Plant Status of Fukushima Daiichi Nuclear Power Station

February 10, 2012
Tokyo Electric Power Company

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

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

[Treatment Facility]

- At 18:42 on January 17, 2012: We actuated Cesium adsorption apparatus. At 18:45, the flow rate reached steady state.
- At 11:12 on February 2, 2012: We restarted the second Cesium adsorption apparatus (Sarry). At 11:15 it reached its regular flow rate.

[Storage Facility]

- June 8, 2011～: 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)]	・ 2/7 14:14～2/10 8:21 transferred ・ 2/10 14:43～ transferring
Unit 6	・Unit 6T/B→Temporary tanks	・ 2/10 10:00～16:00 transferred

Place transferred	Status of Water Level (As of 7:00 am on February 10)
Process Main Building	Water level: O.P.+ 2,744 mm (Accumulated total increase:3,961 mm), decreased 106mm since 7:00 am on February 9
Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building)	Water level: O.P.+ 2,865mm (Accumulated total increase:3,591 mm), decreased 111mm since 7:00 am on February 9

2/10 8:45～16:39 transferred from site bunker building to process main building

◇Water level of the vertical shaft of the trench, T/B and R/B(As of 7:00 am on February 10)

	Vertical Shaft of Trench	T/B	R/B
Unit 1	O.P. <+ 850 mm (No change since 7:00 on February 9)	O.P.+ 2,932 mm (15mm increase since 7:00 on February 9)	O.P.+ 4,322 mm (18mm decrease since 7:00 on February 9)
Unit 2	O.P.+ 3,134 mm (1mm increase since 7:00 on February 9)	O.P.+ 3,097 mm (2mm increase since 7:00 on February 9)	O.P.+ 3,278 mm (6mm increase since 7:00 on February 9)
Unit 3	O.P.+ 3,072 mm (20mm increase since 7:00 on February 9)	O.P.+ 3,000 mm (21mm increase since 7:00 on February 9)	O.P.+ 3,308 mm (21mm increase since 7:00 on February 9)
Unit 4	—	O.P.+ 2,978 mm (17mm increase since 7:00 on February 9)	O.P.+ 3,000 mm (17mm increase since 7:00 on February 9)

<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 1F 5,6 u	2/9	8:40	ND	0.07	0.06
Approx. 330m south of Discharge Channel of 1F 1-4 u	2/9	8:20	ND	0.03	0.03

・All 3 major nuclides (I-131, Cs-134 and Cs-137) were ND at 2 coast point (sampled on 2/9) and 2 offshore points (sampled on 2/8) of Fukushima Prefecture. Samplings at 5 offshore points of Ibaraki Prefecture were cancelled due to the bad weather.

<Cooling of Spent Fuel Pools >(As of 11:00 am on February 10)

Unit	Cooling type	Status of cooling	Temperature of water in Pool
Unit 1	Circulating Cooling System	Under operation*1	23.5 ℃
Unit 2	Circulating Cooling System	Under operation	12.9 ℃
Unit 3	Circulating Cooling System	Under operation	24.1 ℃
Unit 4	Circulating Cooling System	Under operation	25 ℃

*1: Air fin cooler of Secondary System out of service

【Unit 2】

- A desalination equipment has been activated in order to reduce density of salt from the spent fuel pool since 11:50 on January 19.

【Unit 3】

- A radioactive material removal equipment has been activated in order to remove radioactive materials from the spent fuel pool since 15:18 on January 14.

【Unit 4】

- From 13:28 to 15:05 on February 10, we injected hydrazine to the spent fuel pool trough the circulating cooling system. (approx. 2 m3/h)

<Water Injection to Pressure Containment Vessels > (As of 11:00 am on February 10)

Unit	Status of water injection	Feed-water nozzle Temp.	Reactor pressure vessel Bottom temp.	Pressure of primary containment vessel
Unit 1	Injecting freshwater (Feed Water System: Approx. 4.4m^3/h, Core Spray System: Approx.2.0 m^3/h)	24.1 ℃	24.5 ℃	106.7 kPaabs
Unit 2	Injecting freshwater (Feed Water System: Approx.6.5 m^3/h, Core Spray System: Approx.6.6m^3/h)	37.6 ℃	68.0 ℃	110 kPaabs
Unit 3	Injecting freshwater (Feed Water System: Approx.3.0 m^3/h, Core Spray System: Approx.6.0 m^3/h)	40.7 ℃	49.2 ℃	101.6 kPaabs

