News Release

経済産業省
Ministry of Economy, Trade and Industry

March 28, 2011
Nuclear and Industrial Safety Agency

Regarding the result of concentration measurement in the stagnant water on the basement floor of the turbine building of Unit 2 of Fukushima Dai-ichi Nuclear Power Station

1. Regarding the captioned result of the measurement announced by Tokyo Electric Power Co. (TEPCO) yesterday, TEPCO reported to NISA the result of analysis and evaluation through re-sampling, judging the measured value of ionide-134 was wrong. The outline is as attached.

2. Since it was a mistake in the evaluation regarding the concentration measurement of important radioactive materials, NISA directed TEPCO orally to prevent the recurrence of such a mistake.

Appendix: The results of the measurement of puddle of water in the basement of the turbine building of Unit 2 of Fukushima Daiichi Nuclear Power Station.(2nd release)
http://www.tepco.co.jp/en/press/corp-com/release/betu11_e/images/110327e15.pdf

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News Release

経済産業省
Ministry of Economy, Trade and Industry

Extract

March 28, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information (the 59th Release)
(As of 15:00 March 28th, 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 (NPSs)

- Fukushima Dai-ichi NPS

2. Action taken by NISA

(March 28th)

13:50 Receiving the suggestion by the special meeting of Nuclear Safety Commission (Stagnant water on the underground floor of the turbine building at Fukushima Dai-ichi Plant Unit 2), NISA directed TEPCO orally to add the sea water monitoring points and carry out the underwater monitoring.

< Possibility on radiation exposure (workers)>

All three workers who have been monitoring in the National Institute of Radiological Sciences since 24 March have discharged from the hospital around the noon 28 March.

For more information:
NISA English Home Page
http://www.nisa.meti.go.jp/english/index.html

News Release

Extract

経済産業省
Ministry of Economy, Trade and Industry

March 28, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information (the 58th Release)
(As of 08:00 March 28th, 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 (NPSs)

● Fukushima Dai-ichi NPS

- The pump for the fresh water injection to Reactor Pressure Vessel of Unit 2 was switched from the Fire Pump Truck to the temporary motor-driven pump.(18:31 March 27th)
- Regarding the result of the concentration measurement in the stagnant water on the basement floor of the turbine building of Unit 2 of Fukushima Dai-ichi NPS announced by TEPCO on 27 March, TEPCO reported to NISA that as the result of analysis and evaluation through re-sampling, judging the measured value of Iodine-134 was wrong, the concentrations of gamma nuclides including Iodine-134 were less than the detection limit.(00:07 March 28)
- Regarding the mistake in the evaluation of the concentration measurement, NISA directed TEPCO orally to prevent the recurrence of such a mistake.
- Water spray using Concrete Pump Truck (50t/h) was carried out.
- As the result of nuclide analysis at around the southern Water Discharge Canal, 7.4×10^{1}Bq/cm^3 of ^{131}I (Iodine) (1,850.5 times higher than the concentration limit in water outside the Environmental Monitoring Area) was detected. (14:30 March 26th) (As the result of measurement on 27 March, it was detected as 250 times higher than the limit in water. On the other hand, as the result of the analysis at the north side of the Water Discharge Canal of the NPS, 4.6×10^{1}Bq/cm^3 of ^{131}I (Iodine) (1,150 times higher than the limit) was detected. (14:05 March 27th))

For more information:
NISA English Home Page
http://www.nisa.meti.go.jp/english/index.html

Fukushima Di-ichi Nuclear Power Station Major Parameters of the Plant (As of 06:00, March 28th)

