ALPS Treated Water Discharge Status Update

April 24, 2025

TEPCO

Tokyo Electric Power Company Holdings, Inc.

Report contents

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1. History of the discharge of ALPS treated water
   (Management number* : 24-7-11)

2. Performance of the discharge of ALPS treated water
   (Management number* : 25-1-12)

3. Status of the dismantling of the J9 area tanks

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

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

* 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, “24-7-11” indicates that the data is for the seventh discharge of 2024, which is the eleventh discharge to date.

1. Overview

- We are planning to conduct the discharge of ALPS treated water (management number: 24-7-11 and 25-1-12) as follows.
- In this report, we will explain that there was no abnormality in parameters and sea area monitoring from commenced to April 21, 2025.

FY2024

Management number	Tank group	Tritium Concentration	Commenced	Completed	Amount of discharge	Amount of tritium radioactivity
24-1-5	Group C	19 x 10^4 Bq/liter	Apr 19, 2024	May 7, 2024	7,851m^3	Approx. 1.5 trillion Bq
24-2-6	Group A	17 x 10^4 Bq/liter	May 17, 2024	Jun 4, 2024	7,892m^3	Approx. 1.3 trillion Bq
24-3-7	Group B	17 x 10^4 Bq/liter	Jun 28, 2024	Jul 16, 2024	7,846m^3	Approx. 1.3 trillion Bq
24-4-8	Group C	20 x 10^4 Bq/liter	Aug 7, 2024	Aug 25, 2024	7,897m^3	Approx. 1.6 trillion Bq
24-5-9	Group A	28 x 10^4 Bq/liter	Sep 26, 2024	Oct 14, 2024	7,817m^3	Approx. 2.2 trillion Bq
24-6-10	Group B	31x 10^4 Bq/liter	Oct 17, 2024	Nov 4, 2024	7,837m^3	Approx. 2.4 trillion Bq
24-7-11	Group C	31x 10^4 Bq/liter	Mar 12, 2025	Mar 30, 2025	7,859m^3	Approx. 2.4 trillion Bq

FY2025

Management number	Tank group	Tritium Concentration	Commenced	Completed	Amount of discharge	Amount of tritium radioactivity
25-1-12	Group A	37x 10^4 Bq/liter	Apr 10, 2025	Apr 28, 2025	7,800m^3	Approx. 2.9 trillion Bq

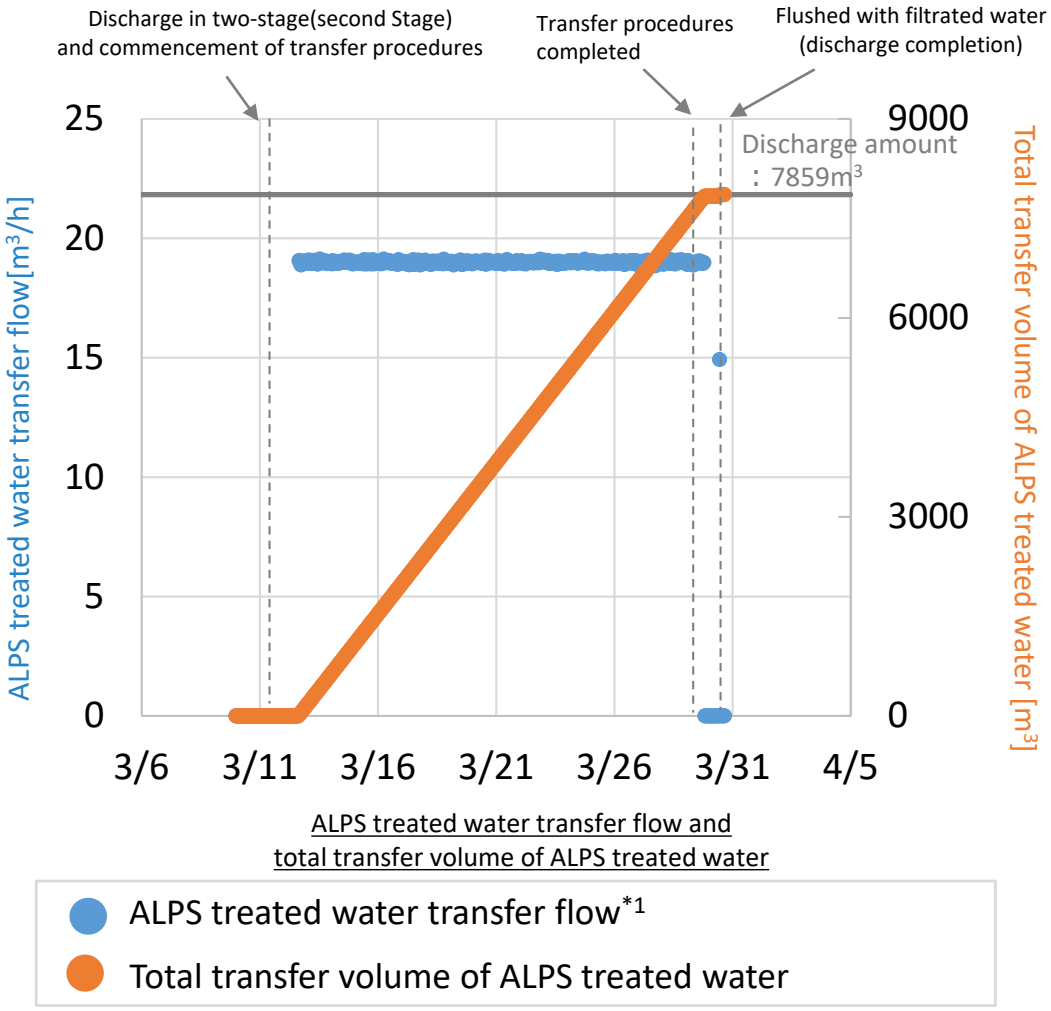
*Black texts; results, Gray texts; plan

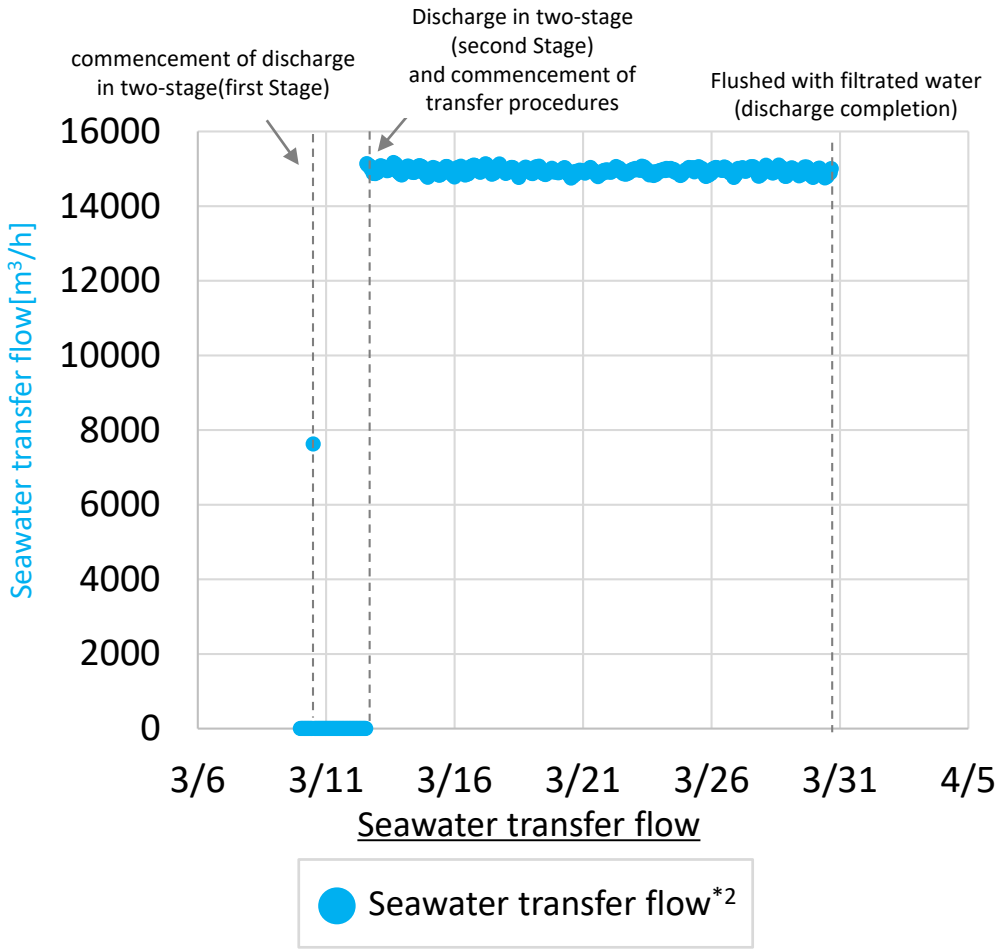
Report contents

* 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, “24-7-11” indicates that the data is for the seventh discharge of 2024, which is the eleventh discharge to date.

