

April 11, 2011

Nuclear and Industrial Safety Agency

Seismic Damage Information (the 86th Release)
(As of 08:00 April 11th, 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

- Fresh water spray of around 80t for Unit 3 using Concrete Pump Truck (50t/h) was carried out. (From 17:15 till 19:15 April 10th)
- The stagnant water with low-level radioactivity in the Main Building of Radioactive Waste Treatment Facilities was started to be discharged from the southern side of the Water Discharge Canal to the sea, using the first pump. (19:03 April 4th) Further, the discharge using 10 pumps in total was carried out (19:07 April 4th) and stopped at 17:40 April 10th. Confirmation of the remaining water is being carried out. (Total amount of discharged water is around 9,070t.)
- Removal of the rubble using remote-control heavy machineries was carried out. (April 10th)
- At around 11:10 April 10th, a subcontractor's employee who was conducting the operations of laying drain hoses in the yard of Unit 2 got sick and was transported to J-Village. Thereafter the employee was taken to the Iwaki City Kyouritsu Hospital by ambulance at 14:27 on the same day. It was confirmed that the employee was free from adhesion of radioactive materials to his body.

For more information:

NISA English Home Page

<http://www.nisa.meti.go.jp/english/index.html>

April 11, 2011

Nuclear and Industrial Safety Agency

Seismic Damage Information (the 87th Release)
(As of 15:00 April 11th, 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

- Videotaping using a wireless helicopter was carried out in order to grasp the situations of reactor buildings for Units 1 to 4. (From 15:59 till 16:28 April 10th)
- The silt fences to prevent the contaminated water from being scattered were completed to be doubly installed at the appropriate part of the seawall on the south side of the NPS.

2. Action taken by NISA

- In accordance with the Paragraph 1, the Article 67 of the Nuclear Regulation Act, NISA issued the direction regarding collection of report that should include the evaluation of necessity and safety, and the policy of ensuring the permanent storage and treatment facilities for the waste water and so on, concerning the transfer of the stagnant water with high-level radioactivity in Fukushima Dai-ichi NPS to the Radioactive Waste Treatment Facilities.

For more information:

