**Conditions of Fukushima Dai-ichi Nuclear Power Station**

**Unit 1**

(As of 12:00 June 5, 2011)

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**Spent Fuel Pool Water Temperature**

- **Spent Fuel Pool Cooling System**

**Reactor Pressure**

- **Reactor Pressure A** 0.126 MPa* (under monitoring of the change of the situation)
- **Reactor Pressure B** - MPa* (under monitoring of the change of the situation)

**Reactor Water Level**

- **Reactor Water Level A** Off scale
- **Reactor Water Level B** -1,600 mm

**Reactor Water Temperature**

- **No data available**

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**Spraying freshwater by temporary motor-driven pump through existing cooling system**

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**March 11th 14:46** Under operation, Automatic shutdown by the earthquake

**March 11th 15:42** Report based on the Article 10 (Total loss of A/C power)

**March 11th 16:36** Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)

**March 12th 01:20** Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)

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**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 2/2

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 27th 10:02</td>
<td>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 29th 10:14)</td>
</tr>
<tr>
<td>April 29th 11:36</td>
<td>Confirmed the situation in the reactor building using an unmanned robot.</td>
</tr>
<tr>
<td>May 2nd 12:58 ~ 15:03</td>
<td>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.</td>
</tr>
<tr>
<td>May 5th 16:36 ~ May 8th 20:02</td>
<td>Operated all ambient filtration systems (a total of 6 units) in order to improve the working environment in the reactor building.</td>
</tr>
<tr>
<td>May 6th 10:01</td>
<td>Changed the rate of water injection into the Reactor Core from 6m³/h to 8m³/h.</td>
</tr>
<tr>
<td>May 8th 20:08</td>
<td>Ventilation by cutting of the exhaust air duct</td>
</tr>
<tr>
<td>May 9th 04:17</td>
<td>Opening the double-entry doors of the Reactor Building</td>
</tr>
<tr>
<td>May 9th 05:10</td>
<td>Disassembly of positive pressure house</td>
</tr>
<tr>
<td>May 11th 08:50 ~ 11:14</td>
<td>Due to the restoration of the Okuma No.2 transmission line, the nitrogen injection was temporarily suspended.</td>
</tr>
<tr>
<td>May 11th 08:50 ~ 11:14</td>
<td>Confirmed the reactor water level of RPV, calibrated reactor pressure gauge of primary containment vessel.</td>
</tr>
<tr>
<td>May 13th 16:01 ~ 17:39</td>
<td>Observed the situation in the Reactor Building using a remote-control robot</td>
</tr>
<tr>
<td>May 14th 15:07 ~ 15:18</td>
<td>Water spray over the Spent Fuel Pool by Concrete Pump Truck (stopped due to strong winds)</td>
</tr>
<tr>
<td>May 15th 13:28</td>
<td>Changed the rate of water injection into the Reactor Core from 8m³/h to 10m³/h.</td>
</tr>
<tr>
<td>May 17th 11:50</td>
<td>Changed the rate of water injection into the Reactor Core from 10m³/h to 6 m³/h.</td>
</tr>
<tr>
<td>May 20th 9:30 ~ 12:15</td>
<td>Entered in the reactor building, confirmed reactor water level and radioactivity.</td>
</tr>
<tr>
<td>May 25th 9:14 ~ 9:18</td>
<td>Nitrogen injection to PCV were suspended for changing power supply.</td>
</tr>
<tr>
<td>May 25th 15:16 ~ 15:18</td>
<td>Nitrogen injection to PCV were suspended for changing power supply.</td>
</tr>
<tr>
<td>May 25th 15:45</td>
<td>Confirmed that the compressor for nitrogen supplying was stopped. 19:44 Restart the nitrogen injection after changing to the reserve compressor.</td>
</tr>
<tr>
<td>May 27th 10:30 ~ around 12:00 and around 15:00</td>
<td>Entered in the reactor building, Installed the level gauge of reactor building accumulated water, Sampled basement accumulated water, and Installed hoses for SFP.</td>
</tr>
<tr>
<td>May 28th 16:47 ~ 17:00</td>
<td>Leak test in order to inject fresh water to SFP via FPC</td>
</tr>
<tr>
<td>May 31st 20:30</td>
<td>Changed the rate of water injection into the Reactor Core from 6m³/h to 5m³/h.</td>
</tr>
<tr>
<td>June 3rd 10:38 ~ 12:21</td>
<td>Installed temporary pressure gauges for the reactor.</td>
</tr>
<tr>
<td>June 3rd around 15:00 ~ around 17:00</td>
<td>Confirmed the situation in the reactor building using an unmanned robot.</td>
</tr>
<tr>
<td>June 4th 9:57 ~ 13:56</td>
<td>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.)</td>
</tr>
</tbody>
</table>