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

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

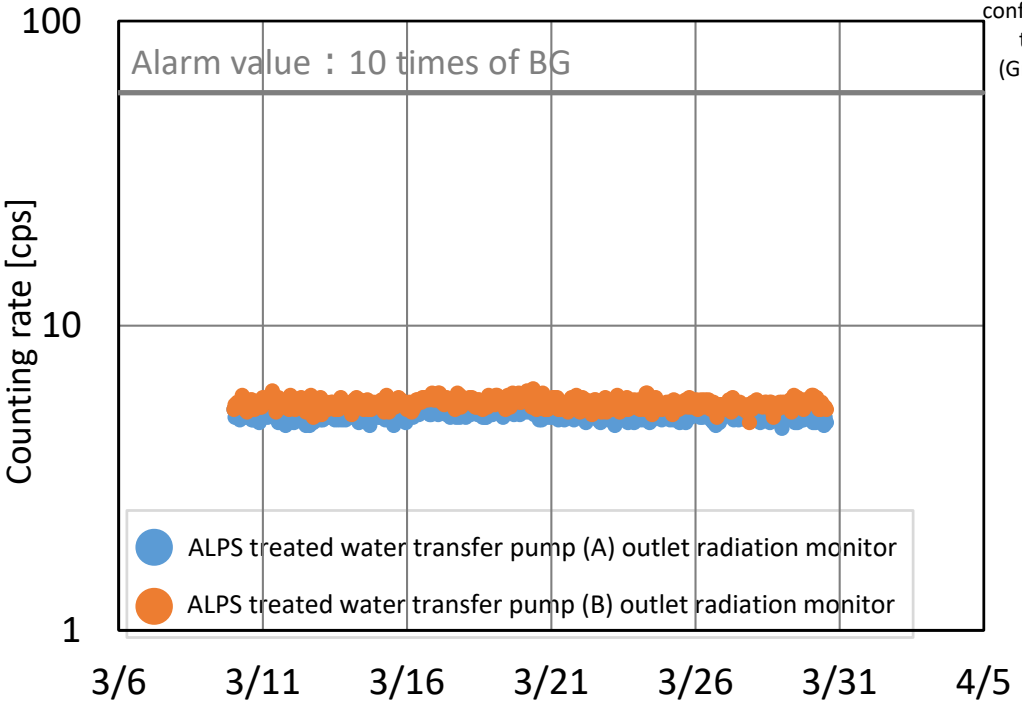




*1： The flowmeters are reduplicate, so the higher of the figures from both meters was used.
*2： Total for systems A and B

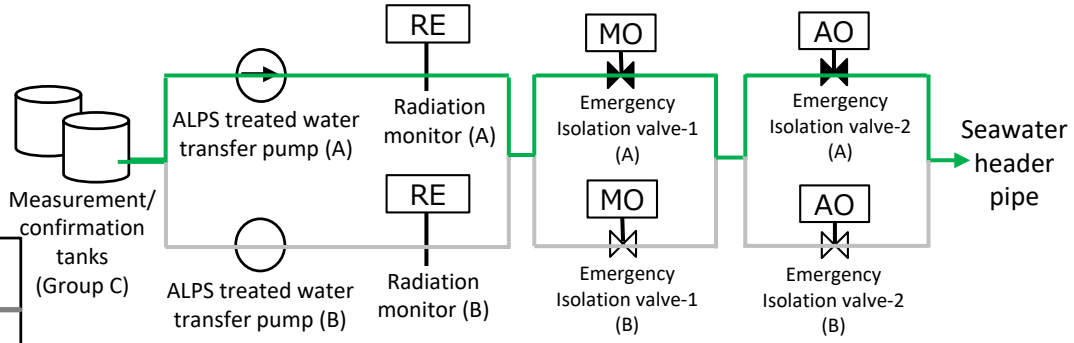
1-1. Operating parameter records during the discharge (2/3)

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

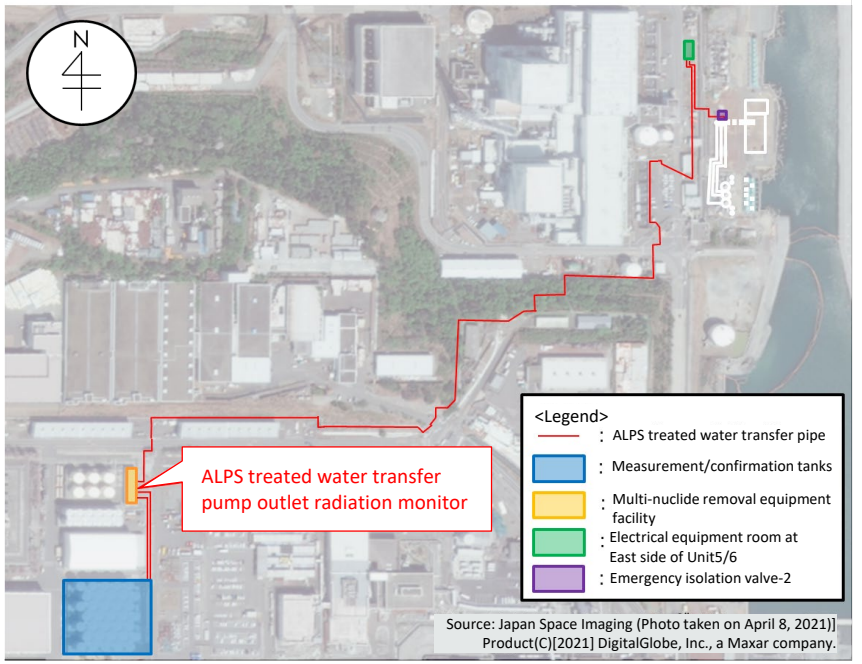


Figures of ALPS treated water transfer pump outlet radiation monitor※

※ : As shown in the schematic on the upper right, ALPS treated water was passed through System A. (System B was filled with filtrated water)



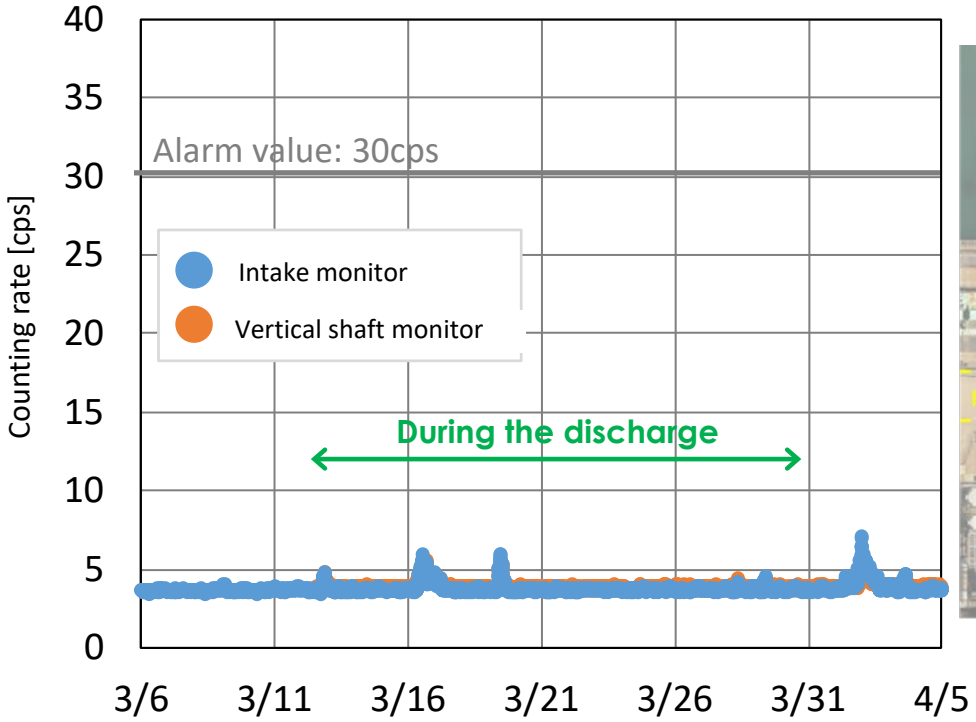
ALPS treated water transfer system schematic



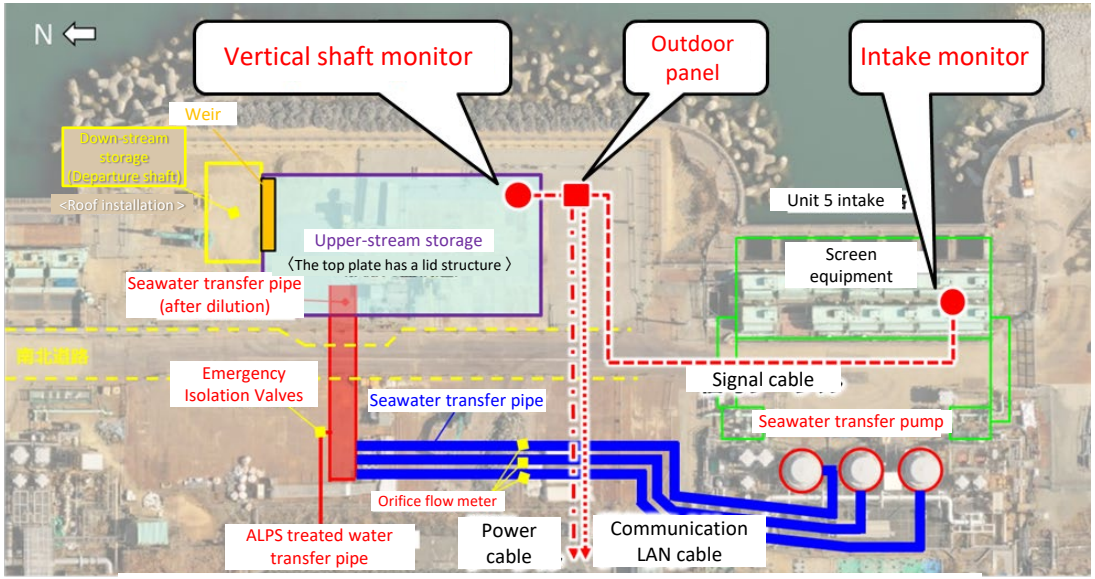
Overview of ALPS treated water dilution/discharge facility

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

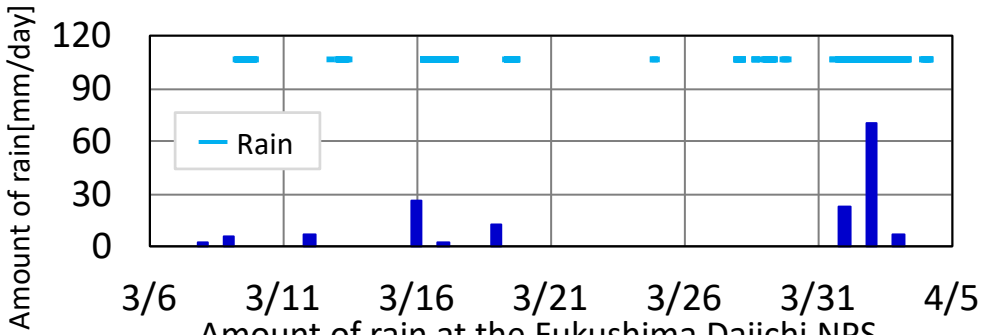
- Temporary increase in values, possibly due to rain was observed, but no abnormalities were seen in the readings.



