

- On March 10, we commenced the First stage of the seventh discharge of FY2024 of ALPS treated water into the sea (discharge in two-stage). A small amount (approximately 0.7m<sup>3</sup>) of ALPS treated water was diluted with seawater (approximately 1,200m<sup>3</sup>), which was temporarily held in the upper-stream storage and then sampled.
- In the future, we will measure concentration of tritium in the water sampled from the upper-stream storage and confirm that there are no significant differences between the calculated estimates and actual measurements for tritium concentrations, and that the water is being diluted/mixed, and that the concentration of tritium is less than the discharge criteria of 1,500Bq/liter (less than the operational limit of 700Bq/liter). In addition to this, we shall confirm that there have been no changes in facility status by using seawater flow values and ALPS treated water flow values to confirm that the water is being diluted as designed.
- After March 12, we plan to commence continuous discharge into the sea (Second stage) from the measurement/confirmation facility tank group C after confirming the results of the First stage.

< Announced by March 10, 2025 >

- On March 11, 2025, following the results of the First stage, we decide to proceed to the Second Stage. We started up the seawater transfer pumps at 1:25 p.m. which marked from the measurement/confirmation facility tank group C of the discharge into the sea(discharge in two-stage).
- During the discharge period, we will confirm that the tritium concentration after dilution is below the discharge suspension level (700 Bq/liter<sup>\*1</sup> or 30 Bq/liter<sup>\*2</sup>) and the investigation level (350 Bq/liter<sup>\*1</sup> or 20 Bq/liter<sup>\*2</sup>).
- Going forward, we will remain vigilant to ensure the safe and stable discharge of ALPS treated water.

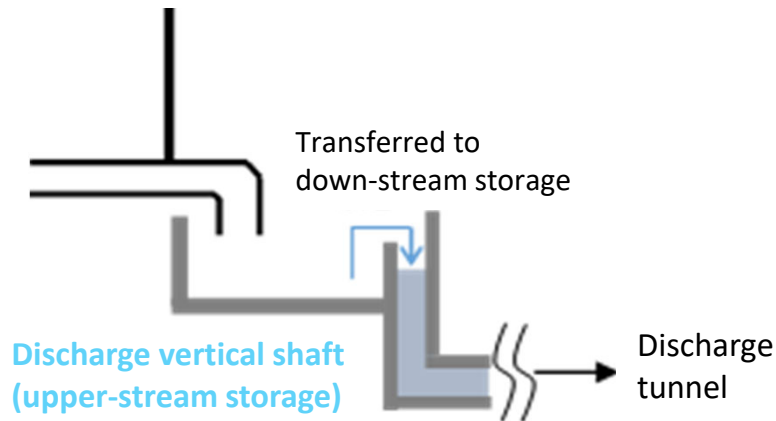
\*1 10 locations within 3 km of the power station

\*2 4 locations within 10 km square in front of the power station

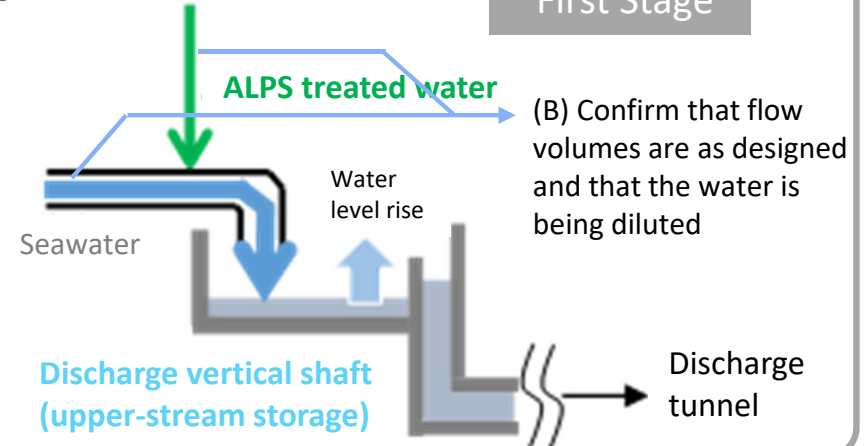
# [Reference] Method of discharge in two stage

