. But afterward, judging from the situation, immediate pressure relief was not required, and monitoring of the pressure continues (160 kPa as of 04:00 March 21st).



- Works for the recovery of external power supply is being carried out.

***Unit 1,2 &3***

- As a small amount of radioactive material was detected, it was believed that a part of nuclear fuel was damaged.

***Unit 4 Water spray over the Spent Fuel Pool of Unit 4 by Self-Defence Force is continued as of March 21st.***

- The temperature of water in the spent fuel storage pool went up. At 4:08 on March 14th, the temperature in the spent fuel storage pool of Unit 4 was 84 degree centigrade.
- It was confirmed that a part of wall of the operation floor of the reactor building of Unit 4 was damaged on March 15th. A fire took place at Unit 4 at 9:38 on March 15th, but the fire was extinguished spontaneously.
- At 5:45 on March 16th, it was reported that a fire occurred at Unit 4; however, no fire was confirmed by TEPCO staff on the ground at 6:15 on March 16th.
- There are no fuel in the reactor pressure vessel due to replacement work of a shroud.
- Water spray over the Spent Fuel Pool of Unit 4 by Self-Defence Force was started at 09:43 March 20th, and restated from 18:30 to 19:46 March 20th, and continued from 06:37 to 08:41 March 21st.
- Works for the recovery of external power supply is being carried out (Scheduled to be completed on March 21st).

***Unit 5&6 Unit 5 & 6 is under cold shut down as of March20th.***

- Fresh water is being injected into reactor pressure vessels and spent fuel pools by Make-Up Water Condensate system.
- The temperature of water in the spent fuel storage pool went up. At 7:00 on March

20th, the temperature in the spent fuel storage pool of Unit 5 and Unit 6 were 37.1 degree centigrade and 41.0 degree centigrade, respectively.

- The pump for Residual Heat Removal (RHR) (C) for Unit 5 (05:00 March 19th) and RHR (B) for Unit 6 (22:14 March 19th) started up and recovered heat removal function. It cools Spent Fuel Storage Pool with priority. And, RHR (B) for Unit 6 has recovered and started full operation. (22:14 March 19th)
- Unit 5 was under cold shut down at 14:30 March 20th and Unit 6 was under cold shut down at 19:27 March 20th.
- Unit 5 & 6 received electricity reached to the starting transformer at 19:52 March 20th.

#### Current Situation

- Evacuation as far as 20 kilometers from Fukushima I NPS and 10 kilometers from Fukushima II was almost completed (see the diagram below). The residents in the areas from 20 kilometers to 30 kilometers radius from Fukushima I NPS are directed to stay in-house.
- On March 16th, the Local Emergency Response Headquarter issued "the direction to administer the stable Iodine during evacuation from the evacuation area (20 km radius)" to the Prefecture Governors and the heads of cities, towns and villages.

#### Monitoring Data

1) The data of Monitoring Post out of 20 kilometers zone of Fukushima I NPS is available on the following website:

[http://www.mext.go.jp/a\\_menu/saigaijohou/syousai/1303726.htm](http://www.mext.go.jp/a_menu/saigaijohou/syousai/1303726.htm)

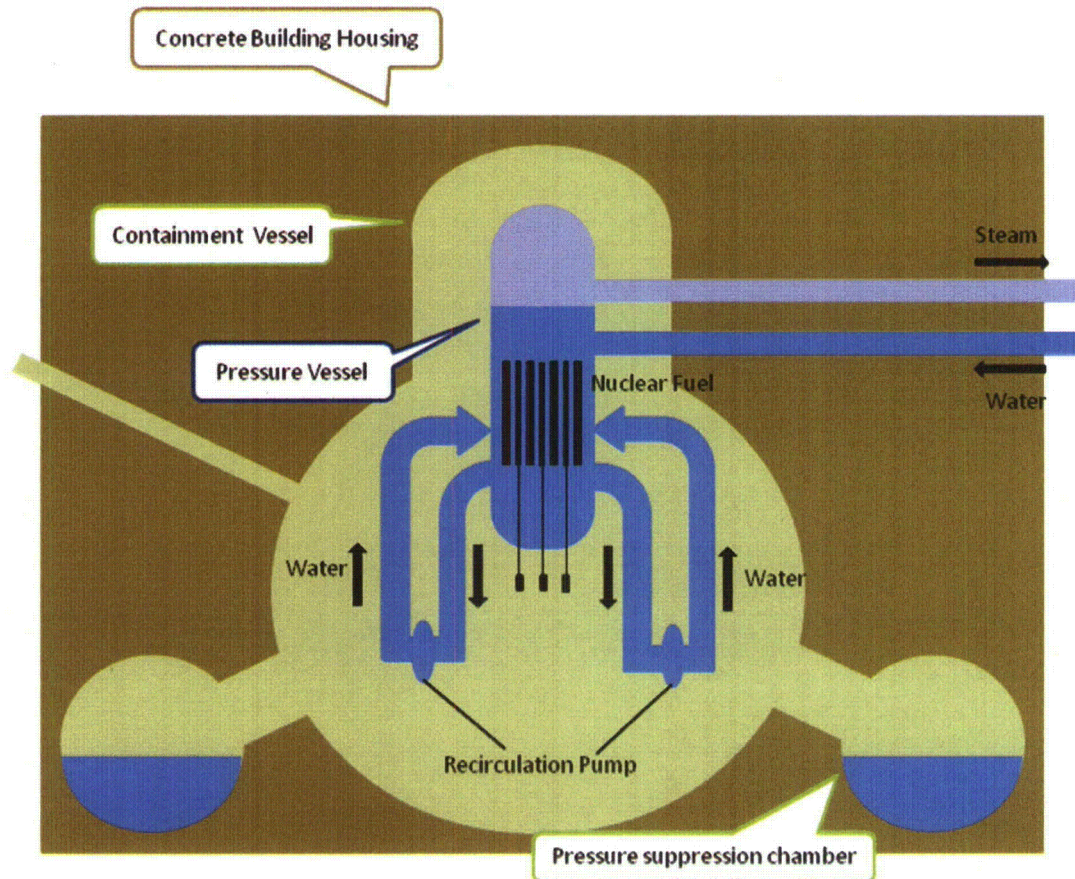
2) The real-time radiation data collected via the System for Prediction of Environment Emergency Dose Information (SPEEDI) is available on the following website:

