## **ALPS Treated Water Discharge Status Update**

December 25, 2025



Tokyo Electric Power Company Holdings, Inc.

### **Report contents**



- 1. Performance of the discharge of ALPS treated water (Management number\* : 25-6-17)
- 2. Status of facility inspections
- 3. Transfer of ALPS treated water in preparation for the future discharges

(Reference) Sea area monitoring history after the commencement of discharge

<sup>\*</sup> 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, "25-6-17" indicates that the data is for the sixth discharge of 2025, which is the seventeenth discharge to date.



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### **Overview**



- We are planning to conduct the discharge of ALPS treated water (management number: 25-6-17) as follows.
- On the next page, we will explain that there was no abnormality in parameters and sea area monitoring.

#### FY2025

Management number	Tank group	Tritium Concentration	Commenced	Completed	Amount of discharge	Amount of tritium radioactivity
25-1-12	Group A	37x 10 <sup>4</sup> Bq/liter	April 10, 2025	April 28, 2025	7,853m³	Approx. 2.9 trillion Bq
25-2-13	Group C	25x 10 <sup>4</sup> Bq/liter	July 14, 2025	August 3, 2025	7,873m³	Approx. 2.0 trillion Bq
25-3-14	Group A	38x 10 <sup>4</sup> Bq/liter	August 7, 2025	August 25, 2025	7,908m³	Approx. 3.0 trillion Bq
25-4-15	Group B	21x 10 <sup>4</sup> Bq/liter	September 11, 2025	September 29, 2025	7,872m³	Approx. 1.7 trillion Bq
25-5-16	Group C	25x 10 <sup>4</sup> Bq/liter	October 30, 2025	November 17, 2025	7,838m³	Approx. 2.0 trillion Bq
25-6-17	Group A	31x 10 <sup>4</sup> Bq/liter	December 4, 2025	December 22, 2025	7,833m³	Approx. 2.4 trillion Bq

# 1-1. Outline of the sixteenth discharge of ALPS treated water into the sea (Management number: 25-6-17)



	Outlin	ne of discharge for group K4-A					
Attrib	Concentration of the 29 types of radionuclides (excluding tritium) in scope of measurement/evaluation	Within regulatory requirements (the sum of the raconcentrations of radioactive substances is less that (sum of the ratios of concentration: 0.19)					
utes c	Tritium concentration	31 x 10 <sup>4</sup> Bq/L	(details on p2 of the link)				
Attributes of the treated water	Concentration of the 39 significant types of radionuclides measured voluntarily	No significant radionuclides identified	(details on p3 of the link)				
ited w	Status of water quality assessment	Within government and prefectural requirements	(details on p4 of the link)				
⁄ater	Water temperature	Same as outdoor temperature. After diluted to 740 times (design dilution factor ), the same as plant's thermal discharge)	same as sea water tempe	rature (not			
Actual vol	lume of treated water discharge (Actual)	7,833m³					
Treated water flow rate (Actual)		Approximately 451-459m³/day (set not to exceed designed maximum on 500m³/day)					
Dilution sea water flow rate (Actual)		Approximately 350,000-360,000m³/day (same speed as walking in the tunnel [approximated 1m/second])					
Actual amount of tritium radioactivity (Actual)		Approximately 2.4 trillion Bq					
Actual co	ncentration of tritium after dilution (Actual)	Approximately 305-359 Bq/L					
Actual ter	rm of discharge (Actual)	December 4, 2025 – December 22, 2025					

# 1-2. Analysis results of ALPS treated water in the measurement/confirmation tanks (Management number: 25-6-17)



- Pre-discharge analysis results for the samples taken from the measurement/confirmation tank (Group A) on October 17, 2025, were obtained. <u>It was confirmed that the water satisfies</u> <u>discharge requirements</u> (Table 1. Disclosed on December 2, 2025).
  - Item 1: For 29 nuclides to be measured and assessed, the sum of the ratios of the concentration of each radionuclide
     to the regulatory concentration is 0.19, and it is confirmed to be less than 1.
  - Item 2: Analysis results of tritium concentration is 31 x 104 Bq/L, and it is confirmed to be less than 1 million Bq/L.
  - Item 1/2: The external agency consigned by TEPCO (Kaken) and the third-party consigned by the Japanese Government (JAEA)\*1 obtained the same results from their analyses.
  - Item 3/4: It was confirmed that operational targets have been satisfied.

\*1 ALPS treated water third-party analysis (<a href="https://fukushima.jaea.go.jp/okuma/alps/index\_e.html">https://fukushima.jaea.go.jp/okuma/alps/index\_e.html</a>)

Table 1. Pre-discharge analysis results of water in the measurement/confirmation tank (Management number: 25-6-17)

	Items	Requirement basis	Operational Target	Analysis Results
1	Nuclide to be measured and assessed (29 nuclides)	Implementation	The sum of the ratios of the concentration of each radionuclide to the regulatory concentration, except for tritium, is less than 1	0.19 ( < 1)
2	Tritium	plan	Tritium concentration is less than 1 million Bq/L	31 x 10 <sup>4</sup> Bq/liter (less than 1 million Bq/L)
3	Nuclides voluntarily checked to ensure that they are not significantly present (39 nuclides)	Voluntary	No significant concentrations were found of any of the nuclides*2	None of the nuclides are present in significant consternation
4	General water quality: 44 criteria		Pre-check of water quality standards*3	All criteria satisfied

<sup>\*2</sup> It was confirmed that the concentration was below the detection limit or less than 1/100 of the notification concentration limit as a result of evaluation by radiological equilibrium, etc.

<sup>\*3</sup> Water sampled from the discharge vertical shaft (upper-stream storage) once a year to confirm that legal requirements are being satisfied.

## [Supplement] Pre-discharge analysis results of ALPS treated water in the measurement/confirmation (Management number: 25-6-17) (1/4)

Radioactivity Analysis: Nuclides to be measured and assessed (29 nuclides)



For 29 nuclides to be measured and assessed, the sum of the ratios of the concentration of each radionuclide to the regulatory concentration is 0.19, and it is confirmed to be less than 1.

Nuclides to be measured and assessed (29 nuclides)

Analysis results of radioactivity (Bq/L)

Ratios to Regulatory Concentration Limit

		Pre-d	ischarge Analysis Results of	ALPS Treated \	Water in the Measurem	ent/Confirmation Tanks (1/4)		
ımple Name	ALPS Treated W	Vater in the Mea	surement/Confirmation Tanks	Group A		Nuclides to be measured and assessed (29 nuclides) :		ı
and Time of Sampling	October 17, 2025	9:26			Summar	The sam of the ratios of the concentration of each	0.19	ı
oge Volume (m³)	8929					radionuclide to the regulatory concentration	(Confirmed to be less than 1)	Ĺ