**TEPCO**

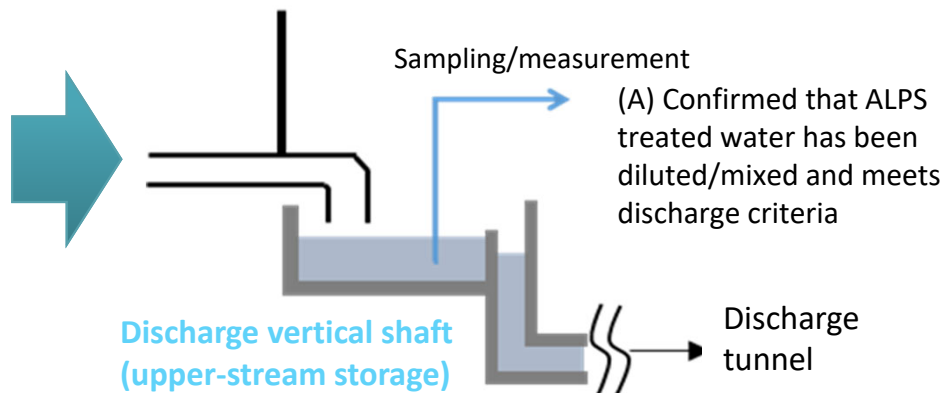
## ① From transfer facility



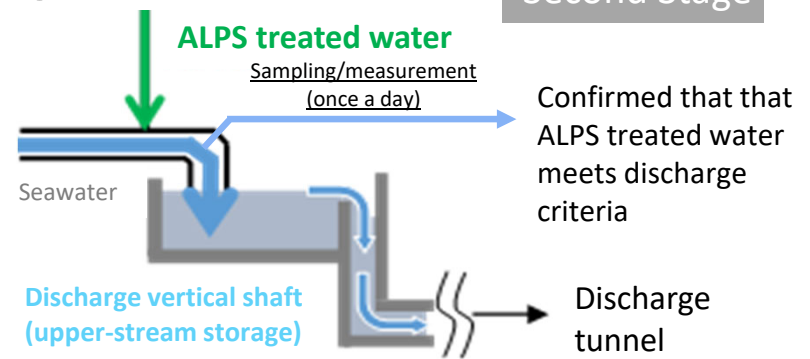
## ② From transfer facility



## ③ From transfer facility



## ④ From transfer facility



- ① The discharge vertical shift (upper-stream storage) emptied
- ② A small amount (approximately 0.7m<sup>3</sup>) of ALPS treated water will be diluted with seawater (approximately 1,200m<sup>3</sup>) and then held in the discharge vertical shift (upper-stream storage).
- ③ It will be confirmed that there are no problems with the series of operations of the ALPS treated water dilution/discharge facilities and that the concentration of tritium in water stored in the discharge vertical shift (upper-stream storage) is that through calculated estimates and actual measurements that there had been no significant difference in the concentration of tritium, and less than 700Bq/liter. As a measure to ensure that the condition of the facilities has not changed, confirm that the water is being diluted as designed by flow volumes of the seawater and ALPS treated water. [Processes ① through ③ comprise the First Stage].
- ④ Then, TEPCO will move on to the Second Stage which will be continuous discharge into the sea.

