

<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 2nd 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 a steady state.

[Storage Facility]

- 6/8 ~ Large 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 [Process Main Building and Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building)]	· 10:12 on December 17 – 9:58 on December 18, transferred*
Unit 3	· Unit 3T/B Central Radioactive Waste Treatment Facility [Process Main Building]	· 14:22 on December 15 – 10:04 on December 17, Transferred
Unit 6	·Unit 6T/B Temporary tanks	·On December 19, no scheduled

* At 12:24 pm, we stopped the transfer since the water level at Unit 2 turbine building did not change. We confirmed that switching valve of transfer line was shut and also confirmed that there was no leakage from the line. Then we opened the valve and restarted the transfer at 1:22 pm on the same day.

Place transferred	Status of Water Level (As of 12/19 at 7:00)
Process Main Building	Water level: O.P.+ 1,657 mm(Accumulated total increase:2,874 mm) 82mm increase since 7:00 on December 18
Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building)	Water level: O.P.+ 1,701 mm(Accumulated total increase:2,427 mm) 23mm increase since 7:00 on December 18

Water level of the vertical shaft of the trench, T/B and R/B(As of December 19 at 7:00)

	Vertical Shaft of Trench	T/B	R/B
Unit 1	O.P. <+ 850 mm (No change since 7:00 on December 18)	O.P.+ 3,280 mm (27mm increase since 7:00 on December 18)	O.P.+ 4,251 mm (23mm increase since 7:00 on December 18)
Unit 2	O.P.+ 2,996 mm (53mm increase since 7:00 on December 18)	O.P.+ 2,995 mm (46mm increase since 7:00 on December 18)	O.P.+ 3,119 mm (31mm increase since 7:00 on December 18)
Unit 3	O.P.+ 3,142 mm (18mm increase since 7:00 on December 18)	O.P.+ 3,112 mm (21mm increase since 7:00 on December 18)	O.P.+ 3,350 mm (24mm increase since 7:00 on December 18)
Unit 4	-	O.P.+ 3,109 mm (19mm increase since 7:00 on December 18)	O.P.+ 3,091 mm (3mm decrease since 7:00 on December 18)

<Monitoring of Radioactive Materials>

Nuclide Analysis of Seawater (Reference)

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	12/18	8:30	ND	0.07	0.07
Approx. 330m South of Discharge Channel of 1-4U, 1F	12/18	8:10	ND	0.04	0.02
Discharge Channel of 3,4U, 2F	12/18	8:25	ND	0.02	ND
Approx. 7 km South of Discharge Channel of 1,2U, 2F	12/18	8:05	ND	ND	0.01

· Others: samples from 1 location at the coast of Fukushima Prefecture (sampled on December 17) and from 2 locations offshore of Fukushima Prefecture (sampled on December 16) showed ND for all three major nuclides (Iodine-131, Cs-134, 137).

<Cooling of Spent Fuel Pools >(As of December 19 at 11:00)

Unit	Cooling type	Status of cooling	Temperature of water in Pool
Unit 1	Circulating Cooling System	Under operation	12.0
Unit 2	Circulating Cooling System	Under operation	15.6
Unit 3	Circulating Cooling System	Under operation	13.4
Unit 4	Circulating Cooling System	Under operation	20

[Unit 4] · 11/29 ~ We started operation of the ion exchange equipment to remove salt from spent fuel pool.

[Unit 1] · 12/19 11:11am we found water drops on a few drops per second from connection point of the valve and piping of pressure indicating instrument of secondary coolant system of alternative cooling system of spent fuel pool of Unit 1. At 11:55 am on the same day, we tightened the connection point and then water drops were stopped. The dropped water was filtrate water (fresh water) and no radioactive material was contained. Also, alternative cooling system of spent fuel pool was in operation continuously and there is no problem on cooling.

< Water Injection to Pressure Containment Vessels > (As of December 19 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.4.5 m ³ /h, Core Spray System: Approx.2.0 m ³ /h)	31.7	32.4	110.0 kPaabs
Unit 2	Injecting freshwater (Feed Water System: Approx.3.0 m ³ /h, Core Spray System: Approx.6.0 m ³ /h)	61.1	65.2	111 kPaabs
Unit 3	Injecting freshwater (Feed Water System: Approx.2.8 m ³ /h, Core Spray System: Approx.5.8 m ³ /h)	55.1	62.1	101.6 kPaabs

* Data at 11:14 am was published (as the data at 11:00 am was not taken due to the adjustment of core water injection)

[Unit 2] · 12/19 11:14am water injection from feed water system was adjusted from approx. 1.0 m³/h to 3.0 m³/h (water injection from core spray system remain unchanged at approx. 6.0 m³/h)

[Unit 4] [Unit 5] [Unit 6] No major change.

<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.