

April 3, 2011

Nuclear and Industrial Safety Agency

Seismic Damage Information (the 71st Release)
(As of 15:30 April 3rd, 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

- Lighting in the turbine building of Units 1 to 4 was partially turned on. (April 2nd)
- In order to switch the power supply to the motor-driven pumps injecting fresh water to the reactors of Units 1 to 3 from the temporary power supply to the external power supply, the injections to the reactors were temporarily carried out using the Fire Pump Trucks. Currently, the injections using the motor-driven pumps receiving power from the external power supply are being carried out.

(The time for the injection using the Fire Pump Truck)

Unit 1: from 10:42 to 11:52 April 3rd

Unit 2: from 10:22 to 12:06 April 3rd

Unit 3: from 10:03 to 12:16 April 3rd

(The time for switching to the external power supply for the fresh water injection to the reactor)

Unit 1: 12:02 April 3rd

Unit 2: 12:12 April 3rd

Unit 3: 12:18 April 3rd

- As the measure to prevent the outflow of the water accumulated in the Pits for Conduit in the area around the Inlet Bar Screen of Unit 2, the upper part of the Power Cable Trench for power source at Intake Channel was crushed and high polymer absorbent, etc. were put inside. (From 13:47 till

14:30 April 3rd)

- The freshwater was transferred from the barge (the second ship) of the US armed force to the barge (the first ship). (From 09:52 to 11:15 April 3rd)
- The stagnant water in the Main Building of Radioactive Waste Treatment Facilities is being transferred to the turbine building of Unit 4. (April 2nd)

For more information:

NISA English Home Page

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

April 4, 2011

Nuclear and Industrial Safety Agency

Seismic Damage Information (the 72nd Release)
(As of 08:00 April 4th, 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 1 to the Condenser, the transfer of the water in the Condenser to the Condensate Storage Tank was started. (13:55 April 3rd)
- As the measure to prevent the outflow of the water accumulated in the Pits for Conduit in the area around the Inlet Bar Screen of Unit 2, the upper part of the Power Cable Trench for power source at Intake Channel was crushed and sawdust, high polymer absorbent and cutting-processed newspaper were put inside. (From 13:47 till 14:30 April 3rd)
- Approximately 13kg of tracer (bath agent) was put in from the Pit for the Duct for Seawater Pipe. (From 07:08 till 07:11 April 4th)
- Fresh water spray of around 180t for Unit 4 using Concrete Pump Truck (50t/h) was carried out. (From 17:08 till 22:16 April 3rd)

For more information:

NISA English Home Page

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

April 4, 2011

Nuclear and Industrial Safety Agency

Seismic Damage Information (the 73rd Release)
(As of 15:00 April 4th, 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 injection to the Spent Fuel Pool of Unit 2 via the Spent Fuel Pool Cooling Line using the temporary motor-driven pump was carried out. (From 11:05 till 13:37 April 4th)

From 2 April, the stagnant water in the Main Building of Radioactive Waste Treatment Facilities was being transferred to the turbine building of Unit 4. As the water level in the vertical portion of the trench for Unit 3 rose from 3 April, by way of precaution, the transfer was suspended notwithstanding that the path of the water was not clear. (09:22 April 4th)