- 1					Analysis I	Dogudka			Daties to Desulates	Concentration Limit	Descriptors	
J				TERCO	Analysis	Results	KAKEN C. 114		Ratios to Regulator	Concentration Limit	Regulatory	
	No.	Nuclide	Analysis Value	TEPCO Uncertainty *1	Detection Limit	Analysis Value	Uncertainty *1		TEPCO	KAKEN Co.,Ltd.	Concentration Limit *2	Analysis Method *4
-	1								TEPCO	KAKEN Co.,Ltd.	(Bq/L)	
- 1	_		(Bq/L)	(Bq/L)	(Bq/L)	(Bq/L)	(Bq/L)	(Bq/L)				
-	1	C-14	2.9E+01	± 2.8E+00	2.1E+00	2.7E+01	± 1.6E+00	1.0E+00	1.4E-02	1.4E-02	2000	Measurement
- 1	2	Mn-54	ND		2.6E-02	ND	_	1.7E-02		less than 1.7E-05	1000	Measurement
-	3	Fe-55	ND		1.4E+01	ND	_	1.1E+01		less than 5.4E-03	2000	Measurement
-	4	Co-60	3.1E-01	± 5.9E-02	2.4E-02	3.0E-01	± 4.2E-02	2.2E-02	1.6E-03	1.5E-03	200	Measurement
- 1	5	Ni-63	ND		8.9E+00	ND	_	5.2E+00	less than 1.5E-03	less than 8.7E-04	6000	Measurement
-	6	Se-79	ND	_	1.0E+00	ND	_	1.5E+00	less than 5.1E-03	less than 7.7E-03	200	Measurement
-	7	Sr-90	3.4E+00	± 1.2E-01	5.1E-02	3.5E+00	± 4.5E-01	4.3E-02	1.1E-01	1.2E-01	30	Measurement
+	Q	V-9n	3.4E+00	_	5.1E-02	3.5E+00	_	4.3E-02	1.1E-02	1.2E-02	300	Sr-90/Y-90 Radioactive Equilibrium Assessment
	9	Tc-99	ND	_	1.5E-01	ND	_	1.6E-01	less than 1.5E-04	less than 1.6E-04	1000	Measurement
-	10	Ru-106	ND	_	2.1E-01	ND	_	1.8E-01	less than 2.1E-03	less than 1.8E-03	100	Measurement
-	11	Cd-113m	ND	_	8.7E-02	ND	_	5.6E-02	less than 2.2E-03	less than 1.4E-03	40	Measurement
-	12	Sb-125	1.5E-01	± 6.5E-02	8.6E-02	1.7E-01	± 5.6E-02	7.5E-02	1.9E-04	2.2E-04	800	Measurement
-	13	Te-125m	5.7E-02	_	3.2E-02	6.5E-02	_	2 00 00	6.4E-05	7.2E-05	900	Sb-125/Te-125m Radioactive Equilibrium Assessment
-	14	I-129	1.7E-01	± 1.4E-02	1.4E-02	2.2E-01	JE-UZ	3.3E-02	1.9E-02	2.4E-02	9	Measurement
-	15	Cs-134	ND		2.8E-02	NU	_	2.2E-02	less than 4.6E-04	less than 3.7E-04	60	Measurement
	16	Cs-137	1.9E-01	± 4.75.00	3.3E-02	1.8E-01	± 2.8E-02	2.2E-02	2.1E-03	2.0E-03	90	Measurement
-	17	Pm-147	ND	_	2.8E-01	ND	_	2.4E-01	less than 9.4E-05	less than 8.0E-05	3000	Eu-154 Relative Ratio Assessment
-	18	C 131	ND ND	_	1.1E-02	ND	_	9.2E-03	less than 1.4E-06	less than 1.1E-06	8000	Eu-154 Relative Ratio Assessment
+	19	Eu-154	ND	_	6.3E-02	ND	_	5.4E-02	less than 1.6E-04	less than 1.3E-04	400	Measurement
	20	Eu-155	ND	_	1.7E-01	ND	_	1.3E-01	less than 5.5E-05	less than 4.5E-05	3000	Measurement
	21	U-234									20	Gross Alpha
-	22	U-238									20	Gross Alpha
-	23	Np-237									9	Gross Alpha
-	24	Pu-238	ND		2.7E-02	ND	_	2.4E-02	loop them 6 75 03	less than 6.0E-03	4	Gross Alpha
	25	Pu-239	ND	_	2./E-02	ND	_	2.4E-02			4	Gross Alpha
1	26	Pu-240							*3	*3	4	Gross Alpha
1	27	Am-241									5	Gross Alpha
1	28	Cm-244									7	Gross Alpha
	29	Pu-241	ND	_	7.3E-01	ND	_	6.6E-01	less than 3.7E-03	less than 3.3E-03	200	Pu-238 Relative Ratio Assessment

<sup>·</sup> ND indicates that analysis result is less than the detection limit.

Values are expressed in exponential notation

For example, "3.1E+01" means "3.1×101" and equals 31. Similarly, "3.1E+00" means "3.1x101" and equals 3.1, and "3.1E-01" means "3.1x101" and equals 0.31.

<sup>\*1 &</sup>quot;Uncertainty" refers to the accuracy of analysis data.

<sup>&</sup>quot;Uncertainty" is calculated using "Expanded Uncertainty: Coverage Factor k=2".

<sup>\*2</sup> Regulatory concentration limits stipulated in the Regulations of the Safety and Physical Protection of Specific Nuclear Fuel Material at Fukushima Daiichi Nuclear Power Station of the Tokyo Electric Power Company, Incorporated.

(Attached Chart 1, Row 6: Concentration limits in the water outside of the environmental monitoring area (in this chart Bg/cm³ has been converted into Bg/L¹)

<sup>\*3</sup> The ratio to regulatory concentration limit for alpha-radionuclides has been assessed using the lowest regulatory concentration limit for all the target nuclides.

<sup>\*4</sup> Analysis methods are as follows:

Measurement - The concentrations of each radionuclide have been calculated by directly measuring/analyzing radioactivity intensity and the quantity of the element.

Gross Alpha - The total amount of alpha-radionuclides in the specimen are calculated by directly measuring alpha rays.

Radioactive Equilibrium Assessment - Calculated using a physical phenomenon in which the amount of radioactivity of one radionuclide and another radionuclide produced by the decay of that radionuclide exist in a certain ratio. Relative Ratio Assessment - Calculated based on the assessment values of radionuclides that existed inside the reactor while considering radionuclide decay and migration into ALPS treated water.

## [Supplement] Pre-discharge analysis results of ALPS treated water in the measurement/confirmation (Management number: 25-6-17) (2/4)



Analysis results of <u>tritium concentration is 31 x 10<sup>4</sup> Bq/liter</u>.

Tri	tium Coı	ncentration (	Bq/L)						
		Pre-	discharge Analysi	s Results of ALP	S Treated Wate	r in the Measurem			
		\					Summary	31 x 10 <sup>4</sup> Bq/L	(confirmed to be less than 1 million Bq/L)
Dod's	and hills a Amer	Lucias 7 itisaa							
Radio	activity Ana	alysis: T itium			5 - I				
				Analysis	Results			]	
No.	Nuclide	<b>*</b>	TEPCO			KAKEN Co.,Ltd.		Analysis Objective	Analysis Method *3
NO.	Nuclide	Analysis Value	Uncertainty *1	Detection Limit	Analysis Value	Uncertainty *1	Detection Limit	Analysis Objective	Analysis Method 13
		(Bq/L)	(Bq/L)	(Bq/L)	(Bq/L)	(Bq/L)	(Bq/L)		
		- 1/	/		- 1, /				
1				l			l	1 1	
1	H-3	3.1E+05	± 2.3E+04	1.7E+01	2.9E+05	± 2.2E+04	2.0E+01	*2	Measurement

<sup>·</sup> Values are expressed in exponential notation.

For example, "3.1E+01" means "3.1×101" and equals 31. Similarly, "3.1E+00" means "3.1×100" and equals 3.1, and "3.1E-01" means "3.1×101" and equals 0.31.

Measurement - The concentration of radionuclide has been calculated by directly measuring/analyzing radioactivity intensity and the quantity of the element.

<Excerpt from Treated Water Portal Site>

<sup>\*1 &</sup>quot;Uncertainty" refers to the accuracy of analysis data.

<sup>&</sup>quot;Uncertainty" is calculated using "Expanded Uncertainty: Coverage Factor k=2".

<sup>\*2</sup> To confirm that the tritium concentration is less than 1E+06Bq/liter (less than 1 million Bq/liter), the maximum concentration stipulated in the implementation plan, ensuring that the tritium concentration after dilution is less than 1,500 Bq/liter.

<sup>\*3</sup> Analysis method is as follows:

## [Supplement] Pre-discharge analysis results of ALPS treated water in the measurement/confirmation (Management number: 25-6-17) (3/4)



We voluntarily checked that the nuclides (39 nuclides) are not significantly present.
We confirmed that all the 39 nuclides are not significantly present.

					Summary	No significant concentrations found of any of the nuclides
adio	activity Analysi	is: Nuclides volur	tarily checked to e	nsure that they ar	e not significantly	present (39 nuclides)
		TE	PCO		Co.,Ltd.	
No.	Nuclide	Assessment *1	Detection Limit	Assessment *1	Detection Limit	Confirmation Method *2
1	Fe-59	0	(Bq/L) 4,2E-02	0	(Bq/L) 4.5E-02	+
2	Co-58	ŏ	2.3E-02	0	1.8E-02	†
3	Zn-65	ŏ	4.7E-02	0	3.7E-02	†
4	Rb-86	ŏ	2.8E-01	Ö	2.4E-01	†
5	Sr-89	ŏ	1.2E-01	Ö	8.1E-02	†
6	Y-91	ŏ	2.7E+00	Ö	2.2E+00	†
7	Nb-95	ő	2.9E-02	Ö	2.3E-02	†
8	Ru-103	Ö	2.9E-02	Ö	2.5E-02	†
9	Aq-110m	ŏ	2.5E-02	Ö	1.8E-02	†
10	Cd-115m		1.2E+00	Ö	1.0E+00	†
11	Sn-123	Ö	1.3E+00	Ö	9.2E-01	†
12	Sn-126	Ö	101	Ö	1.1E-01	†
13	Sb-124	Ö	5.6E-02	Ö	4.2E-02	†
14	Te-123m	Ö	5.1E-02	0	4.1E-02	Measurement
15	Te-127	0	7.1E-01		6.0E-01	†
16	Te-129m	Ö	7.6E-01	0	6.4E-01	†
17	Te-129	Ö	3.3E-01	Ö	1E-01	†
18	Cs-136	Ö	2.3E-02	Ö	2.3E-0	†
19	Ba-140	Ö	9.5E-02	Ö	1.1E-01	<del>†</del>
20	Ce-141	0	9.6E-02	0	8.0E-02	1
21	Ce-144	0	3.1E-01	Ö	2.7E-01	1
22	Pm-146	0	SE-02	Ö	5.3E-02	1
23	Pm-148m	0	2.3E-U-	0	2.4E-02	
24	Pm-148	0	1.0E-01	0	8.5E-02	
25	Eu-152	0	1.1E-01	-	9.0E-02	
26	Gd-153	0	1.3E-01	0	2.0E-01	
27	Tb-160	0	8.2E-02	0	2E-02	<b>†</b>
28	Am-243	0	2.7E-02	0	2.4E-U-	
29	Cm-242	0	2.7E-02	0	2.4E-02	***surement (substituted with gross alpha)
30	Cm-243	0	2.7E-02	0	2.4E-02	
31	Rh-103m	0	2.8E-02	0	2.5E-02	Ru-103/Rh-103m . **coctive Equilibrium Assessment
32	Rh-106	0	2.1E-01	0	1.8E-01	Ru-106/Rh-106 Radioactive ilibrium Assessment
33	Sn-119m	0	5.0E-03	0	4.1E-03	Sn-126 Relative Ratio Assement
34	Te-127m	0	7.3E-01	0	6.2E-01	Te-127 Relative Ratio Assessment
35	Cs-135	0	2.2E-07	0	1.4E-07	Cs-137 Relative Ratio Assessment
36	Ba-137m	0	3.1E-02	0	2.1E-02	Cs-137/Ba-137m Radioactive Equilibrium Assessment
37	Pr-144m	0	4.7E-03	0	4.1E-03	Ce-144/Pr-144m Radioactive Equilibrium Assessment
38	Pr-144	0	3.1E-01	0	2.7E-01	Ce-144/Pr-144 Radioactive Equilibrium Assessment
39	Am-242m	0	1.8E-04	0	1.6E-04	Am-241 Relative Ratio Assessment

