Plant Status of Fukushima Daiichi Nuclear Power Station

December 7, 2011
Tokyo Electric Power Company

<Treatment of the Accumulated Underground Water 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 2nd 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 a steady state.

[Storage Facility]

・6/8～ Large 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)]	・18:03 on 11/30 - Transferring
Unit 3	・Unit 3T/B→Central Radioactive Waste Treatment Facility [Process Main Building]	・From 9:25 on 11/15 to 10:31 on 12/05
Unit 6	・Unit 6T/B→Temporary tanks	・12/7 No plan for water transfer

Place transferred	Status of Water Level (As of December 7 at 7:00)
Process Main Building	Water level: O.P.+ 2,253 mm(Accumulated total increase:3,470 mm) 111mm decrease since 7:00 on December 6
Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building)	Water level: O.P.+ 1,342 mm(Accumulated total increase:2,068 mm) 61mm decrease since 7:00 on December 6

[Unit 3] -12/6 10:00- 12/7 8:54 Transfer of accumulated water in the condensate storage tank to the basement of the turbine building was conducted.

-12/7 9:19 To lower the salt concentration at the above tank, we once started to fill it with water. After that, however, as we detected a water leakage (5 liters*) at a hose joint that connects to the tank, we paused to run the water at 9:52 and checked the water leakage stopped. We will do some amendment later.

* The water we have already treated and cleared of radioactive materials

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

	Vertical Shaft of Trench	T/B	R/B
Unit 1	O.P.< + 850mm (No change since 7:00 on December 6)	O.P.+ 3,601mm (34mm increase since 7:00 on December 6)	O.P.+ 4,082mm (13mm decrease since 7:00 on December 6)
Unit 2	O.P.+ 2,862mm (21mm decrease since 7:00 on December 6)	O.P.+ 2,880mm (21mm decrease since 7:00 on December 6)	O.P.+ 3,008mm (18mm decrease since 7:00 on December 6)
Unit 3	O.P.+ 3,217mm (31mm increase since 7:00 on December 6)	O.P.+ 2,983mm (36mm increase since 7:00 on December 6)	O.P.+ 3,203mm (40mm increase since 7:00 on December 6)
Unit 4	—	O.P.+ 2,972mm (30mm increase since 7:00 on December 6)	O.P.+ 2,987mm (39mm increase since 7:00 on December 6)

<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	12/6	8:40	ND	0.04	0.03
Approx. 330m South of Discharge Channel of 1-4U, 1F	12/6	8:20	ND	0.06	0.05
Approx. 3km Offshore of Onahama Port (Lower layer)	12/5	6:30	ND	ND	0.01

・Others, samples from 2 locations at the Fukushima Daiichi Nuclear Power Station coast (sampled on December 6), and 7 locations at the Offshore (sampled on December 5) showed ND for all three major nuclides (Iodine-131、Cs-134,137).

<Cooling of Spent Fuel Pools> (As at 11:00 on December 7)

Unit	Cooling type	Status of cooling	Temperature of water in Pool
Unit 1	Circulating Cooling System	Under operation(11:22 on August 10 -)	15.5 ℃
Unit 2	Circulating Cooling System	Under operation(17:21 on May 31 -)	18.9 ℃
Unit 3	Circulating Cooling System	Under operation(18:33 on June 30 -)	16.1 ℃
Unit 4	Circulating Cooling System	Under operation(10:08 on July 31 -)	23 ℃

【Unit 2】-12/7 4:17 On the alternative Spent Fuel Pool cooling system of Unit 2, the alarm indicating that the difference of flow rates between at the entering and at the exit of the primary pump is big went off, and the system stopped automatically.

4:41 After field investigation, no defect such as leakage was confirmed. Currently the cause is under investigation. At 4:00 am, the temperature of Spent Fuel Pool was 18.4 degree C, the assumed increase of temperature is 0.3 degree C/h, from the viewpoint of Spent Fuel Pool temperature, there is still enough allowance, so that there is no problem.

【Unit 4】-11/29～ We started operation of the ion exchange equipment to remove salt from spent fuel pool.

<Water Injection to Pressure Containment Vessels> (As of December 7 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)	43.7℃	44.8℃	119.2 kPaabs
Unit 2	Injecting freshwater (Feed Water System: Approx. 3.0m^3/h,Core Spray System: Approx. 4.1 m^3/h)	71.6℃	70.8℃	115 kPaabs
Unit 3	Injecting freshwater (Feed Water System: Approx. 2.0 m^3/h,Core Spray System: Approx. 6.0 m^3/h)	60.3℃	67.1℃	101.6 kPaabs

【Unit 1】-12/7 10:55- 11:26 To improve the reliability of nitrogen inclusion, we conducted installing a water-flow and a pressure gauges to the inclusion line. We paused nitrogen inclusion due to this work, however, we do not think this may cause any issue.

- With regards to Units 1 to 3, in preparation for shutdown of the nitrogen inclusion systems, in light of securing sufficient time until the hydrogen in RPVs reaches the flammable limit, we increased the amount of nitrogen inclusion into RPV. Regarding the Unit 2, however, as we checked there is sufficient time for the nitrogen density to reach the flammable limit per the RPV gas controlling system, we decreased the amount of nitrogen included into the RPV.

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【Unit 1】-12/7 13:15　We increased the RPV nitrogen inclusion amount from 10 m^3/h to 15 m^3/h.
【Unit 2】-12/7 14:16　We increased the RPV nitrogen inclusion amount from 10 m^3/h to 13 m^3/h, and decreased the PCV nitrogen inclusion amount from 26 m^3/h to 20 m^3/h.
【Unit 3】-12/7 10:52　We increased the RPV nitrogen inclusion amount from 10 m^3/h to 15 m^3/h.
【Unit 4】【Unit 5】【Unit 6】No remarkable change

<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.

・12/6　A gas sampling of the PCV gas controlling system for Unit 2 was conducted. As a result of the analysis thereafter, the Xe-135 density at the entrance of the above system was below the detectible limit (1.1×10^{-1}Bq/cm^3), which we checked falls below the recriticality criteria, or 1Bq/cc.

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