<http://www.bousai.ne.jp/eng/>

## Outline of the Fukushima I Nuclear Power Station



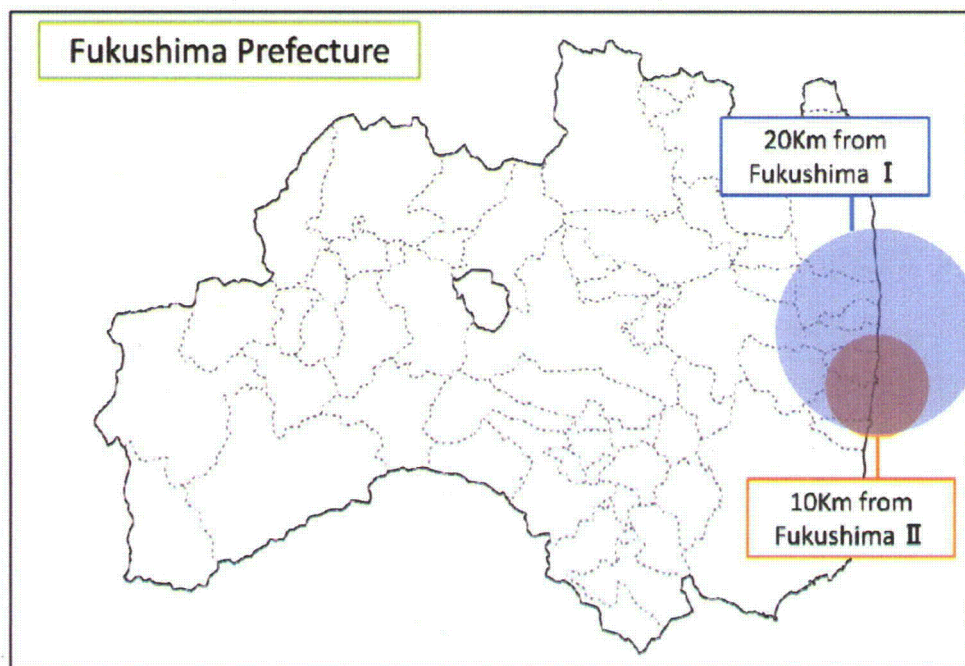
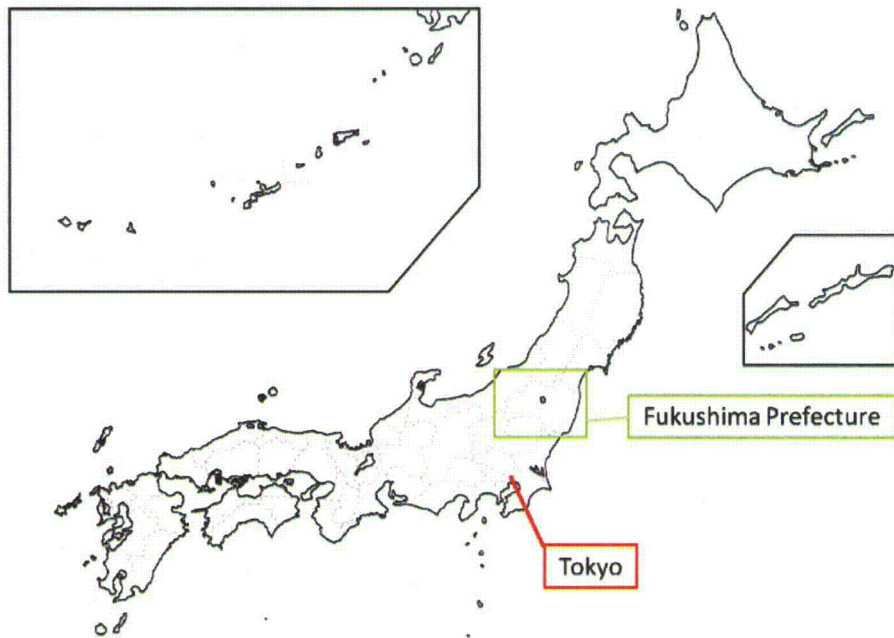
(Fukushima Dai-ichi nuclear power station)



(Structure of BWR)



Location of Fukushima I and II in Japan



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**From:** HOO Hoc  
**Sent:** Thursday, April 14, 2011 2:21 PM  
**To:** LIA07 Hoc; LIA08 Hoc; OST01 HOC  
**Subject:** FW: Japan source term information  
**Attachments:** NISA\_SourceTerm\_en20110412-4.pdf; image001.jpg

Headquarters Operations Officer  
U.S. Nuclear Regulatory Commission  
Phone: 301-816-5100  
Fax: 301-816-5151  
email: [hoo.hoc@nrc.gov](mailto:hoo.hoc@nrc.gov)  
secure e-mail: [hoo1@nrc.sgov.gov](mailto:hoo1@nrc.sgov.gov)



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**From:** Nasstrom, John S. [mailto:[Nasstrom1@nrc.gov](mailto:Nasstrom1@nrc.gov)]  
**Sent:** Thursday, April 14, 2011 2:15 PM  
**To:** Hoc, PMT12; HOO Hoc; Watson, Bruce  
**Cc:** 'narac'  
**Subject:** Japan source term information

Attention PMT:

Attached is the Japan press release with their source term estimates for Fukushima.

As I discussed with Bruce Watson and Michelle Hart on the phone today, DOE asked us to contact you to see if you could provide any assistance with the following:

- Information the NRC Japan team may have on the basis and details of Japan's source term estimates (including any assumed release times)
- Contacts in NRC (RST, PMT, Japan) that may have information that may help in refined estimates of Fukushima source terms.

Thank you looking into this, and for the invaluable assistance you have already provided for this event.