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

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

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

May 29th 11:10 ~ 15:35
March 11th 14:46 Under operation, Automatic shutdown by the earthquake
March 11th 15:42 Report based on the Article 10 (Total loss of A/C power)
March 11th 16:36 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core
Cooling System )
March 13th 11:00 Started to vent.
March 14th 13:25 Occurrence of the Article 15 event (Loss of reactor cooling functions)
March 14th 16:34 Started to inject seawater to the Reactor Core.
March 14th 22:50 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
March 15th 00:02 Started to vent.
March 15th 06:10 Sound of explosion
March 15th around 06:20 Possible damage of the suppression chamber
March 20th 15:46 Power Center received electricity.
March 21st 18:22 White smoke generated. The smoke died down and almost invisible at 07:11 March
22nd.
March 26th 10:10 Started to inject fresh water to the Reactor Core.
March 26th 16:46 Lighting in the Central Control Room was recovered.
March 27th 18:31 Switched to the water injection to the core using the temporary motor-driven pump.
March 29th 16:45~1st 11:50 Transferred the water from the Condensate Storage Tank (CST) to the
Surge Tank of Suppression Pool Water (SPT)
April 2nd around 9:30 The water, of which the dose rate was at the level of more than 1,000mSv/h, was
confirmed to be collected in the pit located near the Intake Channel of Unit 2. The outflow from
the lateral surface of the pit into the sea was also confirmed.
April 2nd 17:10 Started to transfer the water from the Condenser to the ST.
April 3rd 12:12 The power supply to the temporary motor-driven pump was switched from the
temporary power supply to the external power supply.
April 3rd 13:47~14:30 2 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 3rd 13:57~7:11 Approximately 13kg of tracer (bath agent) was put in from the Pit for the Duct for
Seawater Pipe.
April 5th 14:15 Tracer is confirmed to outflow through the permeable layer around the pit into the sea.
15:07 Started to inject coagulant.
April 6th around 5:38 The water outflow from the lateral surface of the pit was confirmed to stopped.
April 9th 13:10 Completed transferring the water from the Condenser to CST.
April 11th 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 11th 17:56 External power supply was recovered.
April 11th 18:04 Resumed injecting water to the Reactor Core.
April 12th 19:35~April 13th 17:04 Transfer from the trench of the turbine building to the Condenser.
April 13th 11:00 Suspended the transfer for checking leaks, etc.
April 16th around 11:19 An earthquake occurred (in the southern part of Ibaraki Prefecture).
April 18th 13:42~ Confirmed the situation in the building using an unmanned robot
April 18th 12:13~12:37 Stopped the water injection into the reactor core to replace the current hose
with a new one.
April 18th 09:30~17:40 Injected coagulant (soluble glass) into the power cable trench.
April 19th 08:00~15:30 Injected coagulant (soluble glass) into the power cable trench.
April 19th 10:08~ Started to transfer the stagnant water with high-level radioactivity from the trench
of the turbine building to the Radioactive Waste Treatment Facility.
April 19th 10:23 Completed the work of strengthening connection of the power supplies between
Units 1-2 and Units 3-4.
<table>
<thead>
<tr>
<th>Date</th>
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<tr>
<td>April 25th 10:57~18:25</td>
<td>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.</td>
</tr>
<tr>
<td>April 25th 14:44~17:38</td>
<td>Implemented reinforcement work of the power supply (connection of the power supplies between Units 1-2 and Units 5-6).</td>
</tr>
<tr>
<td>April 29th 9:16</td>
<td>Suspended the transfer of stagnant water from the Turbine Building Trench of Unit 2 (Stagnant water with high-level radioactivity) to the Radioactive Waste Treatment Facility in order to carry out inspections, etc. of the transfer facilities. The transfer was resumed. (From 14:05 April 30th)</td>
</tr>
<tr>
<td>May 1st 13:35~</td>
<td>Started blocking the vertical shafts of Trench pit.</td>
</tr>
<tr>
<td>May 2nd 12:58~15:03</td>