Unit No.	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Situation of water injection	Injecting freshwater via the Water Supply Line. Flow rate of injected water : 113 ℓ/min (As of 14:00, March 27th) temporary measuring instrument	Injecting freshwater via the Fire Extinguish Line. Flow rate of injected water :117 ℓ/min (As of 0:12, March 28th) temporary measuring instrument	Injecting freshwater via the Fire Extinguish Line. Flow rate of injected water: 210 ℓ/min (As of 14:00, March 27th) temporary measuring instrument	Under shutdown	Under shutdown	Under shutdown
Reactor water level	Fuel range A : -1,700mm Fuel range B : -1,650mm (As of 3:00, March 28th)	Fuel range A : -1,500mm (As of 4:00, March 28th)	Fuel range A:-1,900mm Fuel range B:-2,300mm (As of 5:30, March 28th)	#2	Shutdown range measurement 1,948mm (As of 06:00, March 28th)	Shutdown range measurement 1,933mm (As of 06:00, March 28th)
Reactor pressure	0.376MPa g(A) 0.443MPa g(B) (As of 3:00, March 28th)	-0.020MPa g (A) -0.023MPa g (B) (As of 4:00, March 28th)	0.029MPa g (A) -0.090MPa g (C) (As of 5:30, March 28th)	#2	0.007MPa g (As of 6:00, March 28th)	0.005MPa g (As of 06:00, March 28th)
Reactor water temperature	(Impossible collection due to low system flow rate)			#2	57.7℃ (As of 6:00, March 28th)	21.9℃ (As of 6:00, March 28th)
Reactor Pressure Vessel (RPV) temperature	Feedwater nozzle temperature: 273.8℃ Temperature at the bottom head of RPV: 139.2℃ (As of 3:00, March 28th)	Feedwater nozzle temperature: 130.3℃ Temperature at the bottom head of RPV: 81.5℃ (As of 4:00, March 28th)	Feedwater nozzle temperature: 38.0℃ (under survey) Temperature at the bottom head of RPV: 123.0℃ (As of 5:30, March 28th)	Unit 4 No heating element (fuel) inside the reactor Unit 5,6 Monitoring by the reactor water temperature		
D/W*1 Pressure, S/C*2 Pressure	D/W: 0.270MPa abs S/C: 0.270MPa abs (As of 3:00, March 28th)	D/W: 0.110MPa abs S/C:Down scale (under survey) (As of 4:00, March 28th)	D/W: 0.1083MPa abs S/C: 0.1794MPa abs (As of 5:30, March 28th)	#2		
CAMS*3	D/W: 3.38×10^{1}Sv/h S/C: 2.13×10^{1}Sv/h (As of 3:00, March 28th)	D/W: 4.05×10^{1}Sv/h S/C: 1.37×10^{0}Sv/h (As of 4:00, March 28th)	D/W: 3.15×10^{1}Sv/h S/C: 1.24×10^{0}Sv/h (As of 5:30, March 28th)	#2		
D/W*1 design operating pressure	0.384MPa g(0.485MPa abs)	0.384MPa g(0.485MPa abs)	0.384MPa g(0.485MPa abs)	#2		
D/W*1 maximum operating pressure	0.427MPa g(0.528MPa abs)	0.427MPa g(0.528MPa abs)	0.427MPa g(0.528MPa abs)			
Spent Fuel Pool water	#1	47℃ (As of 4:00, March 28th)	#1	#1	34.5℃ (As of 6:00, March 28th)	27.5℃ (As of 6:00, March 28th)
FPC skimmer level	4,500mm (As of 3:00, March 28th)	5,750mm (As of 4:00, March 28th)	#1	5,850mm (As of 5:30, March 28th)	#2	
Power supply	Receiving external power supply (P/C*4 2C)		Receiving external power supply (P/C4D)		Receiving external power supply	