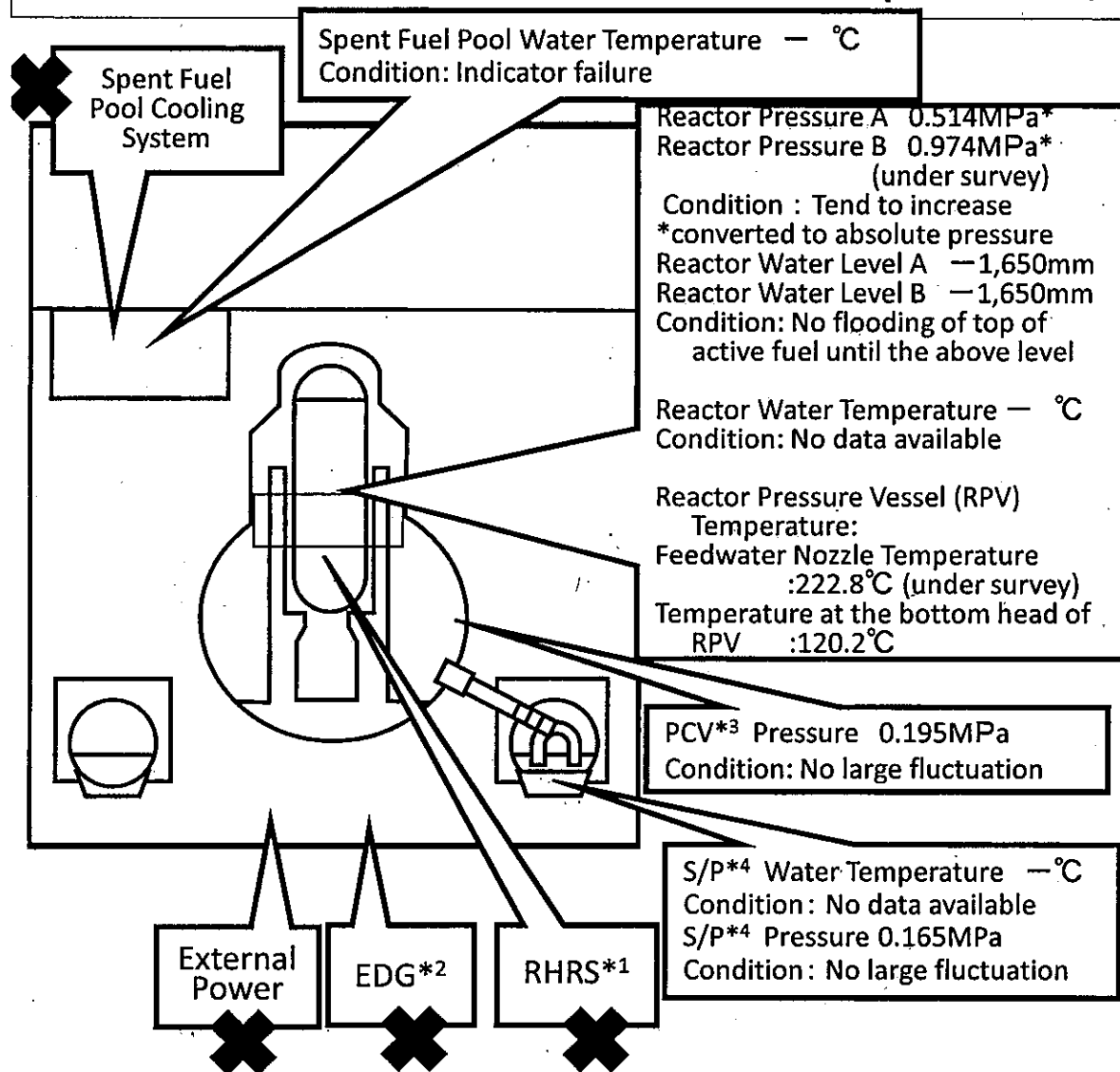
NISA English Home Page

<http://www.nisa.meti.go.jp/english/index.html>

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 1

(As of 02:00 April 11th, 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 the Reactor Core.
- 23rd 02:33 The amount of injected water to the Reactor Core was increased utilizing the Feedwater Line in addition to the Fire Extinguish Line. (2m³/h →18m³/h)
09:00 Switched to the Feedwater Line only.(18m³/h →11m³/h)
- 24th 11:30 Lighting in the Central Control Room was recovered.
- 25th 15:37 Started to inject fresh water.
- 29th 08:32 Switched to the water injection to the Reactor Core using the temporary motor-driven pump.
- 31st 12:00 ~2nd 15:26 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 Water spray by Concrete Pump Truck (Fresh water)
- 3rd 12:02 The power supply to the temporary motor-driven pump was switched from the temporary power supply to the external power supply.
- 3rd 13:55 Started to transfer the water from the Condenser to CST.
- 6th 22:30 Started the operation for the injection of nitrogen to PCV.
- 7th 01:31 Confirmed starting the injection of nitrogen to PCV.
- 9th 04:10 Started using highly pure nitrogen generator in the injection of nitrogen to PCV.
- 10th 09:30 Completed transferring the water from the Condenser to CST.