< Possibility on radiation exposure >

1. Exposure of residents

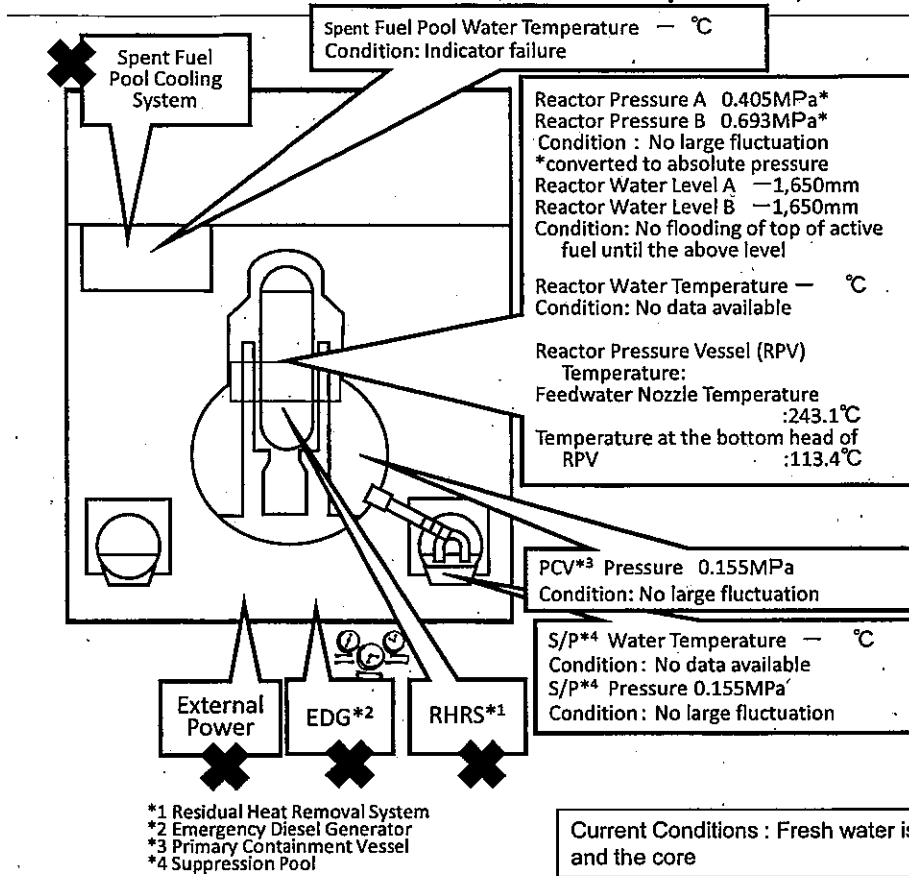
- Up until April 2nd, the screening was done to 122,613 people in Fukushima Prefecture. Among them, 102 people were above the 100,000 cpm, but when measured these people again without clothes, etc., the counts decreased to 100,000 cpm and below, and there was no case which affects health.

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 8:00 April 4th, 2011)



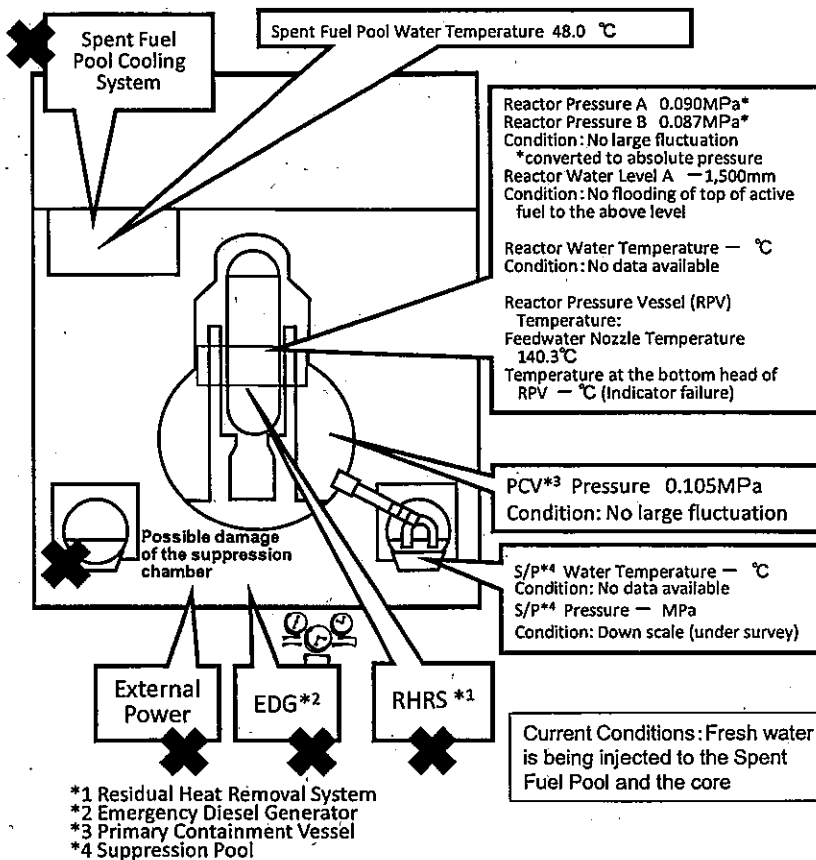
Major Events after the earthquake

- 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 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 fresh water injection.
- 29th 08:32 Switched to the water injection to the 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 Fresh 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.