*1	"O" indicates that the absence of significant concentrations was confirmed by the following, and "x" indicates that significant concentrations of nuclide was confirmed.
	Communication of a california and communication flows

 <sup>-</sup> For nuclide that has been assessed using radioactive equilibrium, etc., if its target nuclide is detected and the assessment value of the target nuclide is extremely small compared to the regulatory concentration limit, or nother words, if it is less than 1/100 of the regulatory concentration limit which is the value set as the detection limit, then it shall be deemed to be below the detection limit.

Nuclide	Assessmer	it values (Bq/L)	Concentration Limit
reduide	TEPCO	KAKEN Co.,Ltd.	*3
Rh-103m	_	_	2.0E+05
Rh-106	_	_	3.0E+05
Sn-119m	_	_	2.0E+03
Te-127m	_	_	3.0E+02
Cs-135	1.2E-06	1.2E-06	6.0E+02
Ba-137m	1.8E-01	1.7E-01	8.0E+05
Pr-144m	_	_	4.0E+04
Pr-144	-	_	2.0E+04
Am-242m	_	_	5.0E+00

<sup>·</sup> A hyphen "-" indicates that the concentration of the target nuclide was below the detection limit.

<Excerpt from Treated Water Portal Site>

Nuclides voluntarily checked to ensure that they are not significantly present (39 nuclides)

#### Assessment results

O: absence of significant concentration was confirmed

×: significant concentration was confirmed

Values are expressed in exponential notation.

For example, "3.1E+01" means "3.1×101" and equals 31. Similarly, "3.1E+00" means "3.1×100" and equals 3.1, and "3.1E-01" means "3.1×101" means "3.1×101" means "3.1×100" means

<sup>\*2</sup> Analysis Methods are as follows:

Measurement - The concentrations of each radionuclide have been calculated by directly measuring/analyzing radioactivity intensity and the quantity of the elemen Measurement (substituted with gross alpha) - The total amount of alpha-radionuclides in the specimen are calculated by directly measuring alpha rays.

Radioactive Spallbrium Assessment - Calculated using a physical plemomenon in which the amount of radioactivity of one indionuclide and another radionuclide produced by the decay of that radionuclide used in a certain ratio.

<sup>\*3</sup> Regulatory concentration limits stipulated in the Regulations of the Safety and Physical Protection of Specific Nuclear Fuel Material at Fukushima Daiichi Nuclear Power Station of the Tokyo Electric Power Company, Incorporated.

<sup>(</sup>Attached Chart 1, Row 6: Concentration limits in the water outside of the environmental monitoring area [in this chart Bq/cm³ has been converted into Bq/L])

# [Supplement] Pre-discharge analysis results of ALPS treated water in the measurement/confirmation (Management number: 25-6-17) (4/4)



For 44 general water quality measurement items (voluntary check to confirm that there are no unusual water quality), it is confirmed that all criteria satisfied.

X In accordance with Fukushima Prefecture's "Ordinance on Discharge Standards Based on the Air Pollution Control Act and Wastewater Standard based on the Water Pollution Prevention Act (attached Chart 2)", and "the Ordinance Enforcement Regulations Pertaining to the Preservation of the Living Environment in Fukushima (attached Chart 5)".

General water quality measurement items (44 criteria)

Analysis results

Pre-discharge Analysis Results of ALP (reated Water in the Measurement/Confirmation Times (4/4)

Summary	Criteria sasied
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General Water Quality April sis: Voluntary check to confirm that there are no unusual water quality (44 criteria)

No.	Measurement Items	Unit	Analysis Result	Criteria *1
1	Hydrogen Ions (pH)	-	8.6	Sea Area 5.0∼9.0
2	Suspended Solids (SS)	mg/L	<1	Maximum: 70 or less Average: 50 or less
3	Chemical Oxygen Demand (COD)	mg/L	<0.5	Maximum: 40 or less Average: 30 or less
4	Boron	mg/L	0.5	Sea Area 230 or less
5	Soluble Iron	mg/L	<1	10 or less
6	Copper	mg/L	<0.1	2 or less
7	Nickel	mg/L	<0.1	2 or less
8	Chrome	mg/L	<0.1	2 or less
9	Zinc	mg/L	<0.1	2 or less
10	Biochemical Oxygen Demand (BOD)	mg/L	<1	Maximum: 40 or less Average: 30 or less
11	Escherichia coli	CFU/mL	0	800 or less
12	Cadmium	mg/L	< 0.01	0.03 or less
13	Cyanide	mg/L	<0.05	0.5 or less
14	Organic Phosphorus	mg/L	<0.1	1 or less
15	Lead	mg/L	< 0.01	0.1 or less
16	Hexavalent Chromium	mg/L	< 0.05	0.2 or less
17	Arsenic	mg/L	< 0.01	0.1 or less
18	Mercury	mg/L	<0.0005	0.005 or less
19	Alkyl Mercury	mg/L	<0.0005	Not Detected *2
20	Polychlorinated Biphenyl	mg/L	<0.0005	0.003 or less
21	Trichlorethylene	mg/L	< 0.03	0.1 or less
22	Tetrachloroethylene	mg/L	< 0.01	0.1 or less
23	Dichloromethane	mg/L	<0.02	0.2 or less
24	Carbon Tetrachloride	mg/L	<0.002	0.02 or less

25	1,2-Dichloroethane	mg/L	< 0.004	0.04 or less
26	1,1-Dichloroethylene	mg/L	<0.1	1 or less
27	Cis-1,2-Dichloroethylene	mg/L	< 0.04	0.4 or less
28	1,1,1-Trichloroethane	mg/L	<0.3	3 or less
29	1,1,2-Trichloroethane	mg/L	< 0.006	0.06 or less
30	1,3-Dichloropropene	mg/L	< 0.002	0.02 or less
31	Thiuram	mg/L	< 0.006	0.06 or less
32	Simazine	mg/L	< 0.003	0.03 or less
33	Thiobencarb	mg/L	<0.02	0.2 or less
34	Benzene	mg/L	< 0.01	0.1 or less
35	Selenium	mg/L	< 0.01	0.1 or less
36	Fenitrothion	mg/L	< 0.003	0.03 or less
37	Phenols	mg/L	<0.1	1 or less
38	Fluorine	mg/L	<0.5	Sea Area 10 or less
39	Soluble Manganese	mg/L	<1	10 or less
40	Ammonia, Ammonium Compounds	mg/L	<1	100 or less
41	Nitrite Compounds and Nitrate Compounds	mg/L	10	100 01 1622
42	1,4-Dioxane	mg/L	< 0.05	0.5 or less
43	n-Hexane Extractables (Mineral Oils)	mg/L	<0.5	1 or less
44	n-Hexane Extractables (Animal and Vegetable Oils and Fats)	mg/L	<1	10 or less

A "less than" symbol (<) indicates that the quantity is below quantitation limit.</li>