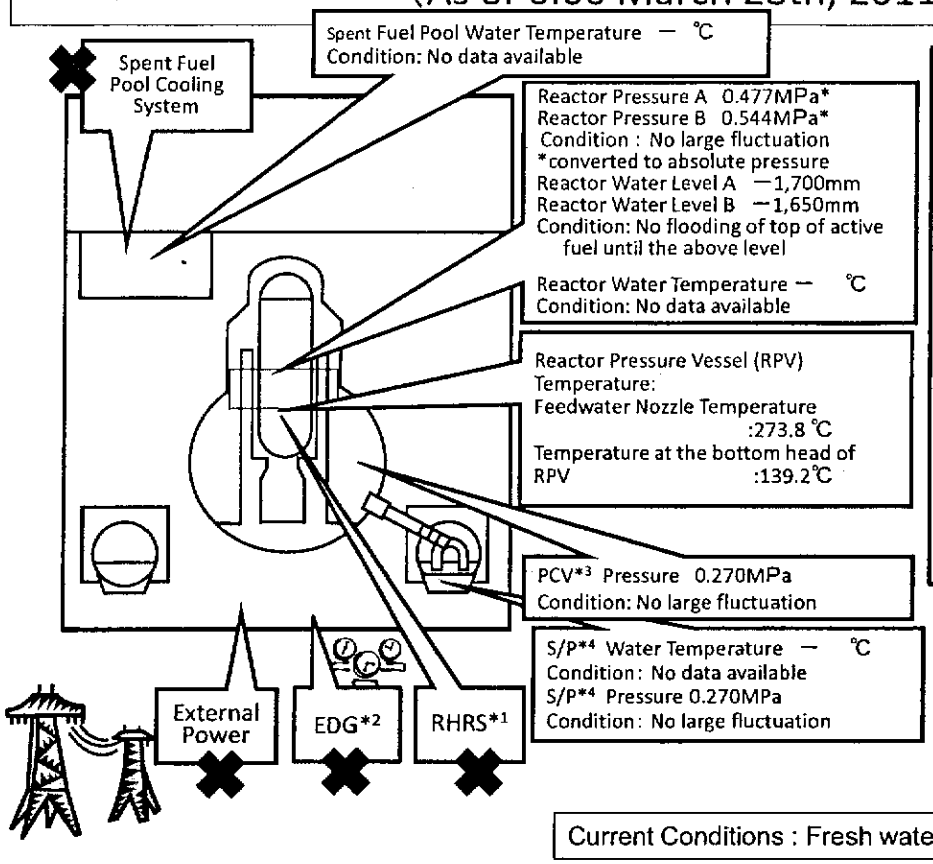
Other information	Unit3: Collecting the data of RPV temperature and continuing survey for transitional situation Unit2: Confirmed the indicated value of S/C Pressure but continuing to survey the transition of condition	Common pool: about 39 ℃ (As of 8:00, March 27th)	Unit5:Nonthermal mode (From 21:00 March 27th)	Unit6:SHC mode (From 10:14 March 27th)

Pressure conversion	Gauge pressure (MPa g) = Absolute pressure (MPa abs) – Atmospheric pressure (Normal atmospheric pressure 0.1013MPa) Absolute pressure (MPa abs) = Gauge pressure (MPa g) + Atmospheric pressure (Normal atmospheric pressure 0.1013MPa)

*1 D/W : Dry Well
*2 S/C : Suppression Chamber
*3 CAMS : Containment Atmospheric Monitoring System
*4 P/C : Power Center

#1 : Measuring instrument malfunction
#2 : Except from data collection

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 1
(As of 6:00 March 28th, 2011)



