

August 31, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information (the 244th Release)

(As of 14:00 August 31, 2011)

The Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa Nuclear Power Station (NPS), Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai No.2 Power Station, 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 2 was adjusted to 3.8m³/h , due to the decrease to 3.4m³/h (at 18:56, August 30).
 - A flexible hose was installed at Unit 3 in order to inject water into the reactor core via the core spray system (from 11:30 to 13:00, August 31).
 - Fresh water (about 15t) was injected into the spent fuel pool of Unit 4 via a temporary spraying facility (from 16:05 to 16:37, August 30).
 - Rubble (an amount equivalent to six containers) was removed with remote-controlled heavy machinery (from 08:45 to 16:15, August 30).
 - Vessels in the Water Treatment Facility were exchanged (the Water Treatment Facility was not suspended) (from 11:04 to 14:25, August 30).
 - The following operations were carried out on the desalination device due to the software conversion work:
 - The Evaporation-Concentration Device 2A was suspended (at 03:32, August 30), and started up (at 16:34).
 - The Evaporation-Concentration Device 2B was suspended (at 04:16, August 30), and started up (at 15:44).
 - The desalination device (a reverse osmosis membrane type) 1A was suspended (at 07:09, August 30), and started up (at 12:28).
 - The desalination device (a reverse osmosis membrane type) 2 was suspended (07:16, August 30), and started up (at 12:42).
- The operation of the Evaporation-Concentration Devices 1A, 1B, and 1C

was started on a full-scale basis (at 14:00, August 31).

- Fukushima Dai-ni NPS (TEPCO)
- The air lock was opened in order to confirm the integrity of the PCV and other internal equipment of Unit 4 (from 10:15, August 29).
- The emergency diesel generator (A) of Unit 3 was operated for confirmation (from 10:45 to 11:53, August 31). Thereafter, the generator shifted to a stand-by condition.

3. Actions taken by NISA

On August 30, NISA received a report from TEPCO stating that some errors were found in the result of nuclide analysis on radioactive materials detected at Fukushima Dai-ichi NPS, TEPCO. NISA orally directed TEPCO on the same day to (1) investigate the cause, (2) to establish the recurrence prevention measures regarding some errors of the record, and (3) to examine the result of nuclide analyses conducted so far.

On August 30, NISA requested TEPCO to submit the operation manual at the time of an accident at Fukushima Dai-ichi NPS of TEPCO, which had been requested to the Minister of Economy, Trade and Industry from the Chairman of Special Committee on Science and Technology for Innovation Advancements of the House of Representatives.

On August 30, NISA confirmed the improvements made by TEPCO relating to the directions on July 13, based on the report regarding “the Improvements Related to the Radiation Exposure Exceeding Dose Limit of Radiation Workers Engaging in Emergency Work at Fukushima Dai-ichi NPS, TEPCO”, which was submitted by TEPCO on August 12. Consequently, NISA determined that the improvements, investigation of causes and establishment of prevention measures made by TEPCO were appropriate. NISA will confirm the status of these improvements through Operational Safety Inspections and other inspections accordingly.

<Temporary access into restricted areas>

On August 31, vehicles were retrieved from the towns of Okuma, Futaba, Tomioka, and Naraha.

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

September 1, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information (the 245th Release)

(As of 14:00 September 1, 2011)

The Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa Nuclear Power Station (NPS), Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai No.2 Power Station, Japan Atomic Power Co. Inc. as follows:

Major updates are as follows:

1. Nuclear Power Stations (NPSs)

- Fukushima Dai-ichi NPS (TEPCO)
 - The hydrazine (about 2m³) was injected into the spent fuel pool of Unit 4 via the Alternative Cooling System for the spent fuel pool (from 11:00 to 13:00, September 1).
 - The accumulated water in the basement of the turbine building of Unit 6 was transferred to a temporary tank (from 10:00, September 1).
 - Rubble (an amount equivalent to three containers) was removed with remote-controlled heavy machinery (from 08:45 to 16:15, August 31).
 - Vessels in the water treatment facility were exchanged (the water treatment facility was not suspended) (from 11:07 to 11:37, August 31).
 - The leakage was found near the sludge transfer pump in the Coagulation Settling Device was identified (at around 15:00, August 31).
 - The Second Cesium Adsorption Device was suspended in order to exchange the vessels (the water treatment facility was not suspended) (from 09:16, September 1).
- Fukushima Dai-ni NPS (TEPCO)
 - The low pressure core spray pump of Unit 4 was operated for confirmation (from 11:19 to 11:42, August 4). Thereafter, the pump shifted to a stand-by condition (at 11:42 of the same day).
 - The low pressure core spray pump of Unit 2 was operated for confirmation (from 11:00 to 11:29, August 9). Thereafter, the pump shifted to a stand-by

condition (at 11:29 of the same day).