<Excerpt from Treated Water Portal Site>

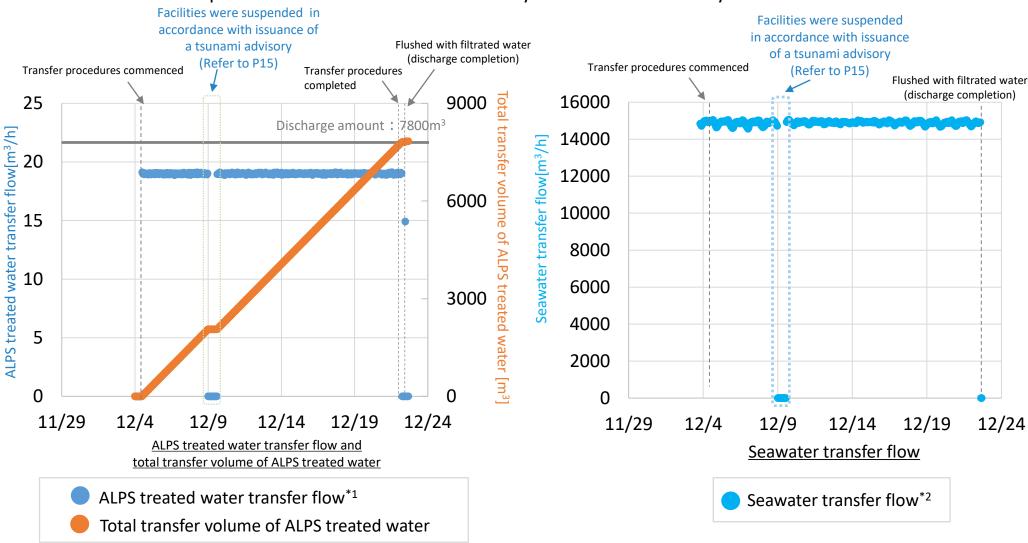
<sup>\*1</sup> In accordance with Fukushima Prefecture's "Ordinance on Discharge Standards Based on the Air Pollution Control Act and Wastewater Standards based on the Water Pollution Prevention Act (Attached Chart 2) [大気汚染防止法に基づ排出基準及び水質汚濁防止法に基づ排水基準を定める条例(別表策2)]", and "the Ordinance Enforcement Regulations Pertaining to the Preservation of the Living Environment in Fukushima (attached Chart 5) [福島県生活環境の保全等に関する条例無行規則(別表策5)]".

<sup>2 &</sup>quot;Not Detected" indicates that, as described in "Ministerial Ordinance on Effluent standards (attached Table 1) [排水基準定める省令 (別表第一)]", when the state of water pollution is assessed in discharged water using the methods established by the Minister of the Environment, the result is below the limit of quantification (Alkyl Mercury: 0.0005 mg/liter) of the assessment method.

## 1-3. Operating parameter records during the discharge (1/3)



We were able to operate ALPS treated water transfer systems and seawater systems without issue.



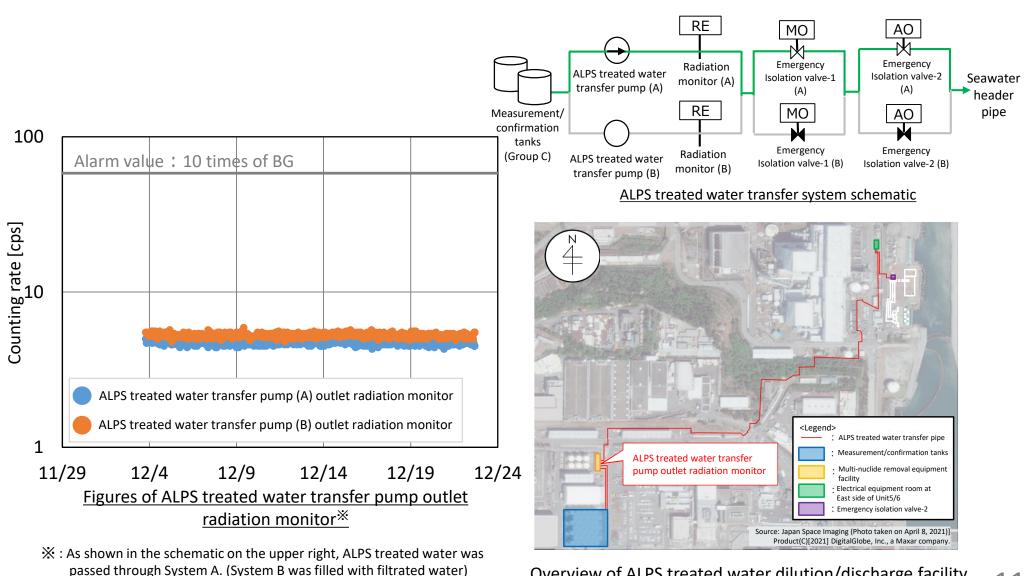
<sup>\*1:</sup> The flowmeters are reduplicate, so the higher of the figures from both meters was used.

<sup>\*2:</sup> Total for systems A and B

## 1-3. Operating parameter records during the discharge (2/3)



No abnormalities were seen in the figures from the ALPS treated water transfer pump outlet radiation monitor.



## 1-3. Operating parameter records during the discharge (3/3)

30

0

11/29

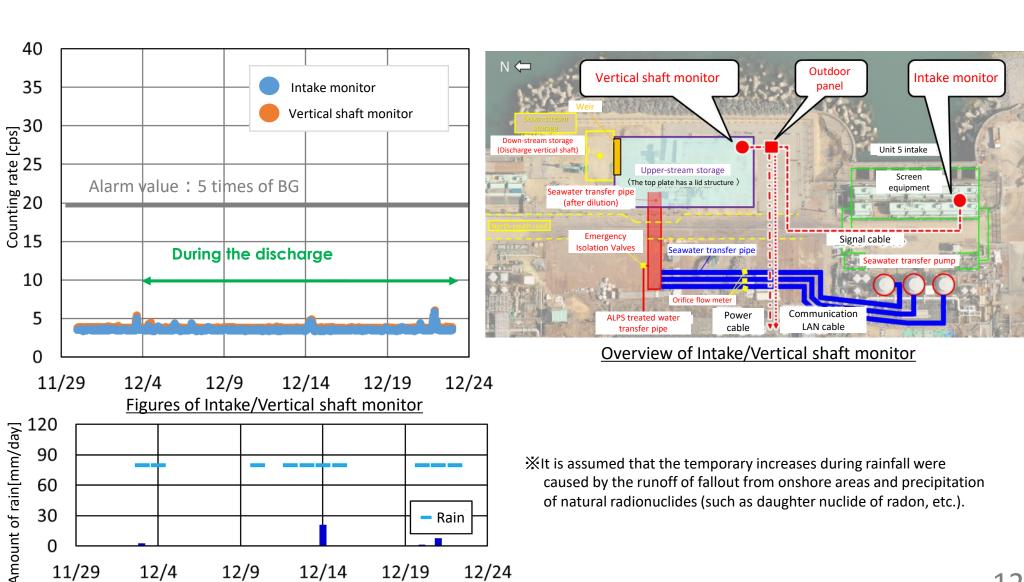
12/4

12/9

12/14



Temporary increase in values, possibly due to rain is observed, but no abnormalities are seen in the readings.



Rain

12/24

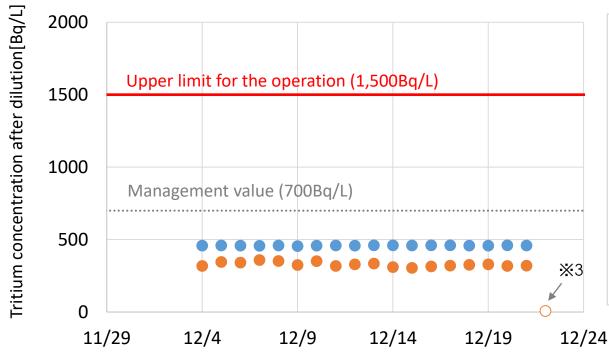
12/19

caused by the runoff of fallout from onshore areas and precipitation of natural radionuclides (such as daughter nuclide of radon, etc.).

### 1-4. Tritium concentrations after dilution during the discharge



- During the discharge period, water was sampled daily from the seawater pipe to analyze tritium concentrations.
  - ⇒Confirmed to be less than the upper limit for the operation: 1,500Bq/liter



- Calculated values<sup>\*1</sup>
- Analysis values (Detected values)
- Analysis values (Below detectable levels)
- ※1: Calculated using the following formula (Uncertainty has been conservatively considered for each parameter.)

Tritium concentrations after dilution (Calculated values)

Tritium concentrations in ALPS treated water \*\*2

ALPS treated water

X transfer flow

Seawater transfer flow + ALPS treated water transfer flow

- ※2 : Analysis values at measurement/confirmation tanks
- ※3 : No calculated values since the pipes were flushed out with filtrated water.