Figures of Intake/Vertical shaft monitor



Overview of Intake/Vertical shaft monitor

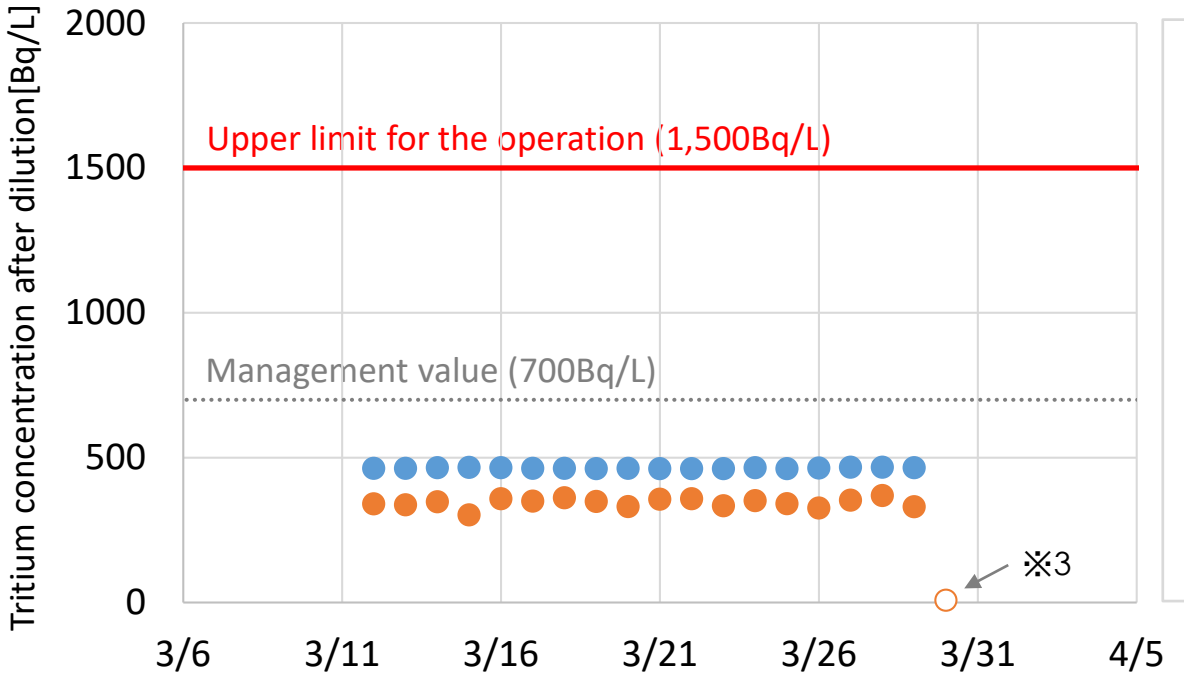


Amount of rain at the Fukushima Daiichi NPS

※It is assumed that the temporary increases during rainfall were caused by the runoff of fallout from onshore areas and precipitation of natural radionuclides (such as daughter nuclide of radon, etc.).

1-2. 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



Tritium concentrations after dilution (calculated values and analysis values)

Calculated values※1

Analysis values (Detected values)

Analysis values (Below the detection limit)

※1：Calculated using the following formula
（Uncertainty has been considered for each parameter）

Tritium concentrations after dilution (Calculated values)

$$= \frac{\text{Tritium concentrations in ALPS treated water}^{※2} \times \text{ALPS treated water transfer flow}}{\text{Seawater transfer flow} + \text{ALPS treated water transfer flow}}$$

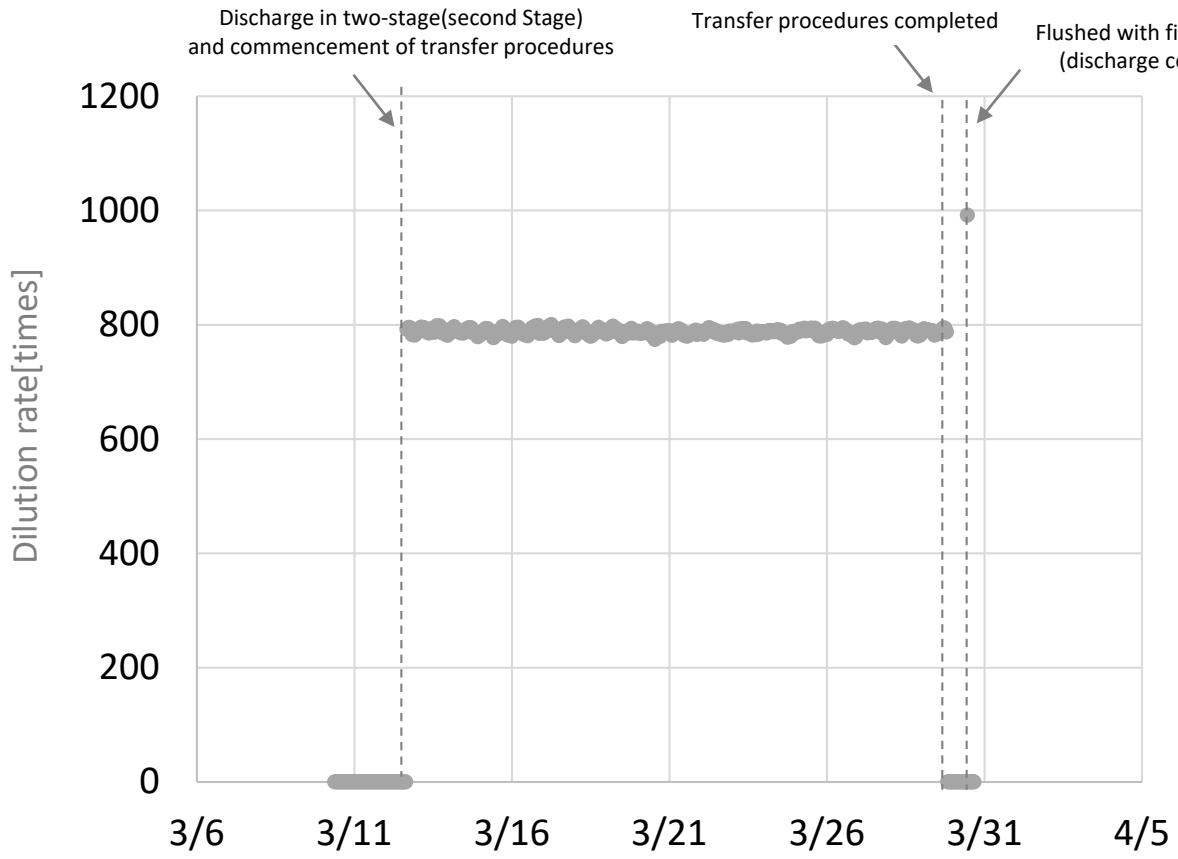
※2：Analysis values at measurement/confirmation tanks

※3：No calculated values since the pipes were flushed out with filtrated water.

	3/12	3/13～3/29	3/30
Calculated value: Time of data acquisition	16:00	7:00	－
Analysis value: Time of specimen sampling	16:11	6:00～9:00	11:42

[Reference] 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

Dilution rate※1

$$\text{Dilution rate} = \frac{\text{Seawater flow rate}^{※2} + \text{ALPS treated water flow rate}^{※3}}{\text{ALPS treated water flow rate}^{※3}}$$

※2： Total for systems A and B
※3： The flowmeters are reduplicate, so the higher of the figures from both meters was used for calculation

[Reference] Total radioactivity of nuclides to be measured and assessed (30 nuclides)

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- The following chart shows the total radioactivity (Bq) for nuclides to be measured and assessed (30 nuclides) during the discharge of Management number: 24-7-11. (Calculated from analysis values※1 (Bq/liter) and discharge volume (7,859m³) 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 0.076 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	8.5E+00	6.7E+07	Cd-113m	<8.5E-02	–	Eu-155	<2.0E-01	–
Mn-54	<2.4E-02	–	Sb-125	1.2E-01	9.4E+05	U-234※3	<2.6E-02	–
Fe-55	<1.7E+01	–	Te-125m※2	4.6E-02	3.6E+05	U-238※3	<2.6E-02	–
Co-60	2.2E-01	1.7E+06	I-129	1.3E-01	1.0E+06	Np-237※3	<2.6E-02	–
Ni-63	<9.2E+00	–	Cs-134	<2.9E-02	–	Pu-238※3	<2.6E-02	–
Se-79	<1.0E+00	–	Cs-137	1.4E-01	1.1E+06	Pu-239※3	<2.6E-02	–
Sr-90	6.2E-01	4.9E+06	Ce-144	<3.4E-01	–	Pu-240※3	<2.6E-02	–
Y-90※2	6.2E-01	4.9E+06	Pm-147※2	<3.4E-01	–	Pu-241※2	<7.0E-01	–
Tc-99	1.4E-01	1.1E+06	Sm-151※2	<1.3E-02	–	Am-241※3	<2.6E-02	–
Ru-106	<2.2E-01	–	Eu-154	<7.6E-02	–	Cm-244※3	<2.6E-02	–

※2 Analysis values were assessed with radioactive equilibrium

※3 Gross Alpha measurements

Report contents

* 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, “24-7-11” indicates that the data is for the seventh discharge of 2024, which is the eleventh discharge to date.