Major Events after the earthquake

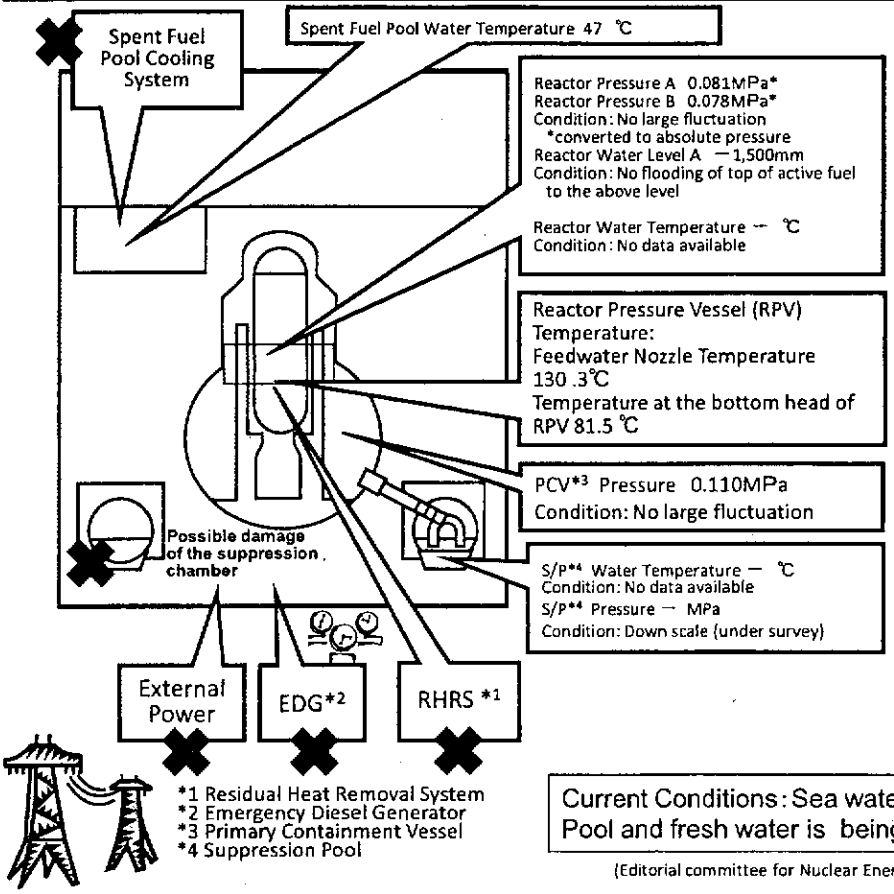
- 11th 14:46 : Under operation, Automatic shutdown by the earthquake
- 11th 15:42 : Report based on the Article 10 (Total loss of A/C power)
- 11th 16:36: Occurrence of the Article 15 event. (Inability of water injection of the Emergency Core Cooling System)
- 12th 01:20 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
- 12th 10:17 Started to vent
- 12th 15:36 Sound of explosion
- 12th 20:20 Started to inject seawater and borated water to core
- 23rd 02:33 The amount of injected water to the Rector Core was increased utilizing the Feedwater Line in addition to the Fire Extinguish Line. ($2m^3/h \rightarrow 18m^3/h$)
- 23rd 09:00 Switched to the Feedwater Line only.($18m^3/h \rightarrow 11m^3/h$)
- 24th 11:30 Lighting in the Central Control Room was recovered.
- 25th 15:37 Started fresh water injection

*1 Residual Heat Removal System
*2 Emergency Diesel Generator
*3 Primary Containment Vessel
*4 Suppression Pool

Current Conditions : Fresh water is being injected to the core

(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 2
(As of 6:00 March 28th, 2011)



Major Events after the earthquake

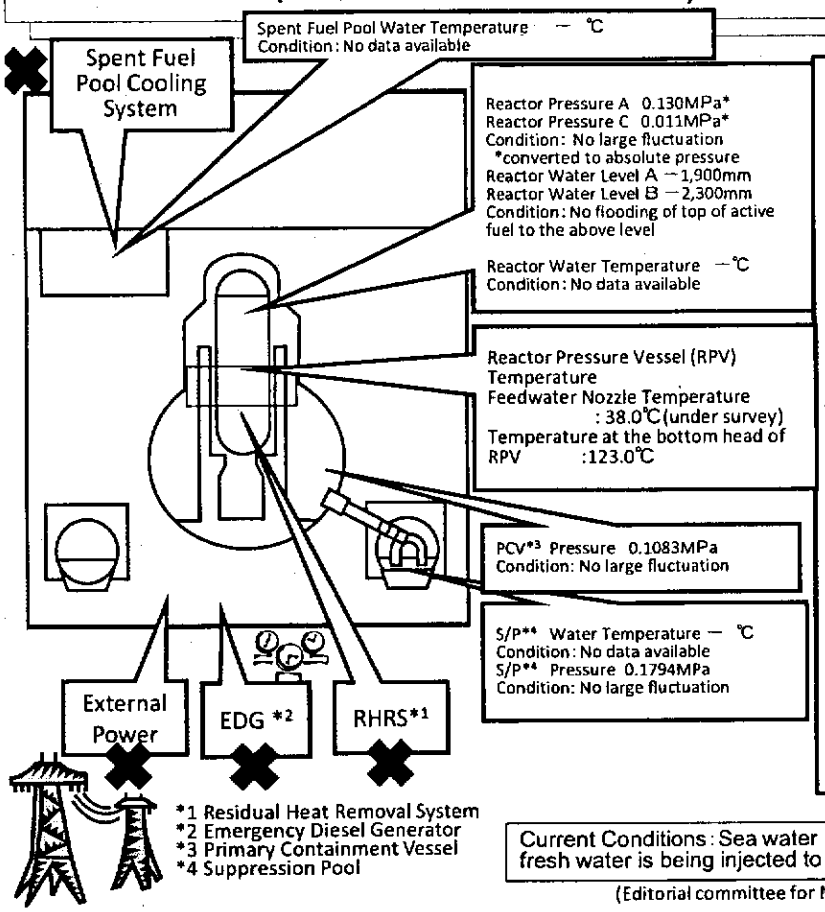
- 11th 14:46 Under operation, Automatic shutdown by the earthquake
- 11th 15:42 Report based on the Article 10 (Total loss of A/C power)
- 11th 16:36 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)
- 13th 11:00 Started to vent
- 14th 13:25 Occurrence of the Article 15 event (Loss of reactor cooling functions)
- 14th 16:34 Started to inject water to the Reactor Core
- 14th 22:50 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
- 15th 00:02 Started to vent
- 15th 06:10 Sound of explosion
- 15th around 06:20 Possible damage of the suppression chamber
- 20th 15:05～17:20 Approximately 40 ton seawater injection to the Spent Fuel Pool (SFP) via the Fuel Pool Cooling Line (FPC)
- 20th 15:46 Power Center received electricity.
- 21st 18:22 White smoke generated. The smoke died down and almost invisible at 07:11 March 22nd.
- 22nd 16:07 Injection of around 18 tons of seawater to SFP
- 25th 10:30～12:19 Sea water injection to SFP via FPC
- 26th 10:10 Started to inject fresh water to the Reactor Core
- 26th 16:46 Lighting in the Central Control Room was recovered.
- 27th 18:31 Switched to the water injection to the core using a temporary motor-driven pump.

