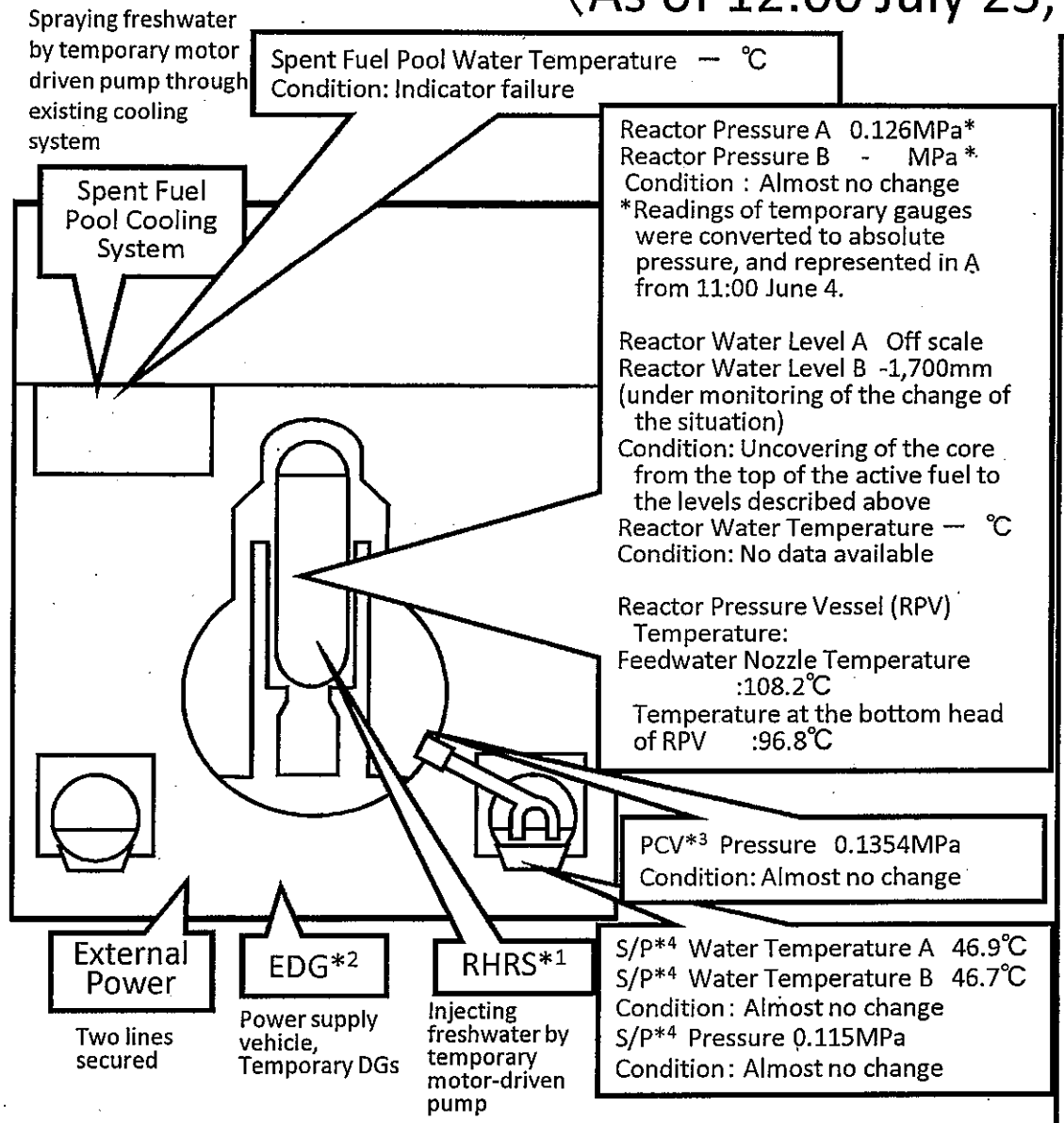
# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 1
## (As of 12:00 July 23, 2011)




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

### Major Events after the Earthquake 1/3

March 11 14:46 Under operation, Automatic shutdown by the earthquake
March 11 15:42 Report based on the Article 10 (Total loss of A/C power)
March 11 16:36 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System )
March 12 01:20 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
March 12 10:17 Started to vent.
March 12 15:36 Sound of explosion
March 12 20:20 Started to inject seawater and borated water to the Reactor Core.
March 23 02:33 The amount of injected water into the Reactor Core was increased utilizing the Feedwater Line in addition to the Fire Extinguish Line. ($2m^3/h \rightarrow 18m^3/h$)
09:00 Switched to the Feedwater Line only.($18m^3/h \rightarrow 11m^3/h$)
March 24 11:30 Lighting in the main Control Room was recovered.
March 25 15:37 Started to inject fresh water.
March 29 08:32 Switched to the water injection to the Reactor Core using the temporary motor-driven pump.
March 31 12:00 ~2nd 15:26 Started to transfer the accumulated water from the Condensate Storage Tank (CST) to the Surge Tank of Suppression Pool Water (SPT)
April 3 12:02 The power supply to the temporary motor-driven pump was switched from the temporary power supply to the external power supply.
April 3 13:55 Started to transfer the water from the Condenser to CST.
April 6 22:30 Started the operation for the injection of nitrogen to PCV.
April 7 01:31 Confirmed starting the injection of nitrogen to PCV.
April 9 04:10 Started using highly pure nitrogen generator in the injection of nitrogen to PCV.
April 10 09:30 Completed transferring the water from the Condenser to CST.
April 11 around 17:16 Loss of external power supply due to an earthquake occurred (at Hamadori in Fukushima Prefecture) and water injection to the Reactor Core and nitrogen injection to PCV were suspended.
April 11 17:56 External power supply was recovered.
April 11 18:04 Resumed injecting water to the Reactor Core.
April 11 23:19 Restarted operation for injecting nitrogen to PCV.
April 11 23:34 Confirmed starting injection of nitrogen to PCV.
April 17 16:00~17:30 Confirmed the situation in the reactor building using an unmanned robot.
April 18 11:50~12:12 Stopped the water injection into the Reactor Core to replace the current hose with a new one.
April 19 10:23 Completed the work of strengthening connection of the power supplies between Units 1-2 and Units 3-4.
April 25 10:57 ~18:25 For reinforcement work of the power supply, the power supply to the pump injecting water into the Reactor Core was temporarily switched from the external power supply to the temporary diesel generator.
April 25 14:10~19:10 Suspended nitrogen injection due to reinforcement work of the power supply.
April 25 14:44~17:38 Implemented reinforcement work of the power supply (connection of the power supplies between Units 1-2 and Units 5-6).
April 26 11:35~13:24(approx.) Confirmed the situation in the reactor building using an unmanned robot.

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

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

## Major Events after the Earthquake 2/3

April 27 10:02 Started the operation of gradually changing the amount of water for injection to the Reactor Pressure Vessel, (RPV) from about 6m³/h to the maximum of about 14m³/h. After carrying out the injection at 10m³/h, the injection rate was changed back to 6m³/h. (April 29 10:14)

April 29 11:36～14:05 Confirmed the situation in the reactor building using an unmanned robot.

May 2 12:58～15:03 The pump for the injection of water into the Reactor Core was temporarily replaced with the Fire Extinguishing Pump in order to install an alarm device in the pump.

May 5 16:36～May 8 20:02 Operated all ambient filtration systems (a total of 6 units) in order to improve the working environment in the reactor building.

May 6 10:01 Changed the rate of water injection into the Reactor Core from 6m³/h to 8m³/h.

May 8 20:08 Ventilation by cutting of the exhaust air duct

May 9 04:17 Opening the double-entry doors of the Reactor Building

May 9 05:10 Disassembly of positive pressure house

May10 10:55(approx.) Calibrated the reactor water level gauge

May 11 08:47～15:55 Due to the restoration of the Okuma No.2 transmission line, the power supply for the water injection pump into the reactor was temporarily switched to the temporary diesel generator.

May 11 08:50～15:58 Due to the restoration of the Okuma No.2 transmission line, the nitrogen injection was temporarily suspended.

May 11 08:50～11:14 Confirmed the reactor water level of RPV, calibrated reactor pressure gauge of primary containment vessel.

May 13 16:01～17:39 Observed the situation in the Reactor Building using a remote-control robot

May 14 15:07～15:18 Water spray over the Spent Fuel Pool by Concrete Pump Truck (stopped due to strong winds)

May 15 13:28 Changed the rate of water injection into the Reactor Core from 8m³/h to 10m³/h.

May 17 11:50 Changed the rate of water injection into the Reactor Core from 10m³/h to 6 m³/h.

May 20 09:30～12:15 Entered in the reactor building, confirmed reactor water level and radioactivity.

May 25 09:14～09:18 Nitrogen injection to PCV were suspended for changing power supply.

May 25 15:16～15:18 Nitrogen injection to PCV were suspended for changing power supply.

May 25 15:45 Confirmed that the compressor for nitrogen supplying was stopped. 19:44 Restart the nitrogen injection after changing to the reserve compressor.

May 27 10:30～around 12:00 and around 15:00 Entered in the reactor building, Installed the level gauge of reactor building accumulated water , Sampled basement accumulated water , and Installed hoses for SFP.

May 28 16:47～17:00 Leak test in order to inject fresh water to SFP via FPC

May 31 20:30 Changed the rate of water injection into the Reactor Core from 6m³/h to 5m³/h.

June 3 10:38～12:21 Installed temporary pressure gauges for the reactor.

June 3 around 15:00～ around 17:00 Confirmed the situation in the reactor building using an unmanned robot.

June 4 09:57～13:56 Suspended the injection of coolant water due to the work for changing the route of water supply line to the Reactor Core. (10:02～13:43 Injected water into the Reactor Core by the fire engine pump.)

June 8 14:57～17:54 Suspended the nitrogen injection due to the stop of the power center 2C.

June 13 14:58～17:43 Transfer the accumulated water from the Condenser to the basement of turbine building.

June 14 14:09 Replaced the pump for the injection of water into the Reactor Core with the Fire Extinguishing Pump.

June 14 15:35～15:50 Suspended water injection to replace the hose of water injection into the reactor.

June 15 10:06 The water injection rate into the reactor was changed from about 5m³/h to about 4.5m³/h.

June 15 10:33 ～June 16 09:52 Transferred the accumulated water from the Condenser to the CST.

## Major Events after the Earthquake 3/3

June 19 10:35～ 15:47 Due to preparation for the suspension works of the Okuma No.2 transmission line, the power supply for the water injection pump into the Reactor Core was temporarily switched to the diesel generator.

June 19 11:48～ 16:05 Due to preparation for the suspension works of the Okuma No.2 transmission line, the nitrogen injection was temporarily suspended.

June 21 10:02 The water injection rate into the reactor was changed from about 4.5m³/h to about 4.0m³/h.

June 21 11:55～ 18:03 The nitrogen injection was temporarily suspended due to the installation work of a temporary transformer.

June 22 10:02 The water injection rate into the reactor was changed from about 4.0m³/h to about 3.5m³/h.

June 23 18:27 Water injection into the Reactor Core of Units 1 and 2 was begun, using the water injection pump into the Reactor Core for Unit 1.

June 27 08:08～14:38 The nitrogen injection was temporarily suspended due to preparation for the restoration works of the Okuma No.2 transmission line to the diesel generator.