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 8:00 April 4th, 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 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 close to the Bar Screen.
- 4th 7:08 ~ 7:11 Approximately 13kg of tracer (bath agent) was put in from the Pit for the Duct for Seawater Pipe.

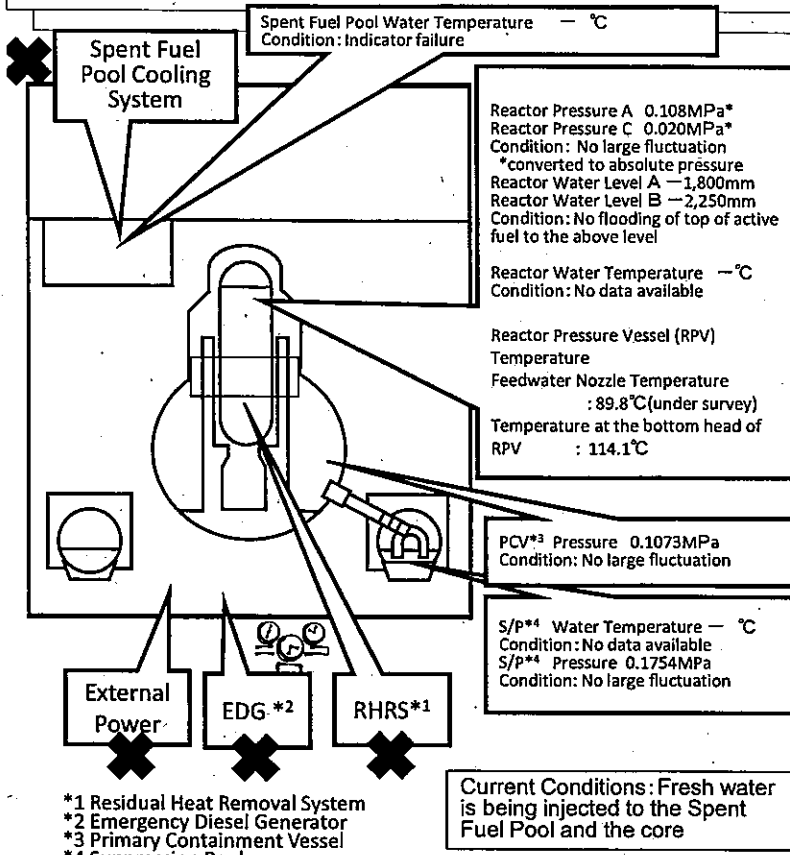
Current Conditions: Fresh water is being injected to the Spent Fuel Pool and the core

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

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 3

(As of 8:00 April 4th, 2011)

