News Release

Extract

経済産業省
Ministry of Economy, Trade and Industry

April 1, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information (the 67th Release)
(As of 15:30 April 1st, 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

-In order to prepare to transfer the stagnant water on the basement floor of turbine building of Unit 2 to the Condenser, the water in the Condensate Storage Tank was transferred to the Surge Tank of Suppression Pool Water. (16:45 March 29th till 11:50 April 1st)

- The injection of fresh water to the Spent Fuel Pool of Unit 2 via the Spent Fuel Pool Cooling Line was started. (14:56 April 1st)

- Spray of around 180t of fresh water for Unit 4 using Concrete Pump Truck (50t/h) was carried out. (From 08:28 till 14:14 April 1st)

- The transfer of fresh water from the barge to the Filtrate Tank was started. (15:58 April 1st) Thereafter it was suspended due to the malfunction of the hose.

< Possibility on radiation exposure>

1. Exposure of residents

In Fukushima Prefecture, up until March 30th, the screening was done to 110,340 people. Among them, 102 people were at the level above the 100,000cpm, but when measured these people again without clothes, etc., the counts decreased to 100,000cpm and below, and there was no case which affects health.

2. Exposure of workers

- At around 11:35 April 1st, a worker fell into the sea when he wet on board the barge of the US Armed forces in order to adjust the hose. He was rescued immediately by other workers around without any injury, etc. However, as the surface contamination was noticed, he was decontaminated by having a shower. As a result of nasal smear*, the internal radionuclide contamination was not confirmed.

*) nasal smear: to estimate the existence of internal radioactive contaminant taken in through sampling the radioactive material in nostril

<Directives regarding foods and drinks>

- The scope of request for restriction of drinking for tap-water was updated. (As of 09:00 April 1st)

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

April 2, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information (the 68th Release)
(As of 08:30 April 2nd, 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
  - In order to prepare to transfer the stagnant water on the basement floor of the turbine building of Unit 2 to the Condenser, the water in the Condensate Storage Tank was transferred to the Surge Tank of Suppression Pool Water. (From 16:45 March 29th till 11:50 April 1st)
  - Injection of around 70t of fresh water to the Spent Fuel Pool of Unit 2 via the Spent Fuel Cooling Line using the temporary pump was carried out. (From 14:56 till 17:05 April 1st)
  - Spray of around 180t of fresh water for Unit 4 using Concrete Pump Truck (50t/h) was carried out. (From 08:28 till 14:14 April 1st)
  - The transfer of fresh water from the barge to the Filtrate Tank was started. (15:58 April 1st) Thereafter it was suspended by the malfunction of the hose (disconnection).
  - The permanent monitoring posts (No.1 to 8) installed near the Site Boundary were recovered. (March 31st) They are measuring once a day.

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 6:00, April 2nd)

