

<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 second 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 steady state.
- 11/23-12/1 Desalination facility (RO type) 2-2 unit, which was automatically stopped due to the alarm indicating that the treated water pressure at the outlet was high, was confirmed to have no malfunction by inspecting the facility from outside (damage and leakage) and reviewing the operation status from the instrument reading. The pressure switch, the potential cause of the alarm, was replaced.
- 12/1 11:20 Desalination facility (RO type) 2-2 unit was reactivated, which will be under continuous surveillance.
- 12/2 11:00-13:00 Water leakage from 7 pinholes in the transfer hose from desalination facility to the buffer tank were confirmed. (leakage was a drop or two per second). Leakage stopped after the temporary repair with water proof tape. There was no major impact on the environment as leaked water was the desalinated water after removing the radioactive material and leakage was minimum.

[Storage Facility]

- 6/8 ~ 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

Unit	Draining water source Place transferred	Status
Unit 2	·Unit 2T/B Central Radioactive Waste Treatment Facility [Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building)]	·11/30 18:03 – Transferring
Unit 3	·Unit 3T/B Central Radioactive Waste Treatment Facility [Process Main Building]	·11/15 9:25 - Transferring
Unit 6	·Unit 6T/B Temporary tanks	·12/1 10:00 – 12/2 16:00 Transferred

Place transferred	Status of Water Level (As of December 2 at 7:00)
Process Main Building	Water level: O.P.+ 2,290 mm(Accumulated total increase:3,507 mm) 42 mm increase since 7:00 on December 1
Miscellaneous Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building)	Water level: O.P.+ 1,689 mm(Accumulated total increase:2,415 mm) 78 mm decrease since 7:00 on December 1

Water level of the vertical shaft of the trench, T/B and R/B(As of December 2 at 7:00)

	Vertical Shaft of Trench	T/B	R/B
Unit 1	O.P. <+ 850 mm (No change since 7:00 on	O.P.+ 3,415 mm (30mm increase since 7:00 on December 1)	O.P.+ 3,960 mm (31mm decrease since 7:00 on December 1)

	December 1)		
Unit 2	O.P.+ 2,957 mm (31mm decrease since 7:00 on December 1)	O.P.+ 2,971 mm (28 mm decrease since 7:00 on December 1)	O.P.+ 3,091 mm (26 mm decrease since 7:00 on December 1)
Unit 3	O.P.+ 3,196 mm (14mm decrease since 7:00 on December 1)	O.P.+ 2,938 mm (16mm decrease since 7:00 on December 1)	O.P.+ 3,154 mm (16mm decrease since 7:00 on December 1)
Unit 4	-	O.P.+ 2,969 mm (16mm decrease since 7:00 on December 1)	O.P.+ 2,992 mm (3mm increase since 7:00 on December 1)

<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	12/1	8:45	ND	ND	0.01
Approx. 330m South of Discharge Channel of 1-4U, 1F	12/1	8:25	ND	0.04	0.04
Around Discharge Channel of 3-4U, 2F	12/1	8:30	ND	ND	0.02
Approx. 7 km South of Discharge Channel of 1-2U, 2F	12/1	7:55	ND	0.01	ND

<Cooling of Spent Fuel Pools >(As of December 2 at 11:00)

Unit	Cooling type	Status of cooling	Temperature of water in Pool
Unit 1	Circulating Cooling System	Under operation(11:22 on August 10 -)	15.5
Unit 2	Circulating Cooling System	Under operation(17:21 on May 31 -)	27.5
Unit 3	Circulating Cooling System	Under operation(18:33 on June 30 -)	18.0
Unit 4	Circulating Cooling System	Under operation(10:08 on July 31 -)	23

- [Unit 2] · 11/6 ~ We started operation of radioactive material decontamination instrument of spent fuel pool.
- 11/30 23:13 The alarm went off at the alternative cooling system in the Fuel Pool Cooling and Filtering System indicating that the difference of the flow rate between at the inlet and at the outlet is large and the system automatically stopped its operation.
- 23:34 No leakage was confirmed by the site inspection. At 11:00 pm on the same day, the temperature of spent fuel pool was 22.7 C and the anticipated temperature increase was 0.3 C/h. As there is sufficient buffer, the inspection is scheduled during the morning of December 1.
- 12/1 The inspection, the repair work and the cause analysis is rescheduled to December 2 as it turned out that the material preparation for such work needs time.
- 12/2 13:50 The above system was reactivated after the flashing with pure water and flooding as the air or the abnormal material was estimated to exist in the detection line. (temperature of spent fuel pool at the reactivation was 28.0)
- [Unit 3] · 12./2 9:01 we interrupted the operation of the alternative cooling in order to replace the primary strainer as a countermeasure against the decrease in inhale pressure of the primary pump for alternative cooling of the spent fuel pool. The temperature of the spent fuel pool as at the interruption was 18 and expected temperature increase was 0.2 /h. The water temperature of the spent fuel pool is in a normal state.
- 15:36 The system above was reactivated after replacing the strainer mesh(the temperature of spent fuel pool at the time of reactivation was 18.1)

<Water Injection to Pressure Containment Vessels >(As of December 2 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)	43.3	44.5	117.7 kPaabs
Unit 2	Injecting freshwater (Feed Water System: Approx.3.0 m ³ /h, Core Spray System: Approx.4.3m ³ /h)	71.7	70.6	111 kPaabs
Unit 3	Injecting freshwater (Feed Water System: Approx.2.1 m ³ /h, Core Spray System: Approx.6.1m ³ /h)	60.0	68.3	101.6 kPaabs

[Unit 1] 12/2 10:35 Amount of injected water through feed water system was adjusted from approx 4.0m³/h to 4.5m³/h

[Unit 2] 11/29 13:47 Due to installation works of the nitrogen injection line to the Reactor Pressure Vessel we suspended the operation of the nitrogen injection device.

14:21 Installation completed and operation of the nitrogen injection device restarted.

14:37 Reached fixed amount of 26Nm³/h

11/30 13:45 Started nitrogen injection to the Reactor Pressure Vessel.

14:47 As we confirmed nitrogen injection had not increased, we resumed the operation.

12/1 10:46 We started the nitrogen injection operation into the Reactor Pressure Vessel (The inspection thereafter revealed that the valve which was not described in the operation manual was not open.).

11:00 Injection amount reached the scheduled amount of 5 m³/h.

12:10 Along with this operation, in order to balance the injected amount of nitrogen into the Reactor Pressure Vessel and the Primary Containment Vessel of Unit 2 and the exhaust amount from the gas management system, the exhaust amount from the system was adjusted from approx. 22 m³/h to approx. 34 m³/h.

12/2 9:39 Nitrogen injection into the RPV started.

10:25 Injected amount of nitrogen reached 10 m³/h.

11:20 in order to balance the injected amount of nitrogen into the Reactor Pressure Vessel and the Primary Containment Vessel and the exhaust amount from the gas management system, the exhaust amount from the system was adjusted from approx. 34 m³/h to approx. 39 m³/h.

[Unit 4] [Unit 5] [Unit 6] No particular changes in parameters.

<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.
- 12/2 10:10 ~ 12:00 Conducted dust sampling at the ventilation equipment filter of Unit 1 reactor building cover.
- 12/2 13:00 ~ 14:00 Conducted dust sampling and measured air flow at the upper part of the reactor building equipment hatch of Unit 1.
- 12/2 12:00 ~ 14:00 Conducted dust sampling at the opening of Unit 2 reactor building (blow-out panel) and at charcoal filter and particulate filter of gas control system of Unit 2 Primary Containment Vessel.

End