<td>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.</td>
</tr>
<tr>
<td>May 7th 9:22</td>
<td>Suspended the transfer of stagnant water from the Turbine Building Trench of Unit 2 (Stagnant water with high-level radioactivity) to the Radioactive Waste Treatment Facility in order to carry out piping work of Reactor Feedwater System for Unit3. The transfer was resumed. (From 16:02 May 7th)</td>
</tr>
<tr>
<td>May 10th 9:01~12th 15:20</td>
<td>Suspended the transfer of stagnant water from the Turbine Building Trench of Unit 2 (Stagnant water with high-level radioactivity) to the Radioactive Waste Treatment Facility in order to lay the water transfer pipes from the Turbine Building of Unit 3 to the Radioactive Waste Treatment Facility.</td>
</tr>
<tr>
<td>May 11th 8:47~15:55</td>
<td>Due to the restoration of the Okuma No.2 transmission line, the power supply for the pump for injecting water into the reactor was temporarily switched to the temporary diesel generator. (After the restoration, the power supply is partially received from this line.)</td>
</tr>
<tr>
<td>May 25th 9:05~15:30</td>
<td>Suspended the transfer of stagnant water with high-level radioactivity from the Turbine Building Trench to the Radioactive Waste Treatment Facility in order to change power supply.</td>
</tr>
<tr>
<td>May 26th 14:45~26th 15:30</td>
<td>Started the transfer of the water from the Condenser to the basement of the Turbine Building in order to carry out piping work of Reactor Feedwater System.</td>
</tr>
<tr>
<td>May 26th 16:01</td>
<td>Suspended the transfer of stagnant water with high-level radioactivity from the Turbine Building Trench to the Radioactive Waste Treatment Facility. (Because the water level of the concerned facility was close to the first basement level.)</td>
</tr>
<tr>
<td>May 29th 11:33</td>
<td>Started to inject water to the Reactor Core via Feedwater line in addition to Fire Extinguish line</td>
</tr>
<tr>
<td>May 30th 11:15</td>
<td>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.</td>
</tr>
<tr>
<td>May 30th 18:05</td>
<td>Stopped injecting water to the Reactor Core via Fire Extinguish line.</td>
</tr>
<tr>
<td>May 31st 11:40</td>
<td>Conducted a leakage test on the primary system of the alternative cooling system for the Spent Fuel Pool.</td>
</tr>
<tr>
<td>May 31st 11:40</td>
<td>Conducted a leakage test on the primary system of the alternative cooling system for the Spent Fuel Pool.</td>
</tr>
<tr>
<td>June 3rd 13:49~14:09</td>
<td>Suspended the injection of coolant water due to the work for changing the route of water supply line to the reactor core.</td>
</tr>
<tr>
<td>June 3rd 18:39~June 4th 12:28</td>
<td>Transferred the accumulated water, from which high radiation dose was measured above the surface, from the trench of the turbine building to the condenser hotwell.</td>
</tr>
<tr>
<td>June 4th 18:39</td>
<td>Started the transfer of stagnant water with high-level radioactivity from the Turbine Building Trench to the Radioactive Waste Treatment Facility.</td>
</tr>
<tr>
<td>&lt;Sea water injection to SFP via FPC (using the fire engine pump)&gt;</td>
<td>March 20th around 15:05<del>17:20, March 22nd 16:07</del>17:01, March 25th 10:30~12:19 Started injection</td>
</tr>
<tr>
<td>&lt;Fresh water injection to SFP via FPC (using the temporary motor-driven pump)&gt;</td>
<td>March 29th 16:30<del>18:25, March 30th 09:25</del>23:50 Including interruption by pump malfunction and damage to the hose, April 1st 14:56<del>17:05, April 4th 11:05</del>13:37, April 7th 13:29<del>14:34, April 8th 10:37</del>12:38, April 13th 13:15<del>14:55, April 16th 10:13</del>11:54, April 19th 16:08<del>17:28, April 22nd 15:55</del>17:40, April 25th 10:12<del>11:18, April 28th 10:15</del>11:28, May 2nd 10:05<del>11:40, May 6th 09:36</del>11:16, May 10th 13:09<del>14:45(13:19</del>14:35 Hydrazine was also injected), May 14th 13:00<del>14:37(13:08</del>14:02 Hydrazine was also injected), May 18th 13:10<del>14:40(13:15</del>14:30 Hydrazine was also injected), May 22nd 13:02<del>14:40(13:04</del>14:03 Hydrazine was also injected), May 26th 10:06<del>11:36(10:10</del>11:10 Hydrazine was also injected), May 30th 12:06~13:52</td>
</tr>
</tbody>
</table>
Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 3

