Plant Status of Fukushima Daiichi Nuclear Power Station

November 28, 2011
Tokyo Electric Power Company

<Draining Water on Underground Floor of Turbine Building (T/B)>

◇Status of highly concentrated accumulated radioactive water treatment facility and storage tank facility

[Treatment Facility]

・6/17 20:00 Full operation of radioactive material removal instruments started.

・6/24 12:00 Start of desalination facilities operation

・6/27 16:20 Circulating injection cooling started.

・8/7 16:11 Evaporative Concentration Facility has started full operation.

・8/19 19:33 We activated second cesium adsorption facility (System B) and started the treatment of accumulated water by the parallel operation of cesium adsorption instrument and decontamination instrument. At 19:41, the flow rate achieved steady state.

[Storage Facility]

・6/8～ Big tanks to store and keep treated or contaminated water have been transferred and installed sequentially.

◇Accumulated water in vertical shafts of trenches and at basement level of building

Unit	Draining water source→Place transferred	Status
Unit 2	・Unit 2T/B→Central Radioactive Waste Treatment Facility [Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building)]	・9:10 on November 10 - Transferring
Unit 3	・Unit 3T/B→Central Radioactive Waste Treatment Facility [Process Main Building]	・9:25 on November 15 - Transferring
Unit 6	・Unit 6T/B→Temporary tanks	・11/28 No plan of transfer

Place transferred	Status of Water Level (As of November 28 at 7:00)
Process Main Building	Water level: O.P.+ 2,128 mm(Accumulated total increase:3,345 mm) 39mm increase since 7:00 on November 27
Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building)	Water level: O.P.+ 2,005 mm(Accumulated total increase:2,731 mm) 43mm decrease since 7:00 on November 27

◇Water level of the vertical shaft of the trench, T/B and R/B(As of November 28 at 7:00)

	Vertical Shaft of Trench	T/B	R/B
Unit 1	O.P. <+ 850 mm (No change since 7:00 on November 27)	O.P.+ 3,288 mm (8mm decrease since 7:00 on November 27)	O.P.+ 4,073 mm (32mm decrease since 7:00 on November 27)
Unit 2	O.P.+ 3,027 mm (20mm decrease since 7:00 on November 27)	O.P.+ 3,039 mm (17mm decrease since 7:00 on November 27)	O.P.+ 3,151 mm (13mm decrease since 7:00 on November 27)
Unit 3	O.P.+ 3,249 mm (11mm decrease since 7:00 on November 27)	O.P.+ 3,001 mm (14mm decrease since 7:00 on November 27)	O.P.+ 3,211 mm (15mm decrease since 7:00 on November 27)
Unit 4	－	O.P.+ 3,027 mm (12mm decrease since 7:00 on November 27)	O.P.+ 3,046 mm (11mm decrease since 7:00 on November 27)

<Monitoring of Radioactive Materials>

Nuclide Analysis of Seawater(Reference)

Place of sampling	Date of sampling	Time of sampling	Ratio of density limit (times)		
			I-131	Cs-134	Cs-137
Approx. 30m North of Discharge Channel of 5-6U, 1F	11/27	8:40	ND	0.27	0.21
Approx. 330m South of Discharge Channel of 1-4U, 1F	11/27	8:20	ND	0.02	0.03
Around Discharge Channel of 3-4U, 2F	11/27	8:20	ND	0.02	0.01

・The major three nuclides (Iodine-131, cesium-134, 137) were not detected in the samples taken at 1seashore point on Nov 27 and 7offshore points on Nov 26.

<Cooling of Spent Fuel Pools >(As of November 28 at 11:00)

Unit	Cooling type	Status of cooling	Temperature of water in Pool
Unit 1	Circulating Cooling System	Under operation(11:22 on August 10 -)	16.0 ℃
Unit 2	Circulating Cooling System	Under operation(17:21 on May 31 -)	18.3 ℃
Unit 3	Circulating Cooling System	Under operation(18:33 on June 30 -)	20.4 ℃
Unit 4	Circulating Cooling System	Under operation(10:08 on July 31 -)	24 ℃

【Unit 2】 ・11/6～ We started operation of radioactive material decontamination instrument of spent fuel pool.
・11/28 At 9:12am, the alarm indicating that the difference of flow rates between at the entering and at the exit of the primary pump at the alternative cooling system for the spent fuel pool is big went off, and the system automatically stopped. At 9:16 am on the same day we checked the site and no abnormality such as no leakage was confirmed. We are investigating the cause.