June 27 08:51～15:07 Due to preparation for the restoration works of the Okuma No.2 transmission line, the nitrogen injection was temporarily suspended.

June 27 16:20 Started use of water treated in the water treatment facilities for injection into the reactor, in addition to water injection from the filtered water tank. Suspended supply of treated water because of a leakage from the pipe (17:55). Started the treated water transfer pump (June 28 14:36). Resumed supply of treated water (June 28 15:55).

June 29 10:59～13:33 Regarding the Circulating Injection Cooling of the Reactor Cores, supply of treated water was temporarily suspended due to leakage from a pipe for injection cooling.

July 1 07:27～July 2 14:22 Temporarily suspended supply of treated water into the reactor due to works to install and connect a buffer tank. (July 2 14:22 ～ 18:00 Trial injected into the Reactor Core from a Buffer Tank due to leakage check. 18:00 ～ Full-fledged operated)

July 4 08:50 The water injection rate into the reactor was adjusted to 3.8 m³/h, due to decrease to 3.0 m³/h.

July 14 05:30 The water injection rate into the reactor was adjusted to 3.5 m³/h, due to decrease to 3.2 m³/h.

July 15 08:55 The water injection rate into the reactor was adjusted to 3.8 m³/h, due to decrease to 3.2 m³/h.

July 17 10:06 The water injection rate into the reactor was adjusted to 3.8 m³/h, due to decrease to 3.0 m³/h.

July 17 14:25 The water injection rate into the reactor was adjusted to 4.0 m³/h, after switching from the number 1 pump for injecting water into the reactor to the number 2 pump.

July 19 10:10 The water injection rate into the reactor was adjusted to 3.8 m³/h.

<Water spray over the Spent Fuel Pool by Concrete Pump Truck (Fresh water)>

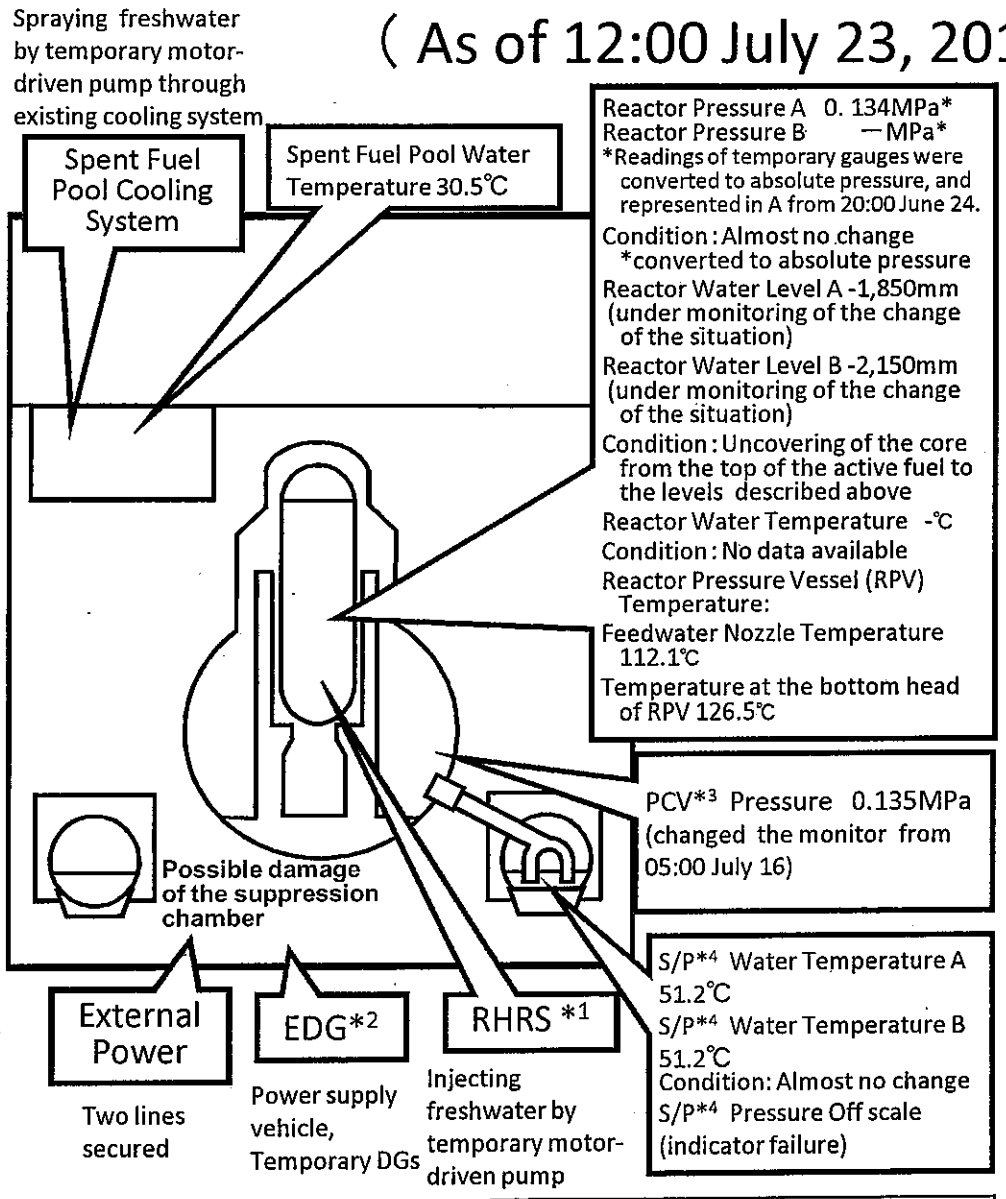
March 31 13:03～16:04, May 20 15:06~16:15, May 22 15:33～17:09

<Fresh water injection to SFP via FPC (using the temporary motor-driven pump) >

May 29 11:10～15:35, June 5 10:16～10:48, July 5 15:10～17:30

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 2

## ( As of 12:00 July 23, 2011 )




*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

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

### Major Events after the Earthquake 1/3

March 11 14:46 Under operation, Automatic shutdown by the earthquake
March 11 15:42 Report based on the Article 10 (Total loss of A/C power)
March 11 16:36 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System )
March 13 11:00 Started to vent.
March 14 13:25 Occurrence of the Article 15 event (Loss of reactor cooling functions)
March 14 16:34 Started to inject seawater to the Reactor Core.
March 14 22:50 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
March 15 00:02 Started to vent.
March 15 06:10 Sound of explosion
March 15 around 06:20 Possible damage of the suppression chamber
March 20 15:46 Power Center received electricity.
March 21 18:22 White smoke generated. The smoke died down and almost invisible at 07:11 March 22
March 26 10:10 Started to inject fresh water to the Reactor Core.
March 26 16:46 Lighting in the Central Control Room was recovered.
March 27 18:31 Switched to the water injection to the core using the temporary motor-driven pump.
March 29 16:45～ April 1 11:50 Transferred the water from the Condensate Storage Tank (CST) to the Surge Tank of Suppression Pool Water (SPT)
April 2 around 09:30 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.
April 2 17:10 Started to transfer the water from the Condenser to the CST.
April 3 12:12 The power supply to the temporary motor-driven pump was switched from the temporary power supply to the external power supply.
April 3 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.
April 4 07:08～7:11 Approximately 13kg of tracer (bath agent) was put in from the Pit for the Duct for Seawater Pipe.
April 5 14:15 Tracer is confirmed to outflow through the permeable layer around the pit into the sea. 15:07 Started to inject coagulant.
April 6 around 05:38 The water outflow from the lateral surface of the pit was confirmed to stopped.
April 9 13:10 Completed transferring the water from the Condenser to CST.
April 11 around 17:16 Loss of external power supply due to an earthquake occurred (at Hamadori in Fukushima Prefecture). Water injection to the Reactor Core was suspended.
April 11 17:56 External power supply was recovered.
April 11 18:04 Resumed injecting water to the Reactor Core.
April 12 19:35～April 13 17:04 Transfer accumulated water from the trench of the turbine building to the Condenser.
April 13 11:00 Suspended the transfer for checking leaks, etc.
April 16 around 11:19 An earthquake occurred (in the southern part of Ibaraki Prefecture).
April 18 13:42～ Confirmed the situation in the reactor building using an unmanned robot.
April 18 12:13～12:37 Stopped the water injection into the Reactor Core to replace the current hose with a new one.
April 18 09:30～17:40 Injected coagulant (soluble glass) into the power cable trench.
April 19 08:00～15:30 Injected coagulant (soluble glass) into the power cable trench.
April 19 10:08～ Started to transfer the accumulated water from the trench of the turbine building to the Radioactive Waste Treatment Facilities.
April 19 10:23 Completed the work of strengthening connection of the power supplies between Units 1-2 and Units 3-4.

## Major Events after the Earthquake 2/3

April 25 10:57～18:25 For reinforcement work of the power supply, the power supply to the pump injecting water into the Reactor Core was temporarily switched from the external power supply to the temporary diesel generator.

April 25 14:44～17:38 Implemented reinforcement work of the power supply (connection of the power supplies between Units 1-2 and Units 5-6).

April 29 09:16 Suspended the transfer of accumulated water from the turbine building Trench of Unit 2 (accumulated water with high-level radioactivity) to the Radioactive Waste Treatment Facilities in order to carry out inspections, etc. of the transfer facilities. The transfer was resumed. (From 14:05 April 30th)

May 1 13:35～ Started blocking the vertical shafts of Trench pit.

May 2 12:58～15:03 The pump for the injection of water into the Reactor Core was temporarily replaced with the Fire Extinguishing Pump in order to install an alarm device in the pump.

May 7 09:22 Suspended the transfer of accumulated water from the turbine building Trench of Unit 2 (accumulated water with high-level radioactivity) to the Radioactive Waste Treatment Facilities in order to carry out piping work of Reactor Feedwater System for Unit3. The transfer was resumed. (From 16:02 May 7th)

May 10 09:01 ～May 12 15:20 Suspended the transfer of accumulated water from the turbine building Trench of Unit 2 (accumulated water with high-level radioactivity) to the Radioactive Waste Treatment Facilities in order to lay the water transfer pipes from the turbine building of Unit 3 to the Radioactive Waste Treatment Facilities.

May 11 08:47～15:55 Due to the restoration of the Okuma No.2 transmission line, the power supply for the water injection pump into the reactor was temporarily switched to the temporary diesel generator. (After the restoration, the power supply is partially received from this line.)

May 18 09:24～09:38 Conducted preliminary survey in the Reactor Building.

May 25 09:05～15:30 Suspended the transfer of accumulated from the turbine building Trench to the Radioactive Waste Treatment Facilities in order to change power supply.

May 26 14:45～ May 27 14:30 Transferred the water from the Condenser to the basement of the turbine building in order to carry out piping work of Reactor Feedwater System.

May 26 15:19～15:32 Conducted preliminary survey in the Reactor Building.

May 26 16:01 Suspended the transfer of accumulated from the turbine building Trench to the Radioactive Waste Treatment Facilities. (Because the water level of the concerned Facilities was close to the first basement level.)

May 29 11:33 Started to inject water to the Reactor Core via Feedwater line in addition to Fire Extinguish line

May 30 11:15 Conducted a leakage test on the secondary system of the alternative cooling system for the Spent Fuel Pool. A trial run of the secondary system was started at 15:02.

May 30 18:05 Stopped injecting water to the Reactor Core via Fire Extinguish line.