(As of 12:00 June 5, 2011)

Spent Fuel Pool Cooling System
- Spent Fuel Pool Water Temperature 62 °C Measured during sampling measurement on May 8th
- Reactor Pressure A -0.031MPa* (under monitoring of the change of the situation)
- Reactor Pressure C -0.007MPa* (under monitoring of the change of the situation)
- Condition: Almost no change
- Reactor Water Level A -1,850mm
- Reactor Water Level B -2,100mm
- Condition: Uncovering of the core from the top of the active fuel to the levels described above
- Reactor Water Temperature --- °C
- Condition: No data available
- Spent Fuel Pool Water Temperature A 46.3°C
- S/P Water Temperature A
- Condition: Almost no change
- S/P Water Temperature B 46.4°C
- S/P Pressure 0.1803MPa
- Condition: Almost no change

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

External Power
- Two lines secured
- Power supply vehicle, Temporary DGs
- Injecting freshwater by temporary motor-driven pump

EDG *2
- Residual Heat Removal System
- Primary Containment Vessel
- Suppression Pool

RHRS*1
- Emergency Diesel Generator
- Injuncting freshwater by diesel generator
- Current Conditions: Fresh water is being injected to the Spent Fuel Pool and the Reactor Core

PCV*3 Pressure 0.0989MPa
- Condition: Almost no change

S/P*4 Water Temperature A
- Power supply to the temporary motor-driven pump

Major Events after the Earthquake 1/2
- March 11th 14:46 Under operation, Automatic shutdown by the earthquake
- March 11th 15:42 Report based on the Article 10 (Total loss of A/C power)
- March 13th 05:10 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)
- March 13th 08:41 Started to vent.
- March 13th 16:12 Started to inject seawater and borated water to the Reactor Core.
- March 14th 07:44 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
- March 14th 11:01 Sound of explosion
- March 16th around 08:30 White smoke generated.
- March 17th 09:48~10:01 Water discharge by the helicopters of Self-Defense Force
- March 17th 19:05~19:15 Water spray from the ground by High pressure water-cannon trucks of Police
- March 17th 19:35~20:09 Water spray from the ground by fire engines of Self-Defense Force
- March 18th before 14:00~14:38 Water spray from the ground by 6 fire engines of Self-Defense Force
- March 18th ~14:45 Water spray from the ground by a fire engine of the US Military
- March 19th 09:00~01:10 Water spray by Hyper Rescue Unit of Tokyo Fire Department
- March 20th 11:00 Pressure of PCV rose(320kPa).Afterward fell.
- March 20th 23:36~21:03:58 Water spray by Hyper Rescue Unit of Tokyo Fire Department
- March 21st around 15:55 Grayish smoke generated and was confirmed to be died down at 17:55.
- March 22nd 15:10~16:00 Water spray by Hyper Rescue Unit of Tokyo Fire Department and Osaka City Fire Bureau.
- March 22nd 22:46 Lighting in the Central Control Room was recovered.
- March 23rd 11:03~13:20 Injection of about 35 tons of sea water to the Spent Fuel Pool (SFP) via the Fuel Pool Cooling Line (FPC)
- March 23rd around 16:20 Black smoke generated and was confirmed to be died down at around 23:30 and 24th 04:50
- March 24th 05:35~16:05 Injection of around 120 tons of sea water to SFP via FPC
- March 25th 13:28~16:00 Water spray by Kawasaki City Fire Bureau supported by Tokyo Fire Department
- March 25th 18:02 Started fresh water injection to the core.
- March 27th 12:34~14:36 Water spray by Concrete Pump Truck
- March 28th 17:40~17:51 around 8:40 Transferring the water from the Condensate Storage Tank (CST) to the Surge Tank of Suppression Pool Water (SPT)
- March 28th 20:30 Switched to the water injection to the core using a temporary motor-driven pump.