Unit No.	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Situation of water injection	Injecting fresh water via the Water Supply Line. Flow rate of injected water : 117 ℓ/min (As of 16:18, April 1st) temporary measuring instrument	Injecting fresh water via the Fire Extinguish Line. Flow rate of injected water :150 ℓ/min (As of 14:00, March 30th) temporary measuring instrument	Injecting fresh water via the Fire Extinguish Line. Flow rate of injected water: 116 ℓ/min (As of 14:39, March 29th) temporary measuring instrument	Under shutdown	Under shutdown	Under shutdown
Reactor water level	Fuel range A : -1,600mm Fuel range B : -1,600mm (As of 4:00, April 2nd)	Fuel range A : -1,500mm (As of 4:00, April 2nd)	Fuel range A:-1,850mm Fuel range B:-2,250mm (As of 1:30, April 2nd)	#2	Shutdown range measurement 1,799mm (As of 6:00, April 2nd)	Shutdown range measurement 1,534mm (As of 6:00, April 2nd)
Reactor pressure	0.288MPa g(A) 0.520MPa g(B) (As of 4:00, April 2nd)	-0.011MPa g (A) -0.014MPa g (B) (As of 4:00,April 2nd)	0.025MPa g (A) -0.086MPa g (C) (As of 1:30, April 2nd)	#2	0.007MPa g (As of 6:00, April 2nd)	0.005MPa g (As of 6:00, April 2nd)
Reactor water temperature	(Impossible collection due to low system flow rate)			#2	35.5℃ (As of 6:00, April 2nd)	21.6℃ (As of 6:00, April 2nd)
Reactor Pressure Vessel (RPV) temperature	Feedwater nozzle temperature: 261.5℃ Temperature at the bottom head of RPV: 118.0℃ (As of 4:00, April 2nd)	Feedwater nozzle temperature: 155.0℃ Temperature at the bottom head of RPV: #1 (As of 4:00, April 2nd)	Feedwater nozzle temperature: 90.8℃ (under survey) Temperature at the bottom head of RPV: 119.4℃ (As of 1:30, April 2nd)	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: 0.160MPa abs S/C: 0.160MPa abs (As of 4:00, April 2nd)	D/W: 0.110MPa abs S/C:Down scale (under survey) (As of 4:00, April 2nd)	D/W: 0.1055MPa abs S/C: 0.1748MPa abs (As of 1:30, April 2nd)	#2		
CAMS*3	D/W: 4.55×10^{1}Sv/h S/C: 1.65×10^{1}Sv/h (As of 4:00, April 2nd)	D/W: 3.61×10^{1}Sv/h S/C: 9.81×10^{-1}Sv/h (As of 4:00,April 2nd)	D/W: 2.40×10^{1}Sv/h S/C: 9.55×10^{-1}Sv/h (As of 1:30, April 2nd)	#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	72.0℃ (As of 4:00, April 2nd)	#1	#1	34.1℃ (As of 6:00, April 2nd)	27.0℃ (As of 6:00, April 2nd)
FPC skimmer level	4,500mm (As of 4:00, April 2nd)	#1 (As of 4:00, April 2nd)	#1	5100mm (As of 1:30, April 2nd)	#2	
Power supply	Receiving external power supply (P/C*4 2C)		Receiving external power supply (P/C4D)		Receiving external power supply	

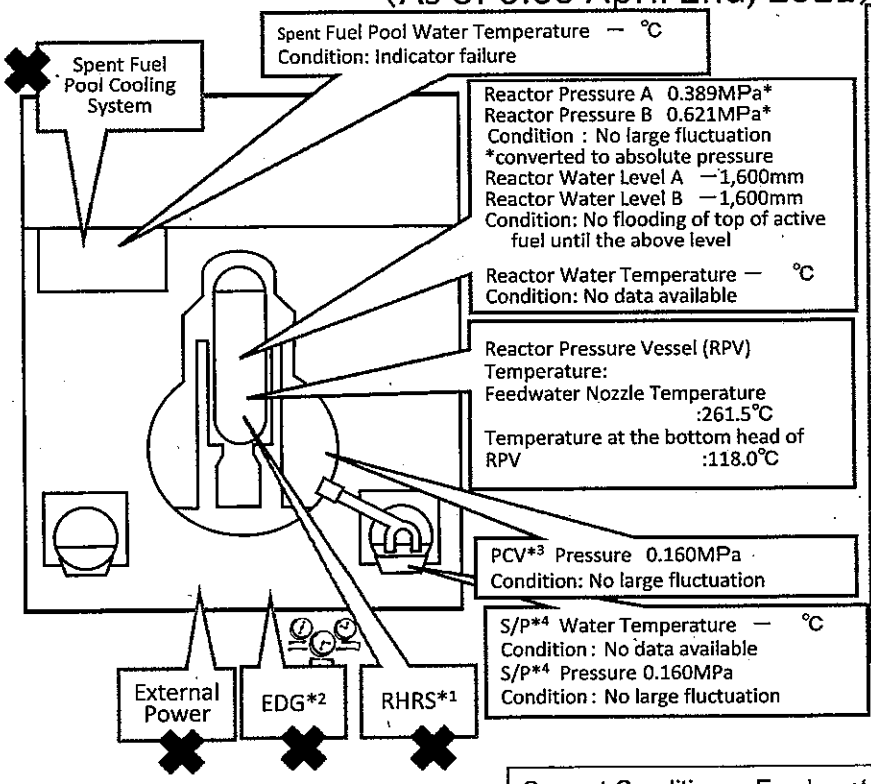
Other information	Unit3: Collecting the data of RPV temperature and continuing survey for transitional situation Unit2: Confirmed the indicated value of S/C Pressure but continuing to survey the transition of condition Unit2: Indication failure of FPC skimmer level by a fall in battery pressure	Common pool: about 32 ℃ (As of 7:30, April 1st)	Unit5:Nonthermal mode (From 22:12 April 1st)	Unit6:SHC*5 mode (From 11:39 April 1st)