*1 Residual Heat Removal System
*2 Emergency Diesel Generator
*3 Primary Containment Vessel
*4 Suppression Pool

Current Conditions : Sea water is being injected to the Spent Fuel Pool and fresh water is being injecting to the core

(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 3
(As of 6:00 March 28th, 2011)



*1 Residual Heat Removal System
*2 Emergency Diesel Generator
*3 Primary Containment Vessel
*4 Suppression Pool

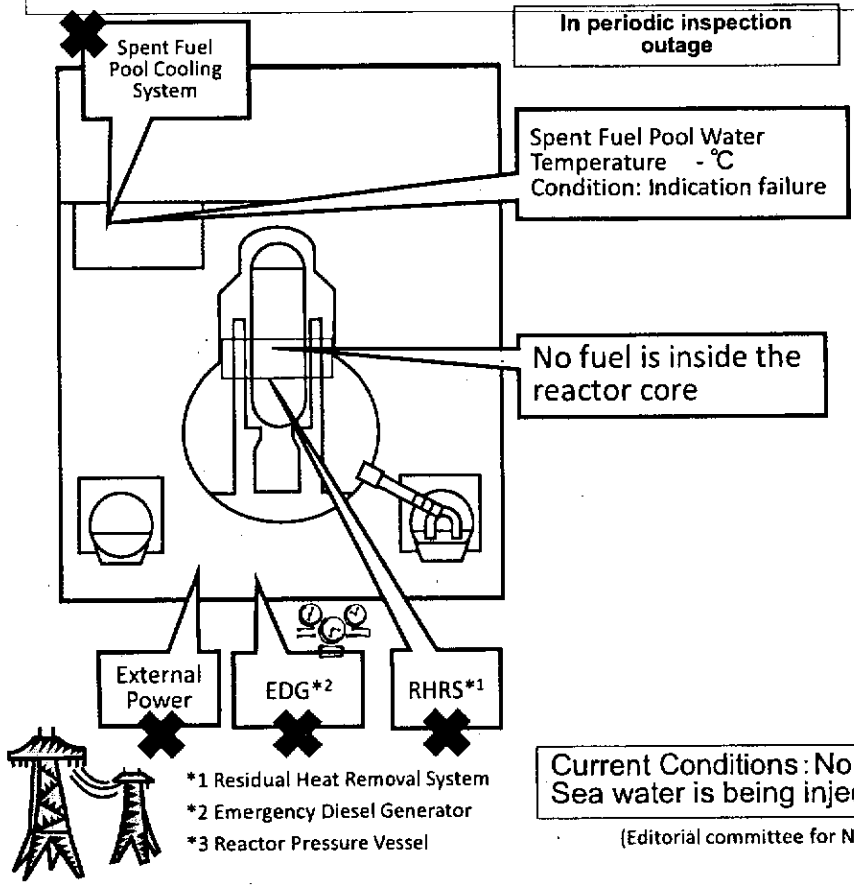
Major Events after the earthquake

11th 14:46 Under operation,Automatic shutdown by the earthquake
11th 15:42 Report based on the Article 10 (Total loss of A/C power)
12th 20:41 Started to vent
13th 05:10 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)
13th 08:41 Started to vent
13th 13:12 Started to inject seawater and borated water to core
14th 05:20 Started to vent
14th 07:44 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
14th 11:01 Sound of explosion
16th around 08:30 White smoke generated.
17th 09:48～10:01 Water discharge by the helicopters of Self-Defense Force
17th 19:05～20:09 Water spray from the ground by High pressure water-cannon trucks
18th before 14:00～14:38 Water spray from the ground by 6 fire engines of Self-Defense Force
18th ～14:45 Water spray from the ground by a fire engine of the US Military
19th 00:30 ～01:10 Water spray by Hyper Rescue Unit of Tokyo Fire Department
19th 14:10 ～ 20th 03:40 Water spray by Hyper Rescue Unit of Tokyo Fire Department
20th 11:00 Pressure of PCV rose(320kPa).Afterward fell.
20th 21:36 ～ 21st 03:58 Water spray by Hyper Rescue Unit of Tokyo Fire Department
21st about 15:55 Grayish smoke generated and was confirmed to be died down at 17:55.
22nd 15:10 ～16:00 Water spray by Hyper Rescue Unit of Tokyo Fire Department and Osaka City Fire Bureau.
22nd 22:46 Lighting in the Central Control Room was recovered.