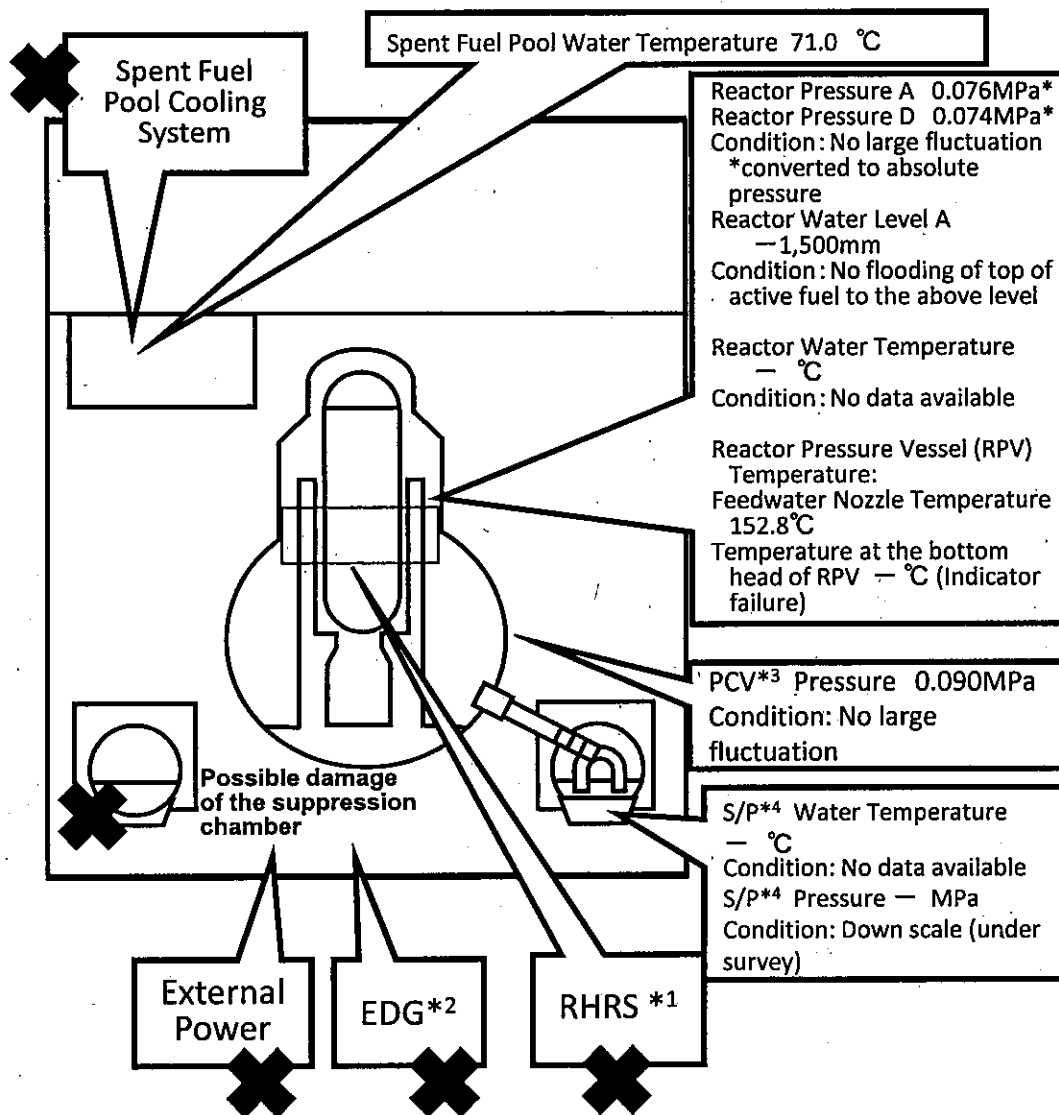
- *1 Residual Heat Removal System
- *2 Emergency Diesel Generator
- *3 Primary Containment Vessel
- *4 Suppression Pool

Current Conditions : Fresh water is being injected to the Spent Fuel Pool and the Reactor Core

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 2

(As of 02:00 April 11th, 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 seawater 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 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 FPC to SFP using the temporary motor-driven pump.
- 2nd around 9:30 The water, of which the dose rate was at the level of more than 1,000mSv/h, was confirmed to be collected in the pit located near the Intake Channel of Unit 2. The outflow from the lateral surface of the pit into the sea was also confirmed.
- 2nd 17:10 Started to transfer the water from the Condenser to the Condensate Storage Tank (CST).
- 3rd 12:12 The power supply to the temporary motor-driven pump was switched from the temporary power supply to the external power supply.
- 3rd 13:47~14:30 20 bags of sawdust, 80 bags of high polymer absorbent and 3 bags of cutting-processed newspaper were put into the Pit for the Conduit.
- 4th 7:08~7:11 Approximately 13kg of tracer (bath agent) was put in from the Pit for the Duct for Seawater Pipe.
- 4th 11:05~13:37 Injection of fresh water from FPC to SFP using the temporary motor-driven pump.
- 5th 14:15 Tracer is confirmed to outflow through the permeable layer around the pit into the sea.
15:07 Started to inject coagulant.
- 6th around 5:38 The water outflow from the lateral surface of the pit was confirmed to stopped.
- 7th 13:29~14:34 Freshwater injection to SFP via FPC (Around 36 ton)
- 9th 13:10 Completed transferring the water from the Condenser to CST.
- 10th 10:37~12:38 Freshwater injection to SFP via FPC using the temporary motor-driven pump (Around 60 ton).

