

Fukushima Daiichi Nuclear Power Station

Completion of the Third Discharge of ALPS Treated Water in FY2024

< Reference document >
J u l y 1 6 , 2 0 2 4
Tokyo Electric Power Company Holdings, Inc.
Fukushima Daiichi Decontamination and
Decommissioning Engineering Company

- The third discharge of ALPS treated water (approximately 7,800m³) in FY2024 from the measurement/confirmation facility tank group B began at 11:46 AM on June 28, planning to take approximately 17 days.
- Samples have been taken from the seawater pipe every day to measure tritium concentrations in order to confirm that tritium is being suitably diluted during the discharge period. As a result, we have been able to confirm that the analysis values are approximately equal to calculated concentrations, and below 1,500Bq/liter.
- During the discharge period, seawater samples have also been taken from 4 locations within 3km of the power station every day, and the detection limit has been raised to approximately 10Bq/liter in order to quickly obtain tritium concentration measurement results. As a result, we have confirmed that the analysis values are below both the discharge suspension level (700Bq/liter) and the investigation level (350Bq/liter).

< Announced by June 15 >

- Since the commencement of discharge on June 28, the amount of the ALPS treated water being discharged has remained constant at approximately 460m³/day, and daily quick analysis results of tritium concentrations in the seawater have confirmed that the ALPS treated water is being discharged safely as planned.
- We have completed the discharge of the ALPS treated water from the measurement/confirmation facility tank group B at 3:29 PM on July 15. The flush out of the water remaining in the ALPS treated water transfer line (ALPS treated water) was completed at 11:59 AM on July 16, and the completion of this task marked the end of the third discharge in FY2024. (Total amount of water discharged: approx. 7,846m³, Total amount of tritium discharged: approx. 1.3 trillion Bq)
- Going forward, we will remain vigilant to ensure the safe and stable discharge of ALPS treated water.

[Reference] FY2024 discharge plan (1/2)



- The FY2024 discharge plan as of January 2024 is as follows: There will be seven discharges during the fiscal year that will result in an annual discharge of approximately 54,600m³ of treated water and an annual tritium discharge volume of approximately 14 trillion Bq.
- ALPS treated water generated daily during FY2024 shall be stored in tanks that have been emptied by transferring the water in them to the measurement/confirmation facility (excluding the J9 area in which the tanks will be dismantled)

Management number*1		Amount of water to be transferred*2		Discharge period
24-1-5	K3 area Group A/B (Transferred to Measurement/confirmation facility group C)	: <u>Approx. 4,510m³</u>	Secondary treatment: No Tritium concentration : 18×10 ⁴ -20×10 ⁴ Bq/liter*3 Total amount of tritium: 1.5 trillion Bq	April-May
	J4 area Group L (Transferred to Measurement/confirmation facility group C)	: <u>Approx. 3,240m³</u>		
24-2-6	J4 area Group L (Transferred to Measurement/confirmation facility group A)	: <u>Approx. 2,030m³</u>	Secondary treatment: No Tritium concentration : 17×10 ⁴ -19×10 ⁴ Bq/liter*3 Total amount of tritium: 1.4 trillion Bq	May-June
	J9 area Group A/B (Transferred to Measurement/confirmation facility group A)	: <u>Approx. 5,710m³</u>		
24-3-7	J9 area Group A/B (Transferred to Measurement/confirmation facility group B)	: <u>Approx. 1,800m³</u>	Secondary treatment: No Tritium concentration : 16×10 ⁴ -18×10 ⁴ Bq/liter*3 Total amount of tritium: 1.3 trillion Bq	June-July
	K1 area Group C/D (Transferred to Measurement/confirmation facility group B)	: <u>Approx. 5,980m³</u>		
24-4-8	K1 area Group C/D (Transferred to Measurement/confirmation facility group C)	: <u>Approx. 4,700m³</u>	Secondary treatment: No Tritium concentration : 16×10 ⁴ -31×10 ⁴ Bq/liter*3 Total amount of tritium: 1.7 trillion Bq	July-August
	G4 south area Group C (Transferred to Measurement/confirmation facility group C)	: <u>Approx. 3,100m³</u>		

Continues on next slide

*1 The management number is made up of the fiscal year, followed by the discharge number for that fiscal year, and the total number of discharges to date.