- 【Unit 1】
  - At 10:21 am on February 10, 2012, because the decrease of the volume of injected water to the Unit 1's reactor, we adjusted the injected water volume from Core Spray System from approx. 1.7 m3/h to approx. 2 m3/h (we have kept the injected water volume from reactor feed water system at approx. 4.5 m3/h).
- 【Unit 2】
  - From February 2, water injection to Unit 2 reactor was increased and the temperature tendency was monitored as the tendency of temperature rise at the bottom of PCV was observed, but the temperature have been high value (around 70.0℃). As a result of the sampling for the Gas Control System of the Unit 2 on February 6 to make sure there is no re-criticality state, we confirmed that the concentration of Xe-135 was below the detectible limit at the system's inlet, meaning that it falls below the re-criticality criteria of 1 Bq/cm^3. In order not to raise the possibility of re-criticality state due to the high density of water in the reactor by injecting cold water rapidly, we injected boric acid into the reactor from 0:19

am to 3:20 am on February 7, in advance of increasing water injection amount, as a safety countermeasures against the re-criticality, and changed the amount of the core spray system injection water from 3.7m^3/h to 6.7m^3/h at 4:24 am (the amount of the feed water system injection is 6.8m^3/h). Currently, the temperature is approx. 68.0℃ (2/10 11:00) and we continuously monitor the tendency.

- 【Unit 3】
  - At 10:05 am on February 10, 2012, because the decrease of the volume of injected water to the Unit 3's reactor, we adjusted the injected water volume from reactor feed water system from approx. 2.7 m3/h to approx. 3 m3/h (we have kept the injected water volume from Core Spray System at approx. 6 m3/h).
  - Since 9:50 am on February 10, we have conducted the work to add flowmeters to the nitrogen injection line at the side of Primary Containment Vessel of Unit 3 in order to improve the reliability of nitrogen injection activity. During this period, due to this work, we suspended the nitrogen injection task temporarily. No parameter change detected.

【Unit 4】【Unit 5】【Unit 6】・No major change

<Others>

- October 7, 2011～: 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.
- January 11, 2012～: As finding accumulated water including radioactive materials (December 18, 2011) at the trench between Process Main Building of Central Radioactive Waste Treatment Facility and Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building), we started inspection of the other trenches in the site. *Please refer to the other reference materials for the result of daily inspection.
- At around 9:40 am on February 8, the staff of a partner company found the water in a temporary tank to the east of Unit 2 Turbine Building overflowing. At that time we were pumping up the water in the sub-drain to the temporary pool as a trial, thus on 10:15 am on the same day we stopped the pump, and the overflow was stopped. Later we investigated the site and confirmed that there was no water in trenches nearby, therefore we concluded that the water didn't run into trenches nor flow out into the sea. We also sampled the water in the tank. The results of nuclide analyses were Cs-134: 3.4 x 10^{-1}Bq/cm^3, Cs-137: 5.2 x 10^{-1}Bq/cm^3. These results are the same level as those of the water in the sub-drain sampled today, therefore we concluded that the overflowed water was the water in the sub-drain. The volume of the water overflowed from the tank is approx.16m3 based on our evaluation.
- At around 6:30 pm on February 9, 2012, at Main Anti-Earthquake Building, we confirmed that data monitoring using temporarily-installed meters at Unit 1 was disabled. The measurement of plant parameters including Containment Atmospheric Monitor, Containment vessel pressure, Drywell HVH temperature, and the water level of the reactor was cancelled. Later, because it is confirmed that a fuse of the equipment which supply electricity to the temporarily-installed meters was blown at the central control center of Unit 1 & 2 and that the power source for the meters was out of order, at 6:15 am on February 10, we replaced the fuse, resulting in that the plant parameters excluding Containment Vessel pressure and the water level of the reactor and the others were turned to under monitoring using Unit 1's temporarily-installed meters. Later, after switching the power from the power source for meters whose fault was found to the other power source for meters, all the plant parameters turned to be monitored using the temporarily-installed meters of Unit 1 at 10:55 am on the same day. For reference, while data monitoring using Unit 1's temporarily-installed meters was disabled, the key parameters in terms of safety were continued to be monitored using web-cameras and others inside the Main Anti-Earthquake Building. Because we confirmed that there have been no significant fluctuation of the parameters, we concluded that there is no problem in terms of safety.
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