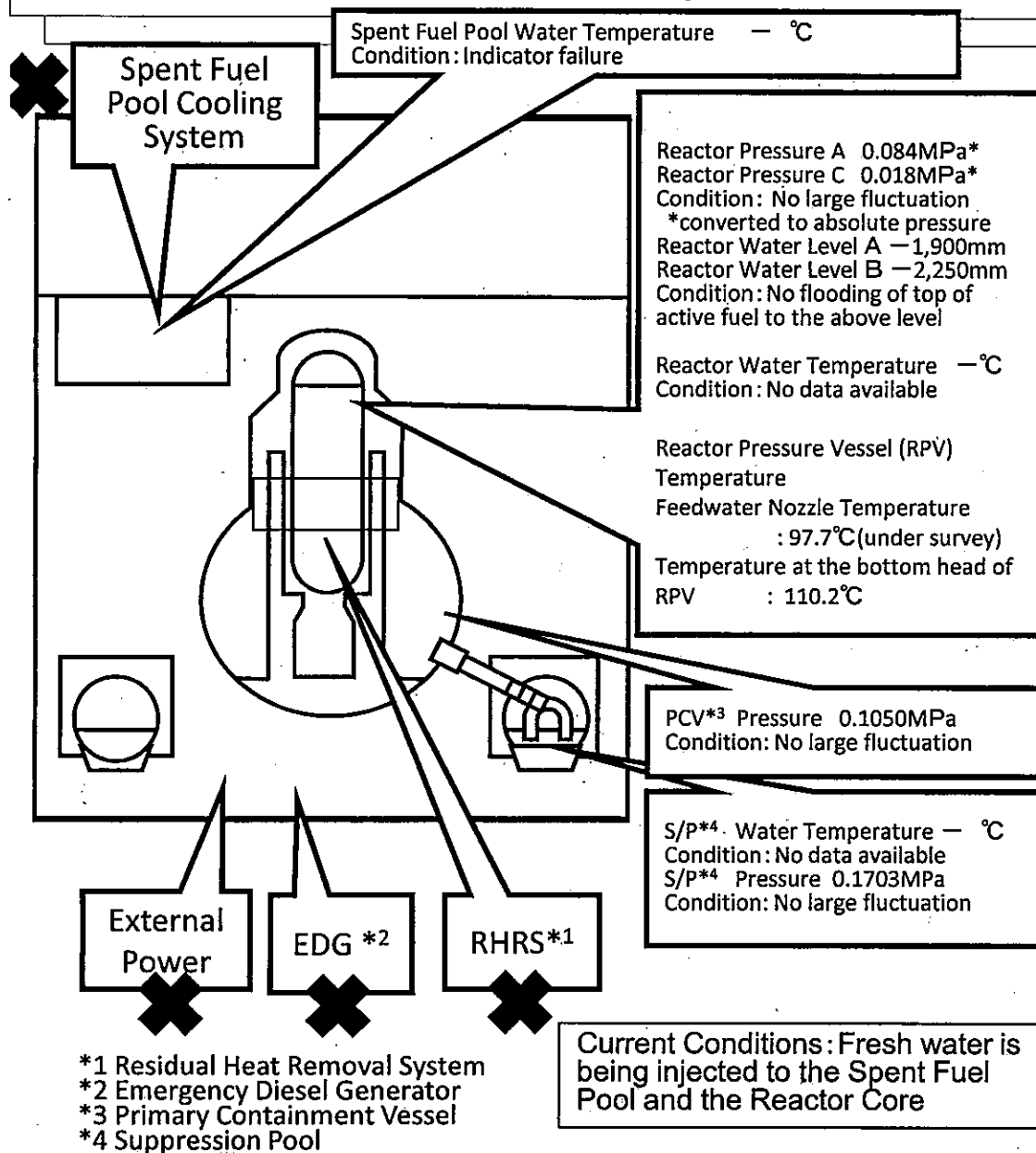
- *1 Residual Heat Removal System
- *2 Emergency Diesel Generator
- *3 Primary Containment Vessel
- *4 Suppression Pool

