Plant Status of Fukushima Daiichi Nuclear Power Station

July 13, 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 started.

・6/24 12:00 Treatment started at desalination facilities

・6/27 16:20 Circulating injection cooling started (In order to inject water to reactors of Units 1 to 3, we use water injected from filtrate water tanks in addition to treated water in water treatment facilities)

・7/2 18:00 We completed installing buffer tanks and resumed circulating injection cooling via buffer tanks.

・7/12 8:51 We found some leakage around the connection part at the liquid chemical injection line of coagulation setting devices in accumulated water treatment facilities and therefore stopped the operation of the facilities. We confirmed the corrosion of metallic connectors and the fact that leaked water had not been spread to the outside. We continued injecting water to the reactor.

16:19 After replacing the corroded connectors with corrosion-free metallic ones, we implemented flushing the system and switching the Cesium adsorption tower.

16:28 Started Water treatment facility.

16:58 Resumed water treatment.

・7/13 13:07 While conducting Water treatment facility flashing in order to change vessels, some leakage was found around the connection part at the liquid chemical injection line of coagulation setting devices (different location from the leakage points of July 10 and 12). Currently, we halted the flushing, and have investigated the leakage point and its cause. We have kept injecting water into the reactor.

※ Temporary suspension of Water treatment facility flashing in order to change vessels;
June 23～26, June 28～30, July 2～3, 5, 7, 8, and 13 11:00 am - .

[Storage Facility]

From June 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 (as of 7/13 7:00 am)

Unit	Draining water source → Place transferred	Status
2u	2u Vertical Shaft of Trench → Process Main Building, Central Radioactive Waste Treatment Facility (4/19 10:08am～5/26 4:01pm, 6/4 6:39pm～6/8 2:20pm, 6/8 6:03pm～6/16 8:40am, 6/22 9:56am～6/27 9:02am, 6/27 5:07pm～ 7/7 3:10 pm, 7/13 10:09 am ～)	[Process Main Building] Water level: O.P.+4,427 mm 18 mm decrease from 7/12 7:00 am) (Accumulated total increase :

3u	3u T/B → Miscellaneous Solid Waste Volume Reduction Treatment Building of Central Radioactive Waste Treatment Facility (5/17 6:04 pm～5/25 9:10 am, 6/18 1:31 pm～6/20 12:02 am) 3u T/B → Process Main Building of Central Radioactive Waste Treatment Facility (6/14 10:05 am～6/16 8:46 am, 6/21 3:32 pm～, 6/27 3:44 pm, 6/27 5:00 pm～6/28 9:58 pm, 6/30 8:56 am～7/9 2:49 pm, and 7/10 3:15～)	5,644 mm) [Miscellaneous Solid Waste Volume Reduction Treatment Building] Water level: O.P.+3,416 mm (15 mm increase from 7/12 7:00 am) (Accumulated total increase: 4,142mm)
6u	6u Turbine Building → temporary tanks 5/1～6/22, 6/30～7/9 as needed, 7/11 10:30～16:30 Temporary tanks →Mega Float 6/30～7/5, 7/7～7/9, 7/11～12 as needed, 7/13 10:00～	

◇Water level at the vertical shaft of the trench and T/B (as of 7:00 am on July 13)

	Vertical Shaft of Trench (from top of grating to surface)	T/B
1u	O.P. <+850mm (>3,150mm), No change since 7/11 7:00 am	O.P. +4,920mm, No change since 7/12 7:00 am
2u	O.P. +3,601mm (399mm), 35mm increase since 7/12 7:00 am	O.P. +3,600mm, 32mm increase since 7/12 7:00 am
3u	O.P. +3,745mm (255mm), 12mm decrease since 7/12 7:00 am	O.P. +3,635mm, 18mm decrease since 7/12 7:00 am
4u	—	O.P. +3,647mm, 17mm decrease since 7/12 7:00 am

・ Water level at Unit 1 R/B: 7/13 7:00 am, O.P. +4,313mm, 32mm increase since 7/12 7:00 am.