- April 3rd 12:18 The power supply to the temporary motor-driven pump was switched from the temporary power supply to the external power supply.
- April 11th 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 12th 18:54 External power supply of Units 1 and 2 recovered (April 11th 17:56). Resumed injecting water to the Reactor Core.
- April 17th 11:30~14:00 Confirmed the situation in the reactor building using unmanned robot.
- April 18th 12:38~13:05 Stopped the water injection into the reactor core to replace the current hose with a new one.
- April 19th 10:23 Completed the work of strengthening connection of the power supplies between Units 1-2 and Units 3-4.
- April 22nd 13:40~14:00 Tentatively Injected freshwater to SFP via the Fuel Pool Coolant Purification Line
- April 25th 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 30th 11:34 Completed reinforcement work of the power supply both Units 3, 4. (Increasing the voltage from 6.6kv to 66kv)
May 2nd 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 8th 16:18 ～10th 5:41 Transferred of water in the Condenser to the underground of the Turbine Building in order to carry out piping work of Reactor Feedwater System.

May 11th 8:47～15:55 Due to the restoration of the Okuma No.2 transmission line, the power supply for the pump for injecting water into the reactor was temporarily switched to the temporary diesel generator.

May 11th 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 12th 16:53 In addition to the plumbing pro-fire extinguishing, started core flooding from the plumbing pro-water supply.

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

May 17th 18:04～ Started transfer of stagnant water in the basement of the Turbine Building to the Radioactive Waste Treatment Facility
May 18th from around 16:30 Conducted preliminary survey in the Reactor Building for about 10 minutes.

May 25th 9:10 Suspended transfer of stagnant water in the basement of the Turbine Building to the Radioactive Waste Treatment Facility in order to check the transfer line and in the Turbine Building.

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

May 31st 9:00 ～16:00 A preliminary survey using a remote-controlled robot was carried out inside the reactor building.

May 31st 10:19 Changed the rate of water injection into the Reactor Core from 13.5m³/h to 12.5m³/h.

June 1st 10:10 Changed the rate of water injection into the Reactor Core from 12.5m³/h to 11.5m³/h.

June 2nd 12:50 Started transfer of accumulated water from the Condenser to the CST in order to prepare transferring of accumulated water in the basement of the Turbine Building.

June 3rd 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.

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

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

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

May 8th 12:10 ～14:10, May 9th 12:14 ～15:00 (12:39 ～14:36 Hydrazine was also injected), May 16th 15:00～18:32 (15:10 ～17:30 Hydrazine was also injected), May 24th 10:15～13:35 (10:20 ～12:56 Hydrazine was also injected), May 28th 13:28～15:08(13:42～14:40 Hydrazine was also injected), June 1st 14:34～15:54(14:41 ～15:26 Hydrazine was also injected), June 5th 13:08～(13:14～14:16 Hydrazine was also injected)
Spent Fuel Pool Water Temperature 84 °C Measured during sampling measurement on May 7th

No fuel inside the Reactor Core

External Power
EDG*2
RHRS*1

Spraying freshwater by Concrete Pump Truck

In periodic inspection outage

Spent Fuel Pool Cooling System

No fuel in RPV

Two lines secured Power supply vehicle, Temporary DGs No heat removal is necessary as no fuel is in RPV