2-1. Outline of the Twelfth discharge of ALPS treated water into the sea (Management number: 25-1-12)

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Outline of discharge for group K4-A			
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: 0.083) (details on p1 of the link)	
	Tritium concentration	37 x 10^4 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^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])	
Assumed amount of tritium radioactivity		Approximately 2.9 trillion Bq	
Concentration of tritium after dilution		Approximately 500 Bq/liter	
Term of discharge		April 10, 2025 – April 28, 2025	

2-2. Analysis Results of ALPS Treated Water in the Measurement/Confirmation Tanks (Management number: 25-1-12)

- Pre-discharge analysis results for the samples taken from the measurement/confirmation tank (Group A) on February 21, 2025, were obtained. It was confirmed that the water satisfies discharge requirements (Table 1. Disclosed on April 8, 2025).
  - Item 1: For 30 nuclides to be measured and assessed, the sum of the ratios of the concentration of each radionuclide to the regulatory concentration is 0.083, and it is confirmed to be less than 1.
  - Item 2: Analysis results of tritium concentration is 37 x 10^4 Bq/liter, and it is confirmed to be less than 1 million Bq/liter.
  - 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 (https://fukushima.jaea.go.jp/okuma/alps/index_e.html)

Table 1. Pre-discharge analysis results of water in the measurement/confirmation tank (Management number: 25-1-12)

	Items	Requirement basis	Operational Target	Analysis Results
①	Nuclide to be measured and assessed (30 nuclides)	Implementation plan	The sum of the ratios of the concentration of each radionuclide to the regulatory concentration, except for tritium, is less than 1	**0.083 (< 1)**
②	Tritium		Tritium concentration is less than 1 million Bq/liter	**37 x 10^4Bq/liter (less than 1 million Bq/liter)**
③	Nuclides voluntarily checked to ensure that they are not significantly present (38 nuclides)	Voluntary	No significant concentrations were found of any of the nuclides	**None of the nuclides are present in significant consternation**
④	General water quality: 44 criteria		Pre-check of water quality standards*2	**All criteria satisfied**

*2 Water sampled from the discharge vertical shaft (upper-stream storage) once a year to confirm that legal requirements are being satisfied

[Reference] Pre-discharge Analysis Results of ALPS Treated Water in the Measurement/Confirmation (Management number: 25-1-12) (1/4)

TEPCO

- For 30 nuclides to be measured and assessed, **the sum of the ratios of the concentration of each radionuclide to the regulatory concentration is 0.083**, and it is confirmed to be less than 1.

Nuclides to be measured and assessed (30 nuclides)

Analysis results of radioactivity (Bq/liter)

Ratios to Regulatory Concentration Limit

Pre-discharge Analysis Results of ALPS Treated Water in the Measurement/Confirmation Tanks (1/4)

Sample Name	ALPS Treated Water in the Measurement/Confirmation Tanks		Group A
Date and Time of Sampling	February 21, 2025	10:29	
Storage Volume (m³)	8962		

Summary	Nuclides to be measured and assessed (29 nuclides) : The sum of the ratios of the concentration of each radionuclide to the regulatory concentration	0.083 (Confirmed to be less than 1)

Radioactivity Analysis: Nuclides to be measured and assessed (30 nuclides)

No.	Nuclide	Analysis Results						Ratios to Regulatory Concentration Limit		Regulatory Concentration Limit *2 (Bq/L)	Analysis Method *4
		TEPCO			KAKEN Co.,Ltd.			TEPCO	KAKEN Co.,Ltd.		
		Analysis Value (Bq/L)	Uncertainty *1 (Bq/L)	Detection Limit (Bq/L)	Analysis Value (Bq/L)	Uncertainty *1 (Bq/L)	Detection Limit (Bq/L)				
1	C-14	1.2E+01	± 2.0E+00	1.9E+00	1.2E+01	± 1.5E+00	9.6E-01	6.1E-03	6.1E-03	2000	Measurement
2	Mn-54	ND	—	2.3E-02	ND	—	1.7E-02	less than 2.3E-05	less than 1.7E-05	1000	Measurement
3	Fe-55	ND	—	1.8E+01	ND	—	1.1E+01	less than 8.8E-03	less than 5.5E-03	2000	Measurement
4	Co-60	2.3E-01	± 4.6E-02	2.5E-02	2.4E-01	± 3.5E-02	1.8E-02	1.2E-03	1.2E-03	200	Measurement
5	Ni-63	ND	—	9.3E+00	ND	—	6.0E+00	less than 1.6E-03	less than 1.0E-03	6000	Measurement
6	Se-79	ND	—	9.9E-01	ND	—	1.8E+00	less than 5.0E-03	less than 9.1E-03	200	Measurement
7	Sr-90	7.1E-01	± 7.2E-02	3.1E-02	6.5E-01	± 8.4E-02	2.8E-02	2.4E-02	2.2E-02	30	Measurement
8	Y-90	7.1E-01	—	3.1E-02	6.5E-01	—	2.8E-02	2.4E-03	2.2E-03	300	Sr-90/Y-90 Radioactive Equilibrium Assessment
9	Tc-99	1.9E-01	± 2.8E-02	1.0E-01	1.6E-01	± 3.3E-02	6.3E-02	1.9E-04	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	—	8.8E-02	ND	—	7.3E-02	less than 2.2E-03	less than 1.8E-03	40	Measurement
12	Sb-125	1.0E-01	± 5.9E-02	8.5E-02	1.2E-01	± 5.4E-02	7.6E-02	1.3E-04	1.5E-04	800	Measurement
13	Te-125m	3.8E-02	—	3.1E-02	4.5E-02	—	2.8E-02	4.2E-05	5.0E-05	900	Sb-125/Te-125m Radioactive Equilibrium Assessment
14	I-129	1.0E-01	± 9.2E-03	2.6E-02	1.3E-01	± 3.4E-02	4.6E-02	1.2E-02	1.5E-02	9	Measurement
15	Cs-134	ND	—	3.0E-02	ND	—	2.0E-02	less than 4.9E-04	less than 3.4E-04	60	Measurement
16	Cs-137	4.0E-01	2.2E-02	2.7E-02	3.8E-01	± 5.1E-02	2.2E-02	4.5E-03	4.2E-03	90	Measurement
17	Ce-144	ND	—	3.1E-01	ND	—	4.7E-01	less than 1.5E-03	less than 2.4E-03	200	Measurement
18	Pm-146	ND	—	3.0E-01	ND	—	2.5E-01	less than 1.0E-04	less than 8.2E-05	3000	Eu-154 Relative Ratio Assessment
19	Sm-151	ND	—	1.2E-02	ND	—	9.4E-03	less than 1.5E-06	less than 1.2E-06	8000	Eu-154 Relative Ratio Assessment
20	Eu-154	ND	—	6.8E-02	ND	—	5.5E-02	less than 1.7E-04	less than 1.4E-04	400	Measurement
21	Eu-155	ND	—	1.7E-01	ND	—	1.5E-01	less than 5.5E-05	less than 5.0E-05	3000	Measurement
22	U-234									20	Gross Alpha
23	U-238									20	Gross Alpha
24	Np-237									9	Gross Alpha
25	Pu-238	ND	—	2.9E-02	ND	—	2.4E-02	less than 7.2E-03 *3	less than 6.0E-03 *3	4	Gross Alpha
26	Pu-239									4	Gross Alpha
27	Pu-240									4	Gross Alpha
28	Am-241									5	Gross Alpha
29	Cm-244									7	Gross Alpha
30	Pu-241	ND	—	7.9E-01	ND	—	6.6E-01	less than 4.0E-03	less than 3.3E-03	200	Pu-238 Relative Ratio Assessment
The sum of the ratios of the concentration of each radionuclide to the regulatory concentration (sum of the ratios to regulatory concentration limit)								less than 8.3E-02	less than 8.2E-02		

・ND indicates that analysis result is less than the detection limit.
・Values are expressed in exponential notation.
For example, "3.1E+01" means "3.1×10^{1}" and equals 31. Similarly, "3.1E+00" means "3.1×10^{0}" and equals 3.1, and "3.1E-01" means "3.1×10^{-1}" and equals 0.31.
*1 "Uncertainty" refers to the accuracy of analysis data.
"Uncertainty" is calculated using "Expanded Uncertainty: Coverage Factor k=2".
*2 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 Bq/cm³ has been converted into Bq/L])
*3 The ratio to regulatory concentration limit for alpha-radionuclides has been assessed using the lowest regulatory concentration limit for all the target nuclides.
*4 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.

<Excerpt from Treated Water Portal Site>

[Reference] Pre-discharge Analysis Results of ALPS Treated Water in the Measurement/Confirmation (Management number: 25-1-12) (2/4)

TEPCO

- Analysis results of **tritium concentration is 37 x 10^4 Bq/liter**.

Tritium Concentration (Bq/liter)

Pre-discharge Analysis Results of ALPS Treated Water in the Measurement/Confirmation Tanks (2/4)

Summary	37 x 10^4 Bq/L (confirmed to be less than 1 million Bq/L)

Radioactivity Analysis: Tritium

No.	Nuclide	Analysis Results						Analysis Objective	Analysis Method *3
		TEPCO			KAKEN Co.,Ltd.				
		Analysis Value (Bq/L)	Uncertainty *1 (Bq/L)	Detection Limit (Bq/L)	Analysis Value (Bq/L)	Uncertainty *1 (Bq/L)	Detection Limit (Bq/L)		
1	H-3	3.7E+05	± 2.1E+04	2.1E+01	3.5E+05	± 2.5E+04	2.1E+01	*2	Measurement

・Values are expressed in exponential notation.
For example, "3.1E+01" means "3.1×10^{1}" and equals 31. Similarly, "3.1E+00" means "3.1×10^{0}" and equals 3.1, and "3.1E-01" means "3.1×10^{-1}" and equals 0.31.

*1 "Uncertainty" refers to the accuracy of analysis data.
"Uncertainty" is calculated using "Expanded Uncertainty: Coverage Factor k=2".

*2 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.

*3 Analysis method is as follows:
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＞

[Reference] Pre-discharge Analysis Results of ALPS Treated Water in the Measurement/Confirmation (Management number: 25-1-12) (3/4)

- We voluntarily checked that the nuclides (38 nuclides) are not significantly present.
  We confirmed that all the 38 nuclides are not significantly present.