23rd 11:03 ～13:20 Injection of about 35ton of sea water to the Spent Fuel Pool (SFP) via the Fuel Pool Cooling Line (FPC)
23rd around 16:20 Black smoke generated and was confirmed to died down at around 23:30 and 24th 04:50.
24th 05:35～16:05 Approximately 120 ton sea water injection to SFP via FPC
25th 13:28～16:00 Water spray by Kawasaki City Fire Bureau supported by Tokyo Fire Department
25th 18:02 Started fresh water injection to the core
27th 12:34～14:36 Water spray by Concrete Pump Truck

Current Conditions : Sea water is being injected to the Spent Fuel Pool and fresh water is being injected to the core

(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 4
(As of 6:00 March 28th, 2011)



*1 Residual Heat Removal System
*2 Emergency Diesel Generator
*3 Reactor Pressure Vessel

Major events after the earthquake

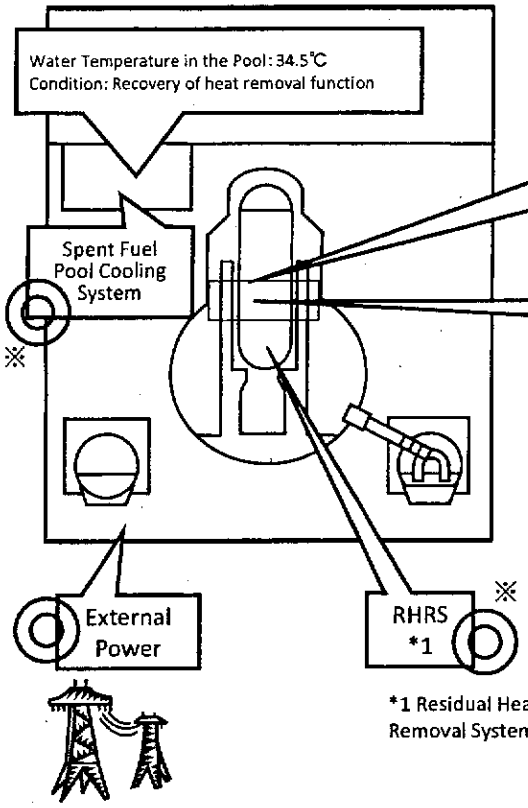
In periodic inspection outage when the earthquake occurred.
14th 04:08 Water temperature in the Spent Fuel Pool (SFP), 84℃
15th 0 6:14 Partial damage of wall in the 4th floor confirmed
15th 09:38 Fire occurred in the 3rd floor. (12:25 extinguished)
16th 05:45 Fire occurred. TEPCO couldn't confirm any fire on the ground. (06:15)
20th 08:21～09:40 Water spray over SFP by Self-Defense Force
20th around 18:30～19:46 Water spray over SFP by Self-Defense Force
21st 06:37～08:41 Water spray over SFP by Self-Defense Force
21st about 15:00 Work for laying cable to Power Center was completed.
22nd 10:35 Power Center received electricity
22nd 17:17～20:32 Water spray by Concrete Pump Truck
23rd 10:00～13:02 Water spray by Concrete Pump Truck
24th 14:36～17:30 Water spray by Concrete Pump Truck
25th 06:05～10:20 Sea water injection to SFP via the Fuel Pool Cooling Line (FPC)
25th 19:05～22:07 Water spray by Concrete Pump Truck
27th 16:55～19:25 Water spray by Concrete Pump Truck