- The emergency diesel generator (A) of Unit 3 was operated for confirmation (from 10:45 to 11:53, August 31). Thereafter, the generator shifted to a stand-by condition (at 10:59 of the same day).
- The pump of the RHR (A) of Unit 2 was suspended in order to switch from the pump of RHR (A) to that of RHR (B) (at 16:22, August 31). Thereafter, the pump of the RHR (B) was started up (at 16:36 of the same day).

<Possibility of radiation exposure>

2. Exposure of employees and others

- On August 31, TEPCO announced the evaluation results of radiation exposure of workers at Fukushima Dai-ichi NPS. According to the announcement, among the workers evaluated this time, two workers had the internal exposure value exceeding 20mSv during the period from March to May, and there were no workers with the internal exposure value exceeding 20mSv in June.
- On August 31, at the temporary storage for used vessels of the water treatment facility of Fukushima Dai-ichi NPS, while two subcontractor workers were engaged in the work of discharging water from the used vessels, they were poured themselves with the water inside the tank and the hose when trying to remove the hose, because they had believed that the valve was closed. Although the measurement of radiation showed a high value, as a result of the whole body counter examination, it was confirmed that no radiation was taken into the body.

<Temporary access into restricted areas>

On September 1, residents were allowed temporary access into the towns of Tomioka, Okuma, and Futaba.

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

September 2, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information (the 246th Release)

(As of 14:00 September 2, 2011)

The Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa Nuclear Power Station (NPS), Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai No.2 Power Station, 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 3.8m³/h , due to the decrease to 3.5m³/h (at 15:20, September 1).
 - The water injection rate into the reactor of Unit 2 was adjusted to 3.8m³/h, due to the decrease to 3.4m³/h (at 07:17, September 2).
 - The flow rate adjustment was started for the water injected into the reactor via the core spraying line (at 14:09, September 1). Thereafter, the flow rate was adjusted to 1.0m³/h (at 14:58, September 1).
 - The flow rate via the feedwater line was adjusted to 7.0m³/h due to the decrease via the feedwater line, and the flow rate via the core spraying line was adjusted to 1.0m³/h due to the increase via the core spraying line of Unit 3 (at 18:45, September 1).
 - The accumulated water in the basement of the turbine building of Unit 6 was transferred to a temporary tank (from 10:00 to 16:00, September 1).
 - Rubble (not put into containers) was removed with remote-controlled heavy machinery (from 08:45 to 16:15, September 1).
 - Vessels in the cesium adsorption device were exchanged (the water treatment facility was not suspended) (from 11:06 to 11:22, September 2).
 - The secondary cesium adsorption device was suspended to exchange vessels (from 07:10 to 15:07 on August 23, from 07:32 to 18:04 on August 26, from 07:08 to 14:25 on August 29, and from 09:16 to 16:04 on September 1).
 - The desalination device (a reverse osmosis membrane type) 1A was

suspended and 3 was started up (at 15:35, September 1).

2. Actions taken by NISA

On September 1, the Nuclear Emergency Response Headquarters announced the results of detailed monitoring conducted for Restricted Areas and Deliberate Evacuation Areas, based on the “Comprehensive Monitoring Plan” (established by the Monitoring Coordination Meeting on August 2, 2011).

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

September 3, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information (the 247th Release)
(As of 14:00 September 3, 2011)

The Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa Nuclear Power Station (NPS), Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai No.2 Power Station, 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 3.8m³/h, due to the decrease to 3.5m³/h (at 09:40, September 3).
 - The water injection rate into the reactor of Unit 2 was adjusted to 3.8m³/h, due to the decrease to 3.4m³/h (at 09:40, September 3).
 - The flow rate via the feedwater line was adjusted to 7.0m³/h and the flow rate via the core spraying line was adjusted to 2.0m³/h at Unit 3 (at 14:50, September 2).
 - Water was found in the spent fuel pool liner drain of Unit 4 (August 31). The cause and inflow route of the drain water are under investigation although the drain water is designed to be flowed into the basement of the reactor building.
 - The accumulated water in the basement of the reactor building of Unit 6 was transferred to the turbine building (from 11:05 to 12:00, September 2).
 - Rubble (an amount equivalent to eight containers) was removed with remote-controlled heavy machinery (from 08:45 to 16:15, September 2).