# [Reference] FY2024 discharge plan (1/2)

- The FY2024 discharge plan is as follows: There will be seven discharges during the fiscal year that will result in an annual discharge of approximately 54,600m<sup>3</sup> 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* <sup>1</sup>		Amount of water to be transferred* <sup>2</sup>		Discharge period
24-1-5	K3 area Group A/B (Transferred to Measurement/confirmation facility group C ) J4 area Group L (Transferred to Measurement/confirmation facility group C )	: <u>Approx. 4,510m<sup>3</sup></u> : <u>Approx. 3,240m<sup>3</sup></u>	Secondary treatment: No Tritium concentration : 180,000-200,000 Bq/liter * <sup>3</sup> Total amount of tritium: 1.5 trillion Bq	April-May
24-2-6	J4 area Group L (Transferred to Measurement/confirmation facility group A ) J9 area Group A/B (Transferred to Measurement/confirmation facility group A )	: <u>Approx. 2,030m<sup>3</sup></u> : <u>Approx. 5,710m<sup>3</sup></u>	Secondary treatment: No Tritium concentration : 170,000-190,000 Bq/liter * <sup>3</sup> Total amount of tritium: 1.4 trillion Bq	May-June
24-3-7	J9 area Group A/B (Transferred to Measurement/confirmation facility group B ) K1 area Group C/D (Transferred to Measurement/confirmation facility group B )	: <u>Approx. 1,800m<sup>3</sup></u> : <u>Approx. 5,980m<sup>3</sup></u>	Secondary treatment: No Tritium concentration : 160,000-180,000 Bq/liter * <sup>3</sup> Total amount of tritium: 1.3 trillion Bq	June-July
24-4-8	K1 area Group C/D (Transferred to Measurement/confirmation facility group C ) G4 south area Group C (Transferred to Measurement/confirmation facility group C )	: <u>Approx. 4,730m<sup>3</sup></u> : <u>Approx. 3,060m<sup>3</sup></u>	Secondary treatment: No Tritium concentration : 160,000~310,000 Bq/liter * <sup>3</sup> Total amount of tritium: 1.7 trillion Bq	July-August

Inspection of measurement/confirmation facility (Group C)

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\*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)

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Management number* <sup>1</sup>		Amount of water to be transferred* <sup>2</sup>		Discharge period
24-5-9	G4 south area Group C (Transferred to Measurement/confirmation facility group A)	: <u>Approx. 6,780m<sup>3</sup></u>	Secondary treatment: No Tritium concentration : 300,000~350,000 Bq/liter* <sup>3</sup> Total amount of tritium: 2.4 trillion Bq	August- September
	G4 south area Group A (Transferred to Measurement/confirmation facility group A)	: <u>Approx. 1,000m<sup>3</sup></u>		
	<u>Inspection of measurement/confirmation facility (Group A)</u>			
24-6-10	G4 south area Group A (Transferred to Measurement/confirmation facility group B)	: <u>Approx. 7,770m<sup>3</sup></u>	Secondary treatment: No Tritium concentration : 340,000~350,000 Bq/liter* <sup>3</sup> Total amount of tritium: 2.7 trillion Bq	September- October
Inspection suspension (including full inspections of measurement/confirmation facility Group B)				
24-7-11	G4 south area Group A (Transferred to Measurement/confirmation facility group C)	: <u>Approx. 1,130m<sup>3</sup></u>	Secondary treatment: No Tritium concentration : 340,000~400,000 Bq/liter* <sup>3</sup> Total amount of tritium: 3.0 trillion Bq	February- March
	G4 south area Group B (Transferred to Measurement/confirmation facility group C)	: <u>Approx. 4,270m<sup>3</sup></u>		

➡ 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 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

Outline of discharge for group K4-C			
Attributes of the treated water	Concentration of the 30 types of radionuclides (excluding tritium) in scope of measurement/evaluation	Within regulatory requirements (sum of the ratios of legally required concentrations of radioactive substances is less than 1) (sum of the ratios of concentration: 0.076) (details on p1 of the link)	
	Tritium concentration	31 x 10 <sup>4</sup> Bq/liter	(details on p2 of the link)
	Concentration of the 38 significant types of radionuclides measured voluntarily	No significant radionuclides identified	(details on p3 of the link)
	Status of water quality assessment	Within government and prefectural requirements (details on p4 of the link)	
	Water temperature	Same as outdoor temperature. After diluted to 740 times (design dilution factor ), same as sea water temperature (not the same as plant's thermal discharge)	
Expected volume of treated water discharge		Approximately 7,800m <sup>3</sup>	
Treated water flow rate		Approximately 460m <sup>3</sup> /day (set not to exceed designed maximum on 500m <sup>3</sup> /day)	
Dilution sea water flow rate		Approximately 340,000m <sup>3</sup> /day (same speed as walking in the tunnel [approximated 1m/second])	
Concentration of tritium after dilution		Approximately 420 Bq/liter	
Term of discharge		March 12, 2025 – March 30, 2025 (planned)	