Sincerely,  
John Nasstrom

NARAC Operations  
925-422-7627

DDP/67

April 12, 2011

INES (the International Nuclear and Radiological Event Scale) Rating on  
the Events in Fukushima Dai-ichi Nuclear Power Station  
by the Tohoku District - off the Pacific Ocean Earthquake

The Rating of the International Nuclear and Radiological Event Scale (INES) on the events in Fukushima Dai-ichi Nuclear Power Station (NPS), Tokyo Electric Power Co. Inc. (TEPCO), caused by the Tohoku District - off the Pacific Ocean Earthquake is temporarily assessed as Level 7, considering information obtained after March 18th.

However, the amount of discharged radioactive materials is approximately 10 percent of the Chernobyl accident which was assessed on the same level.

1. INES

INES is the rating, which International Atomic Energy Agency (IAEA) and Nuclear Energy Agency, Organization for Economic Cooperation and Development (OECD/NEA) established and proposed to the Member States in March 1992, in order to indicate the impact on safety by the individual event in a nuclear facility and so on. Japan has also utilized it since 1 August 1992.

2. Events in Fukushima Dai-ichi NPS, TEPCO, by the Tohoku District - off the Pacific Ocean Earthquake

On 18 March, the ratings of the events in Fukushima Dai-ichi NPS by the Tohoku District - off the Pacific Ocean Earthquake were informed to be temporarily assessed as Level 5, considering information obtained before March 18th. However, Nuclear and Industrial Safety Agency (NISA) estimated the total amount of discharged radioactive materials from the reactors of Fukushima Dai-ichi NPS to the air, making a trial



calculation using the result of analysis of the situation of the reactors and so on, which was carried out by Japan Nuclear Energy Safety Organization (JNES). This estimation resulted in the value corresponding to Level 7 of INES rating\*, as listed in the following table..

\* The value representing radiation impact, which is converted to the amount equivalent to  $^{131}\text{I}$  (Iodine), exceeds several tens of thousands of tera-becquerel (of the order of magnitude as  $10^{16}$  Bq).

In addition, Nuclear Safety Commission of Japan (NSC) also estimated and announced the result of the trial calculation in the current stage regarding the total amount of discharged radioactive materials to the air, which had been being carried out in the Commission. This trial calculation is counted backward from the results of monitoring data of  $^{131}\text{I}$  and  $^{137}\text{Cs}$  (Caesium) as the total amount of the discharge from the Fukushima Dai-ichi NPS, This results in the value corresponding to Level 7 of INES rating as well.

	Assumed amount of the discharge from Fukushima Dai-ichi NPS		(Reference) Amount of the discharge from the Chernobyl accident
	Estimated by NISA	Announced by NSC	
$^{131}\text{I}$ ... (a)	$1.3 \times 10^{17}$ Bq	$1.5 \times 10^{17}$ Bq	$1.8 \times 10^{18}$ Bq
$^{137}\text{Cs}$	$6.1 \times 10^{15}$ Bq	$1.2 \times 10^{16}$ Bq	$8.5 \times 10^{16}$ Bq
(Converted value to $^{131}\text{I}$ ) ... (b)	$2.4 \times 10^{17}$ Bq	$4.8 \times 10^{17}$ Bq	$3.4 \times 10^{18}$ Bq
(a) + (b)	$3.7 \times 10^{17}$ Bq	$6.3 \times 10^{17}$ Bq	$5.2 \times 10^{18}$ Bq

(Notes) The conversion of the values to be equivalent to radiation impact of  $^{131}\text{I}$  regarding the NISA's estimation and the NSC's

announcement were carried out by NISA in accordance with the INES User's Manual.

Although Level 7 is the highest level of INES rating, it is estimated that the amount of discharged radioactive materials to the environment in the current stage is approximately 10 percent of the Chernobyl accident, which was assessed on the same level in the past.

### 3. Procedures to be taken

This information is about the result of the total amount of the discharge from Fukushima Dai-ichi NPS in the current stage. As radioactive materials are being released to the environment, NISA will continuously gather and evaluate information.

In addition, the official level of INES will be determined, considering the technical evaluation from specialist view points made by INES Evaluation Subcommittee (Chairman: Dr. Naoto Sekimura, Professor of University of Tokyo, Nuclear Professional School Engineering, Department of Nuclear Engineering and Management), which set up in the Nuclear and Industrial Safety Subcommittee of the Advisory Committee for Natural Resources and Energy, after the recurrence prevention measures are confirmed based on the concrete causes found.

(Contact Person)

Mr. Toshihiro Bannai

Director, International Affairs Office,  
NISA/METI

Phone: +81-(0)3-3501-1087

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**From:** OST01 HOC  
**Sent:** Wednesday, March 23, 2011 8:57 AM  
**To:** Willis, Dori  
**Subject:** Availability as EST Action Officer on Saturday, March 26

Dori,

Are you available to work as the EST Action Officer on Saturday, March 26 from 3pm till 11pm? Please let the EST know today at [OST01HOC@nrc.gov](mailto:OST01HOC@nrc.gov) or [OST02HOC@nrc.gov](mailto:OST02HOC@nrc.gov).

Tony McMurtray  
EST Coordinator

5/5/68



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**From:** HOO Hoc  
**Sent:** Thursday, April 14, 2011 10:27 PM  
**To:** LIA07 Hoc; LIA08 Hoc; OST01 HOC  
**Subject:** FW: Fax from Via Fax  
**Attachments:** File1.PDF

Headquarters Operations Officer  
U.S. Nuclear Regulatory Commission  
Phone: 301-816-5100  
Fax: 301-816-5151  
email: [hoo.hoc@nrc.gov](mailto:hoo.hoc@nrc.gov)  
secure e-mail: [hoo1@nrc.sgov.gov](mailto:hoo1@nrc.sgov.gov)

-----Original Message-----

From: hoo1 [mailto:[hoo1.hoc@nrc.gov](mailto:hoo1.hoc@nrc.gov)]  
Sent: Thursday, April 14, 2011 10:26 PM  
To: HOO Hoc  
Subject: Fax from Via Fax

RECEIVE NOTIFICATION FOR JOB 00018162

Notice for: HOO1

Remote ID: Via Fax

Received at: 04/14/2011 22:25

Pages: 6

Routed by:

Routed at: 04/14/2011 22:25

*DD/69*

**U.S. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION****RSMC Washington (NOAA ARL, NOAA NCEP)**

Room 410 - W/NMC33  
World Weather Building  
5200 Auth Road  
Camp Springs, Maryland USA

Tel (24 hrs - NCEP): 301-763-8298  
Tel (Backup - ARL): 301-713-2614

Fax (24 hrs - NCEP): 301-763-8592  
Fax (Backup - ARL): 301-713-4592

RSMC products created Fri Apr 15 01:35 UTC 2011

The following charts will follow:

- trajectory map
- several time-integrated concentration maps
- total (dry + wet) deposition map

Please contact us if any problems arise with these products.