Major Events after the earthquake



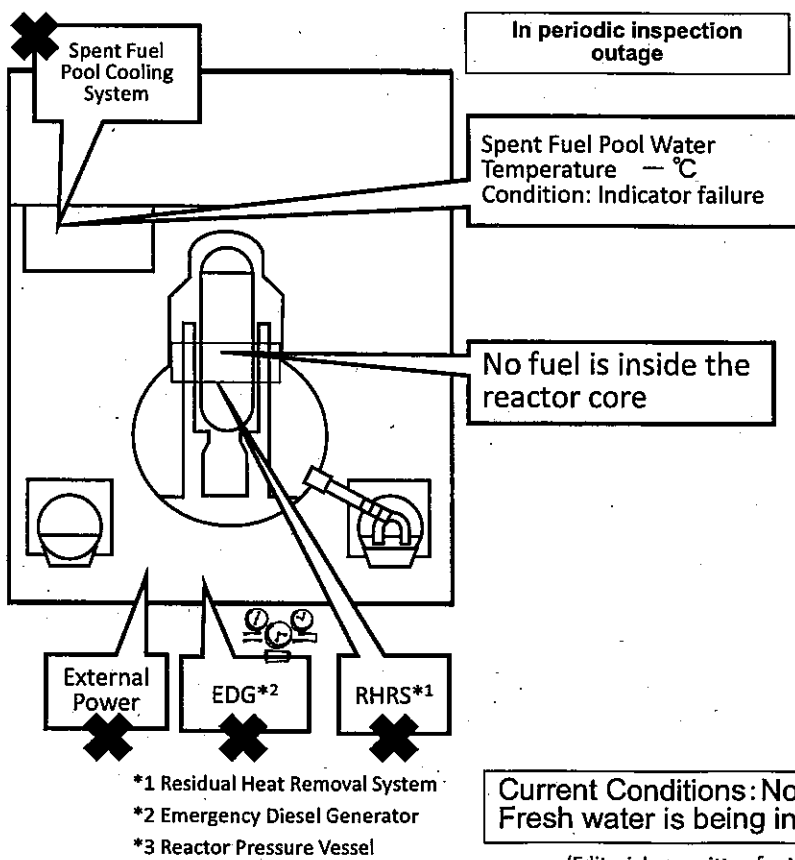
- 11th 14:46 Under operation, Automatic shutdown by the earthquake
- 11th 15:42 Report based on the Article 10 (Total loss of A/C power)
- 13th 05:10 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)
- 13th 08:41 Started to vent.
- 13th 13:12 Started to inject seawater and borated water to 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 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 be 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 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.
- 29th 14:17~18:18 Fresh water spray by Concrete Pump Truck
- 31st 16:30~19:33 Fresh water spray by Concrete Pump Truck
- 2nd 09:52~12:54 Fresh water spray by Concrete Pump Truck
- 3rd 12:18 The power supply to the temporary motor-driven pump was switched from the temporary power supply to the external power supply.

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

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 4

(As of 8:00 April 4th, 2011)