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
*5 SHC : Shutdown Cooling

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

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 1
(As of 6:00 April 2nd, 2011)



Major Events after the earthquake

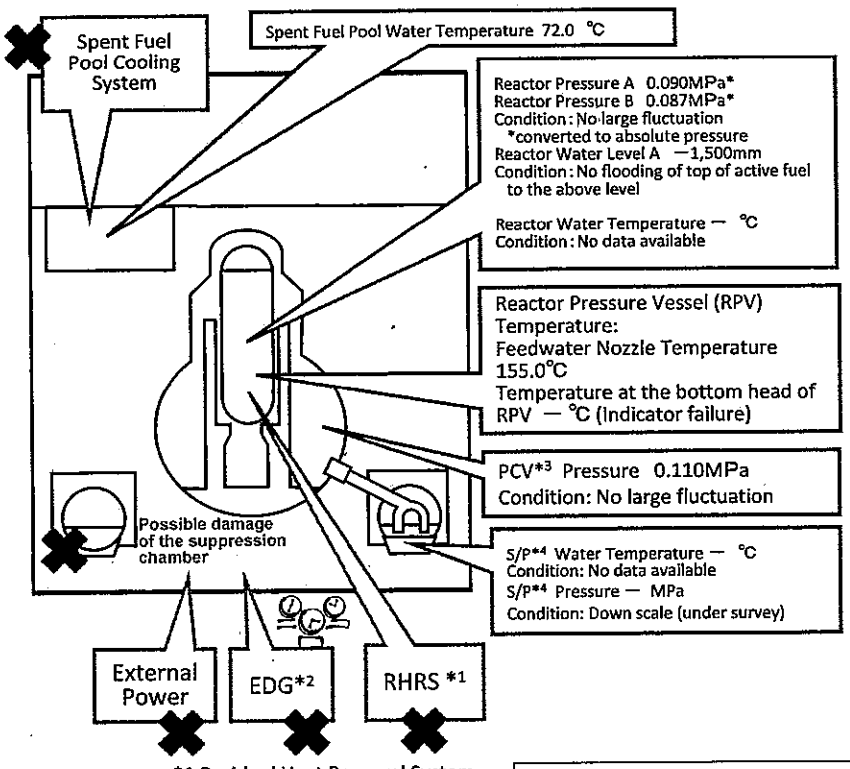
- 11th 14:46 Under operation, Automatic shutdown by the earthquake
- 11th 15:42 Report based on the Article 10 (Total loss of A/C power)
- 11th 16:36 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)
- 12th 01:20 Occurrence of the Article 15 event (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.
- 29th 08:32 Switched to the water injection to the core using the temporary motor-driven pump.
- 31st 12:00 Started to transfer the stagnant water from the Condensate Storage Tank (CST) to the Surge Tank of Suppression Pool Water (SPT)
- 31st 13:03～16:04 Fresh water spray by Concrete Pump Truck (Fresh water)

*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 Spent Fuel Pool and 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 April 2nd, 2011)