**Source term and dispersion model details**

RSMC Washington - NOAA ARL / NCEP

-----  
Response: IAEA NOTIFIED EMERGENCY  
-----

Location: FUKUSHIMA-DAIICHI-1 lat: 37.4206 lon: 141.0329

Release Start (YYYY MM DD HH MM): 2011 04 15 01 00

Meteorology: 1800 UTC 14 Apr 2011 GFS

Trajectories: 500.0, 1500.0, 3000.0 m AGL

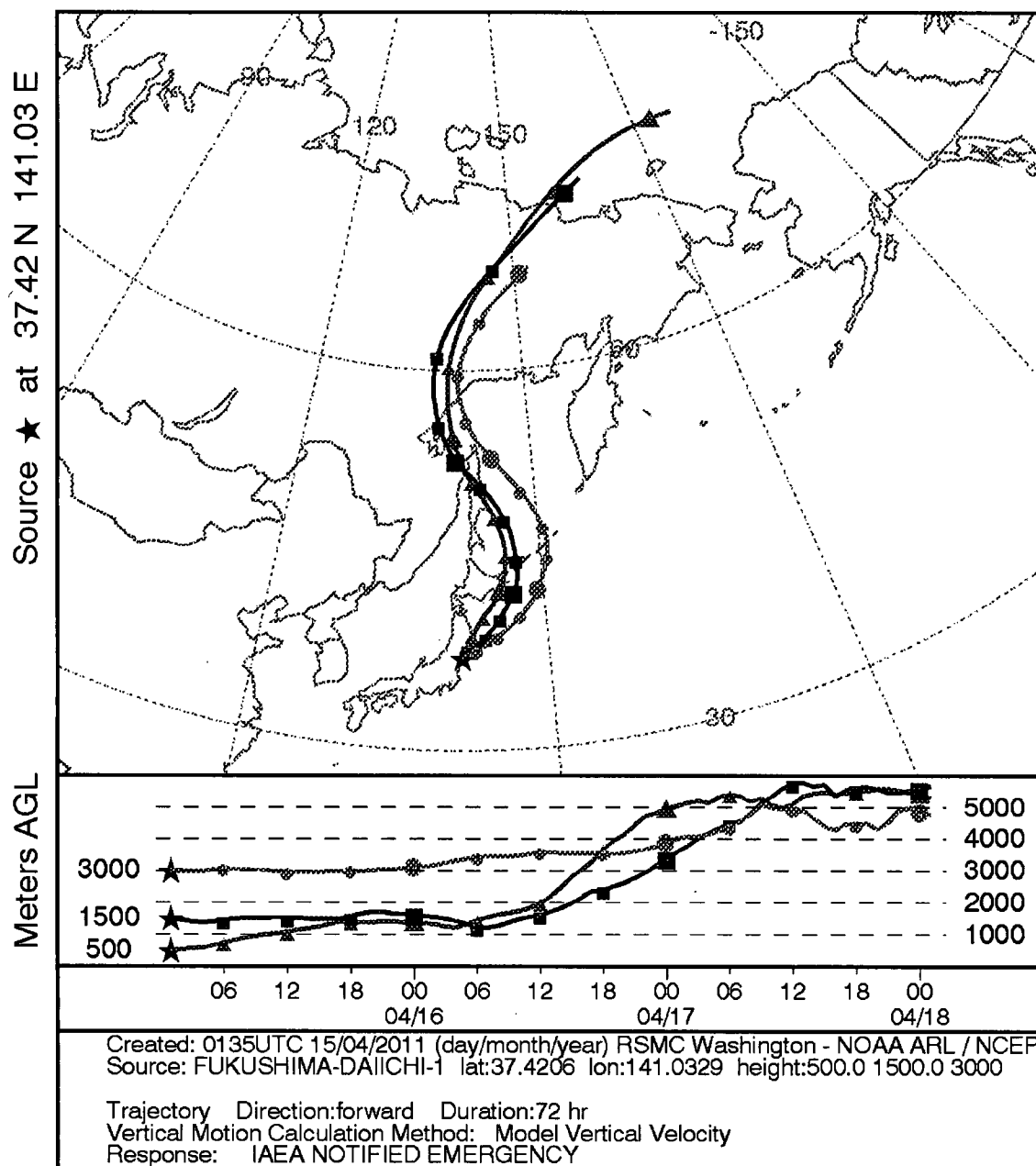
Release ID: I131 Rate: .0138 Bq/hr Duration: 72 hr Particles: 5000

Distribution: Uniform between 20 and 500 m AGL

Dry Deposition Rate: 0.02 m/s Wet Removal (below/in-cloud): 1.00E-04/3.20

Note: Contour values may change from chart to chart

NOAA HYSPLIT MODEL  
Forward trajectories starting at 01 UTC 15 Apr 11  
18 UTC 14 Apr GFSG Forecast Initialization