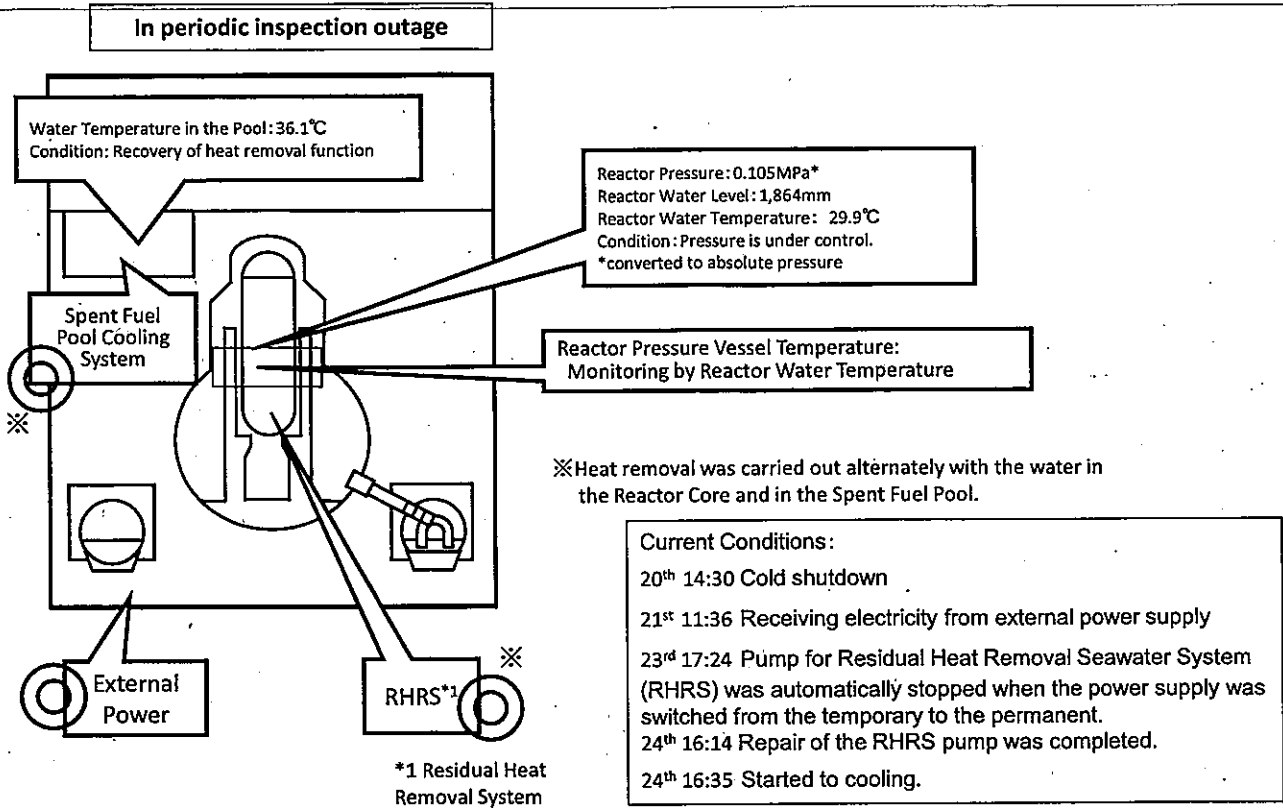
Major events after the earthquake



- In periodic inspection outage when the earthquake occurred
- 14th 04:08 Water temperature in the Spent Fuel Pool (SFP), 84°C
- 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 around 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)
- 3rd 17:14~22:16 Water spray by Concrete Pump Truck (Fresh water)

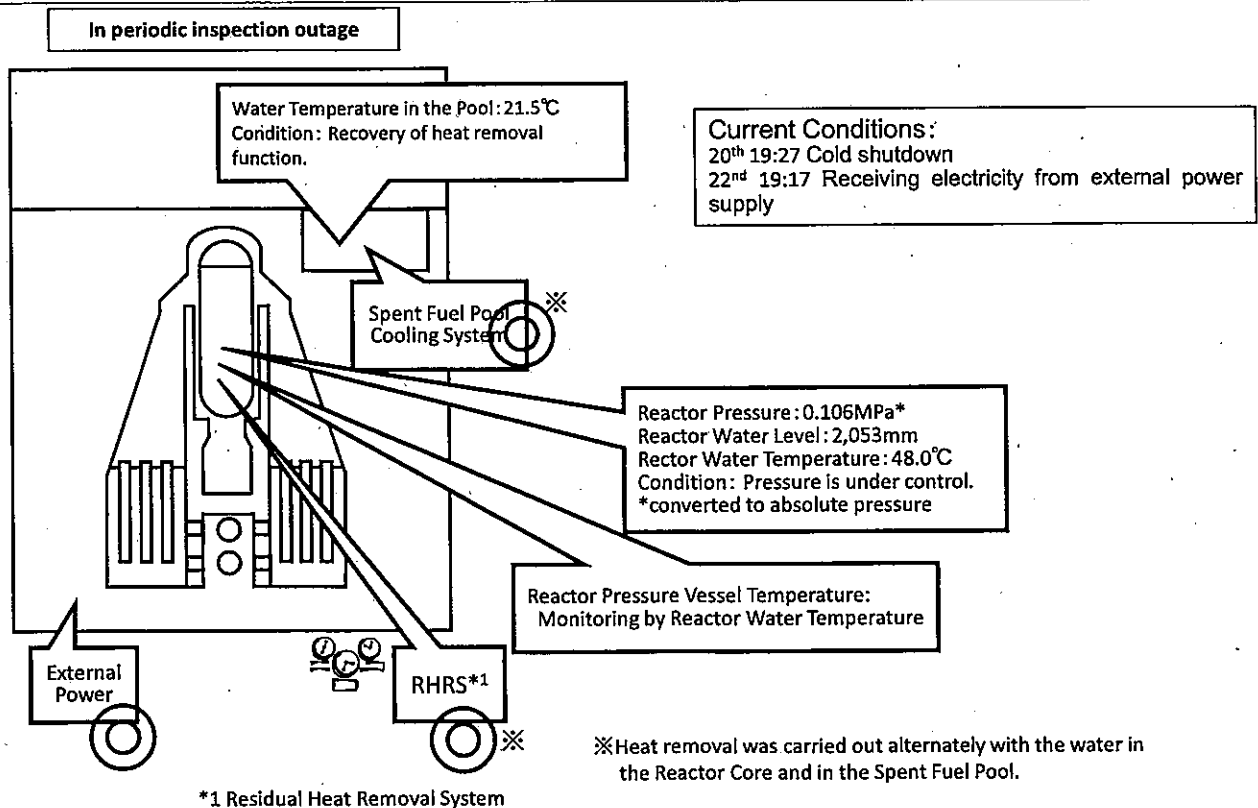
(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 5 (As of 8:00 April 4th, 2011)