Current Conditions: Fresh water is being injected to the Spent Fuel Pool and the Reactor Core

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 3

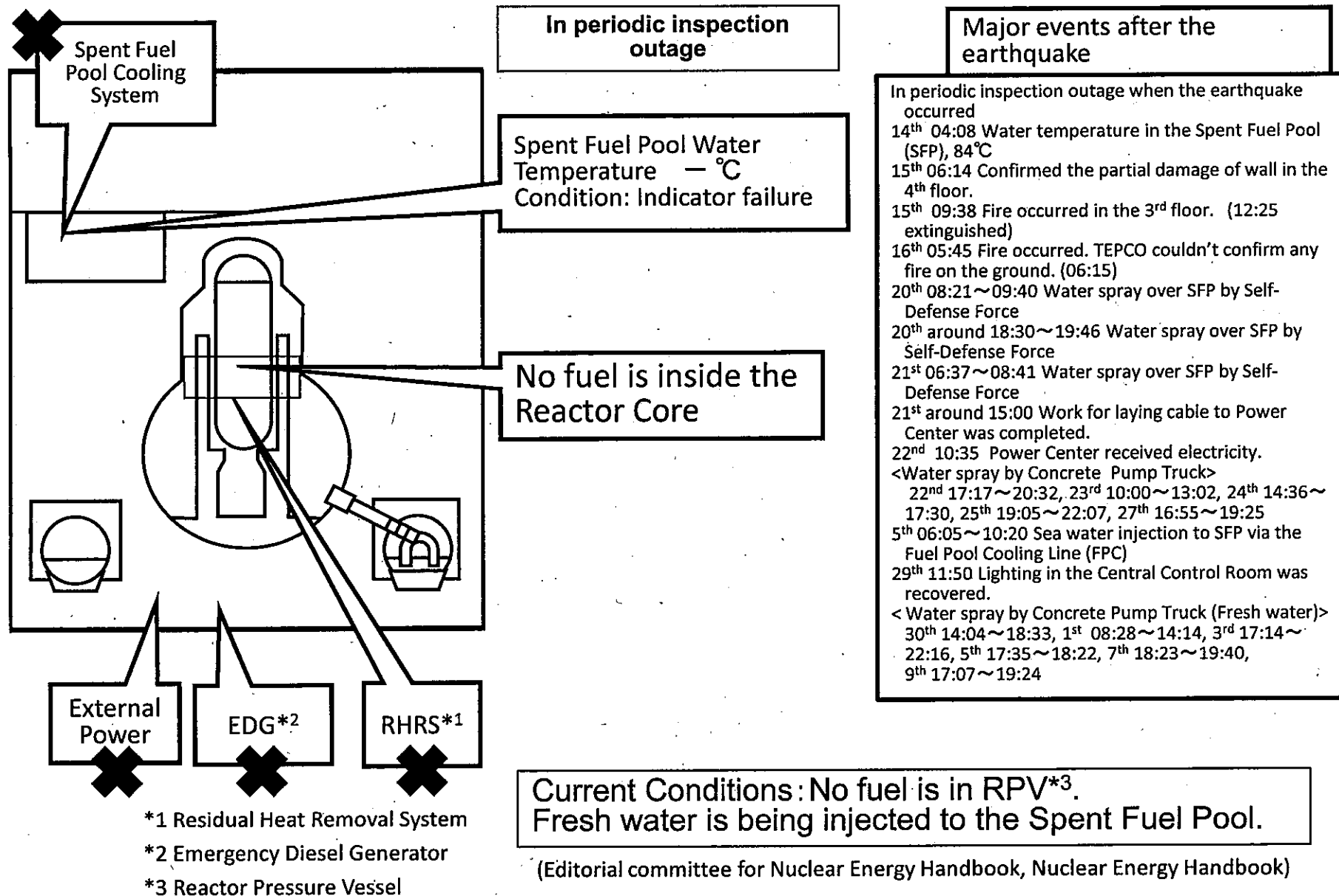
(As of 02:00 April 11th, 2011)