May 31 11:40 Conducted a leakage test on the primary system of the alternative cooling system for the Spent Fuel Pool.

May 31 17:21 Started full-fledged operation of the alternative cooling system for the Spent Fuel Pool.

June 3 13:49～14:09 Suspended the injection of coolant water due to the work for changing the route of water supply line to the Reactor Core.

June 3 18:39～June 4 12:28 Transferred the accumulated water from the trench of the turbine building to the condenser.

June 4 18:39～June 16 8:40 Transferred the accumulated water from the turbine building trench to the Radioactive Waste Treatment Facilities.

June 8 15:40 ～18:03 Suspended the transfer of accumulated water from the turbine building trench to the Radioactive Waste Treatment Facilities due to the stop of the power center 2C.

June 11 11:45 ～12:19 Conducted a test run of the ambient air filtration system of the reactor building.

June 11 12:42～Started full-scale operation of the ambient air filtration system of the reactor building.

June 14 12:14～12:37 Suspended water injection to replace the hose of water injection into the reactor.

June 17 14:20～14:59 Transferred accumulated water from the turbine building trench to the condenser of Unit 1 (suspended due to a malfunction of the pump).

June 19 10:49～15:35 Due to preparation for the suspension works of the Okuma No.2 transmission line, the power supply for the water injection pump into the Reactor Core was temporarily switched to the diesel generator.

June 19 11:03～16:00 Due to preparation for the suspension works of the Okuma No.2 transmission line, the alternative cooling system for the Spent Fuel Pool was temporarily suspended.

June 19 12:12～16:022 Due to preparation for the suspension works of the Okuma No.2 transmission line, the local exhauster was temporarily suspended.

June 19 20:51～ The double door of the reactor building was slightly opened. June 20th The double door was fully opened from 05:00.

June 20 13:37～ Started to transfer accumulated water from the turbine building trench to the condenser of Unit 1.

## Major Events after the Earthquake 3/3

June 21 10:04 The water injection rate into the reactor was changed from about 5.0m³/h to about 4.5m³/h.

June 21 13:15～13:25 Preliminary survey was conducted inside of the reactor building.

June 22 09:56 Started to transfer accumulated water from the turbine building trench to the Radioactive Waste Treatment Facilities.

June 22 10:04 The water injection rate into the reactor was changed from about 4.5m³/h to about 4.0m³/h.

June 23 10:36～12:36 Installation works of temporary pressure gauges for the reactor was conducted.

June 23 18:27 Water injection into the Reactor Core of Units 1 and 2 was begun, using the water injection pump into the Reactor Core for Unit 1.

June 24 around 6:58 An unmanned helicopter that was collecting dust coming out of the opening of the reactor building made an emergency landing on the rooftop of the building.

June 27 08:08～14:38 Due to preparation for the restoration works of the Okuma No.2 transmission line, the power supply for the water injection pump into the Reactor Core was temporarily switched to the diesel generator.

June 27 08:23～16:53 Due to preparation for the restoration works of the Okuma No.2 transmission line, the alternative cooling system for the Spent Fuel Pool was temporarily suspended.

June 27 09:02～17:07 Due to preparation for the restoration works of the Okuma No.2 transmission line, transfer of accumulated water in the turbine building trench to the Radioactive Waste Treatment Facilities was temporarily suspended.

June 27 16:20 Started use of water treated in the water treatment facilities for injection into the reactor, in addition to water injection from the filtered water tank. Suspended supply of treated water because of a leakage from the pipe (17:55). Started the treated water transfer pump (June 28 14:36). Resumed supply of treated water (June 28 15:55).

June 28 20:08 Started nitrogen injection into the PCV.

June 29 10:59～13:33 Regarding the Circulating Injection Cooling of the Reactor Cores, supply of treated water was temporarily suspended due to leakage from a pipe for injection cooling.

July 1 07:27～July 2 14:22 Temporarily suspended supply of treated water into the reactor due to works to install and connect a buffer tank. (July 2 14:22 ～ 18:00 Trial injected into the Reactor Core from a Buffer Tank due to leakage check. 18:00 ～ Full-fledged operated)

July 8 10:34～13:49 Sampling of airborne radioactive materials was conducted by a robot on the second and the third floors of the reactor building.

July 8 10:44～12:30 Flashing was carried out for the transfer line from the trench of the turbine building to the Radioactive Waste Treatment Facilities.

July 13 10:09 Restarted to transfer accumulated water from the turbine building trench to the Radioactive Waste Treatment Facilities.

July 15 08:22 ～ 11:47 Suspended the cooling tower of alternative cooling system for spent fuel pool.

July 16 10:56 ～ Transferred accumulated water from the turbine building trench to the Radioactive Waste Treatment Facilities.

July 17 14:25 The water injection rate into the reactor was adjusted to 4.0 m³/h, after switching from the number 1 pump for injecting water into the reactor to the number 2 pump.

July 19 10:10 The water injection rate into the reactor was adjusted to 3.8 m³/h.

July 22 08:43 The water injection rate into the reactor was adjusted to 3.8m³/h due to the decrease to 3.4m³/h.

July 22 16:56 ～ Transferred accumulated water from the turbine building trench to the Radioactive Waste Treatment Facilities.

July 23 09:35 The water injection rate into the reactor was adjusted to 3.8m³/h due to the decrease to 3.2m³/h.

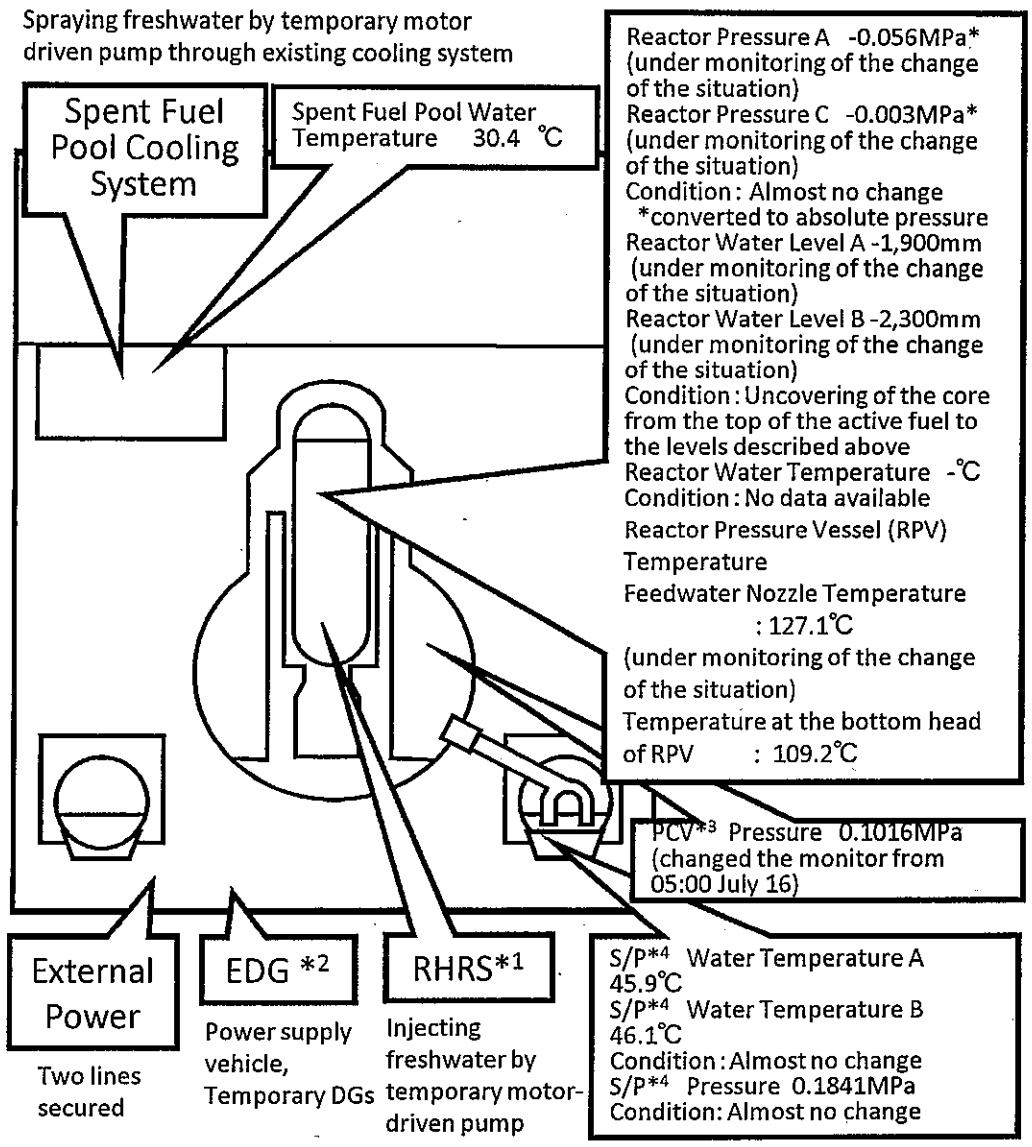
<Sea water injection to SFP via FPC (using the fire engine pump)>

March 20 around 15:05～ around 17:20, March 22nd 16:07～17:01, March 25 10:30～12:19

<Fresh water injection to SFP via FPC (using the temporary motor-driven pump) >

March 29 16:30～18:25, March 30 09:25～23:50 *Including interruption by pump malfunction and damage to the hose, April 1 14:56～17:05, April 4 11:05～13:37, April 7 13:29～14:34, April0 10:37～12:38, April 13 13:15～14:55, April 16 10:13～11:54, April 19 16:08～17:28, April 22 15:55～17:40, April 25 10:12～11:18, April 28 10:15～11:28, May 2 10:05～11:40, May 6 09:36～11:16, May 10 13:09～14:45(13:19～14:35 Hydrazine was also injected), May 14 13:00～14:37(13:08～14:02 Hydrazine was also injected), May 18 13:10～14:40(13:15～14:30 Hydrazine was also injected), May 22 13:02～14:40(13:04～14:03 Hydrazine was also injected), May 26 10:06～11:36(10:10～11:10 Hydrazine was also injected), May 30 12:06～13:52

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 3
# ( As of 12:00 July 23, 2011 )