Major Events after the earthquake

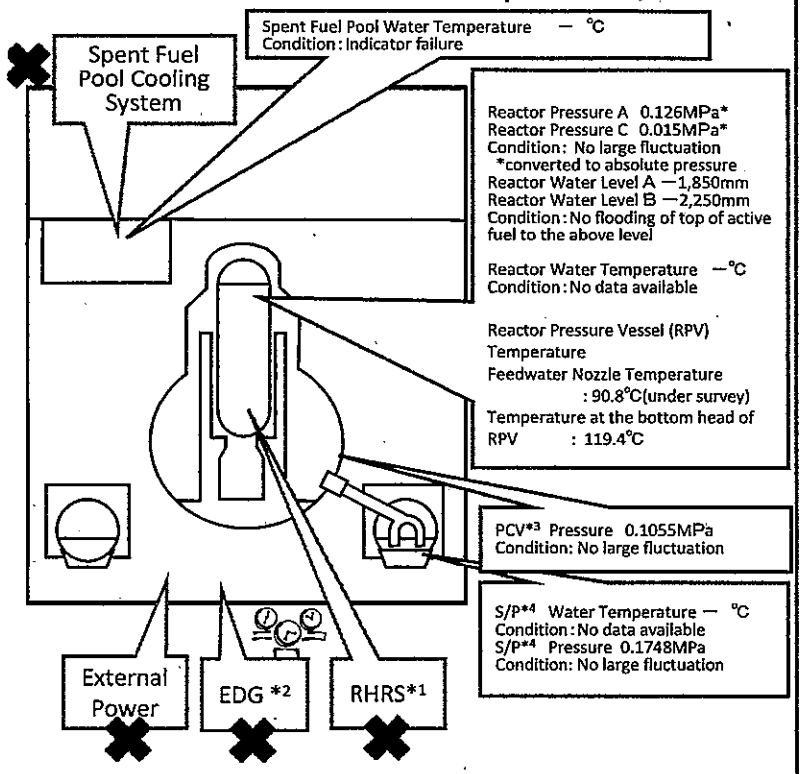
- 11th 14:46 Under operation, Automatic shutdown by the earthquake
- 11th 15:42 Report based on the Article 10 (Total loss of A/C power)
- 11th 16:36 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)
- 13th 11:00 Started to vent.
- 14th 13:25 Occurrence 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 the temporary motor-driven pump.
- 29th 16:30～18:25 Switched to the temporary motor-driven pump injecting fresh water to SFP.
- 29th 16:45～1st 11:50 Transferred the stagnant water from the Condensate Storage Tank (CST) to the Surge Tank of Suppression Pool Water (SPT)
- 30th 9:25～23:50 Confirmed malfunction of the temporary motor-driven pump injecting fresh water to SFP(9:45). Switched to the injection using the fire pump Truck, but suspended as cracks were confirmed in the hose. (12:47, 13:10) Resumed injection of fresh water(19:05)
- 1st 14:56～17:05 Injection of fresh water from SFP to SFP using the temporary motor-driven pump.

*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 Spent Fuel Pool and 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 April 2nd, 2011)