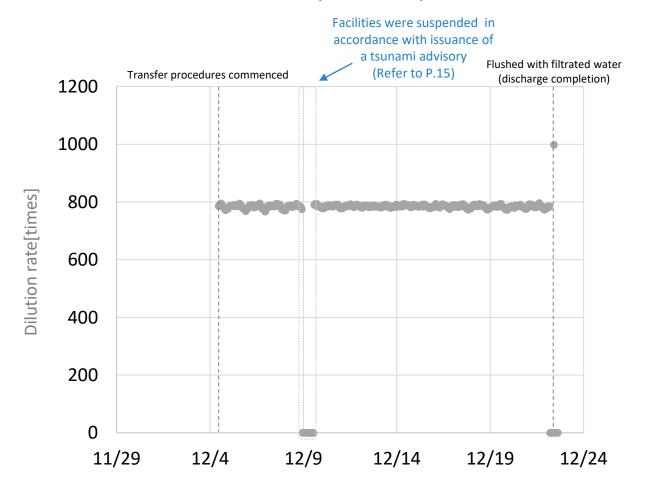
Tritium concentrations after dilution (calculated values and analysis values)

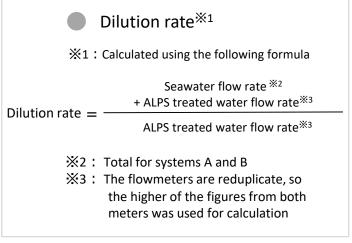
	12/4	12/5~12/8	12/9 <sup>※3</sup>	12/10~12/21	12/22
Calculated value: Time of data acquisition	13:00	7:00	16:00	7:00	_
Analysis value: Time of specimen sampling	13:26	6:00~9:00	15:44	6:00~9:00	11:58

### [Supplement] Dilution rate of ALPS treated water



The dilution rate had always been kept at over 100 times during the discharge.





Dilution rate of ALPS treated water

### 1-5. Handling of issuance of a tsunami advisory/off the coast of Hokkaido and Sanriku subsequent earthquake advisory



- December 8, 2025
  - 11:16 PM: The issuance of a tsunami advisory in Fukushima Prefecture.
  - 11:42 PM: We manually suspended the planned discharge operations of the ALPS treated water dilution/discharge facility in accordance with our predefined procedures\*.

(The seawater transfer pumps were gradually suspended)

\*Refer to next page

- December 9, 2025
  - 2:00 AM: The issuance of off the coast of Hokkaido and Sanriku subsequent earthquake advisory
  - 6:20 AM: The issuance of a tsunami advisory in Fukushima Prefecture is lifted.
  - 2:34 PM: Following the issuance of off the coast of Hokkaido and Sanriku subsequent earthquake advisory, we confirmed evacuation routes and reinforced communication measures before proceeding with preparations for discharge. Subsequently, the discharge of ALPS treated water into the sea was resumed.

### [Supplement] Natural phenomena that warrant the suspension of discharge into the sea



In the event of the following natural phenomena, etc., operators will manually suspend the discharge.

Earthquake with a seismic intensity of a lower 5 or higher	<ul> <li>In order to minimize the impact of the loss of equipment function due to an earthquake.</li> </ul>
Tsunami advisory	<ul> <li>Because a tsunami may damage equipment located 2.5m above sea level.</li> </ul>
Tornado watch	Because a tornado may damage equipment.
Storm surge warning	<ul> <li>Because the difference in water level between the discharge shaft and the sea surface may hinder normal discharge.</li> </ul>
Miscellaneous	<ul> <li>If the Shift Supervisor deems that suspension is necessary due to any other symptoms of abnormalities not mentioned above.</li> </ul>

### 1-6. Sea area monitoring history (1/2)



Measurement results of tritium concentrations in water sampled in the vicinity of the discharge outlet (within 3km of the power station) and outside of the vicinity of the discharge outlet (within a 10km square in front of the power station) are all below indices (discharge suspension level and investigation level).

(Unit: Bq/L)

	Sampling	_	December 2025										
	location*3	Frequency	1	4*4	5	6	7	8	9	10	11	12	13
	T-1	Twice a week*1	<6.6	<6.7	-	-	-	<7.3	-	-	<8.5	-	-
	T-2	Twice a week*1	<6.6	<6.8	-	-	-	<7.2	-	-	<8.5	-	-
	T-0-1	Once a day*2	<9.6	<7.3	<7.6	<5.3	<8.1	<7.7	<6.9	<8.7	<6.1	_*5	<7.8
	T-0-1A	Once a day*2	<9.6	<7.2	<7.5	<6.4	8.5	18	<8.4	<8.7	30	_*5	<5.6
In the vicinity of the	T-0-2	Once a day*2	<9.6	<7.1	<7.6	<5.3	<8.1	<7.7	<6.9	<8.7	<6.1	_*5	<7.8
discharge outlet	T-0-3A	Twice a week*1	<6.5	<6.1	-	-	-	<8.1	-	-	<5.7	-	-
outiet	T-0-3	Twice a week*1	<9.6	<7.2	-	-	-	<7.7	-	-	<6.1	-	-
	T-A1	Twice a week*1	<6.5	<6.1	-	-	-	<8.1	-	-	<5.7	-	-
	T-A2	Once a day*2	<6.5	<6.1	<7.5	<6.4	<7.6	<8.1	<8.5	<8.1	<5.7	_*5	<5.5
	T-A3	Twice a week*1	<6.4	<6.1	-	-	-	<8.1	-	-	<5.7	-	-
	T-D5	Once a week	<6.6	-	-	-	-	<7.3	-	-	-	-	-
Outside the vicinity of the	T-S3	Once a month	ı	-	-	-	ı	-	ı	ı	-	ı	-
discharge outlet	T-S4	Once a month	ı	-	-	-	ı	-	ı	ı	-	ı	-
outiet	T-S8	Once a month	-	-	-	-	-	-	-	-	-	-	-

orall: A "less than" symbol (<) indicates that the analysis result was less than the detection limit

indicates that the detected value

: Term of discharge of ALPS treated water

\*1: Conduct twice a week during the discharge period and for one week following the completion of discharge. Conduct once a month outside the discharge period, excluding the one week following the completion of discharge
\*2: Conduct once a day during the discharge period and for one week following the completion of discharge. Conduct once a week outside the discharge period, excluding the one week following the completion of discharge

<sup>\*3:</sup> For sampling locations, refer to "[Reference] Measurement monitoring plan"

### 1-6. Sea area monitoring history (2/2)



(Unit: Bq/L)

	Canadia a la asticu *2	F	December 2025									
	Sampling location*3	Frequency	14	15	16	17	18	19	20	21	22*4	23
	T-1	Twice a week*1	-	<7.0	-	-	<6.7	-	-	-	<7.5	-
	T-2	Twice a week*1	-	<7.0	-	-	<6.7	-	-	-	<7.5	-
	T-0-1	Once a day <sup>*2</sup>	<9.8	_*5	<8.3	<7.6	<6.7	<5.6	<8.6	<8.4	<8.9	<5.6
In the	T-0-1A	Once a day <sup>*2</sup>	15	_*5	35	<6.1	<8.6	6.5	<8.4	<6.8	<8.8	<5.6
vicinity of the	T-0-2	Once a day*2	<9.8	_*5	<8.4	<7.7	<6.0	<5.6	<8.5	<8.4	<8.8	<5.6
discharge outlet	T-0-3A	Twice a week*1	-	_*5	<7.9	-	<8.6	-	-	-	<7.2	-
	T-0-3	Twice a week*1	-	_*5	<7.8	-	<8.7	-	-	-	<8.8	-
	T-A1	Twice a week*1	-	_*5	<7.5	-	<7.2	-	-	-	<7.2	-
	T-A2	Once a day <sup>*2</sup>	<6.4	<b>_</b> *5	<7.5	<6.1	<7.3	<6.5	<8.5	<6.8	<7.2	<5.6
	T-A3	Twice a week*1	-	_*5	<7.5	-	<7.3	-	-	-	<7.2	-
Outside	T-D5	Once a week	-	-	<8.4	-	-	-	-	-	<7.5	-
the vicinity of	T-S3	Once a month	-	-	-	-	<6.8	-	-	-	-	-
the discharge	T-S4	Once a month	-	-	-	-	<6.7	-	-	-	-	-
outlet	T-S8	Once a month		-	-	-	<6.8	-	-	-	-	-

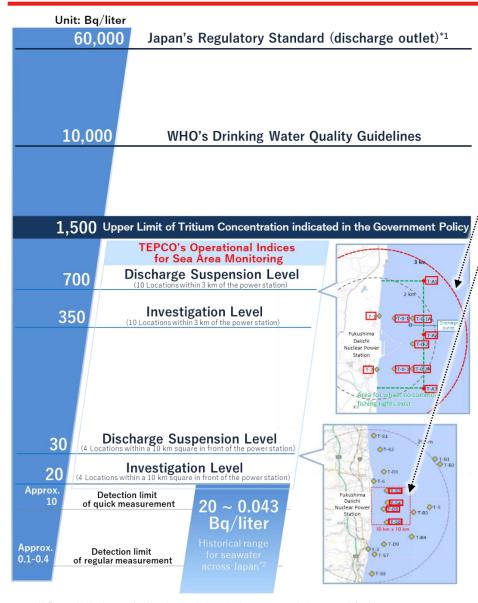
<sup>\*\*:</sup> A "less than" symbol (<) indicates that the analysis result was less than the detection limit indicates that the detected value : Term of discharge of ALPS treated water

<sup>\*1:</sup> Conduct twice a week during the discharge period and for one week following the completion of discharge. Conduct once a month outside the discharge period, excluding the one week following the completion of discharge

<sup>\*2:</sup> Conduct once a day during the discharge period and for one week following the completion of discharge. Conduct once a week outside the discharge period, excluding the one week following the completion of discharge

<sup>\*3:</sup> For sampling locations, refer to "[Reference] Measurement monitoring plan"

### [Supplement] Comparison of tritium concentration in seawater TEPCO



<sup>\*1:</sup> This standard has been stipulated based on the calculation that if a person were to drink approximately 2L of the water coming out of the discharge outlet of a nuclear facility every day for one year, his/her exposure would be 1mSv.