Current Conditions : No fuel is in RPV*3. Sea water is being injected to the Spent Fuel Pool.

(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 5
(As of 6:00 March 28th, 2011)

In periodic inspection outage



※Heat removal was carried out alternately with the water in the Reactor Core and in the Spent Fuel Pool.

Current Conditions:

20th 14:30 Cold shutdown

21st 11:36 Receiving electricity from external power supply

23rd 17:24 Pump for Residual Heat Removal Seawater System (RHRS) was automatically stopped when the power supply was switched from the temporary to the permanent.

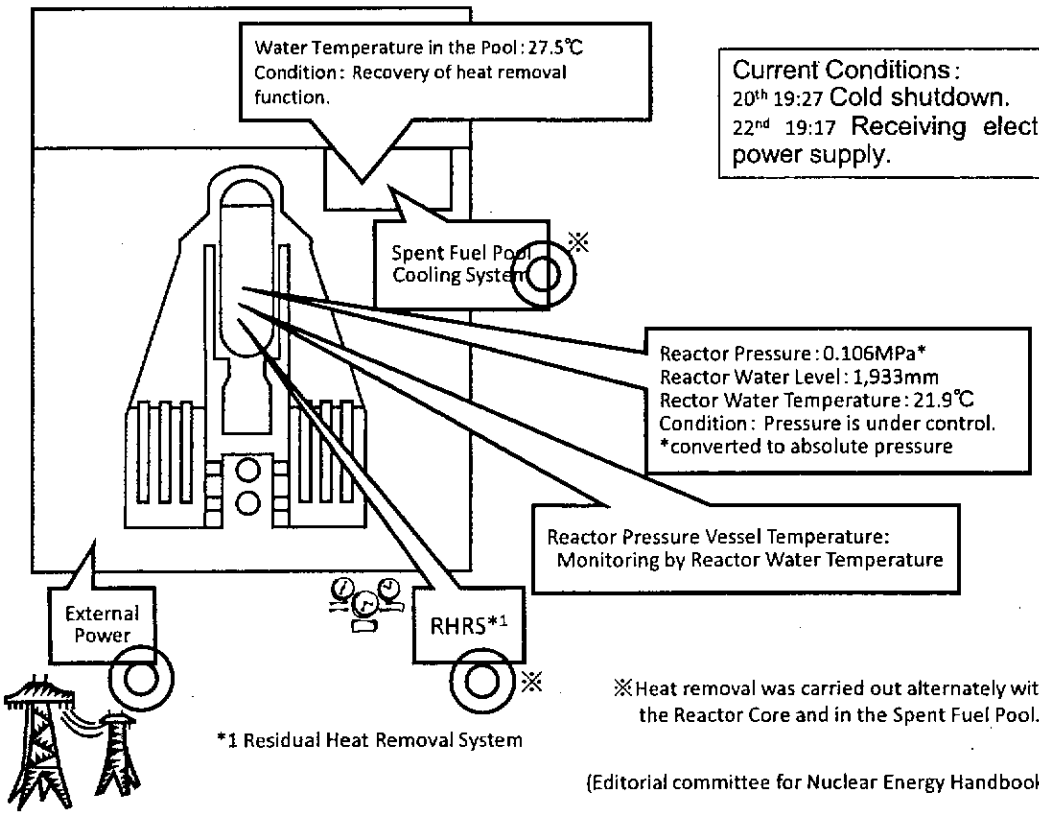
24th 16:14 Repair of the RHRS pump was completed.