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

Major Events after the Earthquake

In periodic inspection outage when the earthquake occurred
March 14th 04:08 Water temperature in the Spent Fuel Pool (SFP), 84°C
March 15th 06:14 Confirmed the partial damage of wall in the 4th floor.
March 17th 05:45 Fire occurred. TEPCO couldn’t confirm any fire on the ground. (06:15)
March 20th 08:21 ~ 09:40 Water spray over SFP by Self-Defense Force
March 20th around 18:30 ~ 19:46 Water spray over SFP by Self-Defense Force
March 21st 06:37 ~ 08:41 Water spray over SFP by Self-Defense Force
March 21st around 15:00 Work for laying cable to Power Center was completed.
March 22nd 10:35 Power Center received electricity.
March 25th 06:05 ~ 10:20 Sea water injection to SFP via the Fuel Pool Cooling Line (FPC)
March 29th 11:50 Lighting in the Central Control Room was recovered.
April 11th around 17:16 An earthquake occurred (at Hamadori in Fukushima Prefecture).
April 12th 12:00 ~ 13:04 Sampled the water in SFP.
April 19th 10:23 Completed the work of strengthening connection of the power supplies between Units 1-2 and Units 3-4.
April 22nd Measured the water level of SFP by a gauge hung on Concrete Pump Truck (62m class).
April 30th 11:34 Completed reinforcement work of the power supply both Units 3, 4. (Increasing the voltage from 6.6kv to 66kv)

<Water spray by Concrete Pump Truck (Seawater)>

<Water spray by Concrete Pump Truck (Fresh water)>
March 30th 14:04 ~ 18:33, April 1st 08:28 ~ 14:14, April 3rd 17:14 ~ 22:16, April 5th 17:35 ~ 21:17, April 7th 19:40, April 9th 17:07 ~ 19:24, April 13th 03:00 ~ 6:57, April 15th 14:30 ~ 18:29, April 17th 17:39 ~ 21:22, April 19th 10:17 ~ 11:35, April 20th 17:08 ~ 20:31, April 21st 17:14 ~ 21:20, April 22nd 17:52 ~ 23:53, April 23rd 12:30 ~ 16:44, April 24th 12:25 ~ 17:07, April 25th 18:15 ~ April 26th 02:26, April 26th 16:50 ~ 20:35, April 27th 12:18 ~ 15:15, May 5th 12:29 ~ 20:46, May 6th 12:38 ~ 17:51, May 7th 14:05 ~ 17:30, May 9th 16:05 ~ 19:05 (16:11 ~ 18:38 Hydrazine was also injected), May 11th 16:07 ~ 19:38 (16:14 ~ 19:36 Hydrazine was also injected), May 13th 16:04 ~ 19:04 (16:20 ~ 18:41 Hydrazine was also injected), May 15th 16:25 ~ 20:25 (16:26 ~ 18:30 Hydrazine was also injected), May 17th 16:14 ~ 20:06 (16:40 ~ 18:35 Hydrazine was also injected), May 19th 16:30 ~ 19:30, May 21st 16:00 ~ 19:56 (16:23 ~ 19:00 Hydrazine was also injected), May 23rd 16:00 ~ 19:09 (16:08 ~ 18:30 Hydrazine was also injected), May 25th 16:36 ~ 20:04 (16:42 ~ 18:49 Hydrazine was also injected), May 27th 17:05 ~ 20:00 (17:24 ~ 18:53 Hydrazine was also injected), May 28th 17:56 ~ 19:45 (18:02 ~ 19:45 Hydrazine was also injected), June 3rd 14:35 ~ 21:15 (14:44 ~ 18:58 Hydrazine was also injected), June 4th 14:23 ~ 19:45 (14:51 ~ 18:42 Hydrazine was also injected)

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

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

(Edited by the editorial committee of the Nuclear Energy Handbook, Nuclear Energy Handbook)
Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 5
(As of 12:00 June 5, 2011)

In periodic inspection outage

Water Temperature in the Pool: 41.4°C
Condition: Recovery of heat removal function

Spent Fuel Pool Cooling System
Removing heat alternately from the water in the reactor and in the spent fuel pool.

External Power
One line secured

EDG*2
Share two EDGs of Unit 6
Removing heat alternately from the water in the reactor and in the spent fuel pool.

