

Fukushima Daiichi Nuclear Power Station Seventh Discharge in FY2025
Commencement of the Second Stage of the Discharge of ALPS Treated Water into the Sea
(Discharge in two-stage)

< Reference document >
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- On March 4, 2026, we commenced the First stage of the seventh discharge of FY2025 of ALPS treated water into the sea (discharge in two-stage). A small amount (approximately 0.9m³) of ALPS treated water was diluted with seawater (approximately 1,200m³), which was temporarily held in the upper-stream storage and then sampled.
- On March 5, 2026, as a first stage we confirmed that the tritium concentrations in the water created by diluting ALPS treated water with seawater in the upper-stream storage showed no significant differences between the calculated estimates and actual measurements, remained less than 700 Bq/liter[※], and that the ALPS treated water dilution/discharge facility verified that its performance had no problems. Based on these confirmations, we decided to proceed to the Second stage.
- The sample of the water was also analyzed by the Japan Atomic Energy Agency (JAEA) who confirmed that there is no significant differences between the calculated estimates and actual measurements, and that the concentration of tritium is less than 700Bq/liter[※].

※Value determined so that the upper operational limit of 1,500 Bq/liter is not exceeded in consideration of analysis uncertainty and instrument discrepancies

< Announced by March 5, 2026 >

- We started up the seawater transfer pumps on March 6 at 10:11 a.m., which marked the commencement of the continuous discharge into the sea from the measurement/confirmation facility tank group B. (Planned term of discharge : March 6 to March 24, 2026, planned total amount of water to be discharged : approximately 7,800 m³, planned tritium discharge volume : approximately 2.0 T Bq)
- For this discharge, the tritium concentration after dilution with seawater is estimated to be approximately 338 Bq/liter, which is well below the regulatory concentration limit (60,000 Bq/liter), WHO standard for drinking water quality guidelines (10,000 Bq/liter), and value stipulated in the government policy (1,500 Bq/liter).
- Going forward, we will remain vigilant to ensure the safe and stable discharge of ALPS treated water.

Outline of discharge for group: K4-C

Attributes of the treated water	Concentration of the 29 types of radionuclides (excluding tritium) in scope of measurement/assessment	Within regulatory requirements (sum of the ratios of legally required concentrations of radioactive substances is less than 1) (sum of the ratios of concentration: 0.24) (details on P.1 of the link)	
	Tritium concentration	25 x 10 ⁴ Bq/liter (details on P.2 of the link)	
	Concentration of the 39 significant types of radionuclides measured voluntarily	No significant radionuclides identified (details on P.3 of the link)	
	Status of water quality assessment	Within government and prefectural requirements (details on P.4 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)	
Planned volume of treated water discharge		Approximately 7,800m ³	
Treated water flow rate		Approximately 460m ³ /day (set not to exceed designed maximum on 500m ³ /day)	
Dilution sea water flow rate		Approximately 340,000m ³ /day (same speed as walking in the tunnel [approximated 1m/second])	
Planned volume of tritium discharge		Approximately 2.0 T Bq	
Concentration of tritium after dilution		Approximately 338 Bq/liter	
Planned term of discharge		March 6, 2026 – March 24, 2026	

[Reference] Procedure of discharge in two-stage



- Procedure of discharge in two-stage is as follows:

First Stage • • • General performance confirmation of components (no discharge into the sea)

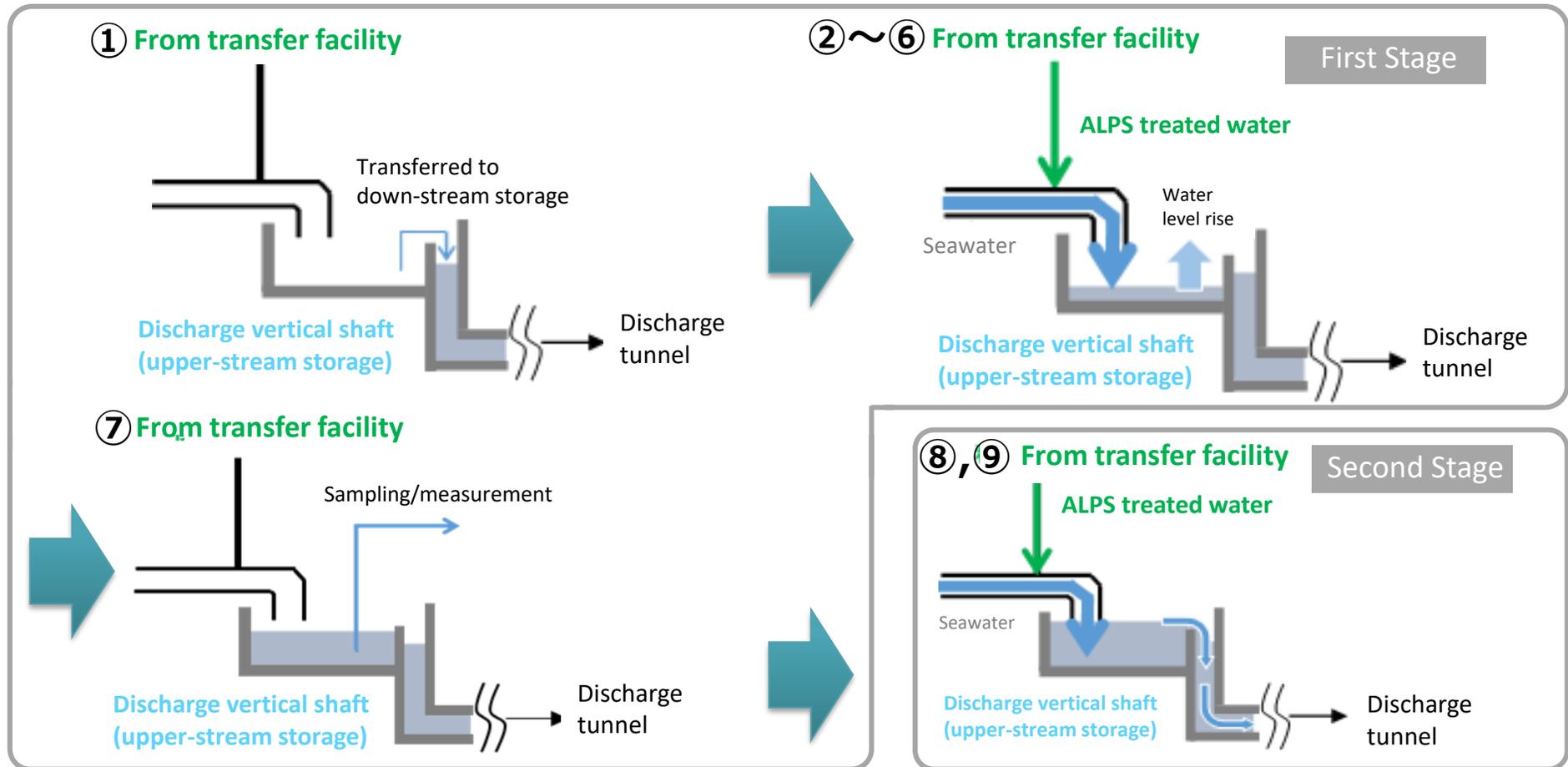
- ① Upper-stream storage emptied
- ② ALPS treated water (measurement/confirmation tank) tritium concentration entered into system
- ③ One seawater transfer pump started up
- ④ ALPS treated water transfer pump started up after the seawater transfer pump reaches rated flow
- ⑤ ALPS treated water transfer flow automatically adjusted in accordance with tritium concentration so that the ALPS treated water diluted by seawater concentration is 700 Bq/liter[※]
- ⑥ After rated flow has been reached, the ALPS treated water transfer pump and the seawater transfer pump will be shutdown
- ⑦ Operate the ALPS treated water dilution/discharge facility to verify that its performance had no problems.
The concentration of tritium in the water diluted by seawater in upper-stream storage shall also be measured to confirm that through calculated estimates and actual measurements that there had been no significant difference in the concentration of tritium and less than 700 Bq/liter.

