Plant Status of Fukushima Daiichi Nuclear Power Station

November 23, 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.

・11/23 9:56 Alarm occurred indicating high pressure of treated water at desalination plant (RO) unit 2-2, and the unit stopped automatically. We are now investigating the reason of this incident.

※ The same incident occurred at this unit on November 18. Since we checked the unit on site and confirmed there is no trouble, we remove the discharged water in drain line at exit side of the Unit and reset the alarm. At 14:00 on November 22, we restarted the unit and was checking the operation of the unit

11:58 We started operation of desalination plant (RO) unit 3-1

・11/23 about 12:15 When we started desalination plant (RO) unit 1A and 1B to check whether water flows the system properly or not, we found exit side of piping of the units broke and leakage of treatment water in dam, and so we immediately stopped operation of the units. The amount of leakage from unit 1A and 1B are about 14 litters and 15 litters respectively, and now it already stopped leaking. We are now investigating the reason of this incident. There is no impact for water injection to the reactor because desalination plant (RO) unit 2-1 and 3-1 are still operating and there are also enough fresh water stock.

[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)]	・From 9:10am on November 10 - Transferring
Unit 3	・Unit 3T/B→Central Radioactive Waste Treatment Facility [Process Main Building]	・From 9:25am on November 15 - Transferring
Unit 6	・Unit 6T/B→Temporary tanks	・No plan for transfer on November 23

Place transferred	Status of Water Level (As of November 23 at 7:00)
Process Main Building	Water level: O.P.+ 1,812 mm(Accumulated total increase:3,029 mm) 30mm increase since 7:00 on November 22
Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building)	Water level: O.P.+ 1,985 mm(Accumulated total increase:2,711 mm) 27mm decrease since 7:00 on November 22

◇Water level of the vertical shaft of the trench, T/B and R/B(As of November 23 at 7:00)

	Vertical Shaft of Trench	T/B	R/B
Unit 1	O.P. <+ 850 mm (No change since 7:00 on November 22)	O.P.+ 3,807 mm (35mm increase since 7:00 on November 22)	O.P.+ 4,249 mm (43mm decrease since 7:00 on November 22)
Unit 2	O.P.+ 3,036 mm (17mm decrease since 7:00 on November 22)	O.P.+ 3,047 mm (18mm decrease since 7:00 on November 22)	O.P.+ 3,159 mm (14mm decrease since 7:00 on November 22)
Unit 3	O.P.+ 3,279 mm (18mm increase since 7:00 on November 22)	O.P.+ 3,055 mm (20mm increase since 7:00 on November 22)	O.P.+ 3,263 mm* (23mm increase since 7:00 on November 22)
Unit 4	—	O.P.+ 3,047 mm (5mm increase since 7:00 on November 22)	O.P.+ 3,068 mm (13mm increase since 7:00 on November 22)

[Unit 3] ・ At 10:22am on November 21, Started transferring accumulated water from the condensate storage tank to basement of turbine building.

<Monitoring of Radioactive Materials>

Nuclide Analysis of Seawater(Reference) ※Since Oct 24, an approach to decrease the detection limits of radioactivity density was started.

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	11/22	8:45	ND	0.06	0.05
Approx. 330m South of Discharge Channel of 1-4U, 1F	11/22	8:20	ND	0.02	0.02
Approx. 7km South of Discharge Channel of 1-2U, 2F	11/22	7:55	ND	0.02	0.02

・The major three nuclides (Iodine-131, cesium-134, 137) were not detected in the samples taken at 1 seashore point on Nov 22 and 6 offshore point of Fukushima prefecture.

<Cooling of Spent Fuel Pools > (As of November 23 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 -)	17.0 ℃
Unit 2	Circulating Cooling System	Under operation(17:21 on May 31 -)	17.7 ℃
Unit 3	Circulating Cooling System	Under operation(18:33 on June 30 -)	18.2 ℃
Unit 4	Circulating Cooling System	Under operation(10:08 on July 31 -)	25℃

[Unit 2]・11/6～ We started operation of radioactive material decontamination instrument of spent fuel pool.

[Unit 6]・11/15～ Due to cleanup work in order to prevent performance deterioration of pump caused by inletting sand or other materials piled up at the bottom of pump room of intake channel, Residual Heat Removal System (A) was shutdown, and stopped cooling the reactor. And Seawater pump of Equipment Water Cooing System (A) was shutdown, and stopped cooling the spent fuel pool. The stop is scheduled from 7:00 am to 5:00 pm everyday, and reactor water temperature will rise by approx. 12℃ per day, and spent fuel pool water temperature will rise by approx. 3℃ per day. (The cleanup work is planned to be finished in a week.)

<Water Injection to Pressure Containment Vessels >(As of November 23 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. 5.5 m^3/h)	38.4℃	39.6℃	118.8 kPaabs
Unit 2	Injecting freshwater (Feed Water System: Approx. 2.9 m^3/h, Core Spray System: Approx.7.1 m^3/h)	64.1℃	66.8℃	109 kPaabs
Unit 3	Injecting freshwater (Feed Water System: Approx. 2.3 m^3/h, Core Spray System: Approx.8.2m^3/h)	57.7℃	667℃	101.5 kPaabs

【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.

・11/22 We sampled gases in gas management system in primary containment vessel of Unit 2 to analyze nuclides. As a result of nuclides analysis, we evaluated that there is no recriticality since the density of Xe-135 is below the detection limits (1.1×10^{-1} Bq/cm^3) and that indicates the analyzed figure is below the determination criteria for recriticality such as 1 Bq/cm^3. Regarding Xe-135, we decided to use the sampling result at gas vial container at inlet in gas management system to evaluate the recriticality based on the “Report with regard to "Policy on the mid term security" for the Units 1 to 4 of Fukushima Daiichi Nuclear Power Station to Nuclear and Industrial Safety Agency at the Ministry of Economy, Trade and Industry (1) (revision)” (Press released on November 9th) because charcoal filter was used to detect Xe-135 and we evaluated that they are created by spontaneous fission.

※ Detection Limits Charcoal Filter: Order of 10^{-6}, Gas Vial Container: Order of 10^{-1}

End