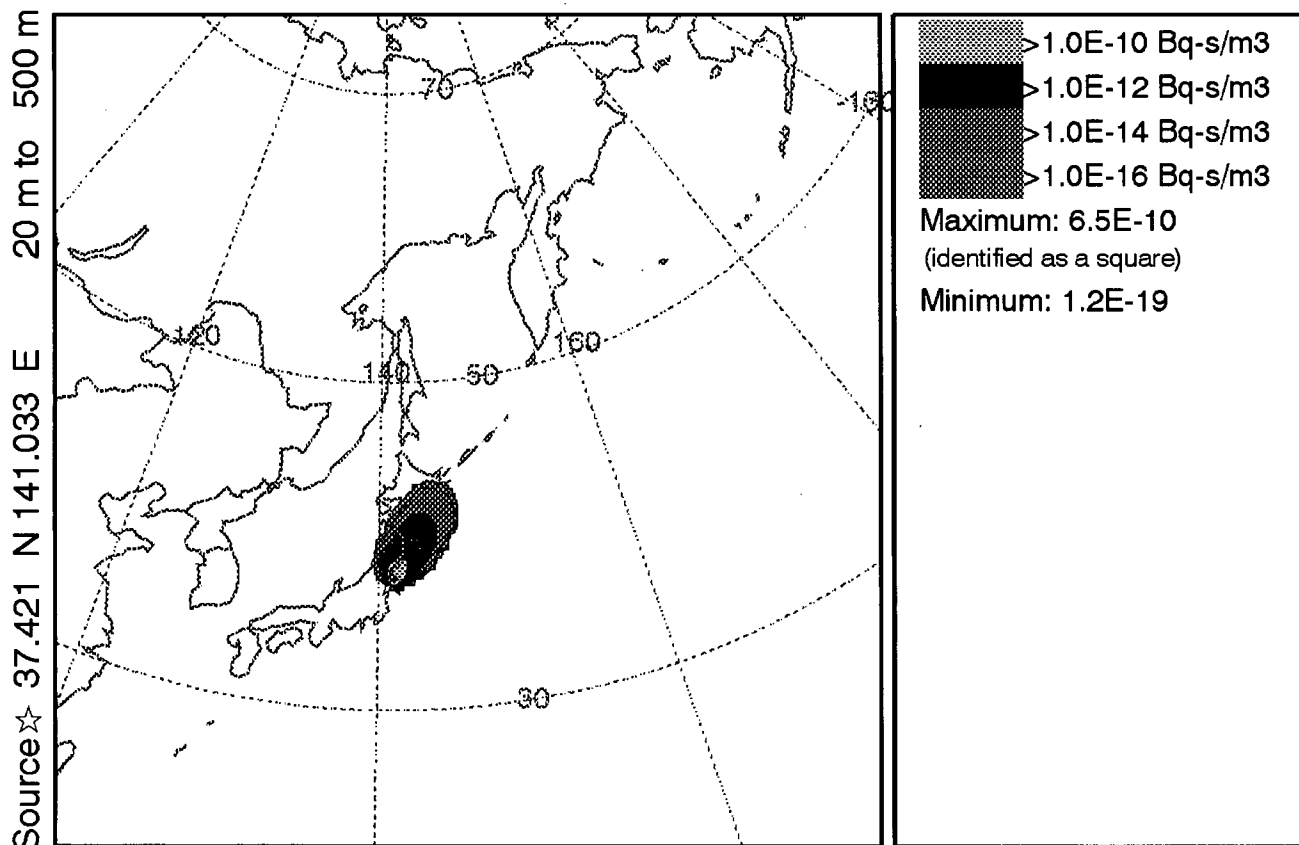


## NOAA HYSPLIT MODEL

Exposure (Bq-s/m3) averaged between 0 m and 500 m

Integrated from 0000 15 Apr to 0000 16 Apr 11 (UTC)

I131 Release started at 0100 15 Apr 11 (UTC)



## 1800 14 Apr 11 GFSG FORECAST INITIALIZATION

Created: 0135UTC 15/04/2011 (day/month/year) RSMC Washington - NOAA ARL / NCEP  
Source: FUKUSHIMA-DAIICHI-1 lat:37.4206 lon:141.0329 hgt:20 to 500 m  
Release ID: I131 Rate: .0138 Bq/hr Duration: 72 hr Particles: 5000  
Distribution: Uniform between 20 and 500 m AGL  
Dry Deposition Rate: 0.02 m/s Wet Removal (below/in-cloud): 1.00E-04/3.20E+05  
Meteorology: 1800 UTC 14 Apr 2011 GFS  
Note: Contour values may change from chart to chart