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

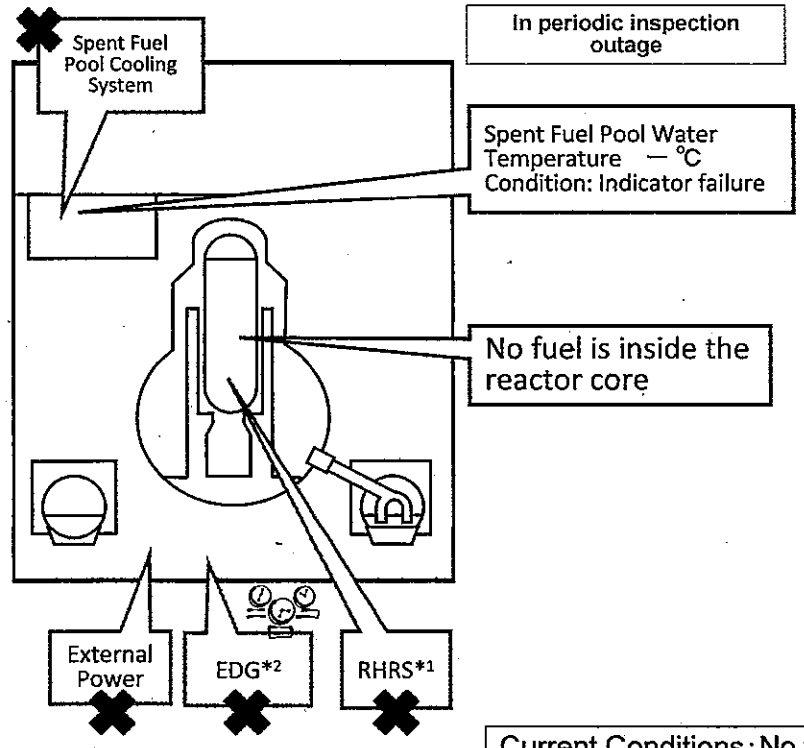
Major Events after the earthquake

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)
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 19:05~19:15 Water spray from the ground by High pressure water-cannon trucks of Police
17th 19:35~20:09 Water spray from the ground by fire engines of Self-Defense Force
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
28th 17:40~31st 8:40 Transferring the stagnant water from the Condensate Storage Tank (CST) to the Surge Tank of Suppression Pool Water (SPT)
from the condensate storage tank (CST) to the suppression pool water surge tank (SPT)
28th 20:30 Switched to the water injection to the core using a temporary motor-driven pump.
29th 14:17~18:18 Fresh water spray by Concrete Pump Truck
31st 16:30~19:33 Fresh water spray by Concrete Pump Truck

Current Conditions: Fresh water is being injected to the Spent Fuel Pool and 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 April 2nd, 2011)