※Value determined so that the upper operational limit of 1,500Bq/liter is not exceeded in consideration of analysis uncertainty and instrument discrepancies

Second Stage • • • Continuous discharge into the sea

- ⑧ Two seawater pumps started up in succession (commencement of discharge of diluted water from upper-stream storage)
- ⑨ After the two seawater pumps have reached rated flow the ALPS treated water transfer pump shall be started up (continuous discharge)
("the post-dilution tritium concentration" during continuous discharge shall be managed using calculated values and analysis values from water sampled daily from downstream of the seawater flow header)

[Reference] Method of discharge in two-stage



- ① The discharge vertical shaft (upper-stream storage) emptied
- ②~⑥ A small amount (approximately 0.9m³) of ALPS treated water will be diluted with seawater (approximately 1,200m³) and then held in the upper-stream storage).
- ⑦ Operate the ALPS treated water dilution/discharge facility to verify that its performance had no problems.
The concentration of tritium in the water diluted by seawater in upper-stream storage shall also be measured to confirm that through calculated estimates and actual measurements that there had been no significant difference in the concentration of tritium and less than 700Bq/liter. [Processes ① through ⑦ comprise the First Stage].
- ⑧, ⑨ Then, TEPCO will move on to the Second Stage which will be continuous discharge into the sea.

[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)

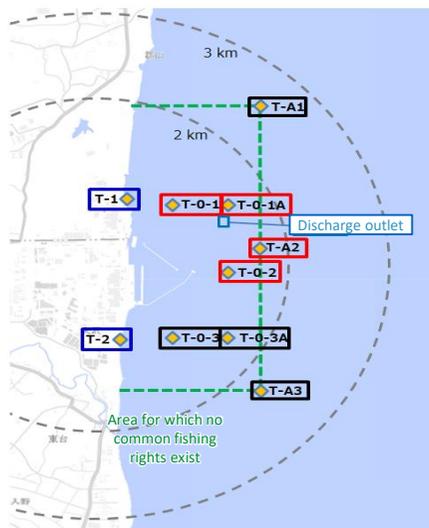


Figure 1: Specimen sampling locations within 3km of the power station (near the discharge outlet)

Red box, Blue box, Black box : Monitoring points used to obtain quick results (10 locations)

Indicator (Discharge suspension level) 700Bq/liter

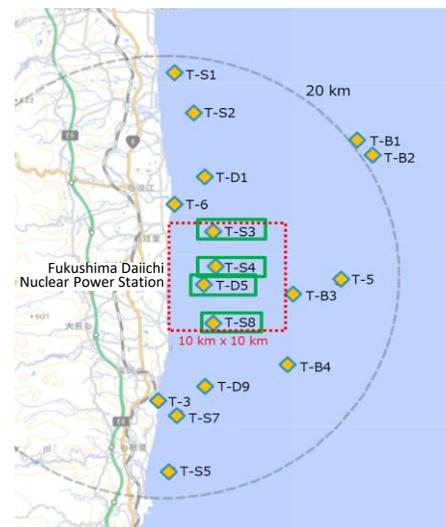


Figure 2: Specimen sampling locations within a 10km square in front of the power station

Green box : 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	Other six locations	
During the discharge period and for one week after the completion of discharge	Daily ^{※1}	Twice a week ^{※2}	T-D5: Once a 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 ^{※2}	Once a month ^{※2}	

※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)