

## Plant Status of Fukushima Daiichi Nuclear Power Station

June 18, 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]

- From 3:45 am to 2:00 pm, on June 14: stand-alone commissioning of Cesium absorption Instruments (Kurion)
- From 1:10 pm to 8:35 pm on June 15, decontamination instruments (AREVA) stand-alone commissioning.
- From 10:40 pm on June 15 to 0:20 am on June 16, both Cesium absorption instruments and decontamination ones commissioned in combination.
- From 0:20 am on June 16, the overall treatment facility started operation.
- From 7:20 pm on June 16, the water treatment system was stopped automatically. The leakage was found from the cesium adsorption instruments. The repairing work was implemented.
- From 10:00 am on June 17, the repairing work of the instruments was completed. Water was fed into the instruments.
- From 01:00 pm on June 17, the cesium adsorption instruments resumed the test operation.
- From 6:40 pm to 7:00 pm on June 17, decontamination instruments (AREVA) stand-alone commissioning.
- From 6:40 pm to 7:00 pm on June 17, a test operation of the whole water treatment facilities started from Process Main Building to oil separators for high radiation-level contained water in Process Main Building.
- At 8:00 pm on June 17, a full operation started of water treatment of accumulated water.
- 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.

#### [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 18)

Unit	Draining water source -> place transferred	Status
<u>Unit 1</u>	Unit 1 Condenser -> CST (10:33 am, June 15 ~ 9:52 am, June 16)	[Process Main Building] Water level: O.P.+4,997 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) -> Unit 1 condenser (2:20 pm ~ 2:59 pm, June 17*) * Water transfer was suspended due to failure of pump.	(9 mm decrease from 7:00 am, June 17) Accumulated total increase in water level: 6,214mm  [Miscellaneous Solid Waste Volume Reduction Treatment Building] Water level: O.P.+2,370 mm (7mm increase from 7:00 am, June 17)
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 ~ started a water transfer) Unit 3 Turbine Building -> Process Main Building of Central Radioactive Waste Treatment Facility (3:30pm, June 11 ~ 5:01pm, June 12, 10:05 am on June 14 ~ 8:46 am on June 16)	Accumulated total increase in water level: 3,096 mm
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 on June 17)	

\* We announced result of transfer at Unit 6 as 10:09 am ~ 4:00 pm on July 15, while 10:00 am ~ 4:00 pm on July 15 was right. Please accept our sincere apologies for this inconvenience.

Water level at the vertical shaft of the trench and T/B (As of 7:00 am, June 18)

	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 17	O.P. +4,920 mm No change from 7:00 am, June 17
Unit 2	O.P. +3,745 mm (255mm) 37 mm increase since 7:00 am, June 17	O.P. +3,727mm 38 mm increase since 7:00 am, June 17
Unit 3	O.P. +3,860 mm (140 mm) 19 mm increase since 7:00 am, June 17	O.P. +3,846mm 20mm increase since 7:00 am, June 17
Unit 4	-	O.P. +3,836mm 21 mm decrease since 7:00 am, June 17

- Water level at Unit 1 Reactor Building: as of 7:00 am on June 18, O.P. +4,396mm, 22mm decrease since 7:00 am, June 17

- 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	Cesium-134	Cesium-137
Approx. 30m north to Discharge Canal of Units 5 & 6 of Fukushima Daiichi	6/17	9:05/13:35	ND/ND	0.58/0.38	0.29/0.31
Approx. 330m south to Discharge Canal of Units 1 to 4 of Fukushima Daiichi	6/17	8:50/13:20	ND/ND	0.47/0.42	0.33/0.30
Around Iwasawa Seashore, Naraha Town (approx. 8km from Fukushima Daiichi)*	6/17	8:45/8:45	ND/ND	0.07/ND	0.05/ND

Analyses Results Left: Upper Layer, Right: Lower Layer

All the data in the following 14 locations (29 points in total: where data were collected from upper and lower layers [3 / 8 / 15 km offshore]) were below the detectable limit

- Around the north Discharge Canal of Fukushima Daini (10km from Fukushima Daiichi)
- Approx. 3km offshore of north of Iwaki city
- Approx. 3km offshore of Onahama port
- Approx. 3km offshore of Ena
- Approx. 3km offshore of Toyoma
- Approx. 3km / 15km offshore of Iwasawa sea coast
- Approx. 5km / 15km / 30km offshore of Numanouchi
- Approx. 15km offshore of Minami-soma city
- Approx. 15km offshore of Fukushima Daiichi NPS
- Approx. 15km offshore of Fukushima Daini NPS
- Approx. 15km offshore of Hirono town

#### <Water Injection and Spraying to Spent Fuel Pools>

Results	Unit 3	From 10:19 am – 11:57 am on June 17, water and hydrazine were injected by the fuel pool cooling and filtering system (49t).
Results	Unit 4	From 4:05 pm on June 18, water and hydrazine were injected by alternative feed water system .

- 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 18: 32
- From June 16, changing water feeding line from concrete pumping vehicle to alternative water injecting line, injecting fresh water to spent fuel pool of Unit 4 was started

#### <Water Injection to Reactor Pressure Vessels> (as at 11:00 am on June 18)

Unit	Status of injecting water	Temp. of feed-water nozzle	Bottom of reactor pressure vessel
1	Injecting freshwater (approx. 4.5m <sup>3</sup> /h)	114.2	98.7
2	Injecting freshwater (approx. 4.9m <sup>3</sup> /h)	107.9	106.5
3	Injecting freshwater (approx. 11.2 ~ 11.3m <sup>3</sup> /h)	150.1	139.6

[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) 134.9kPaabs, (11:00am, June 18) approx. 47,600m<sup>3</sup>.

<Others>

- Since April 10, we have been clearing outdoor rubbles by a remote control to improve working environment.
- Since April 26, we are continuing to spray dust inhibitor in the site of the power station. (On June 17, old administration office building, approx 7,000m<sup>2</sup>; on June 18, around main gate 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 works of port related facilities
- Since June 7, we have been installing support structure into the bottom of fuel spent pool of reactor building of Unit 4.
- From June 11, we started the work to improve inside working environment of Unit 2 Reactor Building.  
At 12:39 pm, we opened air-lock double doors of Reactor Building.  
From 12:42 pm we started to operate an ambient air filtration system.
- From approx. 10:00 am on June 13, we started continuous operation of the circulating seawater purification facility.
- On June 15 decontamination commissioning was conducted at the inside of the truck bay door.

END