

Plant Status of Fukushima Daiichi Nuclear Power Station

June 22, 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 0:54 am on June 18, 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 0:45 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.

From 0:16 pm on June 21 to 10:00 am on June 22, we started a water flow test using highly concentrated contaminated water at water treatment facility.

- From 10:20 am on June 22, we started flash in Cesium adsorption Instruments.

[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 22)

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.+4,644 mm
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, 9:56 am, June 22 ~) → Unit 1 condenser (2:20 pm ~ 2:59 pm, June 17*,	(190mm decrease from 7:00 am, June 21) Accumulated total increase in water level: 5,861mm [Miscellaneous Solid Waste Volume Reduction Treatment Building] Water level: O.P.+3,026mm

	5:09 pm, June 21) * Water transfer was suspended due to failure of pump.	(11mm increase from 7:00 am, June 21) Accumulated total increase in water level: 3,752 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 4:00 pm on June 20, 10:00 am to 4:00 pm, June 21)	

◇Water level at the vertical shaft of the trench and T/B (As of 7:00 am, June 22)

	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 21	O.P. +4,920 mm No change from 7:00 am, June 21
Unit 2	O.P. +3,757 mm (243mm) 4 mm decrease since 7:00 am, June 21	O.P. +3,744mm No change from 7:00 am, June 21
Unit 3	O.P. +3,878 mm (122mm) 2 mm increase since 7:00 am, June 21	O.P. +3,850mm 5mm decrease since 7:00 am, June 21
Unit 4	—	O.P. +3,852mm 10 mm decrease since 7:00 am, June 21

- Water level at Unit 1 Reactor Building: as of 7:00 am on June 22, O.P. +4,447mm, 50mm increase since 7:00 am, June 21
- 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.)

◇ 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	Cesium-134	Cesium-137
Approx. 30m north to Discharge Canal of Units 5 & 6 of Fukushima Daiichi	6/21	9:10/13:55	0.08/ND	0.48/0.30	0.26/0.20
Approx. 330m south to Discharge Canal of Units 1 to 4 of Fukushima Daiichi	6/21	8:55/13:35	ND/ND	0.27/0.43	0.28/0.30

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

All the data in the following 12 locations (24 points: 3km, 5km, 8km Upper Layer/ Lower Layer; 30km Upper Layer/ Middle Layer/ Lower Layer) were below the detectable limit

- Around Fukushima Daini North Discharge Canal (Approx. 10km from Fukushima Daiichi)
- Around Iwasawa Seashore, Naraha Town (Approx. 16km from Fukushima Daiichi)
- Approx. 3km offshore of Haramachi, Minami soma City
- Approx. 3km offshore of Odaka, Minami soma City
- Approx. 3km offshore of Iwasawa seashore Naraha Town
- Approx. 3km offshore of Soma city
- Approx. 5km offshore of Soma city
- Approx. 5km offshore of Kashima, Minami soma City
- Approx. 8km offshore of Odaka, Minami soma City
- Approx. 8km offshore of Iwasawa seashore Naraha Town
- Approx. 30km offshore of Minami Soma city
- Approx. 30km offshore of Ukedo River, Namie City

<Water Injection and Spraying to Spent Fuel Pools>

Results	-	- None on June 21
Plans	Unit 4	- From 2:31 on June 21, Fresh water injection from alternative water injecting line

- 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 22: 32°C

<Water Injection to Reactor Pressure Vessels> (as at 11:00 am on June 22)

Unit	Status of injecting water	Temp. of feed-water nozzle	Bottom of reactor pressure vessel
1	Injecting freshwater (approx. 4.1m ³ /h)	151.1°C	99.9°C
2	Injecting freshwater (approx. 4.5m ³ /h)	107.4°C	107.2°C
3	Injecting freshwater (approx. 9.9~10.1m ³ /h)	148.1°C	126.4°C

Injection amount into reactor was changed on June 22(Unit 1: 10:02 ~Approx. 4.0m³/h → Approx. 3.5m³/h, Unit 2: 10:04 ~Approx. 4.5m³/h → Approx. 4.0m³/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 22) approx. 50,200m³.

<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 21, around the materiel yard etc, approx 10,150m²; on June 22, the spray is underway southeast of Unit 5, 6 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 June 19, we started injecting fresh water to reactor well and instrument storage pool of Unit 4 for the purpose of environmental improvement (decreasing dose) at 5th floor of reactor building of Unit 4(June 19 Approx. 80t, From June 20 to June 21 Approx. 709t, From 8:23 am to 2:31 pm on June 22, started injecting fresh water).
- 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.
- On June 22, plan for calibration for Reactor Pressure and hydraulic water level of Unit 2. Plan for on-site survey of nitrogen injection equipment.
- On June 22, plan for preliminary survey for installation of alternative equipment for fuel pool coolant purification system in Unit 1.
- On June 22, plan for sampling airborne radiation in air above reactor building of Unit 1 by concrete pumping vehicle.

END