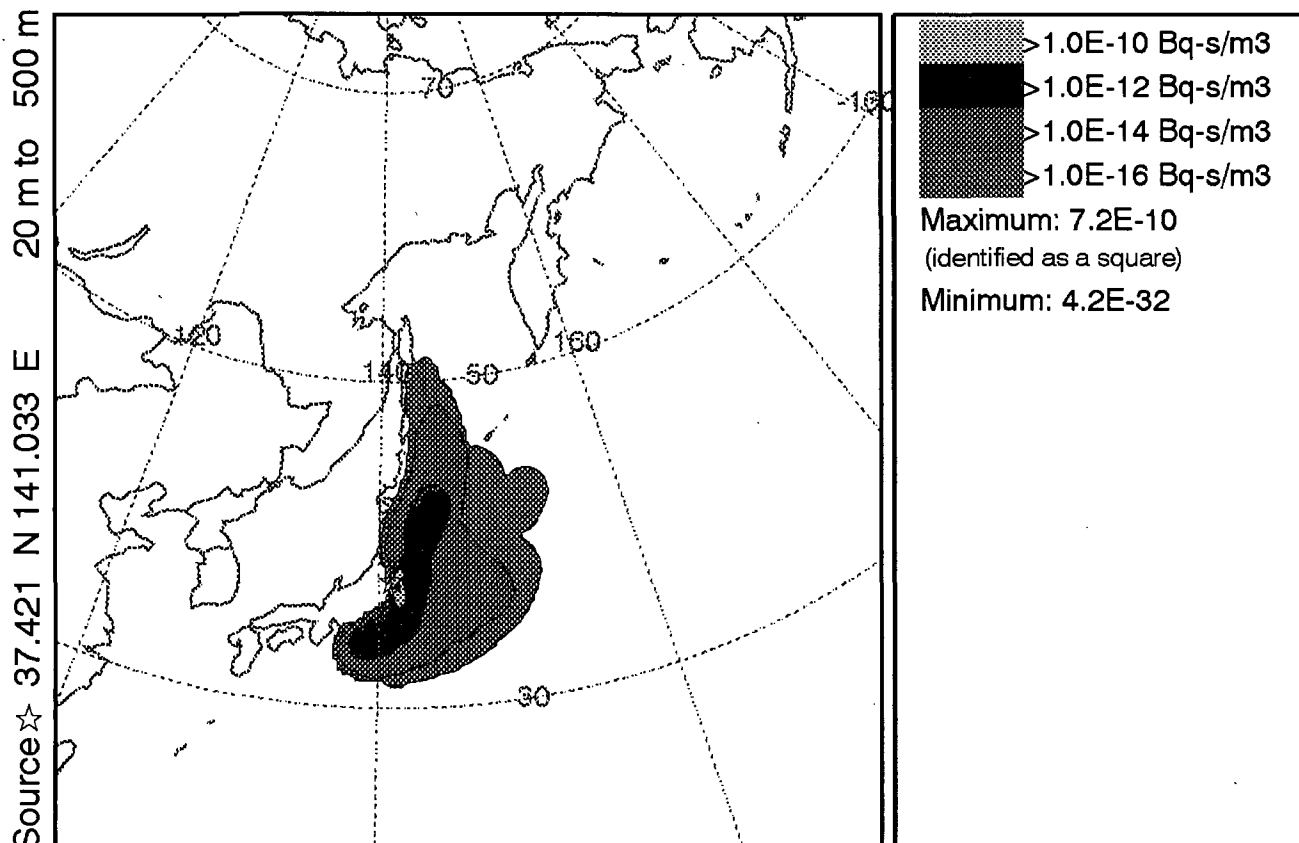
Response: IAEA NOTIFIED EMERGENCY

## NOAA HYSPLIT MODEL

Exposure (Bq-s/m<sup>3</sup>) averaged between 0 m and 500 m

Integrated from 0000 16 Apr to 0000 17 Apr 11 (UTC)

I131 Release started at 0100 15 Apr 11 (UTC)



## 1800 14 Apr 11 GFSG FORECAST INITIALIZATION

Created: 0135UTC 15/04/2011 (day/month/year) RSMC Washington - NOAA ARL / NCEP  
Source: FUKUSHIMA-DAIICHI-1 lat: 37.4206 lon: 141.0329 hgt: 20 to 500 m  
Release ID: I131 Rate: .0138 Bq/hr Duration: 72 hr Particles: 5000  
Distribution: Uniform between 20 and 500 m AGL  
Dry Deposition Rate: 0.02 m/s Wet Removal (below/in-cloud): 1.00E-04/3.20E+05  
Meteorology: 1800 UTC 14 Apr 2011 GFS  
Note: Contour values may change from chart to chart

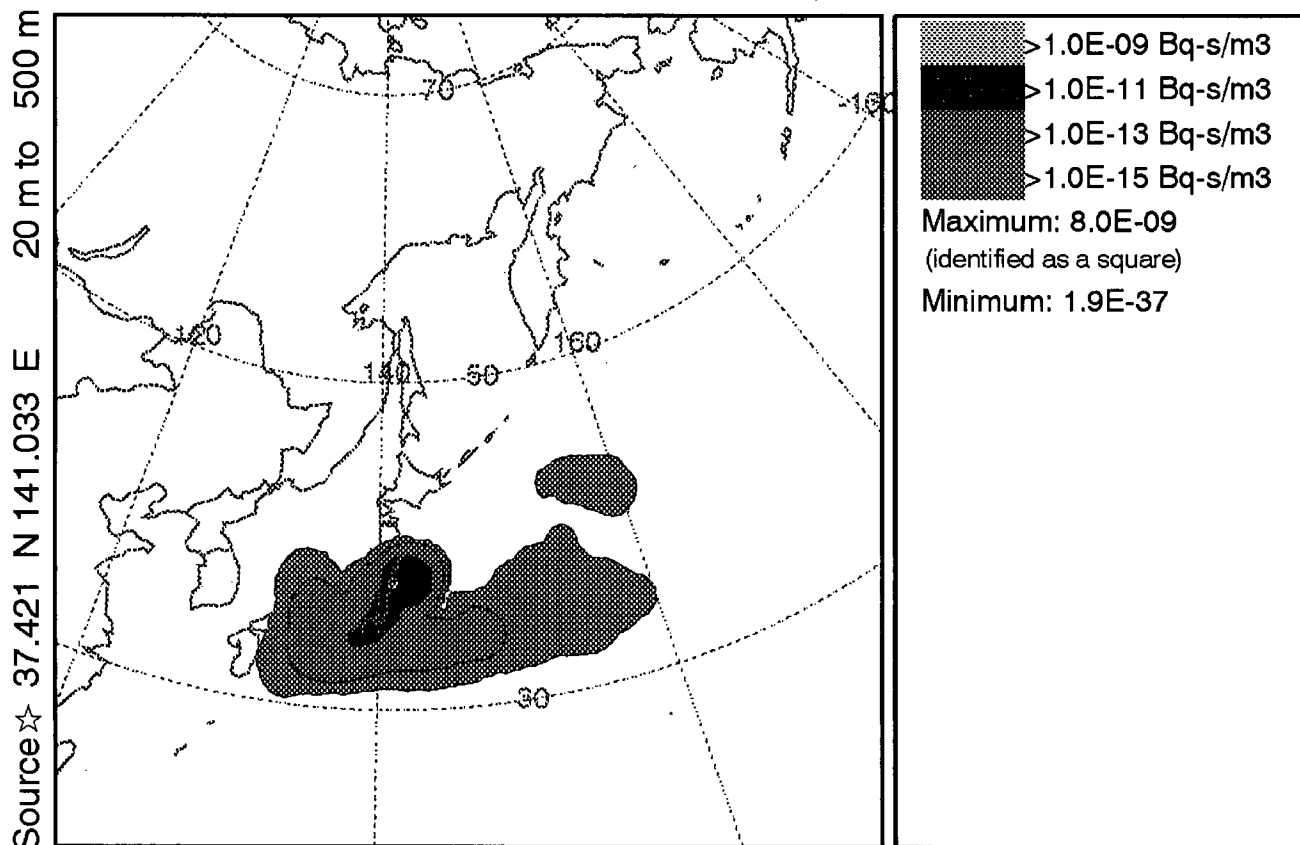
Response: IAEA NOTIFIED EMERGENCY

## NOAA HYSPLIT MODEL

Exposure (Bq-s/m3) averaged between 0 m and 500 m

Integrated from 0000 17 Apr to 0000 18 Apr 11 (UTC)