Major Events after the earthquake



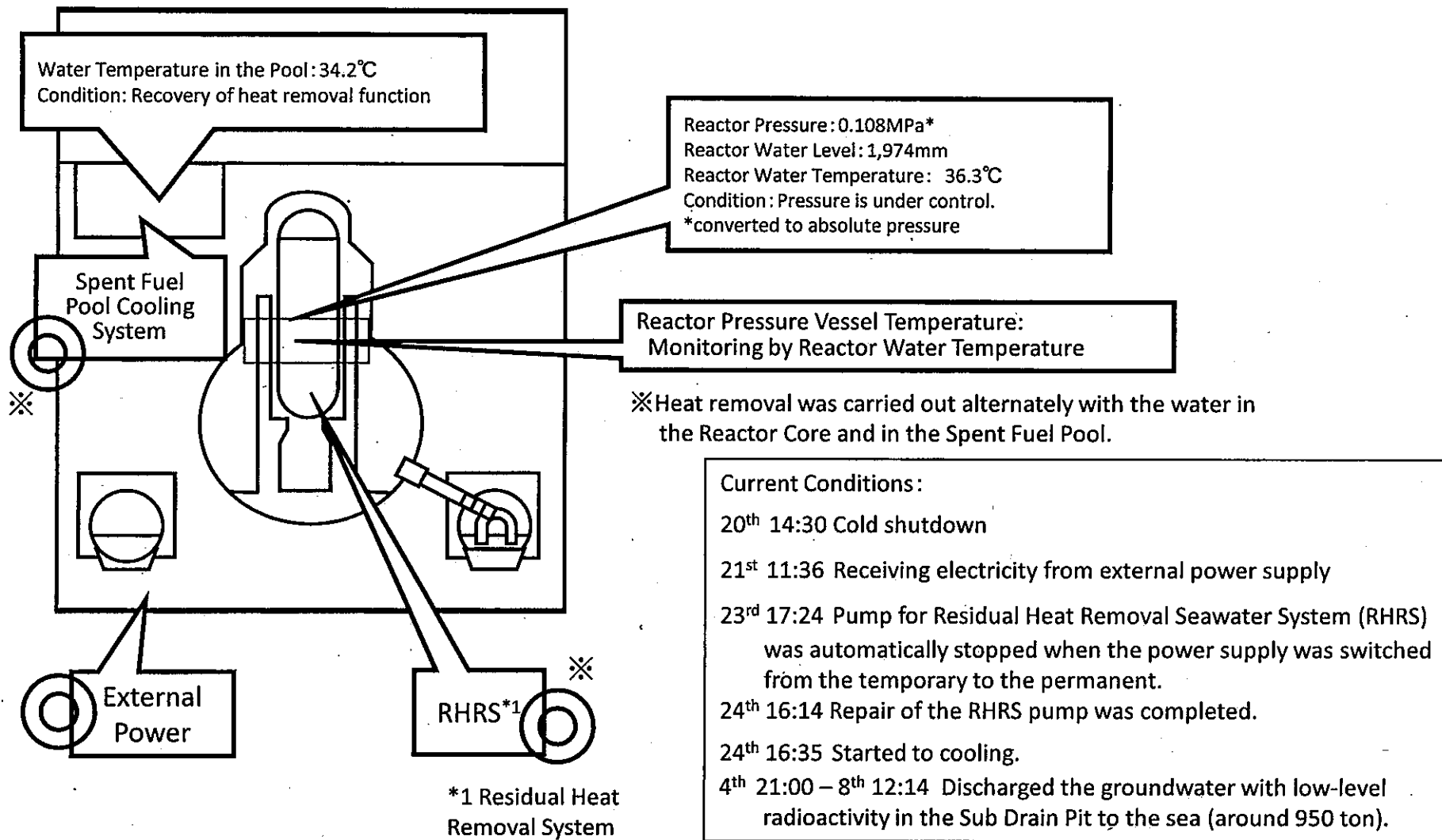
- 11th 14:46 Under operation, Automatic shutdown by the earthquake
- 11th 15:42 Report based on the Article 10 (Total loss of A/C power)
- 13th 05:10 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)
- 13th 08:41 Started to vent.
- 13th 13:12 Started to inject seawater and borated water to the Reactor 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 around 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 35 ton 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 Injection of around 120 ton of sea water 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 around 8:40 Transferring the water from the Condensate Storage Tank (CST) to the Surge Tank of Suppression Pool Water (SPT)
- 28th 20:30 Switched to the water injection to the core using a temporary motor-driven pump.
- <Water spray by Concrete Pump Truck (Fresh water)>
- 29th 14:17~18:18, 31st 16:30~19:33, 2nd 09:52~12:54, 4th 17:03~19:19, 7th 06:53 ~08:53, 8th 17:06 ~20:00
- 3rd 12:18 The power supply to the temporary motor-driven pump was switched from the temporary power supply to the external power supply.