RHRS*1

Reactor Pressure Vessel Temperature:
Monitoring by Reactor Water Temperature

Reactor Pressure: 0.109MPa*
Reactor Water Level: 1,921mm
Reactor Water Temperature 42.0°C
Condition: Pressure is under control.
*converted to absolute pressure

Major Events after the Earthquake:
March 20th 14:30 Cold shutdown
March 21st 11:36 Receiving electricity from external power supply
March 23rd 17:24 Pump for Residual Heat Removal Seawater System (RHRS) was automatically stopped when the power supply was switched from the temporary to the permanent.
March 24th 16:14 Repair of the RHRS pump was completed.
March 24th 16:35 Started to cooling.
April 4th 21:00 – 8th 12:14 Discharged the groundwater with low-level radioactivity in the Sub Drain Pit to the sea (around 950 ton).
April 25th 12:22 ~ 16:43 For reinforcement work of the power supply, the pump for Residual Heat Removal (RHR) was temporarily stopped.
April 25th 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 28th around 21:14 Confirmed shutdown of the RHRS pump
May 29th 08:12 Started to replace with the temporary RHRS Spare Pump
May 29th 12:31 Started the RHRS Pump
May 29th 12:49 Started to cool the Reactor Core by RHR

*1 Residual Heat Removal System
*2 Emergency Diesel Generator
Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 6
(As of 12:00 June 5, 2011)

In periodic inspection outage

Spent Fuel Pool Cooling System

Water Temperature in the Pool: 31.5°C
Condition: Recovery of heat removal function.

Removing heat alternately from the water in the reactor and in the spent fuel pool.

Spent Fuel Pool

Reactor Pressure Vessel Temperature: Monitoring by Reactor Water Temperature

Reactor Pressure: 0.124MPa*
Reactor Water Level: 2,504mm
Reactor Water Temperature: 41.4°C
Condition: Pressure is under control.
*converted to absolute pressure

External Power

EDG*2

RHRS*1

One line secured
*1 Residual Heat Removal System
*2 Emergency Diesel Generator

Two EDGs

Water Temperature in the Pool: 31.5°C
Condition: Recovery of heat removal function.

Removing heat alternately from the water in the reactor and in the spent fuel pool.

External Power

EDG*2

RHRS*1

One line secured
*1 Residual Heat Removal System
*2 Emergency Diesel Generator

Major Events after the Earthquake

March 20th 19:27 Cold shutdown
March 22nd 19:17 Receiving electricity from external power supply
April 4th 21:00 – 9th 18:52 Discharged the groundwater with low-level radioactivity in the Sub Drain Pit to the sea (around 373 ton).
April 19th 11:00~15:00 Transferred stagnant water under the base of the turbine building to the condenser for measuring the amount of it.
April 20th 9:51~15:56 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 25th 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 11:03~14:53 The pump for RHR was temporarily shut off in order to test the Start-up Transformer for power reception.

〈Transferred stagnant water on the basement floor of the turbine building to the temporary tank〉.
May 1st 14:00~17:00, May 2nd 10:00~16:00, May 3rd 14:00~17:00,
May 6th 14:00~17:00, May 7th 10:00~15:00, May 9th 14:00~17:00,
May 10th 10:00~16:00, May 11th 10:00~16:00, May 12th 10:00~16:00,
May 13th 10:00~15:00, May 14th 10:00~15:00, May 15th 10:00~15:00,
May 16th 10:00~14:00, May 17th 10:00~14:00, May 18th 10:00~14:00,
May 21st 14:00~18:00, May 24th 9:00~19:00, May 25th 9:00~19:00,
May 26th 9:00~19:00, May 27th 9:00~19:00, May 28th 9:00~19:00
May 29th 9:00~19:00, May 30th 10:00~17:30, June 2nd 14:00~(June 5th 14:00~14:45 temporarily suspended)~

〈Transferred stagnant water on the basement floor of the reactor building to the Radioactive Waste Treatment 〉
May 10th 11:00~12:30, May 11th 11:00~12:30, May 12th 10:30~12:30,
May 13th 11:30~12:15, May 18th 10:30~12:30, May 28th 10:20~12:10

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