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

September 5, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information (the 248th Release)
(As of 14:00 September 5, 2011)

The Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa Nuclear Power Station (NPS), Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai No.2 Power Station, Japan Atomic Power Co. Inc. as follows:

Major updates are as follows:

1. Nuclear Power Stations (NPSs)

- Fukushima Dai-ichi NPS (TEPCO)
 - Hydrazine (about 2m³) was injected into the spent fuel pool of Unit 2 via the alternative cooling system for the spent fuel pool (from 10:59 to 12:47, September 5).
 - The water injection rate into the reactor of Unit 3 via the core spraying line was adjusted to 3.0m³/h (at 14:37, September 3).
 - Fresh water (about 16.6m³) was injected into the spent fuel pool of Unit 4 using a temporary spraying facility (from 16:20 to 17:08, September 3).
 - The accumulated water in the basement of the reactor building of Unit 6 was transferred to the turbine building (from 08:30 to 09:55 on September 3, from 08:30 to 09:55 on September 4).
 - Rubble (an amount equivalent to five containers) was removed with remote-controlled heavy machinery (from 08:45 to 16:15, September 3).
 - Vessels in the cesium adsorption device were exchanged (the water treatment facility was not suspended) (from 11:31 to 14:32 on September 4, from 11:22 on September 5).
 - The secondary cesium adsorption device was suspended to exchange vessels (from 09:24 to 17:01, September 4).
 - All evaporation-concentration devices were suspended, taking into account the balance between the storage volume of fresh water and the injection rate into the reactors, and other factors (at 19:44, September 4).

<Temporary access into restricted areas>

On September 5, vehicles were retrieved from the towns of Okuma, Futaba and Naraha.

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

September 6, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information (the 249th Release)
(As of 14:00 September 6, 2011)

The Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa Nuclear Power Station (NPS), Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai No.2 Power Station, Japan Atomic Power Co. Inc. as follows:

Major updates are as follows:

1. Nuclear Power Stations (NPSs)

- Fukushima Dai-ichi NPS (TEPCO)
 - Fresh water (about 15t) was injected into the spent fuel pool of Unit 1 via the fuel pool cooling and clean-up line (from 14:35 to 15:05, September 5).
 - The alternative cooling system for the spent fuel pool of Unit 2 was suspended due to the cleaning of the water tank in the secondary cooling tower (from 10:03 to 10:42, September 6).
 - The accumulated water in the condenser of Unit 2 was transferred to the turbine building (from 10:11, September 6).
 - The water injection rate via the feedwater line was adjusted from 7.0m³/h to 6.0m³/h at Unit 3 (at 14:43, September 5).
 - Vessels in the cesium adsorption unit were exchanged (the water treatment facility was not suspended) (from 11:30 to 14:25, September 5).
 - The transmission line from Yonomori No.2 was suspended due to the repair of the transformer at the Shin-Fukushima Transforming Station (from 07:17, September 6).
 - The decontamination device shut off due to a malfunction alarm on the agitator of coagulation settling device (at 05:51, September 6). Although the decontamination device was restarted up later, the decontamination device and the cesium adsorption device shut off due to a multiple failure alarm on the coagulation settling device (from 06:21, September 6).

<Temporary access into restricted areas>

On September 6, vehicles were retrieved from the towns of Okuma, Tomioka, and Naraha.

For more information: NISA English Home Page
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○ Water levels of accumulated water (O.P. stands for the average tide level of Onahama Peil)