*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

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

## Major Events after the Earthquake 1/3

March 11 14:46 Under operation, Automatic shutdown by the earthquake
March 11 15:42 Report based on the Article 10 (Total loss of A/C power)
March 13 05:10 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)
March 13 08:41 Started to vent.
March 13 13:12 Started to inject seawater and borated water to the Reactor Core.
March 14 05:20 Started to vent.
March 14 07:44 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
March 14 11:01 Sound of explosion
March 16 around 08:30 White smoke generated.
March 17 09:48～10:01 Water discharge by the helicopters of Self-Defense Force
March 17 19:05～19:15 Water spray from the ground by High pressure water-cannon trucks of Police
March 17 19:35～20:09 Water spray from the ground by fire engines of Self-Defense Force
March 18 before 14:00～14:38 Water spray from the ground by 6 fire engines of Self-Defense Force
March 18 ～14:45 Water spray from the ground by a fire engine of the US Military
March 19 00:30 ～01:10 Water spray by Hyper Rescue Unit of Tokyo Fire Department
March 19 14:10 ～ 20th 03:40 Water spray by Hyper Rescue Unit of Tokyo Fire Department
March 20 11:00 Pressure of PCV rose(320kPa).Afterward fell.
March 20 21:36 ～ 21st 03:58 Water spray by Hyper Rescue Unit of Tokyo Fire Department
March 21 around 15:55 Grayish smoke generated and was confirmed to be died down at 17:55.
March 22 15:10 ～16:00 Water spray by Hyper Rescue Unit of Tokyo Fire Department and Osaka City Fire Bureau.
March 22 22:46 Lighting in the Central Control Room was recovered.
March 23 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)
March 23 around 16:20 Black smoke generated and was confirmed to died down at around 23:30 and 24 04:50.
March 24 05:35～16:05 Injection of around 120 ton of sea water to SFP via FPC
March 25 13:28～16:00 Water spray by Kawasaki City Fire Bureau supported by Tokyo Fire Department
March 25 18:02 Started fresh water injection to the core.
March 27 12:34～14:36 Water spray by Concrete Pump Truck
March 28 17:40～31st around 8:40 Transferring the water from the Condensate Storage Tank (CST) to the Surge Tank of Suppression Pool Water (SPT)
March 28 20:30 Switched to the water injection to the core using a temporary motor-driven pump.
April 3 12:18 The power supply to the temporary motor-driven pump was switched from the temporary power supply to the external power supply.
April 11 around 17:16 Loss of external power supply of Unit 1 and 2 due to an earthquake occurred (at Hamadori in Fukushima Prefecture) and water injection to the Reactor Core was suspended.
April 11 18:04 External power supply of Units 1 and 2 recovered (April 11th 17:56). Resumed injecting water to the Reactor Core.
April 17 11:30～14:00 Confirmed the situation in the reactor building using unmanned robot.
April 18 12:38～13:05 Stopped the water injection into the Reactor Core to replace the current hose with a new one
April 19 10:23 Completed the work of strengthening connection of the power supplies between Units 1-2 and Units 3-4.
April 22 13:40～14:00 Tentatively Injected freshwater to SFP via the Fuel Pool Coolant Purification Line.
April 25 10:57～18:25 For reinforcement work of the power supply, the power supply to the pump injecting water into the Reactor Core was temporarily switched from the external power supply to the temporary diesel generator.
April 30 11:34 Completed reinforcement work of the power supply both Units 3, 4). (Increasing the voltage from 6.6kv to 66kv)

## Major Events after the Earthquake 2/3

May 2 12:58 ~15:03 The pump for the injection of water into the Reactor Core was temporarily replaced with the Fire Extinguishing Pump in order to install an alarm device in the pump.

May 8 16:18 ~ May 10 5:41 Transferred the water in the Condenser to the underground of the turbine building in order to carry out piping work of Reactor Feedwater System.

May 11 08:47~15:55 Due to the restoration of the Okuma No.2 transmission line, the power supply for the water injection pump into the reactor was temporarily switched to the temporary diesel generator.

May 11 around 12:30 Confirmed the water flow into the pit around intake of sea water through conduit pipe of electric power cables → 16:05 Confirmed the water leakage from the pit to the sea → 18:45 Stopped the water leakage by casting concrete into the pit.

May 12 16:53 In addition to the plumbing pro-fire extinguishing, started core flooding from the plumbing pro-water supply.

May 15 14:33~17:00 Injected borated water to the Reactor Core.

May 17 18:04~ Started transfer of accumulated water in the basement of the turbine building to the Radioactive Waste Treatment Facilities

May 18 from around 16:30 Conducted preliminary survey in the Reactor Building for about 10 minutes.

May 25 09:10 Suspended transfer of accumulated water in the basement of the turbine building to the Radioactive Waste Treatment Facilities in order to check the transfer line and in the turbine building.

May 28 20:54 Terminated to inject water to the Reactor Core via Fire Extinguishing line.

May 31 09:00 ~16:00 A preliminary survey using a remote-controlled robot was carried out inside the reactor building.

May 31 10:19 Changed the rate of water injection into the Reactor Core from 13.5$m^3$/h to 12.5$m^3$/h.

June 1 10:10 Changed the rate of water injection into the Reactor Core from 12.5$m^3$/h to 11.5$m^3$/h.

June 2 12:50 ~ June 4 21:56 Transferred the accumulated water from the Condenser to the CST in order to prepare transferring of accumulated water in the basement of the turbine building.

June 3 13:16 ~13:32 Suspended the injection of coolant water due to the work for changing the route of water supply line to the Reactor Core.

June 5 18:26 ~ June 9 10:44 Transferred the accumulated water from inside the turbine building to the Condenser.

June 9 11:47 ~12:14 Entered into the reactor building and monitored radiation dose etc.

June 11 15:30~June 12 17:01 Transferred the accumulated water from the basement of the turbine building to the Radioactive Waste Treatment Facilities.

June 14 10:05~ June 16 08:46 Started transfer of accumulated water in the basement of the turbine building to the Radioactive Waste Treatment Facilities.

June 14 13:02 ~ 13:31 Suspended water injection to replace the hose of water injection into the reactor.

June 18 13:31 ~June 20 00:02 Transferred of accumulated water in the basement of the turbine building to the Radioactive Waste Treatment Facilities.

June 19 11:03 ~ 15:22 Due to preparation for the suspension works of the Okuma No.2 transmission line, the power supply for the water injection pump into the Reactor Core was temporarily switched to the diesel generator.

June 21 10:06 The water injection rate into the reactor was changed from about 11.0$m^3$/h to about 10.0$m^3$/h.

June 21 15:32 Transferred accumulated water in the basement of the turbine building to the Radioactive Waste Treatment Facilities.

June 23 10:13 The water injection rate into the reactor was changed from about 10.0$m^3$/h to about 9.5$m^3$/h.

June 24 10:07 The water injection rate into the reactor was changed from about 9.5$m^3$/h to about 9.0$m^3$/h.

June 24 10:31~12:42 A radiation dose survey was carried out by a robot in the reactor building.

June 27 08:08~14:38 Due to preparation for the restoration works of the Okuma No.2 transmission line, the power supply for the water injection pump into the Reactor Core was temporarily switched to the diesel generator.

June 27 16:20 Started use of water treated in the water treatment facilities for injection into the reactor, in addition to water injection from the filtered water tank. Suspended supply of treated water because of a leakage from the pipe (17:55). Started the treated water transfer pump (June 28 14:36). Resumed of treated water (June 28 14:36).

June 27 17:00~June 28 09:58 Started to transfer of accumulated water in the basement of the turbine building to the Radioactive Waste Treatment Facilities.

## Major Events after the Earthquake 3/3

June 29 10:59～13:33 Regarding the Circulating Injection Cooling of the Reactor Cores, supply of treated water was temporarily suspended due to leakage from a pipe for injection cooling.

June 30 08:56 ～ Started transfer of the accumulated water in the basement of the turbine building to the Radioactive Waste Treatment Facilities.

June 30 10:43 Implemented leakage test for primary line of the alternative cooling system for the Spent Fuel Pool. Trial operation was started. (18:33)

July 1 07:27 ～ Temporarily suspended supply of treated water into the reactor due to works to install and connect a buffer tank.

July 1 11:00 Started full-fledged operation of the alternative cooling system for the Spent Fuel Pool .

July 1 11:43 ～ 16:36 Carried out cleaning work in the reactor with a robot.

July 2 10:59 ～12:14 Carried out dose survey in the reactor building with a robot.

July 3 08:30 ～16:00 Installed 51 steel plates near the large object delivery entrance of the reactor building.

July 8 13:35 ～ 13:44 Workers entered the reactor building, and implemented a preliminary survey of the point for nitrogen injection.

July 9 15:22 Flushing was carried for the transfer line of the accumulated water from the basement of the turbine building to the Radioactive Waste Treatment Facilities.

July 10 15:15 ～ July 15 11:11 Resumed transfer of the accumulated water in the basement of the turbine building to the Radioactive Waste Treatment Facilities.

July 14 20:01 Nitrogen injection started

July 16 10:50～ Resumed transfer of the accumulated water in the basement of the turbine building to the Radioactive Waste Treatment Facilities.

July 18 08:30～14:40 July 19 08:30 ～ 15:00 Carried out installation work of temporary roof over the openings at the rooftop of the turbine building.

July 22 16:53～ Transferred the accumulated water in the basement of the turbine building to the Radioactive Waste Treatment Facilities.

July 23 03:24～11:45 The Alternative Cooling System for the Spent Fuel Pool was temporarily suspended due to the restoration work of Yonomori line for duplication of line.

<Water spray over the Spent Fuel Pool by Concrete Pump Truck (Fresh water)>

March 29 14:17～18:18, March 31 16:30～19:33, April 2 09:52～12:54, April 4 17:03～19:19, April 7 06:53 ～08:53, April 8 17:06～20:00, April 10 17:15～19:15, April 12 16:26～17:16, April 14 15:56～16:32, April 18 14:17～15:02, April 22 14:19～15:40, April 26 12:25～14:02

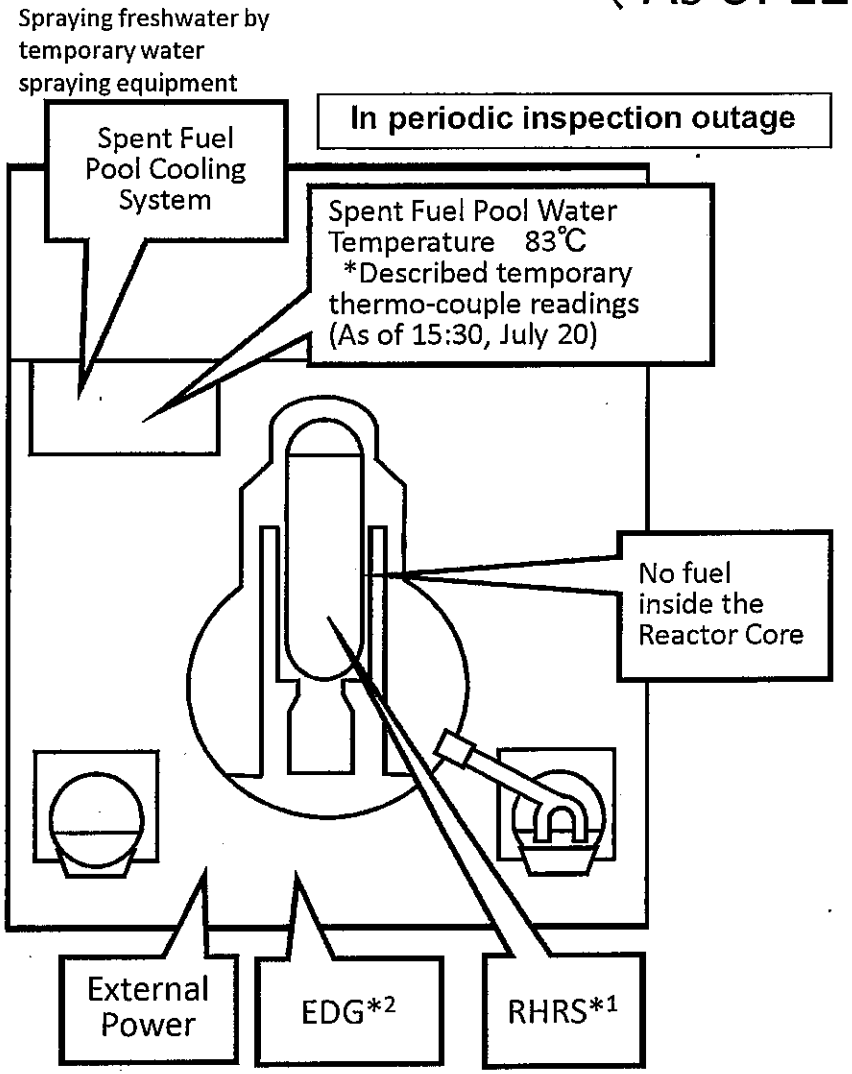
<Fresh water injection to SFP via FPC (using the temporary motor-driven pump) >