For example, “24-1-5” indicates that the data is for the first discharge of 2024, which is the fifth discharge to date.

*2 Underlined texts indicate actual results.

*3 Average value of the tank group that was assessed taking into account the radioactive decay until April 1, 2024

[Reference] FY2024 discharge plan (2/2)



Continued from previous slide

Management number*1		Amount of water to be transferred		Discharge period
24-5-9	G4 south area Group C (Transferred to Measurement/confirmation facility group A)	: Approx. 6,700m ³	Secondary treatment: No Tritium concentration : 30×10 ⁴ -35×10 ⁴ Bq/liter ※2 Total amount of tritium: 2.4 trillion Bq	August-September
	G4 south area Group A (Transferred to Measurement/confirmation facility group A)	: Approx. 1,100m ³		
24-6-10	G4 south area Group A (Transferred to Measurement/confirmation facility group B)	: Approx. 7,800m ³	Secondary treatment: No Tritium concentration : 34×10 ⁴ -35×10 ⁴ Bq/liter ※2 Total amount of tritium: 2.7 trillion Bq	September-October
<p>Inspection suspension (including full inspections of the measurement/confirmation facility Group B)</p>				
24-7-11	G4 south area Group A (Transferred to Measurement/confirmation facility group C)	: Approx. 800m ³	Secondary treatment: No Tritium concentration : 34×10 ⁴ -40×10 ⁴ Bq/liter ※2 Total amount of tritium: 3.0 trillion Bq	February-March
	G4 south area Group B (Transferred to Measurement/confirmation facility group C)	: Approx. 7,000m ³		




➡ Total amount of tritium to be discharged during FY2024 : Approx. **14 trillion Bq**

*1 The management number is made up of the fiscal year, followed by the discharge number for that fiscal year, and the total number of discharges to date. For example, "24-1-5" indicates that the data is for the first discharge of 2024, which is the fifth discharge to date.

*2 Average value of the tank group that was assessed taking into account the radioactive decay until April 1, 2024

[Reference] Future monitoring plan for quick tritium measurements



	A total of 4 locations ^{※1} in the vicinity of the discharge outlet 	Other 6 locations  
During the discharge period and for one week following the completion of discharge	Quick measurements : Conduct daily ^{※2} (Normal measurement: Conduct once a week)	Quick measurements : Conduct twice a week (Normal measurement: Conduct once a week)
Outside the discharge period (Excluding one week following the completion of discharge)	Quick measurements : Conduct once a week (Normal measurement: Conduct once a week)	Quick measurements : Conduct once a month (Normal measurement: Conduct once a week)

※1 Selected considering 3 monitoring points conducted by Ministry of the Environment in the vicinity of the discharge outlet, detection performance of monitoring conducted by TEPCO, and direction of ocean current.