We have set a discharge suspension level and an investigation level as TEPCO's operational indices.

	Discharge suspension level	Investigation level
Within 3km of the power station	700 Bq/L	350 Bq/L
Within a 10km square in front of the power station	30 Bq/L	20 Bq/L

If the discharge suspension level is exceeded, the sea discharge will be immediately suspended.

If the investigation level is exceeded, facilities/operation status will be inspected and the frequency of monitoring will be increased as necessary.

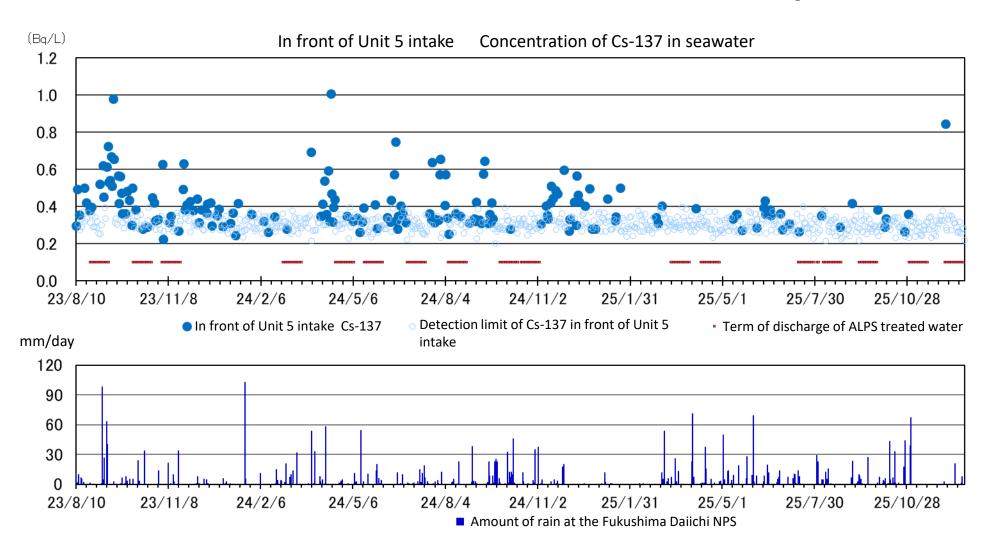
- Even if the tritium concentration exceeds indices (Discharge suspension level and Investigation level), the levels are well below the Japan's regulatory standard of 60,000 Bq/L and the WHO's drinking water quality guidelines of 10,000 Bq/L, and we assess that the surrounding sea areas are still safe.
- It is expected that the concentration of tritium in seawater will be affected depending on the concentration of tritium in the treated water to be released in the future, and higher values than before will be detected. Even in such cases, it is evaluated that the concentration will remain below the investigation level and other indices.

<sup>\*2:</sup> Source: Environmental Radioactivity and Radiation in Japan (Period: April 2019 to March 2022)

### 1-7. Unit 5 intake channel monitoring



Sea water monitoring results at near the intake for seawater to be used for dilution during the discharge of ALPS treated water have confirmed that values are similar to those outside of the term of the discharge.

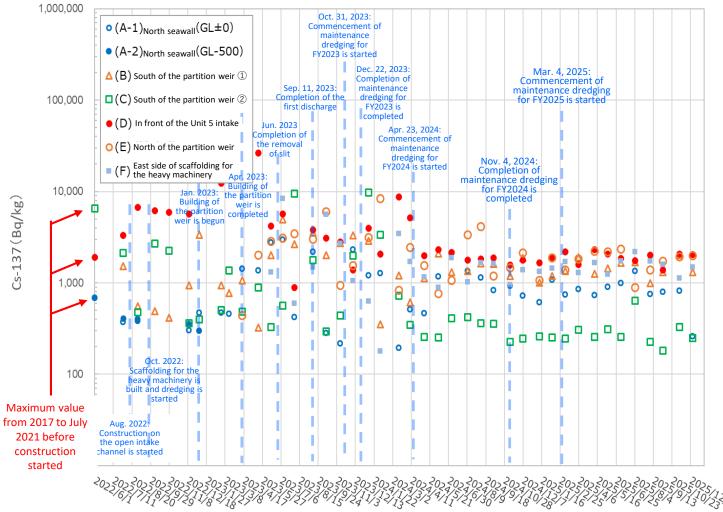


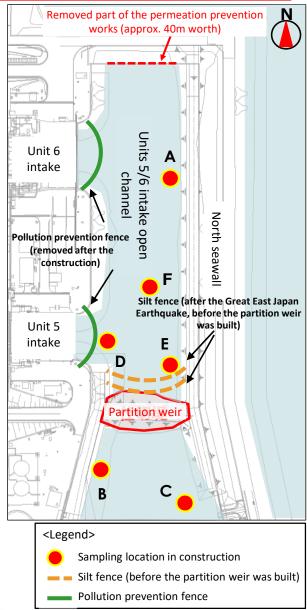
# 1-8. Monitoring results for seabed soil inside the Unit 5/6 intake open channel (1)



Monitoring results for seabed soil in front of Unit 5 intake did not show significant fluctuations from the beginning of construction at the intake open channel until December 2022. While they showed higher readings after January 2023, we have confirmed that these readings decreased after the completion of silt removal.

We will continue to monitor the seabed soil.

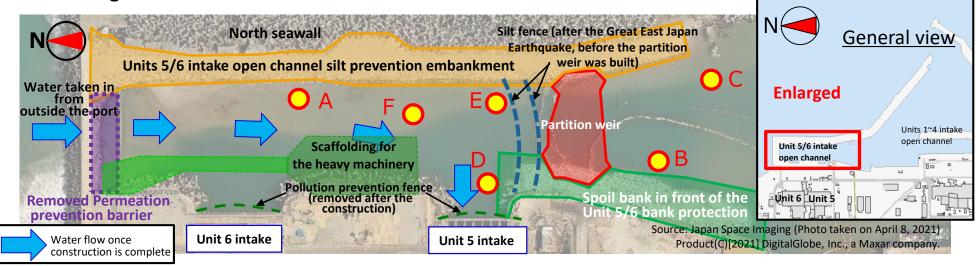




# 1-8. Monitoring results for seabed soil inside the Unit 5/6 intake open channel (2)



The following shows monitoring results for seabed soil inside the unit 5/6 intake open channel from August 2022 to December 2025.



Camadinanainta		Before construction	FY2022	2023	2024					2025				
Sampling points		2017 to July 2021	Aug. ~ Mar.	Apr. ~ Mar.	Apr. ~ Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
A-1 North side of the Unit 5/6 open channel	Cs-134	4.4~52.3	31.5~39.8	32.0~69.5	34.4~64.5	45.0	51.3	47.3	46.7	92.3	42.5	60.1	62.6	29.7
( North side of the silt fence (GL±0m)	Cs-137	163.6~678.6	303.2~468.1	216.7~2975.0	461.7~2107.0	850.5	727.6	902.6	999.4	1,352.0	747.7	790.3	812.9	258.1
A-2 North side of the Unit 5/6	Cs-134	14.4~58.5	32.5~38.3		Work control of from the surface (CL+Out) since and the control of distinct									
( North side of the silt fence (GL-0.5m)	Cs-137	310.0~689.8	299.1~404.0	$lpha$ Only sampled from the surface (GL $^\pm$ 0m) since sand was removed during dredging					1					
<b>B</b> South side of the partition weir	Cs-134	723.0	34.5~65.6	48.8~97.1	35.1~64.5	55.0	35.7	40.0	50.1	55.7	37.1	58.7	84.1	39.5
( ① (South side of the silt fence )	Cs-137	6,475.0	412.8~3,331.0	323.8~4943.0	613.8 <b>~</b> 1889.0	1,889.0	1,251.0	1,447.0	1,654.0	1,669.0	987.7	1,306.0	200.1	1,314.0
C South side of the partition weir	Cs-134	183.0	30.9~68.7	37.1~234.8	26.5~48.6	36.7	33.7	50.7	35.4	38.1	31.0	29.7	30.1	28.5
( ② (South side of the silt fence )	Cs-137	1,893.0	360.8~2,671.0	295.9~9519.0	227.4~419.6	306.9	257.5	311.6	255.8	633.3	224.9	182.1	329.7	248.6
D Unit 5 intake	Cs-134	_	101.6~3,546.0	50.2~690.7	35.9~114.8	44.4	47.1	53.1	80.5	40.6	59.2	52.8	58.8	47.3
O O III S III Lake	Cs-137	_	3,301.0~144,000.0	951.7~26400.0	1563.0~2306.0	1,587.0	2,306.0	2,064.0	1,852.0	1,757.0	2,014.0	1,380.0	2,078.0	2,041.0
► North side of	Cs-134	_		35.6~147.0	30.0~59.7	44.4	47.4	82.8	38.9	47.3	42.7	36.0	45.0	44.0
the partition weir	Cs-137	_		437.1~5795.0	746.6~4154.0	1,834.0	2,202.0	2,196.0	2,344.0	882.6	1,377.0	1,718.0	1,915.0	1,976.0
■ East side of scaffolding	Cs-134	_		40.2~166.1	34.1~87.1	50.0	56.4	40.7	39.6	63.8	37.5	69.2	51.4	43.6
for the heavy machinery	Cs-137	_		592.4~8303.0	891.0~1884.0	1,295.0	1,664.0	1,235.0	1,715.0	2,187.0	1,729.0	1,579.0	1,122.0	1,474.0

