Plant Status of Fukushima Daiichi Nuclear Power Station

June 21, 2011
Tokyo Electric Power Company

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

◇ Construction status of accumulated radioactive water treatment system and storage tank facility

[Treatment Facility]

- At 8:00 pm on June 17, a full operation of water treatment of accumulated water started.
- At 12:54 am on June18, we stopped operation of the facility manually due to the radiation dose at surface level measured up (stop criterion: 4mSv/h) at the first skid (for filtering out oil and technetium) of Cesium adsorption Instruments.
- From 3:17 am on June 18, we started operation of circulating seawater purification facility for cleaning up low radiation-level contained water.
- Between 7:30 pm and 11:45 pm on June 19, water flow test was implemented using highly concentrated contaminated water at Cesium adsorption Instruments.
- Between 10:25 am and 2:50 pm, a water flow test was implemented using highly concentrated contaminated water at Cesium adsorption Instruments.
- From 12:45 am on June 21, we started a water flow test using highly concentrated contaminated water at water treatment facility.
  At around 7:20 am, a pump transferring filtrated water to coagulation settling instrument tripped, and the whole water treatment instrument stopped. Then, we found that the instrument was stopped because the flow rate to a filtrate tank was so high on the recirculation side that the pump was overloaded. We adjusted the flow rate by controlling the valves on the recirculation side, and tested the effect by commissioning. As the result seemed fine, we restarted the pump (at around 11:30 am).

[Storage Facility]

- From June 8, big tanks to store and keep treated or contaminated water are being transferred and installed sequentially.

◇Treatment status of accumulated water in vertical shafts of trenches and at basement level of each building (as of 7:00 am on June 21)

Unit	Draining water source -> place transferred	Status
Unit 1	Unit 1 Condenser -> CST (10:33 am, June 15 ～ 9:52 am, June 16)	[Process Main Building] Water level: O.P.+4,834 mm (137mm decrease from 7:00 am, June 20) Accumulated total increase in water level: 6,051mm [Miscellaneous Solid Waste Volume Reduction Treatment Building]
Unit 2	Unit 2 Vertical Shaft of Trench -> Process Main Building of Central Radioactive Waste Treatment Facility (10:08 am, April 19 ～ 4:01 pm, May 26 and 6:39 pm, June 4 ～ 2:20 pm, June 8, 6:03 pm, June 8 ～8:40 am, June 16) -> Unit 1 condenser (2:20 pm～2:59 pm, June 17*,	

	1:37 pm, June 20 ～ transfer began) * Water transfer was suspended due to failure of pump.	Water level: O.P.+3,015mm (5mm increase from 7:00 am, June 20) Accumulated total increase in water level: 3,741 mm
Unit 3	Unit 3 Turbine Building -> Miscellaneous Solid Waste Volume Reduction Treatment Building of Central Radioactive Waste Treatment Facility (from 6:04 pm, May 17～9:10am, May 25, 1:31 pm, June 18 ～ 0:02 am, June 20 Unit 3 Turbine Building **->** Process Main Building of Central Radioactive Waste Treatment Facility (10:05 am on June 14～ 8:46 am on June 16, 3:32 am on June 21～)	
Unit 6	Unit 6 Turbine Building → temporary tanks (from May 1 on demand basis, from 2:45 pm on June 5 to 6:00 pm on June 8, from 9:00 am on June 9 on demand basis, and from 10:00 am to 16:00 on June 20, 10:00 am, June 21 ～ transfer began)	

◇Water level at the vertical shaft of the trench and T/B (As of 7:00 am, June 21)

	Vertical Shaft of Trench (from top of grating to surface)	T/B
Unit 1	O.P. below +850 mm (>3,150mm) No change from 7:00 am, June 20	O.P. +4,920 mm No change from 7:00 am, June 20
Unit 2	O.P. +3,761 mm (239mm) 59 mm decrease since 7:00 am, June 20	O.P. +3,744mm 58 mm increase since 7:00 am, June 20
Unit 3	O.P. +3,876 mm (124 mm) 23 mm increase since 7:00 am, June 20	O.P. +3,855mm 21mm decrease since 7:00 am, June 20
Unit 4	—	O.P. +3,842mm 18 mm decrease since 7:00 am, June 20

- Water level at Unit 1 Reactor Building: as of 7:00 am on June 21, O.P. +4,397mm, 2mm decrease since 7:00 am, June 20
- With regard to Unit 2 and 3, blockage work to the extension of the pit and the pit whose flow path is not identified is underway.
  (Blockage work of pits where incidents similar to outflow ones occurred or whose closure would ensure flow routes was completed by June 10.)