I131 Release started at 0100 15 Apr 11 (UTC)



## 1800 14 Apr 11 GFSG FORECAST INITIALIZATION

Created: 0135UTC 15/04/2011 (day/month/year) RSMC Washington - NOAA ARL / NCEP  
Source: FUKUSHIMA-DAIICHI-1 lat: 37.4206 lon: 141.0329 hgt: 20 to 500 m  
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Distribution: Uniform between 20 and 500 m AGL  
Dry Deposition Rate: 0.02 m/s Wet Removal (below/in-cloud): 1.00E-04/3.20E+05  
Meteorology: 1800 UTC 14 Apr 2011 GFS  
Note: Contour values may change from chart to chart

Response: IAEA NOTIFIED EMERGENCY

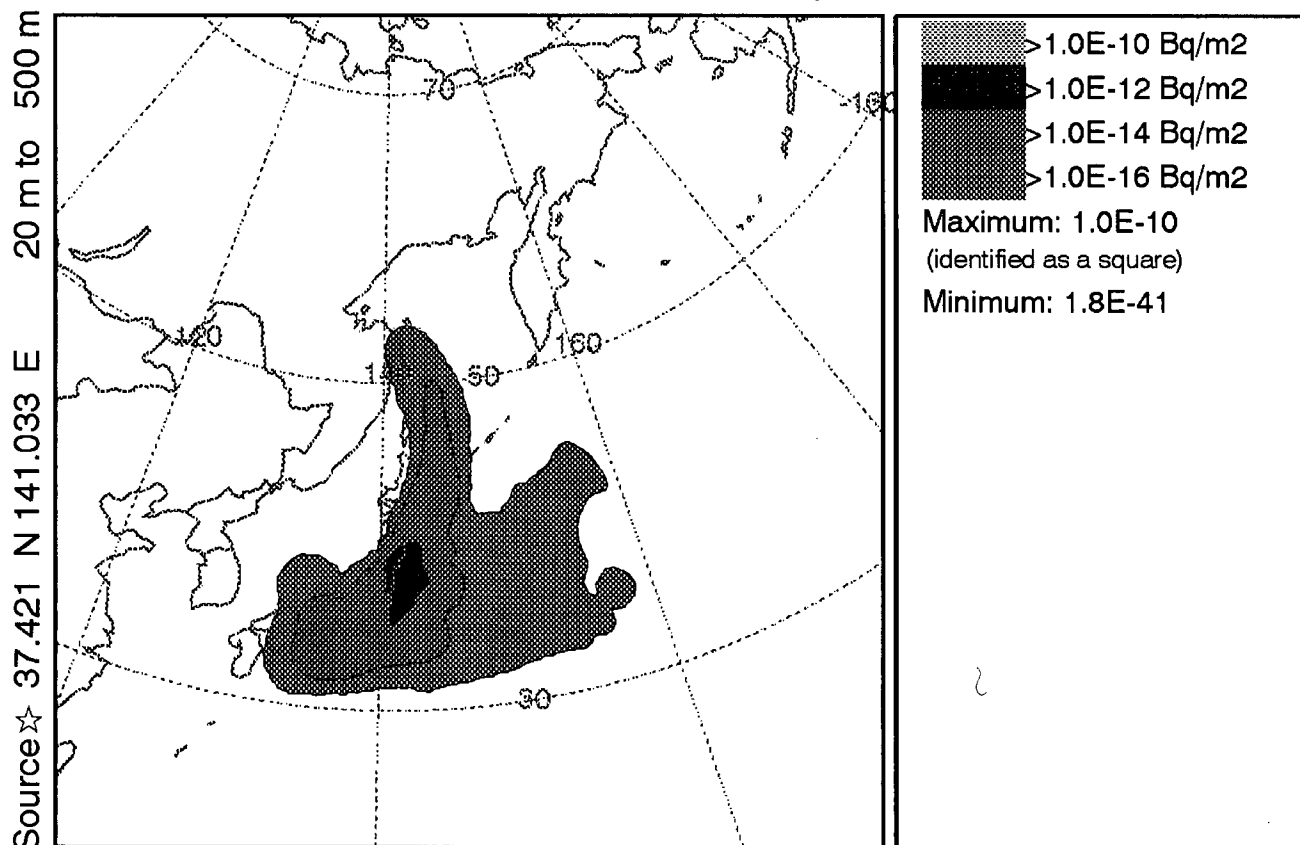


## NOAA HYSPLIT MODEL

Deposition (Bq/m<sup>2</sup>) at ground-level

Integrated from 0000 15 Apr to 0000 18 Apr 11 (UTC)

I131 Release started at 0100 15 Apr 11 (UTC)



## 1800 14 Apr 11 GFSG FORECAST INITIALIZATION

Created: 0135UTC 15/04/2011 (day/month/year) RSMC Washington - NOAA ARL / NCEP  
Source: FUKUSHIMA-DAIICHI-1 lat: 37.4206 lon: 141.0329 hgt: 20 to 500 m  
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Dry Deposition Rate: 0.02 m/s Wet Removal (below/in-cloud): 1.00E-04/3.20E+05  
Meteorology: 1800 UTC 14 Apr 2011 GFS  
Note: Contour values may change from chart to chart

Response: IAEA NOTIFIED EMERGENCY

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**From:** LIA08 Hoc  
**Sent:** Sunday, April 17, 2011 6:53 AM  
**To:** Tracy, Glenn; OST01 HOC; Hoc, PMT12; RST01 Hoc  
**Subject:** FW: Press Releases: Remarks at Meeting With the Staff and Families of Embassy Tokyo

FYI.