# [Reference] Total radioactivity of nuclides to be measured and assessed (29 nuclides)



The following chart shows the total radioactivity (Bq) for nuclides to be measured and assessed (29 nuclides) during the discharge of Management number: 25-6-17. (Calculated from analysis values \*\*1 (Bq/liter) and discharge volume (7,833m³) for each nuclide)

💥 1: It was confirmed that the sum of the ratios of legally required concentrations of the nuclides targeted for measurement/assessment is 0.19 and less than 1.

The total radioactivity from nuclides for which analysis values were below detection limit (ND) have not been included.

Nuclide	Analysis value [Bq/liter]	Total radioactivity [Bq]	Nuclide	Analysis value [Bq/liter]	Total radioactivity [Bq]	Nuclide	Analysis value [Bq/liter]	Total radioactivity [Bq]
C-14	2.9E+01	2.3E+08	Cd-113m	<8.7E-02	_	U-234 <sup>*</sup> 3	<2.7E-02	_
Mn-54	<2.6E-02	_	Sb-125	1.5E-01	1.2E+06	U-238 <sup>*</sup> 3	<2.7E-02	_
Fe-55	<1.4E+01	_	Te-125m <sup>※2</sup>	5.7E-02	4.5E+05	Np-237 <sup>*</sup> 3	<2.7E-02	_
Co-60	3.1E-01	2.4E+06	I-129	1.7E-01	1.3E+06	Pu-238 <sup>※3</sup>	<2.7E-02	_
Ni-63	<8.9E+00	_	Cs-134	<2.8E-02	_	Pu-239 <sup>※3</sup>	<2.7E-02	_
Se-79	<1.0E+00	_	Cs-137	1.9E-01	1.5E+06	Pu-240 <sup>※3</sup>	<2.7E-02	_
Sr-90	3.4E+00	2.7E+07	Pm-147 <sup>*</sup> 2	<2.8E-01	_	Pu-241 <sup>※2</sup>	<7.3E-01	-
Y-90 <sup>※2</sup>	3.4E+00	2.7E+07	Sm-151 <sup>**2</sup>	<1.1E-02	_	Am-241 <sup>**</sup> 3	<2.7E-02	_
Tc-99	<1.5E-01	_	Eu-154	<6.3E-02	_	Cm-244 <sup>※3</sup>	<2.7E-02	-
Ru-106	<2.1E-01	_	Eu-155	<1.7E-01	_			

### **Report contents**



1. Performance of the discharge of ALPS treated water (Management number\* : 25-6-17)

### 2. Status of facility inspections

3. Transfer of ALPS treated water in preparation for the future discharges

(Reference) Sea area monitoring history after the commencement of discharge

<sup>\*</sup> 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, "25-6-17" indicates that the data is for the sixth discharge of 2025, which is the seventeenth discharge to date.

## 2-1. FY2025 Facility inspection overview



- As in FY2024, the inspections listed below will be implemented in FY2025 as well.
- The Sixth discharge in FY2025 (management number: 25-6-17) will be conducted in parallel with the inspection of the dilution/intake facilities.

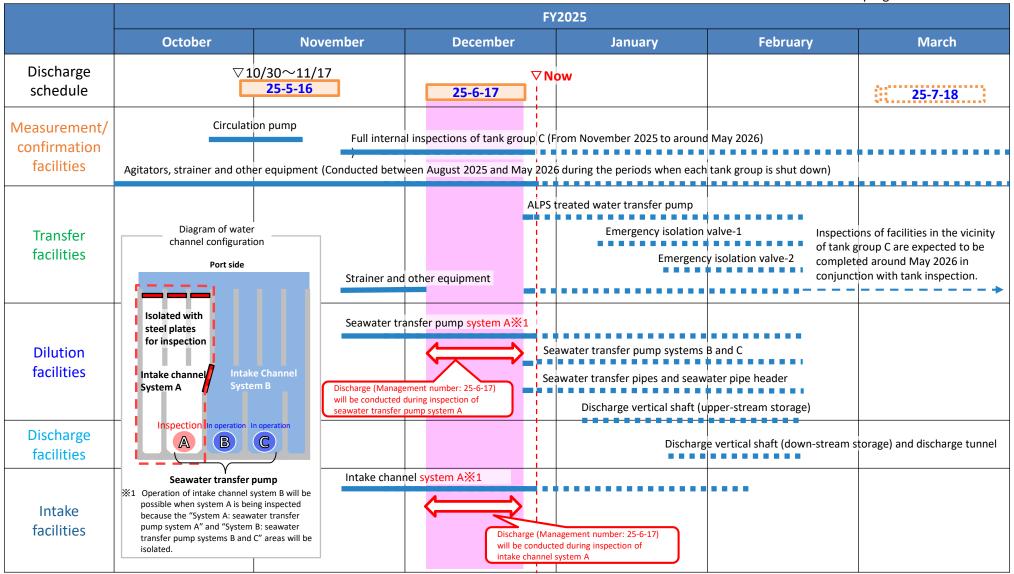
Facility	Primary inspection details	Inspection status
	Measurement/confirmation tank group C: Full internal inspections	Under inspection
Measurement/	Circulation pumps: Disassembly inspection	Completed (no abnormalities (reported on November 27, 2025))
confirmation facilities	Agitators: Insulation resistance measurements	Under inspection
	Miscellaneous: Strainer cleaning, etc.	Under inspection
	ALPS treated water transfer pumps: Lubrication oil for bearings replacement	Under inspection
Transfer facilities	Emergency isolation valve-1: Disassembly inspection	Inspection to begin from January 2026
Transfer facilities	Emergency isolation valve-2: External inspection	Inspection to begin from January 2026
	Miscellaneous: Strainer cleaning, etc.	Under inspection
	Seawater transfer pump system A: Disassembly inspection <sup>™</sup>	Under inspection (Inspection status is reported on the following pages.)
	Seawater transfer pump system B: Gland packing replacement	Under inspection
Dilution facilities	Seawater transfer pump system C: Gland packing replacement	Under inspection
	Sea water transfer pipes/seawater pipe header: Internal inspection	Under inspection
	Discharge vertical shaft (upper-stream storage): Internal inspection	Inspection to begin from January 2026
Discharge facilities	Discharge vertical shaft (down-stream storage), discharge tunnel: Internal inspection	Inspection to begin from January 2026
Seawater intake	Partitioning weirs: External inspection	Inspection to begin from January 2026
facilities	Intake channel system A: Cleaning, Internal inspection, repair*	Under inspection

### [Supplement] General inspection schedule



■ The general inspection schedule (as of December 2025) for FY2025 is as follows:

Dotted lines indicate that changes may be made in accordance with work progress

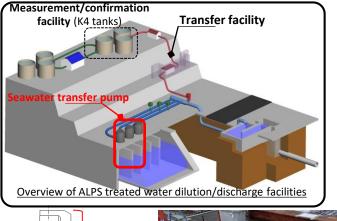


### 2-2. Status of seawater transfer pumps inspection



The seawater transfer pump\* system A was disassembled between November 18 and December 5, 2025. Currently, inspection and maintenance of each part is being implemented, and once it has been confirmed that there is no corrosion or other issues that could affect the integrity of the equipment, assembly, restoration, and pre-operation will be implemented.