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 4 (As of 02:00 April 11th, 2011)



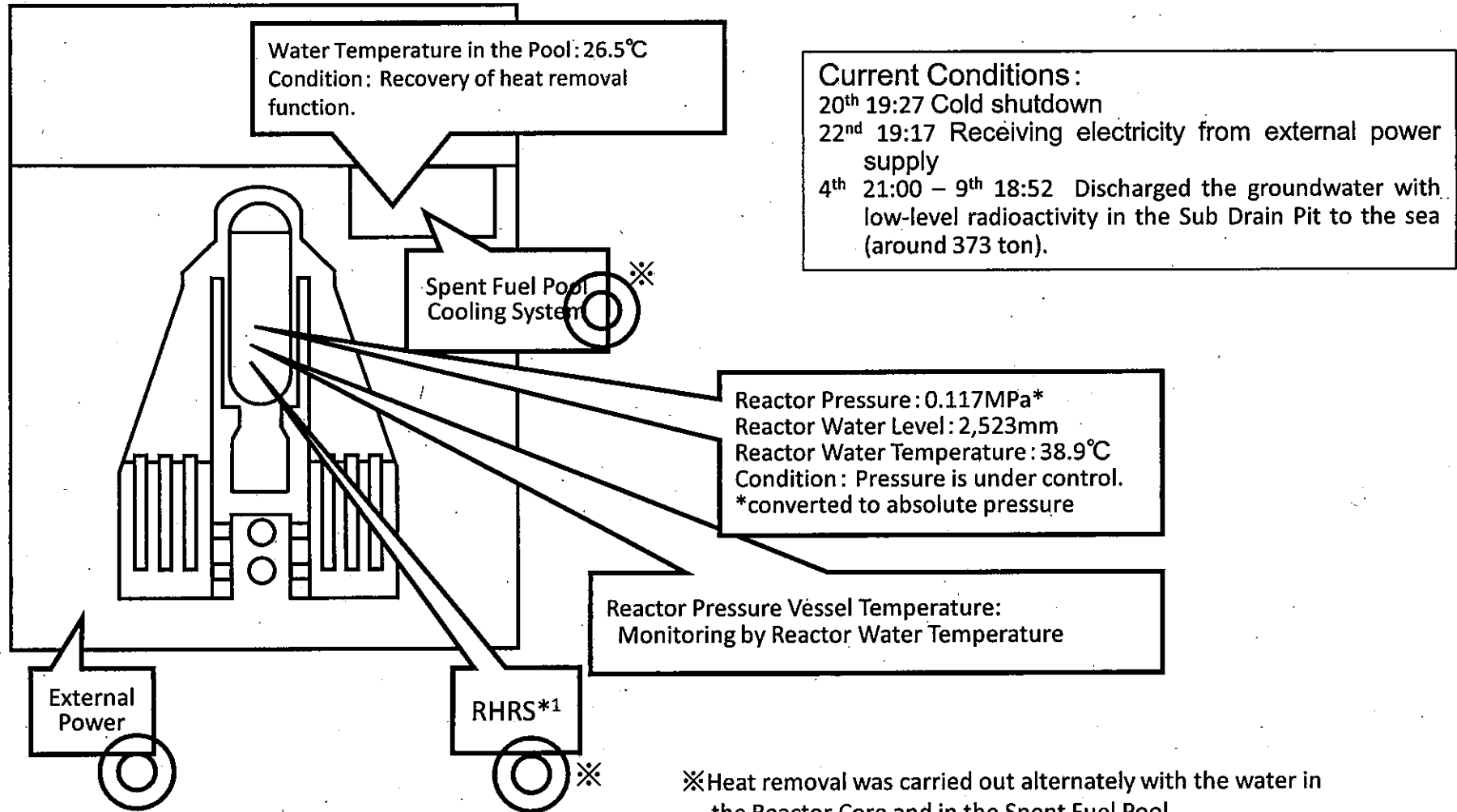
Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 5 (As of 02:00 April 11th, 2011)