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

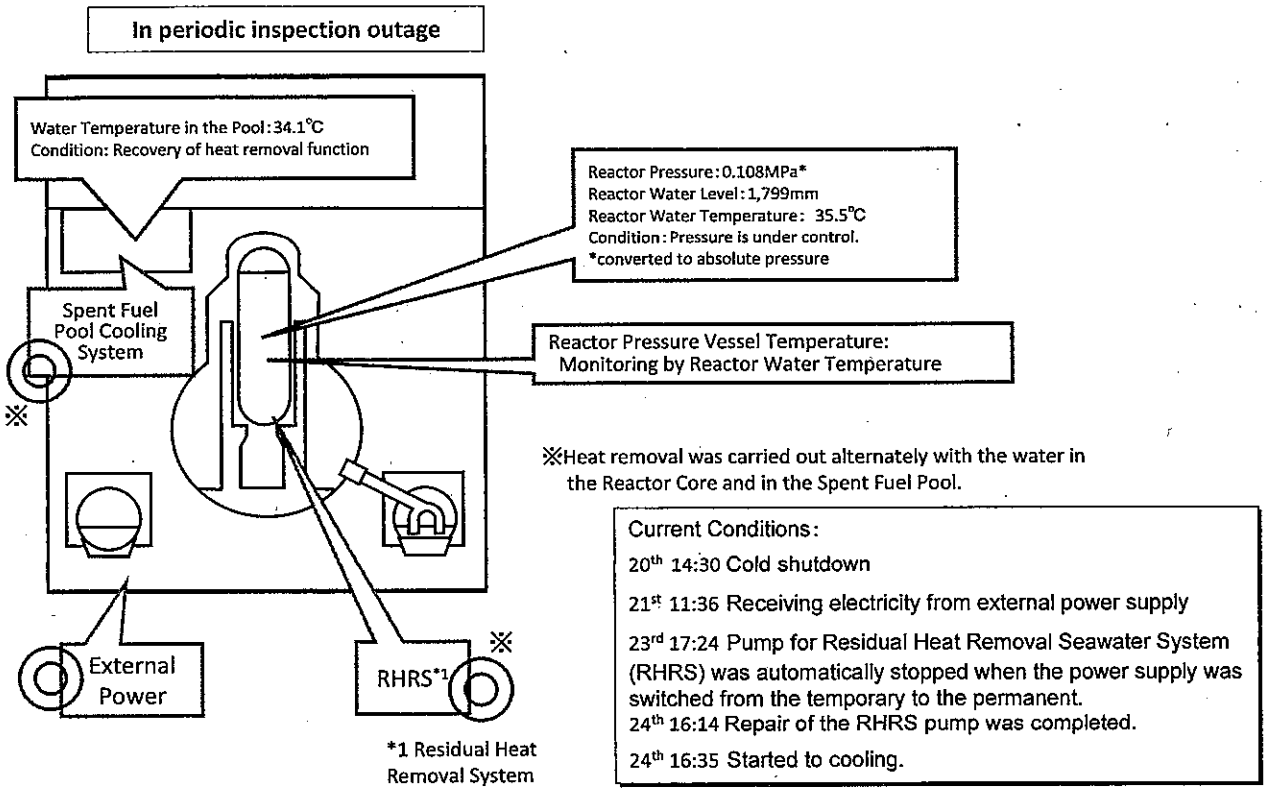
Major events after the earthquake

In periodic inspection outage when the earthquake occurred
14th 04:08 Water temperature in the Spent Fuel Pool (SFP), 84℃
15th 06:14 Confirmed the partial damage of wall in the 4th floor.
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
29th 11:50 Lighting in the Central Control Room was recovered.
30th 14:04~18:33 Water spray by Concrete Pump Truck (Fresh water)
1st 8:28~14:14 Water spray by Concrete Pump Truck(Fresh water)

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

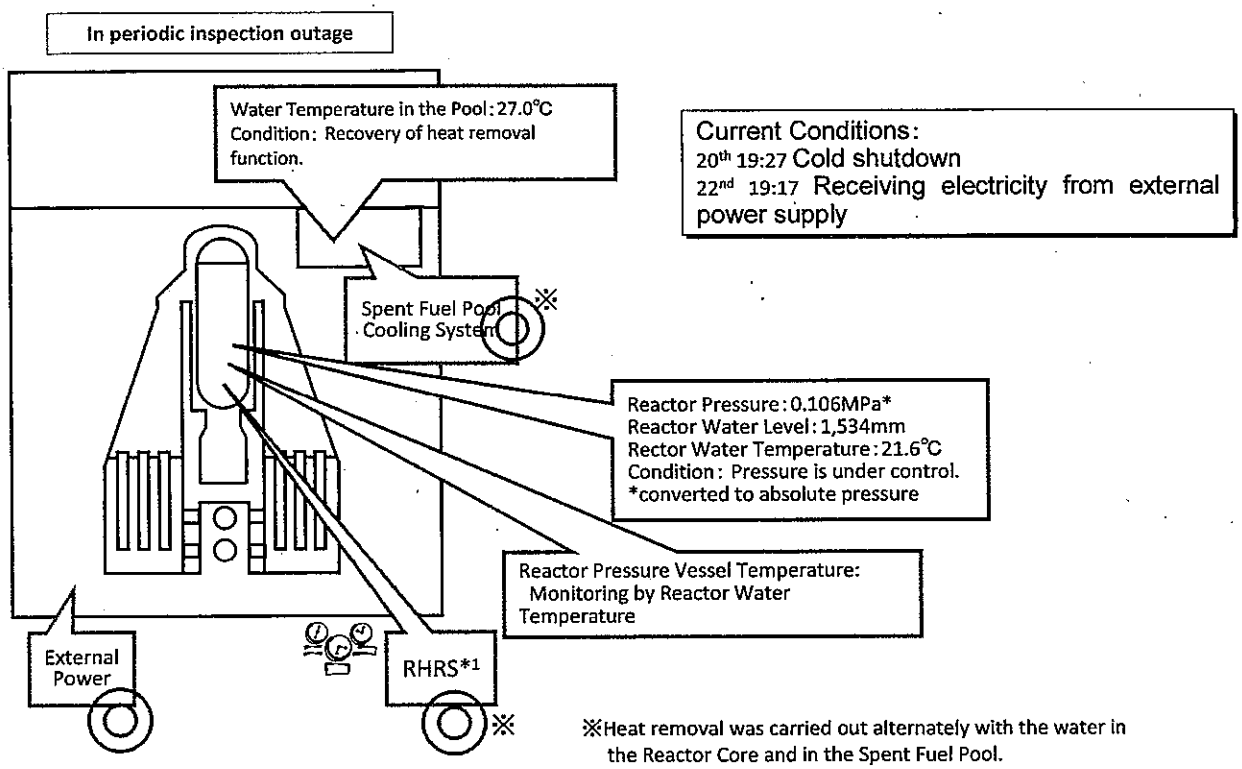
(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 5
(As of 6:00 April 2nd, 2011)



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

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 6
(As of 6:00 April 2nd, 2011)



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