# [Reference] Measurement monitoring plan for obtaining quick results

- Since the commencement of ALPS-treated water discharge into the sea in August 2023, TEPCO has engaged in monitoring to obtain quick measurements of the concentration of tritium in seawater at 14 locations shown in the diagrams below (Upper detection limit: Approximately 10Bq/liter). The discharge is immediately suspended if any of the values exceed the discharge suspension level (noted in the diagrams)

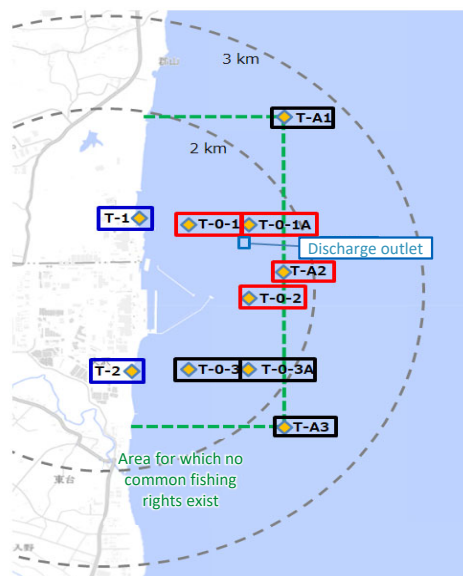


Figure 1: Specimen sampling locations within 3km of the power station (near the discharge outlet)

 
 
  : Monitoring points used to obtain quick results (10 locations)  
 Indicator (Discharge suspension level) 700Bq/liter

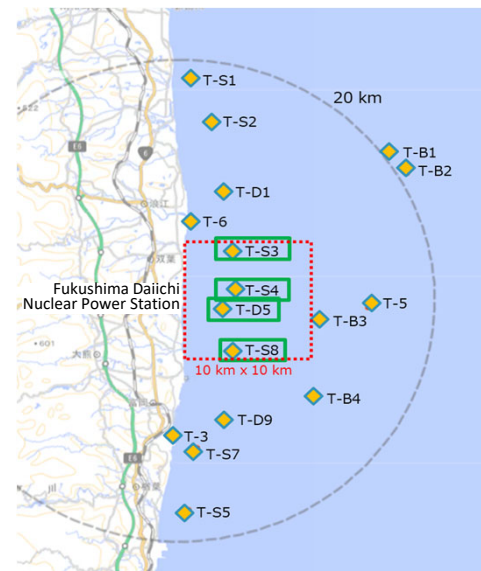


Figure 2: Specimen sampling locations within a 10km square in front of the power station

  : Monitoring points used to obtain quick results (4 locations)  
 Indicator (Discharge suspension level) 30Bq/liter

	【Fig.1】 Within 3km of the power station (near the discharge outlet)		【Fig. 2】 Four locations within a 10km square in front of the power station
	Four locations in the vicinity of the discharge outlet <span style="border: 1px solid red; padding: 0 2px;"> </span>	Other six locations <span style="border: 1px solid blue; padding: 0 2px;"> </span> <span style="border: 1px solid black; padding: 0 2px;"> </span>	
During the discharge period and for one week after the completion of discharge	Daily <sup>※1</sup>	Twice a week <sup>※2</sup>	T-D5: Every week T-S3,T-S4,T-S8: Once a month
During the discharge suspension period (Excluding the week following the completion of discharge)	Once a week <sup>※2</sup>	Once a month <sup>※2</sup>	

※1 If bad weather during the discharge period prevents measurements for being taken for two consecutive days, on the following day (third day) if it is again expected that measurements cannot be taken, measured results will be quickly obtained from T-1 and T-2.

※2 We have engaged in monitoring daily since the commencement of discharge in August 2023, but the monitoring plan was changed on December 26, 2023 in light of actual measurements taken during discharge [\(Announced on December 25, 2023\)](#)