XThe materials of each device are as follows.



ntake bell

**Cross-section** 





Lifting pipe



Lifting the electric motors



**Discharge Bowl** 





Lifting the pump







Intake bell

### **Report contents**



- 1. Performance of the discharge of ALPS treated water (Management number\* : 25-6-17)
- 2. Status of facility inspections
- 3. Transfer of ALPS treated water in preparation for the future discharges

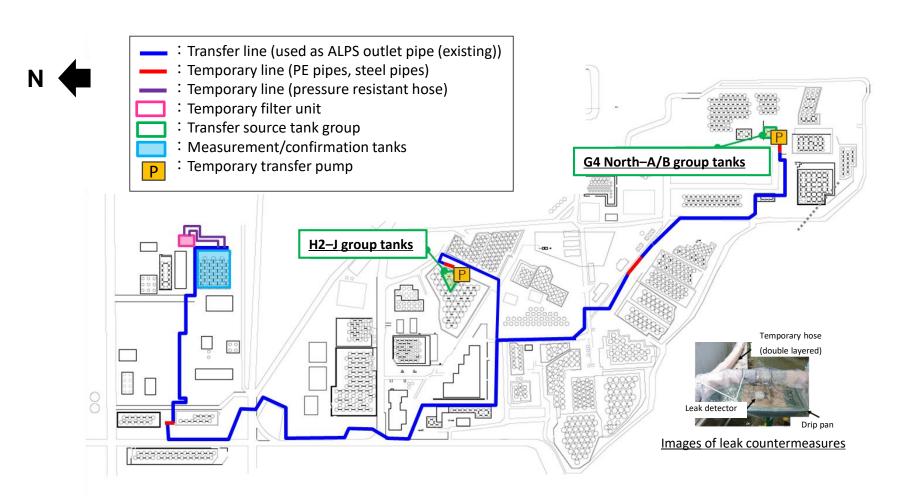
(Reference) Sea area monitoring history after the commencement of discharge

<sup>\*</sup> 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, "25-6-17" indicates that the data is for the sixth discharge of 2025, which is the seventeenth discharge to date.

### 3. Transfer of ALPS treated water in preparation for the future discharges



- Transfer of ALPS treated water from G4 north area Group B and H2 area Group J to measurement/confirmation facility tank group B in preparation for the discharge of management number: 25-7-18 commenced on October 7, 2025 to November 7, 2025. Circulation/agitation of the tanks commenced on November 13, 2025 and samples were taken on November 20, 2025. Samples are currently being analyzed.
- Transfer of ALPS treated water from H2 area Group J to measurement/confirmation facility tank group A in preparation for the discharge of management number: 26-1-19 will be commenced on January 5, 2026.



### **Report contents**



- 1. Performance of the discharge of ALPS treated water (Management number\* : 25-6-17)
- 2. Status of facility inspections
- 3. Transfer of ALPS treated water in preparation for the future discharges

(Reference) Sea area monitoring history after the commencement of discharge

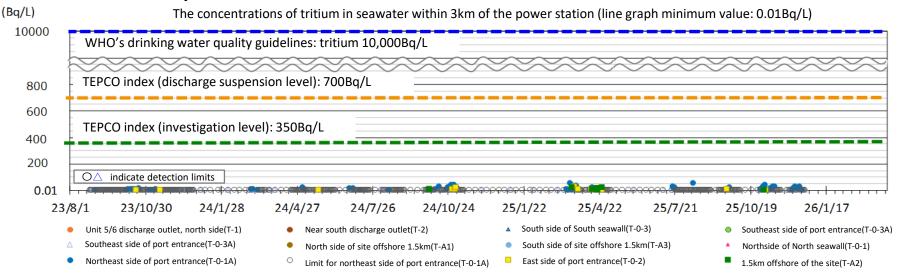
<sup>\*</sup> The management number is made up of the fiscal year, followed by the discharge number for that fiscal year, and the total number of discharges to date. For example, "25-6-17" indicates that the data is for the sixth discharge of 2025, which is the seventeenth discharge to date.

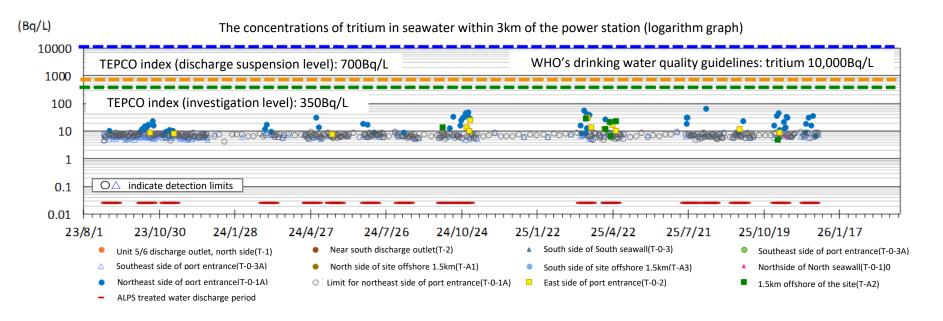
### [Reference] Sea area monitoring results (1/2)

### quick monitoring



### Within 3km of the power station



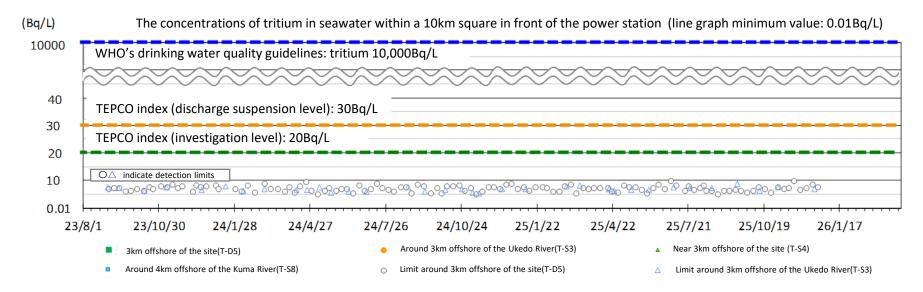


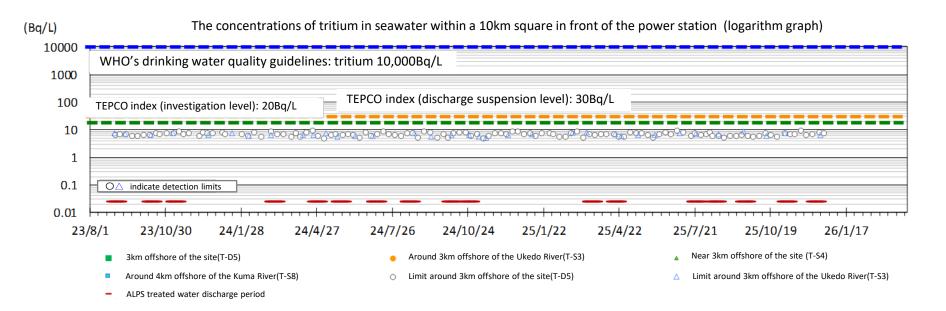
### [Reference] Sea area monitoring results (2/2)

### quick monitoring



### Within a 10km square in front of the power station



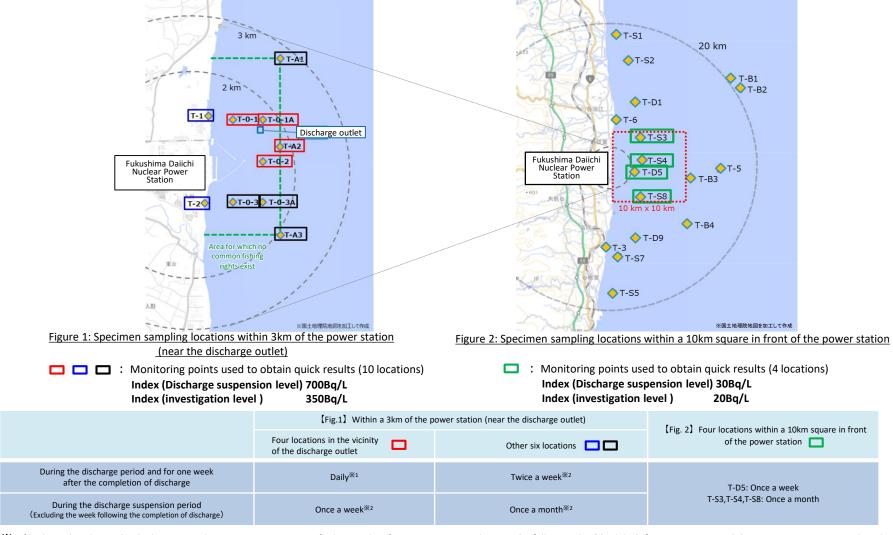


### [Reference] Sea area monitoring plan

#### for obtaining quick measurements of the concentration of tritium in seawater



• We have engaged in monitoring to obtain quick measurements of the concentration of tritium in seawater with targeting the upper detection limit for 10Bq/liter, and index to determine discharge suspension (the discharge suspension level) was set.



<sup>\*1</sup> 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.

<sup>\*2</sup> 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)