24th 16:35 Started to cooling.

(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 6
(As of 6:00 March 28th, 2011)

In periodic inspection outage



Current Conditions:

20th 19:27 Cold shutdown.

22nd 19:17 Receiving electricity from external power supply.

※Heat removal was carried out alternately with the water in the Reactor Core and in the Spent Fuel Pool.

(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

Press Releases

Press Release (Mar 27,2011)
The results of the measurement of puddle of water in the basement of the turbine building of Unit 2 of Fukushima Daiichi Nuclear Power Station(2nd release)

With regard to the captioned result of the measurement that was previously announced, we have judged that the estimation concerning the measured value of ionide-134 was wrong.
Therefore we informed that we would take, analyze and evaluate samples, and announce the results once we have summarized the results.
(previously announced)

Since then we have taken samples and analyzed and evaluated the density of the gamma nuclide including iodine-134, and now we announce the summary of the results of the measurements as shown in the attachment.

Appendix:Result of Contamination Check of Water in the Basement At the Turbine Building of Each Unit 2 of Fukushima Daiichi Power Station(PDF 14.1KB)

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Appendix

March 27th, 2011

Result of Contamination Check of Water in the Basement
At the Turbine Building of Each Unit 2 of Fukushima Daiichi Power Station

Radioactive Materials (T1/2)	Density of Radioactive Materials (Bq/cm^3)			
	Unit 2 (Error) Obtained at around 8:50 on March 26 Measured at around 18:50 March 26	Unit 2 (Reassessment) Obtained at around 8:50 on March 26 Measured at around 18:50 March 26	Unit 2 (re-measurement) Obtained at around 8:50 on March 26 Measured at around 12:50 March 27	Unit 2 (re-extraction) Obtained at around 20:40 on March 27 Measured at around 22:30 March 27
	Radiation Dose Rate in the Surface of Water >1,000mSv/h,	Radiation Dose Rate in the Surface of Water >1,000mSv/h,	Radiation Dose Rate in the Surface of Water >1,000mSv/h,	
Co-56 (approx. 77days)	1.6×10^5	under the limit	under the limit	under the limit
Co-58 (approx. 71days)	under the limit	under the limit	under the limit	under the limit
Co-60 (approx. 5 years)	under the limit	under the limit	under the limit	under the limit
Mo-99 (approx. 66hours)	under the limit	under the limit	under the limit	under the limit
Tc-99m (approx. 6 hours)	8.7×10^4	8.7×10^4	4.8×10^5	under the limit
Ru-106 (approx. 370days)	under the limit	under the limit	under the limit	under the limit
Ag-108m	2.5×10^5	under the limit	under the limit	under the limit

(approx. 418 年)				
Te-129 (approx. 70mins)	under the limit	under the limit	under the limit	under the limit
Te-129m (approx. 34days)	under the limit	under the limit	under the limit	under the limit
Te-132 (approx. 3days)	under the limit	under the limit	under the limit	under the limit
I-131 (approx. 8days)	1.3×10^{7}	1.3×10^{7}	1.3×10^{7}	1.3×10^{7}
I-132 (approx. 2hours)	under the limit	under the limit	under the limit	under the limit
I-134 (approx. 53mins)	2.9×10^{9}	under the limit	under the limit	under the limit
Cs-134 (approx. 2 years)	2.3×10^{6}	2.3×10^{6}	2.2×10^{6}	3.1×10^{6}
Cs-136 (approx. 13 days)	2.5×10^{5}	2.5×10^{5}	2.5×10^{5}	3.2×10^{5}
Cs-137 (approx. 30 years)	2.3×10^{6}	2.3×10^{6}	2.2×10^{6}	3.0×10^{6}
Ba-140 (approx. 13 days)	4.9×10^{5}	4.9×10^{5}	4.9×10^{5}	6.8×10^{5}
La-140 (approx. 2 days)	1.9×10^{5}	1.9×10^{5}	1.8×10^{5}	3.4×10^{5}
Total	2.9×10^{9}	1.9×10^{7}	1.9×10^{7}	2.0×10^{7}