<Water Injection to Pressure Containment Vessels >(As of November 28 at 11:00)

Unit	Status of injecting water	Feed-water nozzle Temp.	Reactor pressure vessel Bottom temp.	Pressure of primary containment vessel
Unit 1	Injecting freshwater (Feed Water System: Approx.4.4 m^3/h)	42.8℃	43.7℃	116.3 kPaabs※
Unit 2	Injecting freshwater (Feed Water System: Approx.3.1 m^3/h,Core Spray System: Approx.4.4m^3/h)	69.5℃	75.1℃	111 kPaabs
Unit 3	Injecting freshwater (Feed Water System: Approx.1.9 m^3/h,Core Spray System: Approx.6.0 m^3/h)	58.9℃	68.1℃	101.6 kPaabs

Unit 1 PCV pressure under investigation due to error figure.
【Unit 4】【Unit 5】【Unit 6】No particular changes in parameters.

<Others>

・10/7～ Continuously implementing water spray using water after purifying accumulated water of Unit 5 and Unit 6 to prevent spontaneous fire of trimmed trees and diffusion of dust.

・11/28～ For the purpose of the cleaning starting on November 28 to avoid the performance deterioration of pumps by sucking up sands etc. accumulated at the bottom of the inlet canal pump room, we stopped the pump (D) of the residual heat removal system thus suspended cooling the reactor, and also stopped the pump (C) of the cooling water system thus suspended cooling the spent fuel pool. When each pump was stopped, the temperatures of the water in the reactor and the spent fuel pool were 25.7℃ and 20.4℃ respectively. The planned suspension of cooling is between 7:00 am to 5:00 pm everyday, and the temperature increases of the water in the reactor and the spent fuel pool due to the suspension will be approx. 17℃ and approx. 4℃ per day respectively (we plan to do the cleaning work for approx. 1 week).

・11/28 Approx. 14:28, the alarm went off from an indicator installed in front of Main Anti-Earthquake Building to continuously measure airborne radiation dose (continuous dust monitor).
14:38, in response to the alarm, we instructed to put full face masks on at 2:38 pm accordingly.
16:04, we measured the airborne radiation dose in front of Main Anti-Earthquake Building. As the result, we confirmed that it read below detection limit. It was announced that the workers did not have to wear a full face mask as per normal. We are investigating the cause of the alarm.

<Gas temperature of Suppression Chamber of Unit 2>
・11/26 17:00, read 52.7℃, but at 11:00 pm on the day we confirmed that it read “Overscaled” (digital recorder).
・11/27 5:00, it read 102.6℃. Though the readings were not stable, as there were no significant changes or variations in the temperatures of the same types of 2 thermometers and the pool water in Suppression Chamber, we have been investigating the causes for this event including the possibility of malfunction of the measuring instruments. Later, we inspected the measuring instruments and estimated that the readings were overscaled due to certain impacts on the signal detection line seeing that signal from the temperature detector is not stable. We will keep monitoring readings of this instrument and also monitor the temperature using instruments close to it.

< Temperature inside the Primary Containment Vessel (Drywell) of Unit 2 (base line temperature of the air conditioning unit, local cooling equipment) >
・11/27 5:00, read 78.2℃
・11/27 6:50, it was confirmed that it read approximately 84□, increasing in a staircase pattern. On the other hand, it was also confirmed that the temperature changes of the bottom of the Reactor Pressure Vessel and the water in the pool of the Suppression Chamber were smaller than that of the inside of the Primary Containment Vessel (Drywell) and that there was no significant change in the temperature. Now we have been decreasing the flow rate of water injection as stated below and therefore it is expected that the temperature inside the Primary Containment Vessel will rise, but, as the line temperature of which rose in a staircase pattern was only one line of the five lines and the rest of the lines did not show the same changes, we have been investigating the causes for this event, including the possibility of malfunction of the measuring instruments.

- At 7:11 pm on November 24, we adjusted the flow rate of water injection from Core Spray System from approx. 7.2 m^3/h to approx. 5.6m^3/h (for feed water system, the flow rate is kept at 2.9 m^3/h).
- On November 26 (from 10:18 am to 11:02 am), we adjusted the flow rate from Core Spray System from approx. 5.5 m^3/h to approx. 4.5m^3/h (for feed water system, the flow rate is kept at 3.0 m^3/h).

Later we inspected the instrument but got no data indicating malfunction, and the readings after the inspection are not different from those before. Therefore, we estimated that the signal detection line was somehow affected, which raised the temperature indicated. We will keep monitoring this instrument and also monitor the temperature using instruments close to it.

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