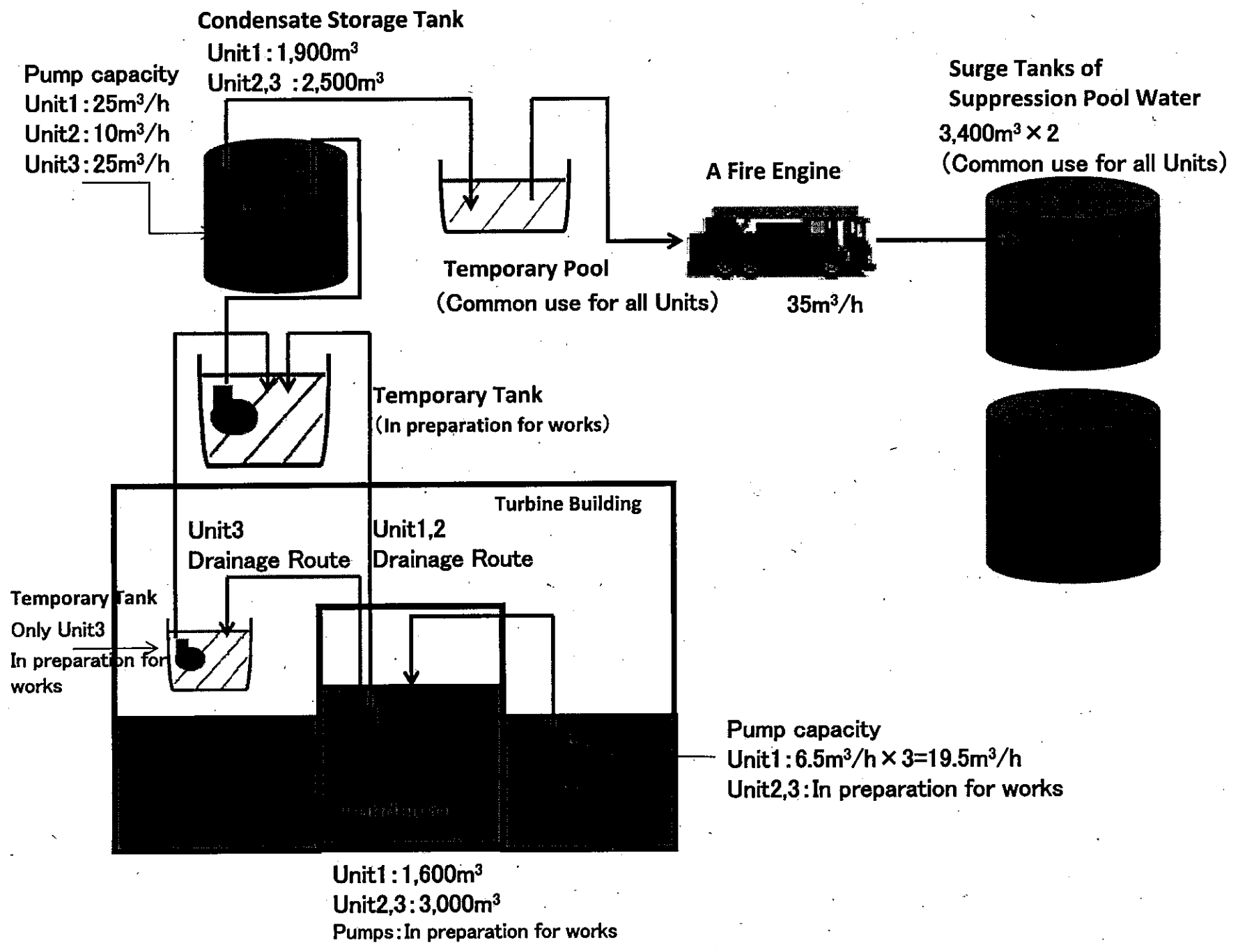


(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 6 (As of 8:00 April 4th, 2011)



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



Current estimated path to the Power Cable Trench for power source at Intake Channel of Unit 2