Pre-discharge Analysis Results of ALPS Treated Water in the Measurement/Confirmation Tanks (3/4)

Summary	No significant concentrations found of any of the nuclides

Radioactivity Analysis: Nuclides voluntarily checked to ensure that they are not significantly present (38 nuclides)

No.	Nuclide	TEPCO		KAKEN Co.,Ltd.		Confirmation Method *2
		Assessment *1	Detection Limit (Bq/L)	Assessment *1	Detection Limit (Bq/L)	
1	Fe-59	○	4.5E-02	○	3.8E-02	Measurement
2	Co-58	○	2.4E-02	○	1.7E-02	
3	Zn-65	○	4.6E-02	○	3.8E-02	
4	Rb-86	○	3.7E-01	○	2.7E-01	
5	Sr-89	○	5.5E-02	○	4.5E-02	
6	Y-91	○	2.7E+00	○	2.0E+00	
7	Nb-95	○	3.1E-02	○	2.1E-02	
8	Ru-103	○	3.0E-02	○	3.8E-02	
9	Ag-110m	○	2.5E-02	○	1.8E-02	
10	Cd-115m	○	1.[illegible]+00	○	1.2E+00	
11	Sn-123	○	1.3E+0[illegible]	○	9.8E-01	
12	Sn-126	○	1.3E-01	○	1.1E-01	
13	Sb-124	○	5.6E-02	○	4.7E-02	
14	Te-123m	○	4.7E-02	○	4.4E-02	
15	Te-127	○	8.8E-01	○	6.4E-01	
16	Te-129m	○	7.8E-01	○	7.[illegible]-01	
17	Te-129	○	3.7E-01	○	3.6E-01	
18	Cs-136	○	3.1E-02	○	2.4E-02	
19	Ba-140	○	1.4E-01	○	1.2E-01	
20	Ce-141	○	1.1E-01	○	7.8E-02	
21	Pm-146	○	[illegible]-02	○	3.4E-02	
22	Pm-148m	○	2.5E-0[illegible]	○	2.3E-02	
23	Pm-148	○	2.6E-01	○	1.8E-01	
24	Eu-152	○	1.2E-01	○	1.0E-01	
25	Gd-153	○	1.5E-01	○	1.2E-01	
26	Tb-160	○	7.9E-02	○	[illegible]-02	
27	Am-243	○	2.9E-02	○	2.4E-0[illegible]	Measurement (substituted with gross alpha)
28	Cm-242	○	2.9E-02	○	2.4E-02	
29	Cm-243	○	2.9E-02	○	2.4E-02	
30	Rh-103m	○	3.0E-02	○	3.8E-02	Ru-103/Rh-103[illegible]ioactive Equilibrium Assessment
31	Rh-106	○	2.1E-01	○	1.8E-01	Ru-106/Rh-106 Radioactiv[illegible]ilibrium Assessment
32	Sn-119m	○	4.9E-03	○	4.1E-03	Sn-126 Relative Ratio Ass[illegible]ment
33	Te-127m	○	9.0E-01	○	6.5E-01	Te-127 Relative Ratio Assessme[illegible]
34	Cs-135	○	1.8E-07	○	1.4E-07	Cs-137 Relative Ratio Assessment
35	Ba-137m	○	2.6E-02	○	2.1E-02	Cs-137/Ba-137m Radioactive Equilibrium Assessment
36	Pr-144m	○	4.7E-03	○	7.2E-03	Ce-144/Pr-144m Radioactive Equilibrium Assessment
37	Pr-144	○	3.1E-01	○	4.7E-01	Ce-144/Pr-144 Radioactive Equilibrium Assessment
38	Am-242m	○	2.0E-04	○	1.6E-04	Am-241 Relative Ratio Assessment

*1 "○" indicates that the absence of significant concentrations was confirmed by the following, and "×" indicates that significant concentrations of nuclide was confirmed.
- Concentration of nuclide measured was below detection limit
- 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 in other 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	Assessment Values (Bq/L)		Regulatory Concentration Limit *3
	TEPCO	KAKEN Co.,Ltd.	
Rh-103m	—	—	2.0E+05
Rh-106	—	—	3.0E+05
Sn-119m	—	—	2.0E+03
Te-127m	—	—	3.0E+02
Cs-135	2.6E-06	2.5E-06	6.0E+02
Ba-137m	3.8E-01	3.6E-01	8.0E+05
Pr-144m	—	—	4.0E+04
Pr-144	—	—	2.0E+04
Am-242m	—	—	5.0E+00

- A hyphen "–" indicates that the concentration of the target nuclide was below the detection limit.
- Values are expressed in exponential notation.
For example, "3.1E+01" means "3.1×10^{1}" and equals 31. Similarly, "3.1E+00" means "3.1×10^{0}" and equals 3.1, and "3.1E-01" means "3.1×10^{-1}" and equals 0.31.

*2 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.
Measurement (substituted with 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.

*3 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 Bq/cm³ has been converted into Bq/L])

＜Excerpt from Treated Water Portal Site＞

Nuclides voluntarily checked to ensure that they are not significantly present (38 nuclides)

Assessment results
○ : absence of significant concentration was confirmed
× : significant concentration was confirmed

[Reference] Pre-discharge Analysis Results of ALPS Treated Water in the Measurement/Confirmation (Management number: 25-1-12) (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※1 satisfied**.

※1: 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 ALPS Treated Water in the Measurement/Confirmation Tanks (4/4)

Summary	Criteria Satisfied

General Water Quality Analysis: 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	1.8	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	3	Maximum: 40 or less Average: 30 or less
11	Coliform Count	pcs/cm^3	0	3000 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	7	
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.

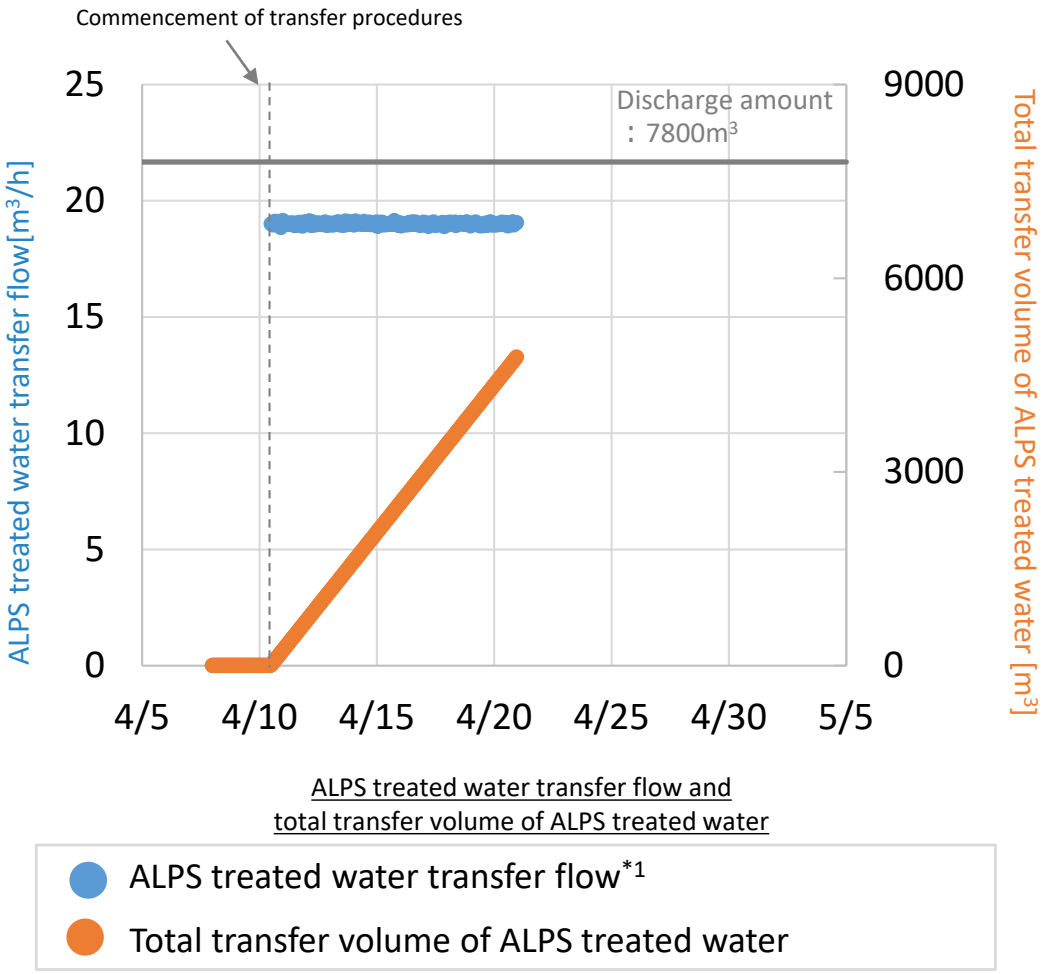
*1 In accordance with Fukushima Prefecture's "Ordinance on Discharge Standards Based on the Air Pollution Control Act and Wastewater Standards based on the Water Pollution Prevention Act (attached Chart 2) [大気汚染防止法に基づく排出基準及び水質汚濁防止法に基づく排水基準を定める条例(別表第2)]", and "the Ordinance Enforcement Regulations Pertaining 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施行規則(別表第5)]".

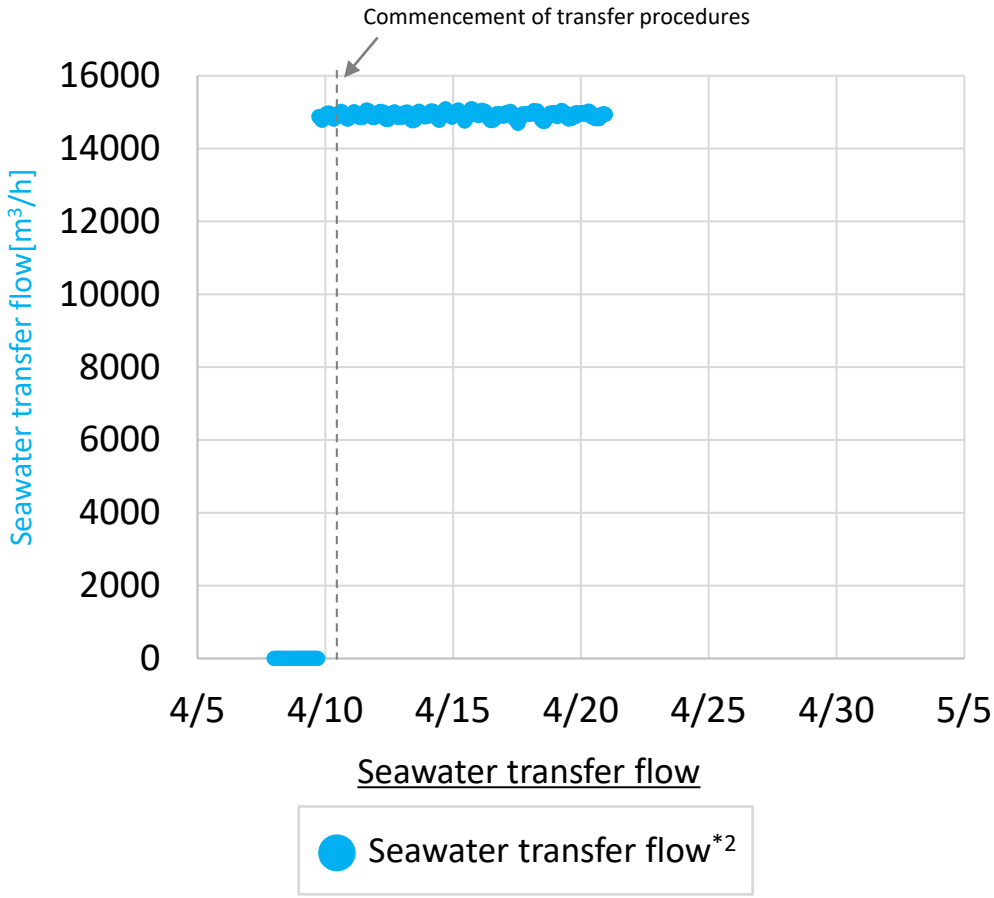
*2 "Not Detected" indicates that, as described in "Ministerial Ordinance on Effluent standards (attached Table 1) [排水基準を定める省令 (別表第一)]", when the state of water pollution is assessed in discharged water using the methods established by the Minister of the Environment, the result is below the limit of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