	Unit 1			Unit 2		Unit 3		Unit 4	R/W Treatment Facilities	
	Basement of R/B	Basement of T/B	Trench	Basement of T/B	Trench	Basement of T/B	Trench	Basement of T/B	Main Building	High Temp Incinerator Building
	O. P. (mm)	O. P. (mm)	O. P. (mm)	O. P. (mm)	O. P. (mm)	O. P. (mm)	O. P. (mm)	O. P. (mm)	O. P. (mm)	O. P. (mm)
8/18 7:00	4,517	4,920	<850	3,606	3,589	3,570	3,657	3,553	5,332	3,576
8/19 7:00	4,527	4,920	<850	3,606	3,588	3,593	3,679	3,579	5,214	3,607
8/20 7:00	4,605	4,920	<850	3,593	3,577	3,578	3,680	3,584	5,229	3,340
8/21 7:00	4,629	4,920	<850	3,578	3,559	3,567	3,675	3,580	5,256	2,763
8/22 7:00	4,780	4,920	<850	3,571	3,552	3,565	3,677	3,574	5,217	2,691
8/23 7:00	4,834	4,920	<850	3,561	3,542	3,553	3,672	3,568	5,094	2,981
8/24 7:00	4,839	4,920	<850	3,549	3,527	3,501	3,654	3,549	4,961	3,432
8/25 7:00	4,824	4,920	<850	3,536	3,512	3,446	3,625	3,518	5,035	2,943
8/26 7:00	4,812	4,920	<850	3,527	3,503	3,399	3,593	3,485	5,058	2,773
8/27 7:00	4,795	4,920	<850	3,514	3,488	3,353	3,560	3,447	5,087	2,921
8/28 7:00	4,785	4,920	<850	3,497	3,470	3,310	3,527	3,415	5,081	2,815
8/29 7:00	4,778	4,920	<850	3,479	3,453	3,269	3,492	3,372	5,081	2,704
8/30 7:00	4,767	4,920	<850	3,461	3,433	3,227	3,454	3,331	5,080	2,777
8/31 7:00	4,750	4,920	<850	3,417	3,385	3,234	3,426	3,311	5,011	2,714
9/1 7:00	4,729	4,920	<850	3,373	3,336	3,230	3,408	3,279	4,922	2,687
9/2 7:00	4,722	4,920	<850	3,331	3,290	3,222	3,395	3,256	4,826	2,799
9/3 7:00	4,758	4,920	<850	3,292	3,251	3,214	3,385	3,252	4,735	2,734
9/4 7:00	4,780	4,920	<850	3,251	3,208	3,203	3,375	3,237	4,712	2,721
9/5 7:00	4,787	4,920	<850	3,211	3,165	3,192	3,365	3,226	4,712	2,721
9/6 7:00	4,788	4,920	<850	3,171	3,124	3,180	3,356	3,220	4,491	2,778
9/6 11:00	4,790	4,920	<850	3,167	3,121	3,178	3,355	3,212	4,524	2,768

* The measuring point in the basement of R/B of Unit 1: O.P.-1,230mm, The measuring point in the basement of T/B of Unit 1: O.P.+4,900mm, The measuring points in the basement of T/B of Units 2 to 4: O.P.+1,900mm, The tops of grating at trenches of Units 1 to 3: O.P.+4,000mm, The measuring point in the basement of the Main Building of the R/W Treatment Facilities: O.P.-1,300mm, The measuring point in the basement of the High-Temperature Incinerator Building of the R/W Treatment Facilities: O.P.-800mm.

* Initial water level (before transfer) of the Main Building of the R/W Treatment Facilities: about 83mm from floor, O.P. -1,217mm (As of April 19).

* Initial water level (before transfer) of the High Temperature Incinerator Building of the R/W Treatment Facilities: about 74mm from floor, O.P. -726mm (As of May 17).

* Used the water in the trenches of Unit 1 for leak checking and flashing of the transfer line to the R/W Treatment Facilities. (Apr. 29, May 7, May 10, May 12 and May 17).

* Transferred the water from the trench of Unit 2 to the basement of the Main Building of the R/W Treatment Facilities (Apr. 19~29, Apr. 30~May 7, May 7~10, May 12~25, May 25~26, June 4~8, June 8~16, June 22~27, June 27~July 7, July 13~15, July 16~21, July 22~29, July 30~August 2, August 4~9, August 10~16, August 18~25, August 30~). Transferred the water from T/B of Unit 3 to the basement of the Main Building of the R/W Treatment Facilities (June 11, June 12, June 14~16, June 21~27, June 27~28, June 30~July 9, July 10~15, July 16~21, July 22~29, July 30~August 4, August 5~9, August 10~15, August 19~21, August 23~30).

* Transferred the water from the trench of Unit 3 to the basement of the High Temperature Incinerator Building of the R/W Treatment Facilities. (May 17~25, June 18~20, August 21~24). Transferred the water from the trench of Unit 2 to the basement of the High Temperature Incinerator Building of the R/W Treatment Facilities (August 25~30).

* Transferred the water from the trench of Unit 2 to H/W (June 3~4). Transferred the water from the trench of Unit 2 to H/W of Unit 1 (June 17, June 20~21). Transferred the water from H/W to the first basement level of T/B of Unit 3 (May 8~10). Transferred the water from H/W to the first basement level of T/B of Unit 2 (May 26~27). Transferred the water from H/W to the first basement level of T/B of Unit 1 (June 13). Transferred the water from the basement level of T/B of Unit 3 to H/W (June 5~9). Transferred the water from H/W of Unit 2 to T/B of Unit 2 (September 6).