May 8 12:10 ～14:10, May 9 12:14 ～15:00 (12:39 ～14:36 Hydrazine was also injected), May 16 15:00～18:32 (15:10 ～17:30 Hydrazine was also injected), May 24 10:15～13:35 (10:20 ～12:56 Hydrazine was also injected), May 28 13:28～15:08(13:42 ～14:40 Hydrazine was also injected), June 1 14:34～15:54(14:41 ～15:26 Hydrazine was also injected), June 5 13:08～15:14(13:14～14:16 Hydrazine was also injected),
June 9 13:42～15:31 (13:45～14:40 Hydrazine was also injected), June 13 10:09～11:48 (10:13～11:36 Hydrazine was also injected), June 17 10:19～11:57 (10:23～11:31 Hydrazine was also injected), June 26 09:56～11:23 (Borated water was injected ), June 27 15:00～17:18 (Borated water was injected ), June 29 14:45～15:53

<Cooling by the alternative cooling system for the Spent Fuel Pool>

July 1 11:00 ～ July 8 08:20, July 8 14:24 ～ July 21 8:02, 7/21 8:02, July 21 14:52～July 22 07:10, July22 11:50 ～ July 23 03:24, July 23 11:45～

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 4
# ( As of 12:00 July 23, 2011 )




*1 Residual Heat Removal System

*2 Emergency Diesel Generator

*3 Reactor Pressure Vessel

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

## Major Events after the Earthquake 1/2

In periodic inspection outage when the earthquake occurred
March 14 04:08 Water temperature in the Spent Fuel Pool (SFP), 84℃
March 15 06:14 Confirmed the partial damage of wall in the 4th floor.
March 15 09:38 Fire occurred in the 3rd floor. (12:25 extinguished)
March 16 05:45 Fire occurred. TEPCO couldn't confirm any fire on the ground. (06:15)
March 20 08:21～09:40 Water spray over SFP by Self-Defense Force
March 20 around 18:30～19:46 Water spray over SFP by Self-Defense Force
March 21 06:37～08:41 Water spray over SFP by Self-Defense Force
March 21 around 15:00 Work for laying cable to Power Center was completed.
March 22 10:35 Power Center received electricity.
March 25 06:05～10:20 Sea water injection to SFP via the Fuel Pool Cooling Line (FPC)
March 29 11:50 Lighting in the Central Control Room was recovered.
April 11 around 17:16 An earthquake occurred (at Hamadori in Fukushima Prefecture).
April 12 12:00～13:04 Sampled the water in SFP.
April 19 10:23 Completed the work of strengthening connection of the power supplies between Units 1-2 and Units 3-4.
April 22 Measured the water level of SFP by a gauge hung on Concrete Pump Truck (62m class).
April 30 11:34 Completed reinforcement work of the power supply both Units 3, 4. (Increasing the voltage from 6.6kv to 66kv)
May 9 Started installation work of the supporting structure for the floor of SFP
June 10 around 14:00～(about 30 minutes) Workers entered the RB and conducted a survey of working environment for the construction work on the SFP circulating cooling system.
June 29 13:28～14:21 Workers entered the RB and conducted a survey of working environment for the construction work on the SFP circulating cooling system.
July 6 10:20 ～10:30 Carried out preparation for installation work of the alternative cooling system for the Spent Fuel Pool .
July 8 10:00 ～ 11:30 Regarding the installation works of the alternative cooling system for the Spent Fuel Pool, the examination of the integrity of the pipes was conducted.

## Major Events after the Earthquake 2/2

<Water spray by Concrete Pump Truck (Seawater)>
March 22 17:17～20:32, March 23 10:00～13:02, March 24 14:36～17:30, March 25 19:05～22:07, March 27 16:55～19:25

< Water spray by Concrete Pump Truck (Fresh water)>
March 30 14:04-18:33, April 1 08:28-14:14, April 3 17:14-22:16, April 5 17:35-18:22, April 7 18:23-19:40, April 9 17:07-19:24, April 13 00:30-6:57, April 15 14:30-18:29, April 17 17:39-21:22, April 19 10:17-11:35, April 20 17:08-20:31, April 21 17:14-21:20, April 22 17:52-23:53, April 23 12:30-16:44, April 24 12:25-17:07, April 25 18:15-April 26 0:26, April 26 16:50-20:35, April 27 12:18-15:15, May 5 12:29-20:46, May 6 12:38-17:51, May 7 14:05-17:30 , May 9 16:05-19:05 (16:11-18:38 Hydrazine was also injected) ,May 11 16:07-19:38 (16:14 -19:36 Hydrazine was also injected), May 13 16:04～19:04 (16:20 -18:41 Hydrazine was also injected), May 15 16:25-20:25 (16:26-18:30 Hydrazine was also injected), May 17 16:14-20:06 (16:40-18:35 Hydrazine was also injected), May 19 16:30-19:30), May 21 16:00-19:56 (16:23 -19:00 Hydrazine was also injected), May 23 16:00-19:09 (16:08 -18:30 Hydrazine was also injected) ,May 25 16:36-20:04 (16:42-18:49 Hydrazine was also injected) , May 27 17:05-20:00 (17:24 -18:53 Hydrazine was also injected), May 28 17:56-19:45(18:02-19:45 Hydrazine was also injected), June 3 14:35-21:15 (14:44-18:58 Hydrazine was also injected), June 4 14:23-19:45(14:51-18:41 Hydrazine was also injected), June 6 15:56-18:35(16:15-17:45 Hydrazine was also injected), June 8 16:12-19:41(16:16-18:05 Hydrazine was also injected), June 13 16:36-21:00(16:38-19:15 Hydrazine was also injected), June 14 16:10～20:52(16:11～19:15 Hydrazine was also injected)

< Water spray by temporary water spraying equipment (Fresh water)>
June 16 13:14～15:44 (13:48～15:18 Hydrazine was also injected), June 18 16:05～19:23 (16:29～18:33 Hydrazine was also injected), June 22 14:31～16:38, June 30 11:30 ～11:55

<Water filling to the reactor well and temporary storage pool (DSP)>
June 19 09:14～11:57, June 20 09:49～09:52, June 20 10:06～June 21 11:29, June 21 11:45～12:52,
June 22 08:23～14:31, June 23 09:32～15:29, June 28 09:40～15:29, July 4 09:13～18:18, July 8 08:22～13:52, July 12 11:22 ～12:03, July 13 11:50～12:45, July 15 13:05～19:15, July 16 11:22～15:52, July 20 11:15～15:39

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 5

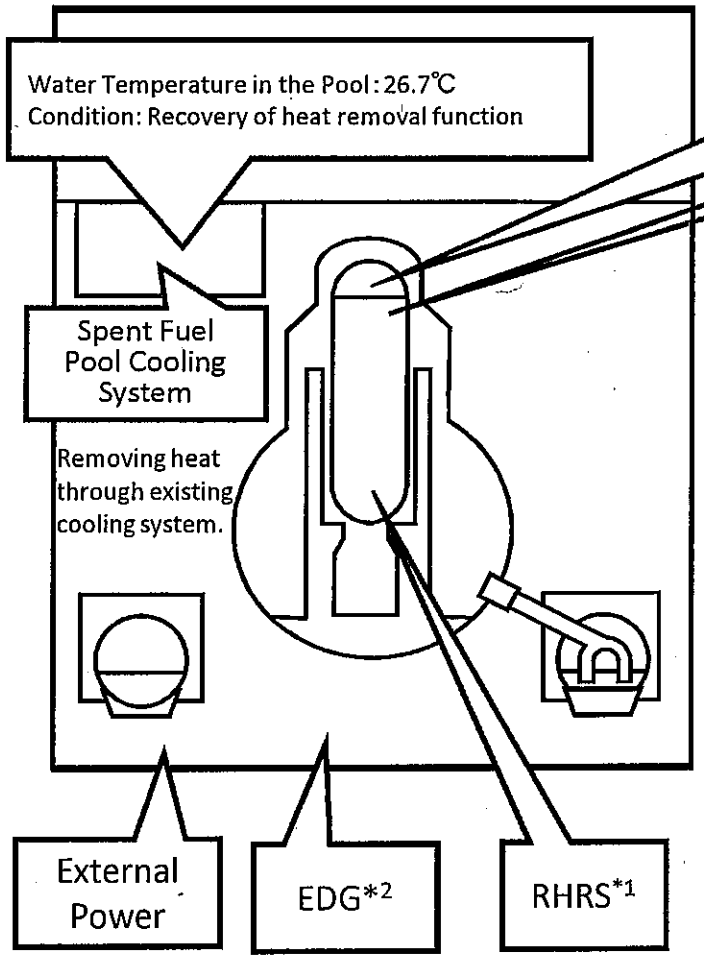
## ( As of 12:00 July 23, 2011 )

**In periodic inspection outage**

Reactor Pressure : 0.113MPa*
Reactor Water Level : 1,732mm
Reactor Water Temperature 29.9℃
Condition : Pressure is under control.
*converted to absolute pressure

Reactor Pressure Vessel Temperature: Monitoring by Reactor Water Temperature

Water Temperature in the Pool : 26.7℃
Condition: Recovery of heat removal function




Two lines secured

Share two EDGs of Unit 6
Two EDGs of Unit 5 standby mode

Removing heat through Residual Heat Removal System.