<Excerpt from Treated Water Portal Site>

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

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

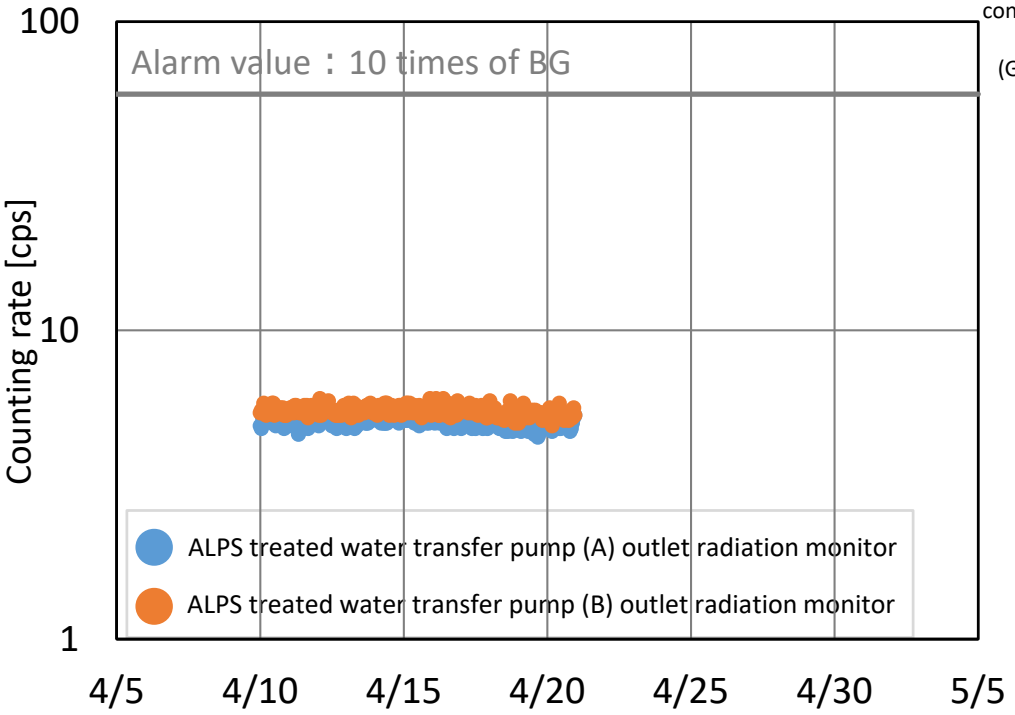




*1： The flowmeters are reduplicate, so the higher of the figures from both meters was used.
*2： Total for systems A and B

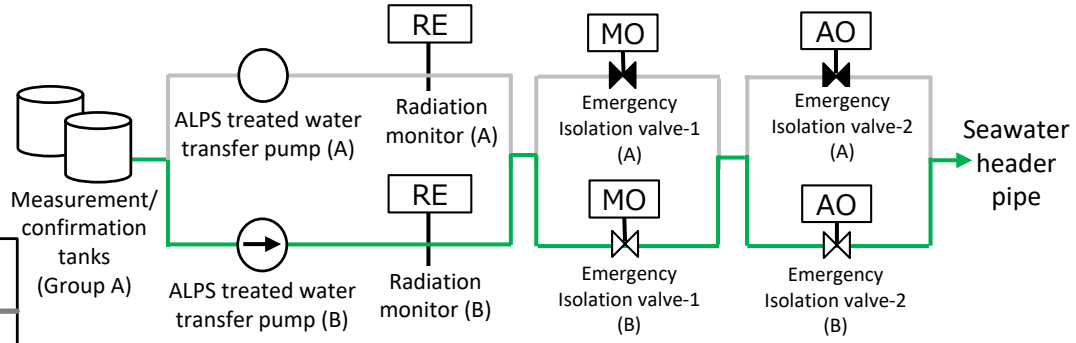
2-3. Operating parameter records during the discharge (2/3)

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

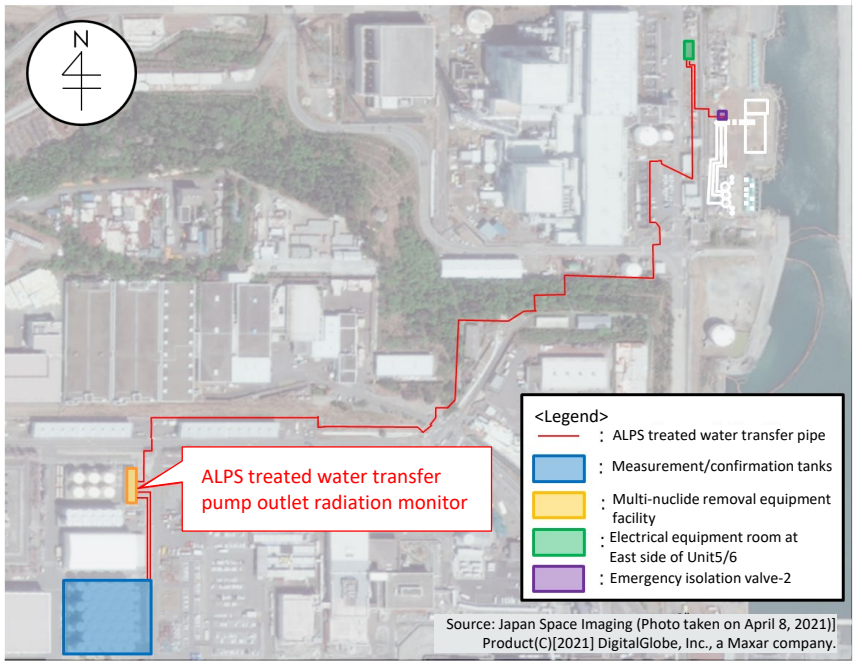


Figures of ALPS treated water transfer pump outlet radiation monitor※

※ : As shown in the schematic on the upper right, ALPS treated water was passed through System B. (System A was filled with filtrated water)



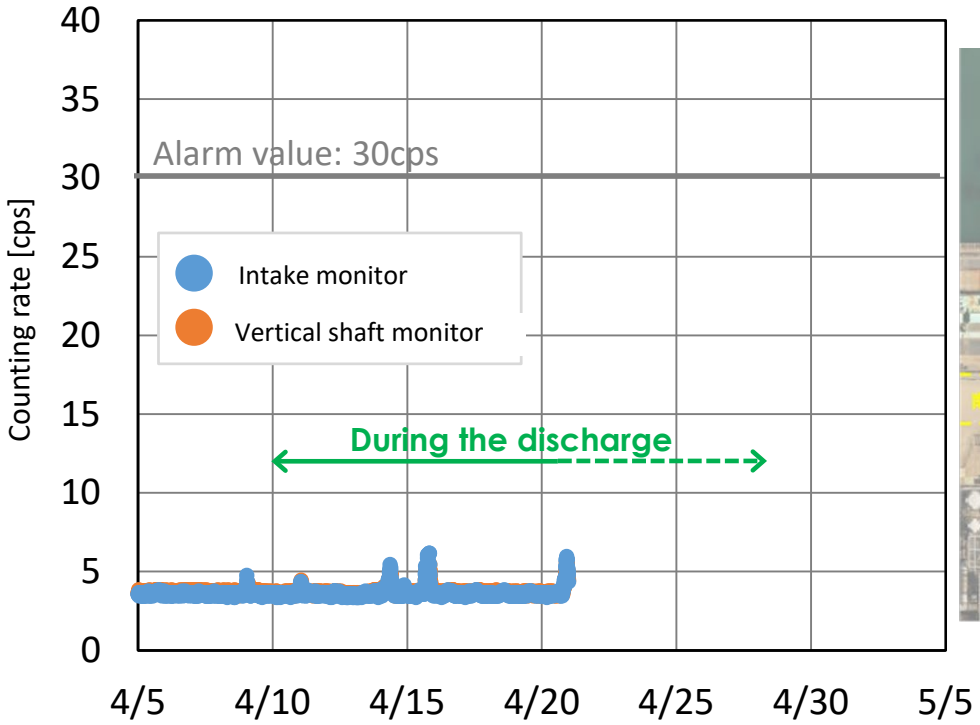
ALPS treated water transfer system schematic