Liaison Team Coordinator  
US Nuclear Regulatory Commission  
email: lia08.hoc@nrc.gov  
Desk Ph: 301-816-5185

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**From:** LIA01 Hoc  
**Sent:** Sunday, April 17, 2011 6:39 AM  
**To:** LIA08 Hoc; LIA11 Hoc  
**Subject:** FW: Press Releases: Remarks at Meeting With the Staff and Families of Embassy Tokyo

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**From:** U.S. Department of State [mailto:usstatebpa@subscriptions.fcg.gov]  
**Sent:** Sunday, April 17, 2011 6:38 AM  
**To:** LIA01 Hoc  
**Subject:** Press Releases: Remarks at Meeting With the Staff and Families of Embassy Tokyo

Press Releases: Remarks at Meeting With the Staff and Families of Embassy Tokyo  
Sun, 17 Apr 2011 05:10:57 -0500

## Remarks at Meeting With the Staff and Families of Embassy Tokyo

Remarks  
Hillary Rodham Clinton  
Secretary of State  
Embassy Tokyo  
Tokyo, Japan  
April 17, 2011

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**AMBASSADOR ROOS:** I will be very brief. First of all, I want to welcome the families who have begun to come back. Welcome home. And the Secretary has been hearing throughout the entire day what a phenomenal job all of you have done to bring us to this point. (Applause.)

So, it is my distinct pleasure and honor to turn the microphone over to Secretary Clinton. Thank you so much for coming. (Applause.)

**SECRETARY CLINTON:** Thank you, John. Thank you. It is wonderful to see all of you. And I am especially honored to be here with you today. I want to thank all of you, not only those of you here in Tokyo, but our friends and colleagues at our consular offices throughout Japan. I am so proud of you, and I am so grateful for the extraordinary service that you have rendered to this country and to our relationship, and everything you have done since March 11th.

I want to thank the ambassador and Susie. Thank you both for your leadership, for your dedication to the team here and to offering all the help that we could provide to Japan. I want to thank the deputy chief of mission, both Jim and Anne. Thank you for everything that you have done.

It is a special privilege always for me to come to our embassies around the world as I am traveling, to express appreciation. But today it is an extraordinary opportunity to look at those of you who have led this mission and our response. Thank you for working day and night to care for U.S. citizens in the midst of this crisis. Thank you for coordinating a massive mobilization of assistance for one of our closest allies at their time of greatest need. Thank you for being the face of America at our best.

It is almost unimaginable, what Japan has gone through over the last five weeks. If you were to rewrite any of the manuals about what to do in a crisis, you would write about an earthquake, you might write about a tsunami. Now we will write about nuclear reactor crises. But all three, this multi-dimensional crisis of unprecedented scope, is something that no mission anywhere has ever had to cope with before.

I also know that, for some of you, the earthquake and the tsunami were personal. Some of you lost homes or possessions or belongings. They were not images on a screen for you, as they were for the rest of the world. This has happened in a country that you care so much about that truly is your home away from home. And I particularly want to say a word to all of our locally-employed staff. We are with you and with the Japanese people. We will do whatever we can to provide support to you in the weeks and months ahead. But we have every conviction that Japan will recover, will be stronger for having gone through this extraordinary time. And we will be with you as we have been during the weeks following the crisis.

Even before the earthquake, this mission was one of our most important in the world. And each of you has been instrumental in strengthening the friendship between our countries. You have continued working through everything. And I know that some of you walked miles to get here when the trains were not working. I know that you are living through rolling blackouts. And I know that you have carried out your duties with high spirits and focus. Everyone back in Washington is honored to have each of you as our colleagues.

I want to applaud all of the TDYers from other U.S. missions who dropped everything to come to Japan from Nigeria, Canada, and all other places across the world. I want to thank our USAID colleagues, who have been in the forefront of responding. I want to thank all of our other U.S. Government agencies, including the Nuclear Regulatory Commission, the Energy Department, Health and Human Services, the Centers for Disease Control. You were instrumental in helping all of us understand the complex situation at the nuclear reactors, and also helping our Japanese friends deal with this, as they had to make tough decisions. It is really a credit to our country that we have a government full of dedicated public servants, eager and ready to go where they are needed.

I also want to thank U.S. forces Japan, all the soldier, sailors, airmen, and Marines who have contributed to Operation Tomodachi. The stories that I have heard about what you have accomplished are simply remarkable. I talked today earlier at the foreign ministry about clearing the rubble at Sendai Airport, the work on the island of Oshima, just on and on. What you have done is so appreciated by the Japanese people.

And I also know that the -- having your families back is a very big deal. And we were delighted to change the travel advisories on Friday to encourage Americans, once again, to travel to Japan, to do business here, and to be part of helping in any way we are able to do.

This has been a tough time, and I know it has been a challenge for our mission. But when I was saying to the deputy chief of mission how hard I know it was, he said, "Well, this is why I joined the foreign service." And I am sure that everyone -- foreign service, civil service, other parts of our government -- feel the same way. This is why those of us who do public service do it, because we feel we can make a real difference. And hearing that makes me very proud to be your Secretary of State.

Now, the weeks ahead will be very busy. And we are going to have a lot to do to try to figure out the best way to assist the government and people of Japan. And I hope each of you will convey to your families how much we appreciate them. We are grateful for their service, as well. They answered phones, they fed our 24-hour task force volunteers, they helped organize orderly, authorized departure. They sent encouragement and reassurance from afar. And we are delighted that now so many of you can be reunited.

So, for me, it is an honor. I wanted to come as soon as I could, certainly to show our solidarity and sympathy with the Japanese people, but also to express my pride in everything that you have done and are doing.

So again, John, thank you for your leadership. Thanks for trying to improvise as we went to figure out what we could do next, and to get good, accurate information on which to make decisions. We were very much in your corner, and that is where we will remain.

So, thank you all very, very, much for serving this country that we all love, and for serving this relationship that we all value so much. Thank you. (Applause.)



PRN: 2011/T44-11

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