

## Plant Status of Fukushima Daiichi Nuclear Power Station

February 8, 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)]	•From 14:14 on February 7 – transferring
Unit 6	•Unit 6T/B→Temporary tanks	• From 10:00 – 16:00 on February 8 – transferred
Place transferred		Status of Water Level (As of 7:00 am on February 8)
Process Main Building		Water level: O.P.+ 2,960 mm (Accumulated total increase:4,177 mm), decreased 110mm since 7:00 am on February 7
Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building)		Water level: O.P.+ 3,155mm (Accumulated total increase:3,381 mm), decreased 220mm since 7:00 am on February 7

◇Water level of the vertical shaft of the trench, T/B and R/B(As of 7:00 am on February 8)

	Vertical Shaft of Trench	T/B	R/B
Unit 1	O.P. <+ 850 mm (No change since 7:00 on February 7)	O.P.+ 2,899 mm (21mm increase since 7:00 on February 7)	O.P.+ 4,345 mm (66mm increase since 7:00 on February 7)
Unit 2	O.P.+ 3,133 mm (17mm increase since 7:00 on February 7)	O.P.+ 3,095 mm (15mm increase since 7:00 on February 7)	O.P.+ 3,270 mm (23mm increase since 7:00 on February 7)
Unit 3	O.P.+ 3,030 mm (16mm increase since 7:00 on February 7)	O.P.+ 2,955 mm (32mm increase since 7:00 on February 7)	O.P.+ 3,260 mm (29mm increase since 7:00 on February 7)
Unit 4	—	O.P.+ 2,938 mm (2mm decrease since 7:00 on February 7)	O.P.+ 2,965 mm (2mm increase since 7:00 on February 7)

<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	2/7	8:50	ND	0.23	0.21
Approx. 330m south of Discharge Channel of 1F 1-4 u	2/7	8:25	ND	0.02	0.01
Around 3,4 u Discharge Channel of 2F	2/7	8:30	ND	0.03	ND

•All 3 major nuclides (I-131, Cs-134 and Cs-137) were ND at 1 coast point (sampled on 2/7) and 9 offshore points (sampled on 2/6) of Fukushima Prefecture, and 3 offshore points of Ibaraki Prefecture (sampled on 1/31 and 2/1). Samplings at 2 offshore points of Ibaraki Prefecture were cancelled due to the bad weather.

<Cooling of Spent Fuel Pools >(As of 11:00 am on February 8)

Unit	Cooling type	Status of cooling	Temperature of water in Pool
Unit 1	Circulating Cooling System	Under operation <sup>*1</sup>	22.5 °C
Unit 2	Circulating Cooling System	Under operation	15.0 °C
Unit 3	Circulating Cooling System	Under operation	21.4 °C
Unit 4	Circulating Cooling System	Under operation	26 °C

\*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.
- At around 5:00 am on February 8, the alarm of “abnormally low suction pressure of the high pressure RO pump” in the desalination apparatus for the Unit 2 spent fuel pool went off, and the its operation was automatically stopped. (The interlock arrangement closed all the isolation valves in the system.) As the result of site investigation, there was no leakage from the apparatus. The alternative cooling system for the spent fuel pool has continued its operation and there is no impact on the cooling.

【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.

<Water Injection to Pressure Containment Vessels > (As of 11:00 am on February 8)

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 <sup>3</sup> /h, Core Spray System: Approx.1.9 m <sup>3</sup> /h)	24.4 °C	24.9°C	105.1 kPaabs
Unit 2	Injecting freshwater (Feed Water System: Approx.6.4 m <sup>3</sup> /h, Core Spray System: Approx.6.8 m <sup>3</sup> /h)	40.6°C	66.0 °C	110 kPaabs
Unit 3	Injecting freshwater (Feed Water System: Approx.2.9 m <sup>3</sup> /h, Core Spray System: Approx.5.8 m <sup>3</sup> /h)	41.2 °C	49.7 °C	101.6 kPaabs

- 【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°C). 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<sup>3</sup>. 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<sup>3</sup>/h to 6.7m<sup>3</sup>/h at 4:24 am (the amount of the feed water system injection is 6.8m<sup>3</sup>/h). Currently, the temperature is approx. 66.0°C and we continuously monitor the tendency.

【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:  $3.4 \times 10^{-1} \text{Bq/cm}^3$ , Cs-137:  $5.2 \times 10^{-1} \text{Bq/cm}^3$ . 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 under evaluation.

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