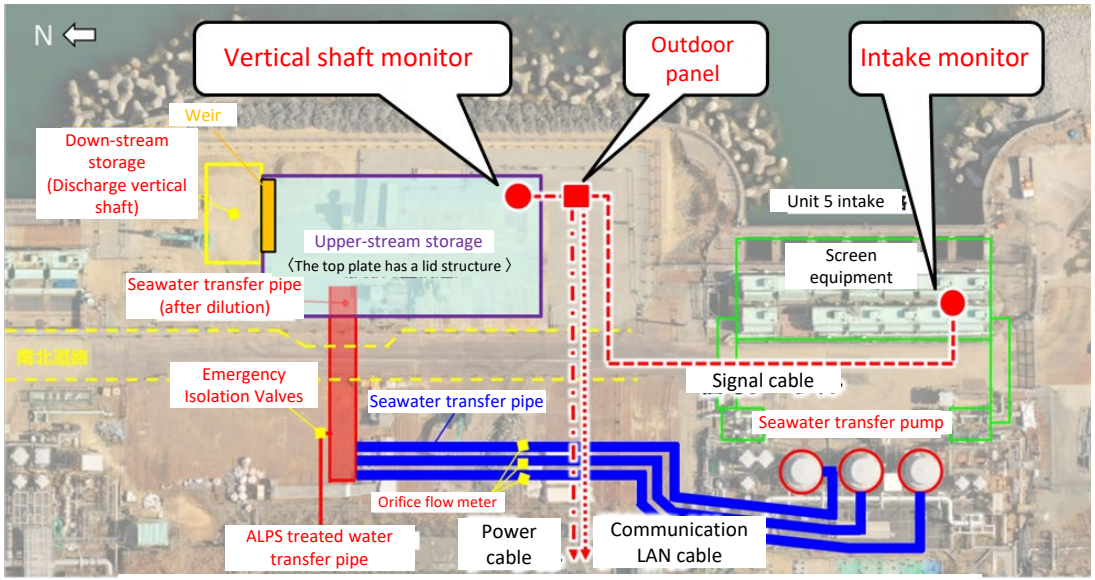
Overview of ALPS treated water dilution/discharge facility

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

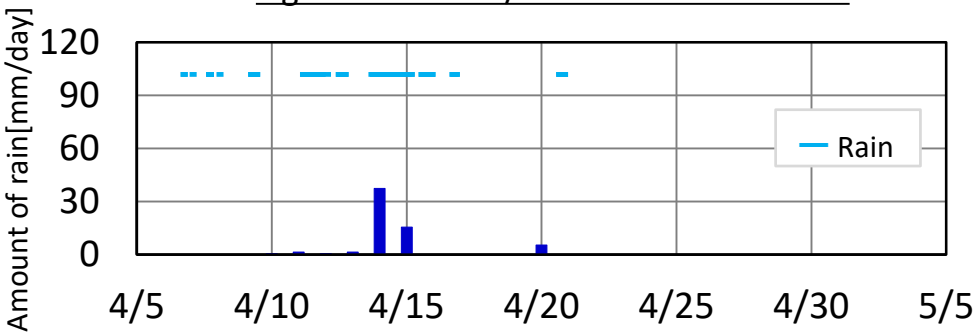
- Temporary increase in values, possibly due to rain was observed, but no abnormalities were seen in the readings.



Figures of Intake/Vertical shaft monitor



Overview of Intake/Vertical shaft monitor

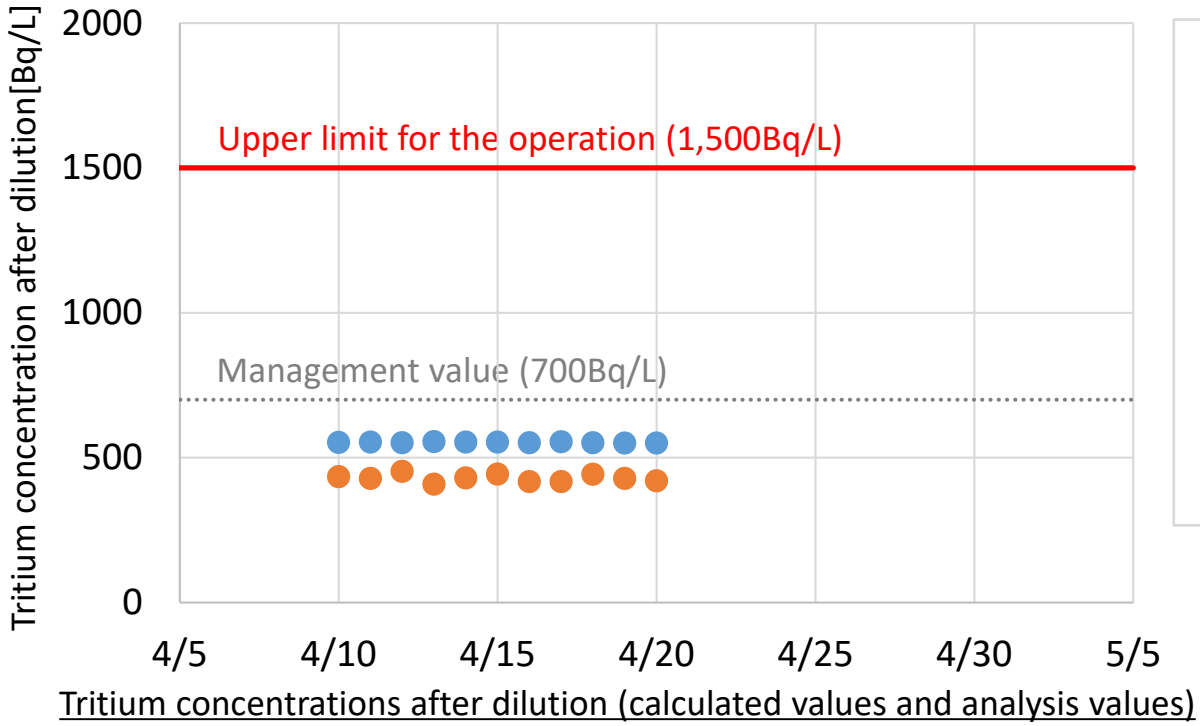


Amount of rain at the Fukushima Daiichi NPS

※It is assumed that the temporary increases during rainfall were caused by the runoff of fallout from onshore areas and precipitation of natural radionuclides (such as daughter nuclide of radon, etc.).

2-4. 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



Tritium concentrations after dilution (calculated values and analysis values)

Calculated values※1

Analysis values(Detected values)

※1：Calculated using the following formula
（Uncertainty has been considered for each parameter）

Tritium concentrations after dilution (Calculated values)

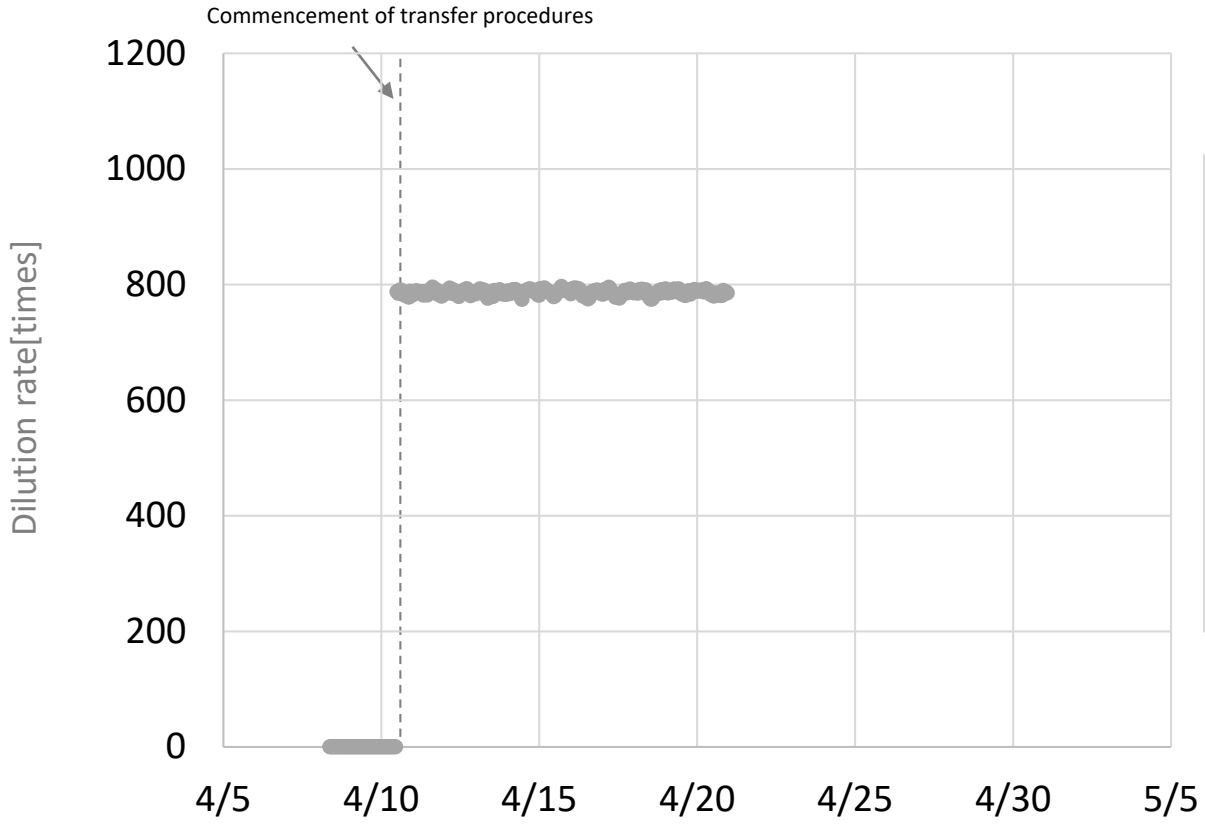
$$= \frac{\text{Tritium concentrations in ALPS treated water}^{※2} \times \text{ALPS treated water transfer flow}}{\text{Seawater transfer flow} + \text{ALPS treated water transfer flow}}$$

※2：Analysis values at measurement/confirmation tanks

	4/10	4/11～4/20
Calculated value: Time of data acquisition	14:00	7:00
Analysis value: Time of specimen sampling	14:04	7:00～11:00

[Reference] 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

Dilution rate※1

$$\text{Dilution rate} = \frac{\text{Seawater flow rate}^{※2} + \text{ALPS treated water flow rate}^{※3}}{\text{ALPS treated water flow rate}^{※3}}$$

※2： Total for systems A and B
※3： The flowmeters are reduplicate, so the higher of the figures from both meters was used for calculation

2-5. Sea area monitoring history (1/3)

○ 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/liter)