*1 Residual Heat Removal System
*2 Emergency Diesel Generator

**Major Events after the Earthquake 1/2**

March 20 14:30 Cold shutdown
March 21 11:36 Receiving electricity from external power supply
March 23 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.
March 24 16:14 Repair of the RHRS pump was completed.
March 24 16:35 Started to cooling.
April 4 21:00 ~ April 8 12:14 Discharged the groundwater with low-level radioactivity in the Sub Drain Pit to the sea (around 950 ton).
April 25 12:22 ~16:43 For reinforcement work of the power supply, the pump for Residual Heat Removal (RHR) was temporarily stopped.
April 25 14:44~17:38 Implemented reinforcement work of the power supply (connection of the power supplies between Units 1-2 and Units 5-6).
May 2nd 13:30 ~15:03 The pump for RHR was temporarily shut off in order to test the Start-up Transformer for power reception.
May 28 around 21:14 Confirmed shutdown of the RHRS pump
May 29 08:12 Started to replace with the temporary RHRS Spare Pump
May 29 12:31 Started the RHRS Pump
May 29 12:49 Started to cool the Reactor Core by RHR
June 8 08:46~12:35 RHRS pump etc were temporary stopped due to the installation of one more pump for RHRS.
June 24 16:35 Cooling of the Spent Fuel Pool was started using the Fuel Pool Cooling and Clean-up System.
June 27 18:03 EDG(5A) recovery to standby mode.
June 28 12:32 EDG(5B) recovery to standby mode.
June 30 10:02 ~11:48 Temporarily suspended RHR pump due to switching power supply of the ancillary equipment.
July 3 10:00 ~13:36 Temporarily suspended RHR pump due to the work for exchanging the outlet (10:20 ~ 13:22, the temporary pump of RHRS (B) was temporarily suspended)
July 3 10:15 ~13:40 The pump of RHRS was temporarily suspended
July 11 Due to restoration work of Yonomori line for duplication of line, D/G5A started up (03:03) and shut off (09:07). DG5B started up (03:37) and shut off (14:44).
July 11 5:01~13:44 Due to restoration work of Yonomori line for duplication of line, the power supply from the Yonomori line was suspended.
July 13 6:30~10:58 Temporarily suspended RHR pump operation due to the work for exchanging RHRS pump horse

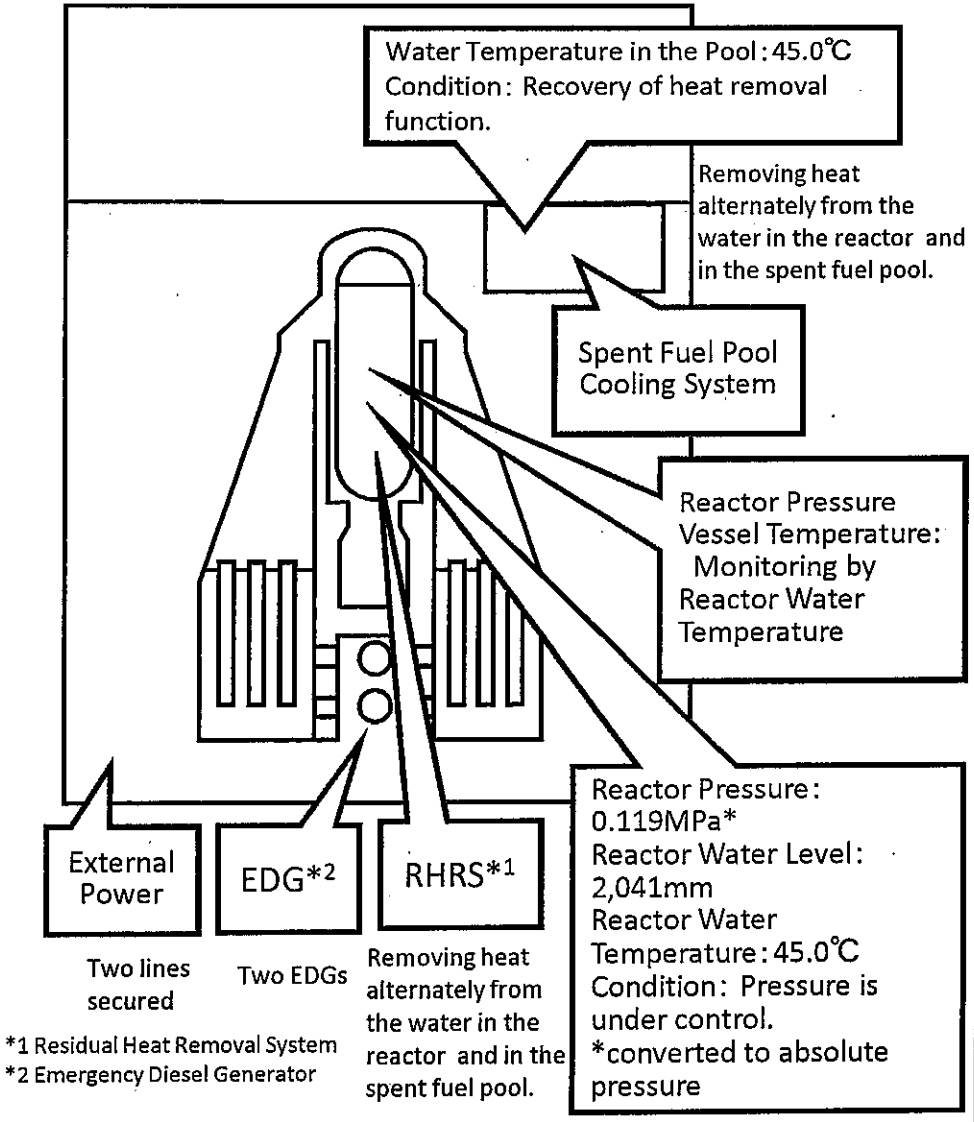
(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

## Major Events after the Earthquake 2/2

July 15 Implemented trial run of the pump of RHRS (D) (10:16). The pump of RHR (C) shut off (14:25). The pump of RHR (D) started up (14:45).
July 16 Due to restoration work of Yonomori line for duplication of line, D/G5B started up (04:01) and shut off (13:05).
July 16 05:28～12:05 Due to restoration work of Yonomori line for duplication of line, the power supply from the Yonomori line was temporarily suspended.
July 17 Due to restoration work of Yonomori line for duplication of line, D/G5B started up. (03:08)
July 17 04:24～13:20 Due to restoration work of Yonomori line for duplication of line, the power supply from the Yonomori line was temporarily suspended.

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 6
# ( As of 12:00 July 23, 2011 )

**In periodic inspection outage**




*1 Residual Heat Removal System
*2 Emergency Diesel Generator

**Major Events after the Earthquake 1/2**

March 20 19:27 Cold shutdown
March 22 19:17 Receiving electricity from external power supply
April 4 21:00～April 9 18:52 Discharged the groundwater with low-level radioactivity in the Sub Drain Pit to the sea (around 373 ton).
April 19 11:00～15:00 Transferred accumulated water under the base of the turbine building to the condenser for measuring the amount of it.
April 20 09:51～15:56 The pump for Residual Heat Removal (RHR) was temporarily stopped in order to change the position of the hose of the temporary RHR Seawater System.
April 25 14:44～17:38 Implemented reinforcement work of the power supply (connection of the power supplies between Units 1-2 and Units 5-6).
May 2 11:03 ～14:53 The pump for RHR was temporarily shut off in order to test the Start-up Transformer for power reception.
June 28 Around 12:00 Confirm a leakage of water in a low radioactive concentration from the temporally tank which stored accumulate water from the basement of the turbine building.
July 11 Due to restoration work of Yonomori line for duplication of line, D/G6A started up (04:17) and shut off (15:42). DG6B started up (04:31) and shut off (16:36).
July 11 05:01 ～13:44 Due to restoration work of Yonomori line for duplication of line, the power supply from the Yonomori line was temporarily suspended.
July 16 Due to restoration work of Yonomori line for duplication of line, D/G6B started up (04:21) and shut off (13:51).
July 16 05:28 ～12:05 Due to restoration work of Yonomori line for duplication of line, the power supply from the Yonomori line was temporarily suspended.
July 17 Due to restoration work of Yonomori line for duplication of line, D/G6B started up (03:28).
July 17 04:24～13:20 Due to restoration work of Yonomori line for duplication of line, the power supply from the Yonomori line was temporarily suspended.
July 19 08:03 ～9:08 RHRS pumps (A) and (B) were temporarily stopped due to replacement of backing rubber of suspension wire around the pumps.

〈Transferred accumulated water on the basement floor of the turbine building to the temporary tank〉.
May 1 14:00～17:00 , May 2 10:00 ～ 16:00 , May 3 14:00 ～17:00 ,
May 6 14:00 ～ 17:00 , May 7 10:00 ～ 15:00 , May 9 14:00 ～ 17:00,
May 10 10:00 ～ 16:00 , May 11 10:00 ～ 16:00 , May 12 10:00 ～16:00,
May 13 10:00 ～ 15:00 , May 14 10:00 ～ 15:00 , May 15 10:00 ～15:00,
May 16 10:00 ～ 14:00, May 17 10:00 ～ 14:00 , May 18 10:00 ～14:00,
May 21 14:00 ～ 18:00, May 24 09:00 ～ 19:00, May 25 09:00 ～ 19:00,
May 26 09:00 ～ 19:00, May 27 09:00 ～ 19:00, May 28 09:00～19:00,

## Major Events after the Earthquake 2/2

May 29 09:00～19:00, May 30 10:00～17:30, June 2 14:00～(June 5 14:00 ～14:45 temporally suspended)～June 8 18:00, June 9 09:00～18:00, June 11 10:00～15:00, June 12 10:00～15:00 , June 13 10:00～16:00, June 14 10:00～16:00, June 15 10:09～16:00, June 16 10:00～16:00, June 17 10:00～16:00, June 18 10:00～16:00, June 19 10:00～16:00, June 20 10:00～16:00, June 21 10:00～16:00 , June 22 10:00～16:00, July 1 10:00 ～ July 2 16:00, July 4 10:00～16:00, July 5 10:30～16:30, July 6 10:00 ～17:00, July 7 10:30 ～16:30, July 8 10:30 ～ 16:30, July 9 10:30 ～16:30, July 11 10:30 ～16:30, July 21 11:00～July 22 18:00, July 23 11:00 ～

〈Transferred accumulated water on the basement floor of the reactor building to the Radioactive Waste Treatment Building〉
May 10 11:00 ～ 12:30 , May 11 11:00 ～ 12:30 , May 12 10:30～12:30,
May 13 11:30 ～12:15 , May 18 10:30 ～12:30, May 28 10:20～12:10
June 8 10:05 ～12:40, June 15 11:55～14:00, June 21 11:05～ 13:30, June 28 11:00～13:20, July 6 08:45～10:50, July 13 8:40～10:50, July 18 9:00～10:30

〈Transferred accumulated water from the temporary tank to the Mega-Float〉
June 30 13:00 ～19:00, July 1 10:00 ～ July 3 16:00 , July 4 13:30～17:00,
July 5 10:00～17:00, July 7 10:09～17:00, July 8 10:00 ～ 17:00, July 9 10:00 ～17:00, July 11 10:00～17:00 , July 12 11:00～16:00, July 13 10:00～17:00, July 14 10:00 ～17:00, July 15 10:00～17:00, July 16 10:00～15:00

News Release

Extract

July 14, 2011
Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 199th Release)

( As of 12:00 July 14, 2011)

The 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 (TEPCO)

- The water injection rate into the reactor of Unit 1 was changed back to 3.5m$^3$/h due to the decrease to 3.2m$^3$/h. (05:30 July 14)
- Water was injected into the Steam-Dryer Storage Pool (DSP) of Unit 4. (From 11:50 till 12:45** July 13) (** It was suspended due to the leakage from the connection part of water injection line (a different part from that on July 12).
- The accumulated water in the basement of the rector building of Unit 6 was transferred to the Radioactive Waste Treatment Building of the same Unit. (From 08:40 till 10:50 July 13)
- The accumulated water in the basement of the turbine building of Unit 6 was transferred from the temporary tank, in which the transferred water was stored, to the Mega Float. (From 10:00 till 17:00 July 13)
- Rubble (not put into containers) was removed with remote-controlled heavy machinery. (From 08:45 till 16:00, July 13)
- Regarding the Water Treatment Facility, the leakage from the neighborhood of connection part of chemical solution injection line in the Coagulation Settling Device was confirmed during operation for flushing. The flushing was suspended due to this. (13:07 July 13)
- The transfer rate of the treated water to the buffer tank was adjusted to 18m$^3$/h from 23m$^3$/h (16:22 July 13)

2. Action Taken by NISA, etc.

NISA instructed TEPCO in an official document dated April 13 to report

the result of conducting an evaluation of seismic safety and an examination of reinforcement work and other related works as effective seismic measures for buildings in Fukushima Dai-ichi NPS and received the report on Unit 3 of the NPS from TEPCO on July 13. NISA confirmed the details of the report and, on July 13, determined that TEPCO's evaluation was valid.