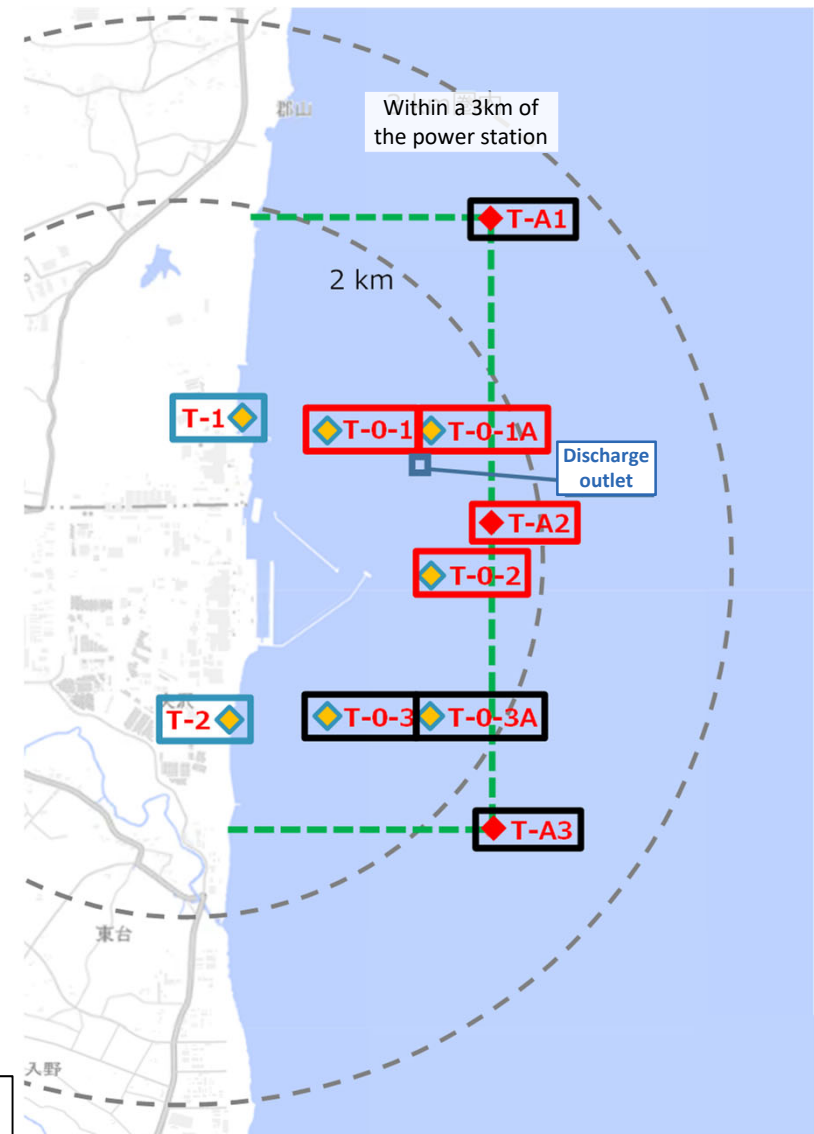
※2 If two days are missed because of bad weather condition during the discharge period, and it is predicted that measurements will not be able to be taken the next day either (third day in a row), quick tritium measurement will be conducted at T-1 and T-2 on the third day.

Quick measurement : Analysis performed with a detection limit of 10Bq/liter in order to quickly confirm that the discharged water is dispersing from the discharge outlet as anticipated after leaving the discharge outlet.

Normal measurement: Analysis performed with a detection limit of 0.4Bq/liter (once a week), and 0.1Bq/liter (once a month) in accordance with the government’s Comprehensive Radiation Monitoring Plan.

Note) The same specimen may be used for both quick measurements and normal analysis

- During the analysis of samples from the other 6 locations, this plan may be revised if
 - ✓ Tritium is detected during quick measurements
 - ✓ Concentrations that exceed detection limits for quick measurements are detected during normal analysis



[Reference] Monitoring plans for quick tritium measurements



- Seawater tritium analysis is implemented once a week at all points on Figures 1 and 2 below, with the detection limit set to 0.1-0.4Bq/liter.
- In addition, quick tritium measurements with the detection limit set to 10Bq/liter will be implemented at the locations outlined in the red frames in Figures 1 and 2 below. In the case "discharge suspension level" indicators are exceeded, the discharge into the sea will be suspended.
- After the commencement of the discharge, in light of the monitoring frequency outlined by the various organizations within the Comprehensive Monitoring Plan, frequency of quick tritium measurements specifically near the discharge outlets shown in Figure 1 will be increased from once a week to everyday for the time being.