In periodic inspection outage



Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 6 (As of 02:00 April 11th, 2011)

In periodic inspection outage



Current Conditions:
 20th 19:27 Cold shutdown
 22nd 19:17 Receiving electricity from external power supply
 4th 21:00 – 9th 18:52 Discharged the groundwater with low-level radioactivity in the Sub Drain Pit to the sea (around 373 ton).

*1 Residual Heat Removal System

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

April 11, 2011

Nuclear and Industrial Safety Agency

Information of the Situation Caused by the Earthquake of
Hamadori in Fukushima Prefecture
(As of 17:33 April 11th, 2011)

Around 17:16 (UTC 08:16) April 11th, 2011, the Earthquake occurred in inland areas of Fukushima Prefecture.

All units of Onagawa Nuclear Power Station (NPS) (Tohoku Electric Power Company Inc.), Fukushima Dai-ichi NPS and Fukushima Dai-ni NPS (Tokyo Electric Power Company Inc.) have been shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake occurred on March 11th, 2011.

The current situation of each nuclear facility is as follows;

• Onagawa NPS (According to Tohoku Electric Power Company Inc.)

All five external power lines are secured and there are no unusual data measured at monitoring posts.

• Fukushima Dai-ichi NPS (According to Tokyo Electric Power Company Inc.)

-There are no unusual data measured at monitoring posts.

-The workers at the site were directed to evacuate due to the occurrence of this earthquake.

-Both the recovery works of external power supply and switching works to the fire pumps are being carried out in parallel because the motor driven pumps injecting to the Reactor Cores of Units 1 to 3 stopped due to the halt of external power supply from Tohoku Electric Power Company Inc. to each unit.

• Fukushima Dai-ni NPS (According to Tokyo Electric Power Company Inc.)

-The external power supply is secured.

-There are no unusual data in plant parameters.

-There are no unusual data measured at monitoring posts.

- Tokai Dai-ni NPP (According to The Japan Atomic Power Company Inc.)
 - The external power supply is secured.
 - No unusual event has been confirmed.

1. The status of operation at Nuclear Power Station

- Onagawa NPS (Tohoku Electric Power Company Inc.)
 - Unit 1: Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake
 - Unit 2: Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake
 - Unit 3: Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake
- Fukushima Dai-ichi NPS (Tokyo Electric Company Inc.)
 - Unit 1: Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake
 - Unit 2: Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake
 - Unit 3: Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake
 - Unit 4: in outage
 - Unit 5: in outage
 - Unit 6: in outage
- Fukushima Dai-ni NPS (Tokyo Electric Company Inc.)
 - Unit 1: Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake
 - Unit 2: Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake
 - Unit 3: Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake
 - Unit 4: Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake
- Tokai Dai-ni NPP (The Japan Atomic Power Company)
 - Shutdown since the 2011 Tohoku district - off the Pacific Ocean Earthquake

(Reference)

Seismic Intensity in Japanese Scale of each area;

Max. 6-: Hamadori and Nakadori in Fukushima Prefecture, Southern part of Ibaraki Prefecture

Max. 5+: Northern part of Ibaraki Prefecture

Max. 5-: Northern and southern parts of Miyagi Prefecture, Aizu of Fukushima Prefecture

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