NISA directed TEPCO in an official document dated June 10 to submit a report on the investigation of cause and the establishment of recurrence prevention measures regarding the exposure of workers, who had engaged in emergency work at Fukushima Dai-ichi NPS, exceeding the dose limit for radiation workers. NISA confirmed the details of the report, which was received from TEPCO on July 17, and found out eight items, on which TEPCO should make improvements in order to appropriately conduct radiation management for the radiation workers engaging in emergency work. Accordingly, on July 13, NISA directed TEPCO to take measures for proper conduct of safety measures and for enforcement of the compliance with operational safety program at the NPS, and to report on the improvement results. Furthermore, NISA directed TEPCO to submit a report on the investigation of cause and the establishment of recurrence prevention measures regarding the exposure of workers exceeding other dose limit in addition to the two radiation workers, for whom the result of investigation of cause had already been reported on June 17.

NISA instructed TEPCO in an official document dated July 8 to submit a report on the injection of nitrogen into the primary containment vessel (PVC) of Unit 3 of Fukushima Dai-ichi NPS. On July 14, NISA confirmed the details of the report, which was received from TEPCO, and determined that the TEPCO's assessment was valid and that the measures to be taken were necessary to avoid the risk.

On July 14, considering the occurrence of troubles in the neighborhood of connection part of chemical solution injection line in the Coagulation Settling Device of the Water Treatment Facility for the accumulated water, NISA directed TEPCO orally to take recurrence prevention measures to keep a trouble from occurring from the viewpoint of enhancing the liability going forward, as well as to conduct careful management on radiation exposure of workers.

<Possibility of Exposure (Exposure of Employees, etc.)>

On July 13, TEPCO reported on the evaluation of exposure dose of workers engaging in emergency work at Fukushima Dai-ichi NPS to the Ministry of Health, Labour and Welfare. According to the report, there are 12 workers exceeding 100mSV in internal dose in March, and no workers who had engaged in emergency work since May and exceed 50mSV in external dose. For immediate submission of the radiation work application, number of the personnel in charge of radiation management was increased and the assigning of roles was made clear.

<Temporary access into Restricted Areas>

On July 14, residents were allowed temporary access into Minamisoma City and Tomioka Town and Naraha Town.

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

News Release

Extract

July 15, 2011
Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 200th Release)

( As of 12:00 July 15, 2011)

The 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 (TEPCO)

- The water injection rate into the reactor of Unit 1 was adjusted to 3.8m$^3$/h due to the decrease to 3.2m$^3$/h. (08:55 July 15)
- The accumulated water in the trench of the turbine building of Unit 2 was transferred to the Radioactive Waste Treatment Facilities. (From 10:09 July 13 till 11:02 July 15)
- The cooling tower of the alternative cooling system for the Spent Fuel Pool of Unit 2 was suspended. (From 08:22 till 11:47 July 15)
- The accumulated water in the basement of the turbine building of Unit 3 was transferred to the Radioactive Waste Treatment Facilities. (From 15:15 July 10 till 11:11 July 15)
- Aiming at reducing the possibility of hydrogen combustion in the Primary Containment Vessel (PCV), the nitrogen injection into the PCV of Unit 3 was started. (20:01 July 14)
- The trial run of the pump of the permanent Residual Heat Removal Seawater System (RHRS) (D) of Unit 5 was carried out. (10:16 July 15)
- The accumulated water in the basement of the turbine building of Unit 6 was transferred from the temporary tank, in which the transferred water was stored, to the Mega Float. (From 10:00 till 17:00 July 14)
- The accumulated water in the basement of the turbine building of Unit 6 was transferred from the temporary tank, in which the transferred water was stored, to the Mega Float. (From 10:00 July 15)
- Rubble (an amount equivalent to 2 containers) was removed with

remote-controlled heavy machinery. (From 08:45 till 16:00 July 14)

- Repair of the leaking spots on the Coagulation Settling Device was carried out and the Water Treatment Facility was stared up. (14:58 July 14). Thereafter, the rated flow was reached. (18:30, the same day)
- Water was supplied from the Filtrate Tank to the buffer tank. (From 18:43 July 14 till 10:25 July 15)
- Operation of the Water Treatment Facility was suspended in order to investigate the cause of decreasing the flow rate. (05:14 July 15)

<Temporary access into Restricted Areas>

On July 15, residents were allowed temporary access into Minamisoma City and Tomioka Town and Naraha Town.

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

News Release

Extract

July 16, 2011
Nuclear and Industrial Safety Agency

**Seismic Damage Information (the 201th Release)**

( As of 15:30 July 16, 2011)

The 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 (TEPCO)

- The accumulated water in the trench of the turbine building of Unit 2 was transferred to the Radioactive Waste Treatment Facilities. (From 10:56 July 16)
- The accumulated water in the basement of the turbine building of Unit 3 was transferred to the Radioactive Waste Treatment Facilities. (From 10:50 July 16)
- Water injected into the Steam-Dryer Storage Pool (DSP) of Unit 4. (From 13:05 till 19:15 July 15, and from 11:22 July 16)
- The accumulated water in the basement of the turbine building of Unit 6 was transferred from the temporary tank, in which the transferred water was stored, to the Mega Float. (From 10:00 till 17:00 July 15, and from 10:00 till 15:00 July 16)
- The pump of RHR (C) for Unit 5 was suspended. (14:25 July 15)
- The pump of RHR (C) for Unit 5 was started. (14:45 July 15)
- Operation of the diesel generators was carried out as follows due to the preparatory construction of Yonomori line for duplication of line (July 16):
  D/G 5B started (04:01), connected to the grid (04:12), disconnected from the grid (11:48) and stopped (13:05),
  D/G 6B started (04:21), connected to the grid (04:35), disconnected from the grid (12:05) and stopped (13:51).
- The power supply from Yonomori line was suspended due to the preparatory construction for Yonomori line for duplication of line. (From 05:28 till 12:05

July 16)

- Operation of opening and closing of silt fences are carried out for workboats and materials carriers' going in and out. (From 09:34 till 11:20 July 15)
- Rubble (an amount equivalent to 2 containers) was removed with remote-controlled heavy machinery. (From 08:45 till 16:00 July 15)
- The operation was temporarily suspended in order to exchange vessels in the Adsorption Tower of the Water Treatment Facility. (From 11:00 July 13 till 14:58 July 14 and from 10:50 till 13:41 July 16)
- Operation of the Water Treatment Facility was suspended in order to investigate the cause of decreasing the flow rate. (From 05:14 till 14:21 July 15) Thereafter, the rated flow was reached. (14:48 of the same day)
- The treated water was transferred from the filtrate tank to the buffer tank. (From 18:32 July 15)

○ Fukushima Dai-ichi NPS (TEPCO)

- Repair of the emergency diesel generator (B) for Unit 1 was completed and was back in stand-by. (15:09 July 15)

2. Actins by taken NISA, etc.

On July 15, NISA decided the assessment procedures and implement plan regarding the comprehensive assessments for the safety of existing nuclear power facilities taking into account the accident at Fukushima Dai-ichi Nuclear Power Station (NPS) of Tokyo Electric Power Co. Inc. (TEPCO) upon the request of the Nuclear Safety Commission (NSC) dated July 6, 2011.

On July 15, due to the detection of radioactive materials from the sand, sludge and others discharged at the side ditches in daily living area, the Government Nuclear Emergency Response Headquarters took into consideration the points to keep in mind during cleaning activities for inhabitants in the area, among related ministries. The Headquaters compiled the view and notified it to Fukushima Prefecture and the Ministry of Environment.

NISA requested TEPCO to submit a report on installation of the Alternative Cooling and Clean-up System for the Spent Fuel Pool of Unit 1 and unit 4 of Fukushima Dai-ichi NPS, pursuant to Article 67, paragraph1 of the Nuclear Regulation Act, in order to verify the validity of the system as an emergency measure pursuant to Article 64, pargraph1 of the Nuclear

Regulation Act. NISA received a report on July 13 and determined that the measure was imperative as an emergency measure on July 15.

<Temporary access into Restricted Areas>

On July 16, residents were allowed temporary access into Okuma town, Futaba Town and Namie Town.

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

News Release

Extract

July 17, 2011
Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 202nd Release)

( As of 15:30 July 17, 2011)

The 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 (TEPCO)

- Due to the water injection rate into the reactor of Unit 1 decreased to 3.0m³/h, an alarm went off (09:46 July 17). The rate was changed back to 3.8m³/h afterwards. (10:06 July 17)
- Water was injected into the Steam-Dryer Storage Pool (DSP) of Unit 4. (From 13:05 till 19:15 July 15 and from 11:22 till 15:52 July 16)
- Operation of the diesel generators was carried out as follows due to the restoration work of Yonomori line for duplication of line. (July 17)

  D/G 5B started up (03:08), was connected to the grid (03:17), was disconnected from the grid (14:14) and shut off (15:26).

  D/G 6B started up (03:28), was connected to the grid (03:40), was disconnected from the grid (14:34) and shut off (16:02).
- The power supply from Yonomori line was suspended due to the restoration work of Yonomori line for duplication of line. (From 04:24 till 13:20 July 17)
- Rubble (an amount equivalent to 2 containers) was removed with remote-controlled heavy machinery. (From 08:45 till 16:00 July 16)

○ Fukushima Dai-ni NPS (TEPCO)

- The Reactor Water Cleanup System of Unit 1 returned to service. (11:11 July 16)
- The pump in the Circuit B of the Fuel Pool Cooling and Clean-up System of Unit 1 started up. (11:04 July 17)
- The pump for the Residual Heat Removal System (RHR) (B) was temporarily

suspended due to switching work of the Circulating Water System of Unit 1. (From 09:36 till 14:13 July 17)

<Temporary access to Restricted Areas>

On July 17, residents were allowed temporary access into Okuma Town, Futaba Town and Namie Town.

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

News Release

Extract

July 18, 2011
Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 203rd Release)

( As of 15:30 July 18, 2011)

The 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 (TEPCO)

- After switching from the number 1 pump for injecting water into the reactor to the number 2 pump, the water injection rate into the reactor of Units 1 and 2 was adjusted to 4.0m$^3$/h. (14:25 July 17)
- Installation work of temporary roof over the opening at the rooftop of the turbine building of Unit 3 was started. (From 08:30 July 18)
- Rubble (an amount equivalent to 4 containers) was removed with remote-controlled heavy machinery. (From 08:45 till 16:00 July 17)
- Treated water was transferred from the temporary storage tank for the treated water to a buffer tank. (From 18:32 July 15 till 03:20 July 17)
- Vessels in the Water Treatment Facility was exchanged (the Water Treatment Facility was not suspended.). (From 11:00 till 14:59 July 18)

○ Fukushima Dai-ni NPS (TEPCO)

- The Reactor Water Clean-up System of Unit 2 returned to service. (11:40 July 17)
- The pump for the Residual Heat Removal System (RHR) (B) was temporarily suspended due to the switching work of the Circulating Water System of Unit 2. (From 10:39 till 12:19 July 18)
- The pump in the Circuit A of the Fuel Pool Cooling and Clean-up System of Unit 2 started up. (11:33 July 18)

<Situation of Injuries>

Around 10:06 July 18, a subcontractor employee, who was carrying out cable connection work on a telephone pole at a parking lot near the Main Gate of Fukushima Dai-ichi NPS, fell from the height of about 3m. He was injured and carried to the J-Village by a service car at 10:50. He was taken to the Iwaki Kyoritsu General Hospital by ambulance and doctor's helicopter at 00:22 of the same day.