<Monitoring of Radioactive Materials>

◇ Nuclide Analysis of Seawater (Reference purpose)

Density limit by the announcement of Reactor Regulation: I-131: 50Bq/L, Cs-134: 60Bq/L, Cs-137: 90Bq/L

Sampling Location	Date	Time	Ratio to Criteria (times)		
			Iodine-131	Cecium-134	Cecium-137
Approx. 30m north to Discharge Canal of Units 5 & 6 of Fukushima Daiichi	6/20	9:10/13:50	0.08/ND	0.57/0.40	0.43/0.31
Approx. 330m south to Discharge Canal of Units 1 to 4 of Fukushima Daiichi	6/20	8:55/13:30	ND/ND	0.28/0.72	0.21/0.51
Around Fukushima Daini North Discharge Canal (Approx. 10km from Fukushima Daiichi	6/20	8:15	ND	ND	0.05

※ Analyses Results Left: Upper Layer, Right: Lower Layer

All the data in the following 18 locations (35 points) were below the detectable limit

- Around Iwasawa Seashore, Naraha Town (Approx. 16km from Fukushima Daiichi)
- Approx. 3km offshore of North of Iwaki City
- Approx. 3km offshore of Natsui River, Iwaki City
- Approx. 3km offshore of Onahama port
- Approx. 3km offshore of Ena, Iwaki City
- Approx. 3km offshore of Numanouchi, Iwaki City
- Approx. 3km offshore of Toyoma, Iwaki City
- Approx. 15km offshore of Ukedo River, Namie City
- Approx. 15km offshore of Fukushima Daiichi site
- Approx. 15km offshore of Fukushima Daini site
- Approx. 15km offshore of Iwasawa seashore Naraha Town
- Approx. 15km offshore of Minami Soma City
- Approx. 15km offshore of Hirono Town
- Approx. 3km offshore of Takadokohama seashore, Ibaraki Prefecture
- Approx. 3km offshore of Kujihama seashore, Ibaraki Prefecture
- Approx. 3km offshore of Oarai seashore, Ibaraki Prefecture
- Approx. 3km offshore of Hirai seashore, Ibaraki Prefecture
- Approx. 3km offshore of Hazaki seashore, Ibaraki Prefecture

<Water Injection and Spraying to Spent Fuel Pools>

Results	-	- None on June 20
Plans	-	- not planed on June 21

- From May 31, cooling using the circulating cooling system for Spent Fuel Pool, Unit 2 is underway.
  Spent fuel pool water temperature at 11:00 am on June 20: 32℃
- From June 16, changed water feeding line of Unit 4 spent fuel pool water injection from concrete pumping vehicle to alternative water injecting line.

<Water Injection to Reactor Pressure Vessels> (as at 11:00 am on June 21)

Unit	Status of injecting water	Temp. of feed-water nozzle	Bottom of reactor pressure vessel
1	Injecting freshwater (approx. 4.1m^3/h)	113.5℃	98.5℃
2	Injecting freshwater (approx. 4.5m^3/h)	107.4℃	107.7℃
3	Injecting freshwater (approx. 9.9～10.1m^3/h)	144.4℃	127.8℃

Injection amount of each unit was changed on June 21(Unit 1: 10:02 ～Approx. 4.5m^3/h → 4.0m^3/h, Unit 2: 10:04 ～Approx. 5.0m^3/h → 4.5m^3/h, Unit 3: 10:06 ～Approx. 11.0m^3/h → 10.0m^3/h)
【Unit 4】Units 5】【Units 6】【Common spent fuel pool】No particular changes on parameters.

<Injection of Nitrogen Gas to the Primary Containment Vessel of Unit 1 (PCV)>

◇Injection of nitrogen gas

- Primary Containment Vessel pressure: 156.3 (1:20am, April 7) → 135.7kPaabs, (11:00am, June 21) approx. 49,500m^3.
- From 11:55 am, Nitrogen gas injection has been temporary suspended due to installment of transformer (until around 17:00).

<Others>

- Since April 10, we have been clearing outdoor rubbles by a remote control to improve working environment to improve working conditions.
- Since April 26, we are continuing to spray dust inhibitor in the site of the power station. (On June 18, around the main gate etc, approx 10,200m2; on June 19, the spray is underway around the ground etc).
- Since May 10, we commenced clearing of rubble in front of carry-in gate for large stuff of reactor building of Unit 3 by using robots.
- Since May 13, preparation work for installation of a cover for the reactor building of Unit 1.
- Since June 3, we have been carrying out restoration woks of port related facilities
- From June 7 to June 20, we installed support structure into the bottom of fuel spent pool of reactor building of Unit 4.
- From June 21, started filling concrete and grout.
- From 9:49, June 19, filling water at Unit 4 reactor well and instrument storage pool is being implemented.
- At 12:52 on June 21, temporarily stopped filling water. It will be resumed later.
- For site checking for the preparation of Unit 2 measuring instruments calibration, we measured the radiation dose and dust density level by entering reactor building first and second floor.

END