<Monitoring of Radioactive Materials>

◇ Nuclide Analysis of Seawater (Reference)

Density limit by the announcement of Reactor Regulation: I-131: 40Bq/L*, Cs-134: 60Bq/L, Cs-137: 90Bq/L

Sampling Location	Date	Time	Ratio to Criteria (times)		
			Iodine-131	Cecium-134	Cecium-137
Water discharge of Units 5-6 of Fukushima Daiichi. Approx. 30m north	7/12	11:50 am	ND	0.90	0.49
Around the north water discharge of Fukushima Daini(approx. 10 km from Fukushima Daiichi)	7/12	8:10 am	ND	ND	0.06

Lower than detection limits at 7 locations below (14 sampling points: shore [upper layer], 3km and 5km offshore [upper and lower layers], 30 km offshore [upper, middle, and lower layers] sampled on 7/12);
Approx. 330m south of discharge channel of Units 1-4 of Fukushima Daiichi, Arround Naraha Town Iwasawa Shore

(approx. 16 km offshore from Fukushima Daiichi), approx. 3km and 5km offshore from Soma city, approx. 5km offshore from Kashima of Minami Soma City, Minamisoma City approx. 30km offshore, and Namie-Town Ukedogawa area approx. 30km offshore

<Cooling of Spent Fuel Pools>

Unit	Cooling type	Status of cooling	Temperature of water in Pool
1u	Fuel Pool Cooling and Filtering System	No plan on 7/13	-
2u	Circulating Cooling System	Operating from 5/31	35.0℃ (7/13 11:00)
3u	Circulating Cooling System	Operating from 6/30 6:33 pm	31.7℃(7/13 11:00)
4u	Alternative Injection System	No plan on 7/13	82℃(7/8 16:00)※

※Since 7/9, due to temporary stop of power supply to remote monitoring system of temperature of spent fuel pool, no data of water temperature are and will be available (we plan to check it when we inject water to spent fuel pool and reactor well next time.)

<Water Injection to Reactor Pressure Vessels> (at 11:00 am, 7/13)

Unit	Status of injecting water	Temp. of feed-water nozzle	Bottom of reactor pressure vessel
1u	Injecting freshwater (approx. 3.5m^3/h) *	116.8℃	102.8℃
2u	Injecting freshwater (approx. 3.5m^3/h)	111.7℃	122.5℃
3u	Injecting freshwater (approx. 9.0m^3/h)	149.6℃	117.1℃

【Units 5】【Unit 4】【Units 6】【Common spent fuel pool】 No particular changes in parameters.

<Injection of Nitrogen Gas into the Primary Containment Vessel> (at 11:00 am, 7/13)

Unit	Pressure of Primary Containment Vessel	Total volume of injected Nitrogen *1
1u	156.3kPaabs(4/7 1:20) => 143.7kPaabs	Approx.64,300m^3
2u	20kPaabs(6/28 19:00) => 15kPaabs *2	Approx.4,600m^3

*1: approximate figure *2: monitoring the status

<Others>

・4/10 ～ Clearance of outdoor rubbles by remote control to improve working conditions.

・5/10 ～ Clearing of rubbles in and around Unit 3 reactor building etc using robots.

・6/3～ Restoration works of port related facilities has been under operation.

・7/12~ Started construction for installing steel pipe sheet pile against water leakage in the water intake channel.

・6/7～6/20 Installation of support structure into the bottom of fuel spent pool of reactor building of Unit 4.

・6/21～ Concrete filling and grout started.

・6/28～ Main construction work for installing the cover for the reactor building of Unit 1 started.

・7/6 Valves closed to establish circulating cooling system of Spent Fuel Pool of Unit 4.

・7/8 Conducted a water flow test to confirm the soundness of Residual Heat Removal System piping to establish circulating cooling system of Spent Fuel Pool of Unit 4

・7/12 11:22 - Started to fill the reactor well and equipment stock pool with water for Unit 4. Later, we halted the water injection at 12:03 pm because we found water leakage from the junction of the water

injection line.

- 7/13 11:50 - Restored the water injection work after replacing the hose and conducting leakage check. We halted the injection work at 12:45 pm because we found another water leakage at the pump drain side of the hose injection point (different from the point of 7/12).
- 7/12 – 7/13 Implemented dust sampling at the opening of the reactor building of Unit 3.
- 7/12 13:00 – 13:45 Implemented connecting procedure of ducts for nitrogen injection into the reactor of Unit 3.
- 7/13 6:30 Stopped cooling pump in order to replace pipes for temporarily-installed outside residual heat removal system (RHR) seawater pump for RHR of Unit 5.
  10:58 Restored the operation of RHR.

- 7/13 13:00 Found that portable monitoring post shows the value of exposure dose at the main entrance as zero. Because there was no unusual sign, we rebooted the power supply of Main Anti-Earthquake Building, finding that the value shown at the monitoring post has turned to be normal value.