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

News Release

Extract

経済産業省 Ministry of Economy, Trade and Industry

July 19, 2011
Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 204th Release)

( As of 15:30 July 19, 2011)

The 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 (TEPCO)

- The water injection rate into the reactor of Units 1 and 2 was adjusted to 3.8m$^3$/h. (10:10 July 19)
- Installation work of temporary roof over the opening at the rooftop of the turbine building of Unit 3 was carried out. (From 08:30 till 14:40 July 18 and from 08:30 July 19)
- The accumulated water in the basement of the reactor building of Unit 6 was transferred to the Radioactive Waste Treatment Building of the same Unit. (From 09:00 till 10:30 July 18)
- Operation of the pumps for RHRS of Unit 6 was carried out as follows due to replacement of backing rubber of suspension wire around the pump. (July 19)
  The pump for RHRS (A) shut off (08:03) and started up (08:26).
  The pump for RHRS (B) shut off (08:30) and started up (09:08).
- Rubble (an amount equivalent to 3 containers) was removed with remote-controlled heavy machinery. (From 08:55 till 16:05 July 18)
- The operation was temporarily suspended in order to exchange vessels in the Adsorption Tower of the Water Treatment Facility. (From 11:00 till 15:03 July 19)

<Temporary access into Restricted Areas>

On July 19, vehicles were retrieved from Minamisoma City, Okuma Town, Namie Town and Tomioka Town.

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

News Release

Extract

July 20, 2011
Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 205th Release)

( As of 12:00 July 20, 2011)

The 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 (TEPCO)

- Installation work of temporary roof over the opening at the rooftop of the turbine building of Unit 3 was carried out. (From 08:30 till 15:00 July 19)
- Water was injected into the Steam-Dryer Storage Pool (DSP). (From 11:15 July 20)
- Rubble (an amount equivalent to 2 containers) was removed with remote-controlled heavy machinery. (From 08:45 till 15:00 July 19)

2. Actins by taken NISA, etc.

The “Roadmap towards Restoration from the Accident at Fukushima Dai-ichi Nuclear Power Station, TEPCO” and “Roadmap for Immediate Actions for the Assistance of Residents Affected by the Nuclear Incident" were formulated as action plans for the immediate issues regarding responses to the residents and local governments affected by the nuclear accident. On July 19, the Nuclear Emergency Response Headquarters announced the revised versions, explaining the progress status of the actions thus far and targets and actions for Step 2.

<Instructions Regarding Foodstuff>

○ Additional items for suspension of shipment

- Cattle raised in Fukushima Prefecture (restrictions on shipment to slaughterhouses and on relocation of cattle under 12 months beyond the

prefecture)

- Shiitake (mushrooms) produced in the cities of Date and Motomiya, Fukushima Prefecture (only those grown on raw lumber inside facilities for cultivation)

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

News Release

Extract

July 21, 2011
Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 206th Release)

( As of 12:00 July 21, 2011)

The 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 (TEPCO)

- The Alternative Cooling System for the Spent Fuel Pool of Unit 3 was temporarily suspended due to the restoration work of Yonomori line for duplication of line. (From 08:38 July 21)
- Water was injected into the Steam-Dryer Storage Pool (DSP) of Unit 4. (From 11:15 till 15:39 July 21)
- The accumulated water in the basement of the turbine building of Unit 6 was transferred to a temporary tank. (From 11:00 July 21)
- The cooling of the Common Spent Fuel Pool was temporarily suspended due to the restoration work of Yonomori line for duplication of line. (From 08:40 July 21)

<Possibility of Exposure>

On July 20, TEPCO announced 64 workers had exposure dose "exceeding 50mSV and not exceeding 100mSV" regarding the exposure dose of workers at Fukushima Dai-ichi NPS in March and April.

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

News Release

Extract

July 22, 2011
Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 207th Release)

( As of 12:00 July 22, 2011)

The 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 (TEPCO)

- The accumulated water in the trench of the turbine building of Unit 2 was transferred to the Radioactive Waste Treatment Facilities. (From 10:56 July 16 till 16:04 July 21)
- The accumulated water in the basement of the turbine building of Unit 3 was transferred to the Radioactive Waste Treatment Facilities. (From 10:50 July 16 till 15:59 July 21)
- The Alternative Cooling System for the Spent Fuel Pool of Unit 3 was temporarily suspended due to the restoration work of Yonomori line for duplication of line. (From 08:38 till 14:52 July 21)
- The Alternative Cooling System for the Spent Fuel Pool of Unit 3 was temporarily suspended due to the suspension of the switch yard of Okuma line 2. (From 07:10 till 11:50 July 22)
- The cooling of the Common Spent Fuel Fool was temporarily suspended due to the restoration work of Yonomori line for duplication of line. (From 08:40 till 14:41 July 21)
- The cooling of the Common Spent Fuel Fool was temporarily suspended due to the suspension of the switch yard of Okuma line 2. (From 07:10 till 10:40 July 22)
- The operation was temporarily suspended in order to exchange vessels in the Adsorption Tower of the Water Treatment Facility. (From 08:38 July till 00:23 July 22)
- The operation of the Water Treatment Facility was temporarily suspended

due to the suspension of switch yard of Okuma line 2. (From 07:10 July 22)

2. Actins by taken NISA, etc.

NISA revised the assessment procedures and implementation plan regarding the comprehensive assessments for the safety of existing power reactor facilities taking into account the accident at Fukushima Dai-ichi NPS, TEPCO which was reported to the Nuclear Safety Commission (NSC) on July on 15. NISA submitted it to the NSC again and the NSC approved it.

<Situation of Resident Evacuation>

The Local Nuclear Emergency Response Headquarters designated 57 spots (59 households) as "Specific Spots Recommended for Evacuation" base on the discussion with Fukushima Prefecture and Minamisoma City, and conveyed this instruction to Minamisoma City on July 21.

<Temporary access into Restricted Areas>

On July 22, residents were allowed temporary access into Minamisoma City, Naraha Town and Tomioka Town.

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

News Release

Extract

経済産業省 Ministry of Economy, Trade and Industry

July 23, 2011
Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 208th Release)

( As of 15:30 July 23, 2011)

The 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 (TEPCO)

- Sampling of airborne radioactive materials above the reactor building of Unit 2 was conducted by an unmanned helicopter. (From 05:06 till 06:02 July 22)
- The water injection rate into the reactor of Unit 2 was adjusted to 3.8m$^3$/h due to the decrease to 3.4m$^3$/h. (08:43 July 22)
- The accumulated water in the trench of the turbine building of Unit 2 was transferred to the Radioactive Waste Treatment Facilities. (From 16:56 July 22)
- The water injection rate into the reactor of Unit 2 was adjusted to 3.8m$^3$/h due to the decrease to 3.2m$^3$/h. (09:35 July 22)
- Installation work of temporary roof over the opening at the rooftop of the turbine building of Unit 3 was carried out. (From 08:30 till 15:30 July 22)
- The accumulated water in the basement of the turbine building of Unit 3 was transferred to the Radioactive Waste Treatment Facilities. (From 16:53 July 22)
- The Alternative Cooling System for the Spent Fuel Pool of Unit 3 was temporarily suspended due to the restoration work of Yonomori line for duplication of line. (From 03:24 till 11:45 July 23)
- Sampling of airborne radioactive materials above the reactor building of Unit 3 was conducted by an unmanned helicopter. (From 04:37 till 06:08 July 23)
- The accumulated water in the basement of the turbine building of Unit 6 was transferred to the Radioactive Waste Treatment Facilities. (From 11:00 July 21 till 18:00 July 22, and from 11:00 July 23)

- The cooling of the Common Spent Fuel Fool was temporarily suspended due to the restoration work of Yonomori line for duplication of line. (From 03:46 till 09:41 July 23)
- Rubble (not put into containers) was removed with remote-controlled heavy machinery. (From 08:45 till 16:00, July 21)
- Rubble (an amount equivalent to 3 containers) was removed with remote-controlled heavy machinery. (From 08:45 till 16:00 July 22)
- The Water Treatment Facility was temporarily suspended due to the restoration work of Yonomori line for duplication of line. (From 08:45 July 23)
- The transfer of the accumulated water from the Building of the Miscellaneous Solid Waste Volume Reduction Facilities to the Process Main Building was started. (From 14:15 July 23)

2. Actins by taken NISA, etc.

NISA requested each Electricity Utility and other related organization to implement the comprehensive assessment of safety of nuclear power reactor facilities based on "The assessment procedures and implementation plan regarding the comprehensive assessments for the safety of existing power reactor facilities taking into account the accident at Fukushima Dai-ichi NPS, TEPCO" approved by the Nuclear Safety Commission (NSC) on July on 15, and to report the result of the assessment to NISA,

<Temporary access into Restricted Areas>

On July 23, residents were allowed temporary access into Minamisoma City, Naraha Town and Tomioka Town.

<Instructions Regarding Foodstuff>

Additional items for suspension of shipment

- Shiitake (mushrooms) produced in the cities of Shinchi Town of Fukushima Prefecture (only those grown on raw lumber inside facilities for cultivation). (July 22)

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

News Release

Extract

経済産業省 Ministry of Economy, Trade and Industry

July 24, 2011
Nuclear and Industrial Safety Agency

## Seismic Damage Information (the 209th Release)

( As of 15:30 July 24, 2011)

The 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 (TEPCO)

- Sampling of airborne radioactive materials above the reactor building of Unit 1 was carried out by an unmanned helicopter. (From 04:28 till 05:57 July 24)
- The water injection rate into the reactor of Unit 1 was adjusted to 3.8m$^3$/h due to the decrease to 3.3m$^3$/h. (11:10 July 24)
- Water was injected into the Steam-Dryer Storage Pool (DSP) of Unit 4. (From 10:37 till 15:20 July 24)
- The accumulated water in the basement of the turbine building of Unit 6 was transferred to a temporary tank. (From 11:00 till 18:00 July 23 and from 11:00 July 24)
- Rubble (an amount equivalent to 4 containers) was removed with remote-controlled heavy machinery. (From 08:45 till 16:00 July 23)
- Water was supplied from the Filtrate Tank to the buffer tank. (From 17:00 July 22 till 11:04 July 23)
- The Water Treatment Facility was temporarily suspended due to the restoration work of Yonomori line for duplication of line (From 08:45 till 15:26 July 23). Thereafter, the rated flow was reached. (16:27 of the same day)
- The accumulated water was transferred from the Building of the Miscellaneous Solid Waste Volume Reduction Facilities to the Process Main Building of the Radioactive Waste Treatment Facilities. (From 14:15 till 19:00 July 23)
- Treated water was transferred from the temporary storage tank for the

treated water to a buffer tank. (From 17:00 July 22 till 11:04 July 23)

- Vessels in the Water Treatment Facility was exchanged (the Water Treatment Facility was not suspended.). (From 12:30 July 24)

<Temporary access into Restricted Areas>

On July 24, residents were allowed temporary access into the towns of Okuma, Futaba and Namie.

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