	Sampling location*3	Frequency	March 2025									April 2025
			23	24	25	26	27	28	29	30*4	31	1
In the vicinity of the discharge outlet	T-1	Twice a week*1	–	<6.8	–	–	<8.1	–	–	–	<7.3	–
	T-2	Twice a week*1	–	<6.9	–	–	<5.3	–	–	–	<7.2	–
	T-0-1	Once a day*2	<6.3	<6.3	<7.3	<6.7	<8.1	<6.6	<6.9	<7.8	<8.0	<8.0
	T-0-1A	Once a day*2	<6.4	<6.3	38	<6.6	<5.3	<7.2	<4.9	<8.6	<8.0	<8.0
	T-0-2	Once a day*2	30	<6.3	<7.3	<6.7	14	<6.6	<6.9	<7.7	<8.0	<8.0
	T-0-3A	Twice a week*1	–	<5.3	–	–	<5.3	–	–	–	<6.2	–
	T-0-3	Twice a week*1	–	<6.3	–	–	<5.3	–	–	–	<8.0	–
	T-A1	Twice a week*1	–	<5.3	–	–	<8.0	–	–	–	<6.2	–
	T-A2	Once a day*2	<6.4	<5.3	<7.3	<6.6	<7.8	<7.1	<4.8	<8.6	<6.2	<7.9
	T-A3	Twice a week*1	–	<5.3	–	–	<7.8	–	–	–	<6.1	–
Outside the vicinity of the discharge outlet	T-D5	Once a week	–	<6.8	–	–	–	–	–	–	<7.2	–
	T-S3	Once a month	–	–	–	–	–	–	–	–	–	–
	T-S4	Once a month	–	–	–	–	–	–	–	–	–	–
	T-S8	Once a month	–	–	–	–	–	–	–	–	–	–

※: 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 (Management number: 24-7-11)

*1: Conduct twice a week during the discharge period and for once a week following the completion of discharge. Conduct once a week outside the discharge period, excluding one week following the completion of discharge
*2: Conduct once a week during the discharge period and once a week following the completion of discharge. Conduct once a month outside the discharge period, excluding one week following the completion of discharge
*3: For sampling locations, refer to "[Reference] Measurement monitoring plan"
*4: Sampled before the commencement of discharge at 8AM

2-5. Sea area monitoring history (2/3)

(Unit: Bq/liter)

	Sampling location*3	Frequency	April 2025									
			2	3	4	5	6	7	10*5	11	12	13
In the vicinity of the discharge outlet	T-1	Twice a week*1	–	<6.1	<5.6	–	–	<7.2	<8.7	–	–	–
	T-2	Twice a week*1	–	<6.1	<5.6	–	–	<7.3	<8.7	–	–	–
	T-0-1	Once a day*2	–*4	–*4	–*4	<6.8	<5.7	<7.2	<8.4	<7.5	<5.3	<7.2
	T-0-1A	Once a day*2	–*4	–*4	–*4	<6.8	<5.7	<6.2	<8.7	<5.0	<6.0	27
	T-0-2	Once a day*2	–*4	–*4	–*4	<6.8	<5.7	<7.2	<8.4	<7.5	12	<7.2
	T-0-3A	Twice a week*1	–	–*4	–*4	<8.2	–	<6.2	<8.7	–	–	–
	T-0-3	Twice a week*1	–	–*4	–*4	<6.8	–	<6.3	<8.4	–	–	–
	T-A1	Twice a week*1	–	–*4	–*4	<8.2	–	<7.3	<6.4	–	–	–
	T-A2	Once a day*2	–*4	–*4	–*4	<8.1	<5.7	<7.2	<6.5	<5.0	<6.0	12
	T-A3	Twice a week*1	–	–*4	–*4	<8.1	–	<7.2	<6.4	–	–	–
Outside the vicinity of the discharge outlet	T-D5	Once a week	–	–	–	–	–	<7.3	–	–	–	–
	T-S3	Once a month	–	–	–	–	–	–	–	–	–	–
	T-S4	Once a month	–	–	–	–	–	–	–	–	–	–
	T-S8	Once a month	–	–	–	–	–	–	–	–	–	–

※: 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 (Management number: 25-1-12)

*1: Conduct twice a week during the discharge period and for once a week following the completion of discharge. Conduct once a week outside the discharge period, excluding one week following the completion of discharge
*2: Conduct once a week during the discharge period and once a week following the completion of discharge. Conduct once a month outside the discharge period, excluding one week following the completion of discharge
*3: For sampling locations, refer to “[Reference] Measurement monitoring plan”
*4: Sampling suspended due to bad weather condition
*5: Sampled after the commencement of discharge at 2AM

2-5. Sea area monitoring history (3/3)

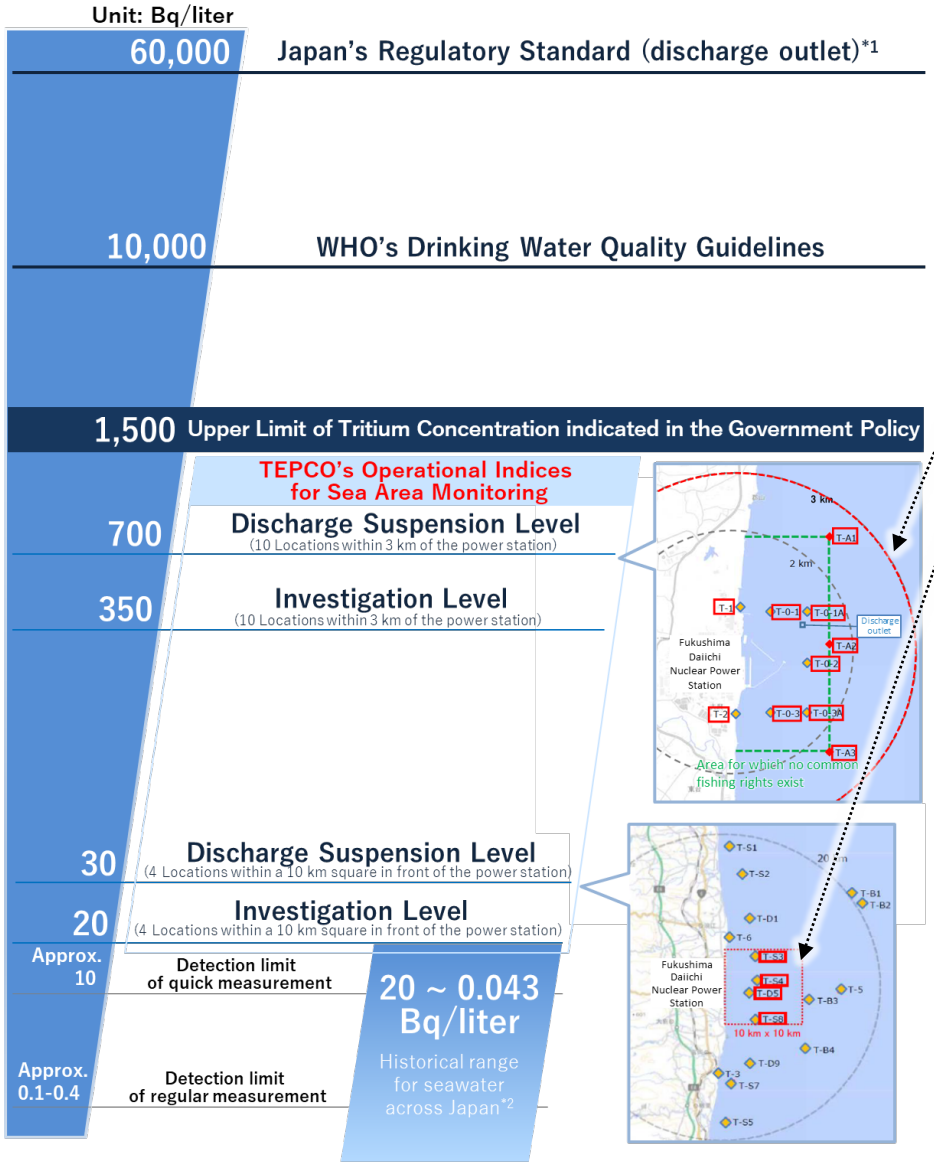
(Unit: Bq/liter)

	Sampling location[*3]	Frequency	April 2025					
			14	15	16	17	18	19
In the vicinity of the discharge outlet	T-1	Twice a week[*1]	<8.6	–	–	<7.1	–	–
	T-2	Twice a week[*1]	<8.5	–	–	<7.1	–	–
	T-0-1	Once a day[*2]	–[*4]	–[*4]	<7.7	<7.1	<7.7	<5.7
	T-0-1A	Once a day[*2]	–[*4]	–[*4]	<7.2	<8.0	<8.8	<5.9
	T-0-2	Once a day[*2]	–[*4]	–[*4]	<7.7	<7.1	<7.7	<5.7
	T-0-3A	Twice a week[*1]	–[*4]	–[*4]	<7.2	<8.0	–	–
	T-0-3	Twice a week[*1]	–[*4]	–[*4]	<7.7	<8.0	–	–
	T-A1	Twice a week[*1]	–[*4]	–[*4]	<6.8	<7.8	–	–
	T-A2	Once a day[*2]	–[*4]	–[*4]	<6.8	<7.8	20	6.3
	T-A3	Twice a week[*1]	–[*4]	–[*4]	<6.8	<7.8	–	–
Outside the vicinity of the discharge outlet	T-D5	Once a week	–	–	<7.2	–	–	–
	T-S3	Once a month	–	–	–	<7.0	–	–
	T-S4	Once a month	–	–	–	<7.0	–	–
	T-S8	Once a month	–	–	–	<7.0	–	–

※: 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 (Management number: 25-1-12)

*1: Conduct twice a week during the discharge period and for once a week following the completion of discharge. Conduct once a week outside the discharge period, excluding one week following the completion of discharge
*2: Conduct once a week during the discharge period and once a week following the completion of discharge. Conduct once a month outside the discharge period, excluding one week following the completion of discharge
*3: For sampling locations, refer to “[Reference] Measurement monitoring plan”
*4: Sampling suspended due to bad weather condition

[Reference] Comparison of tritium concentration in seawater



*1: 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.
*2: Source: Environmental Radioactivity and Radiation in Japan (Period: April 2019 to March 2022)

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

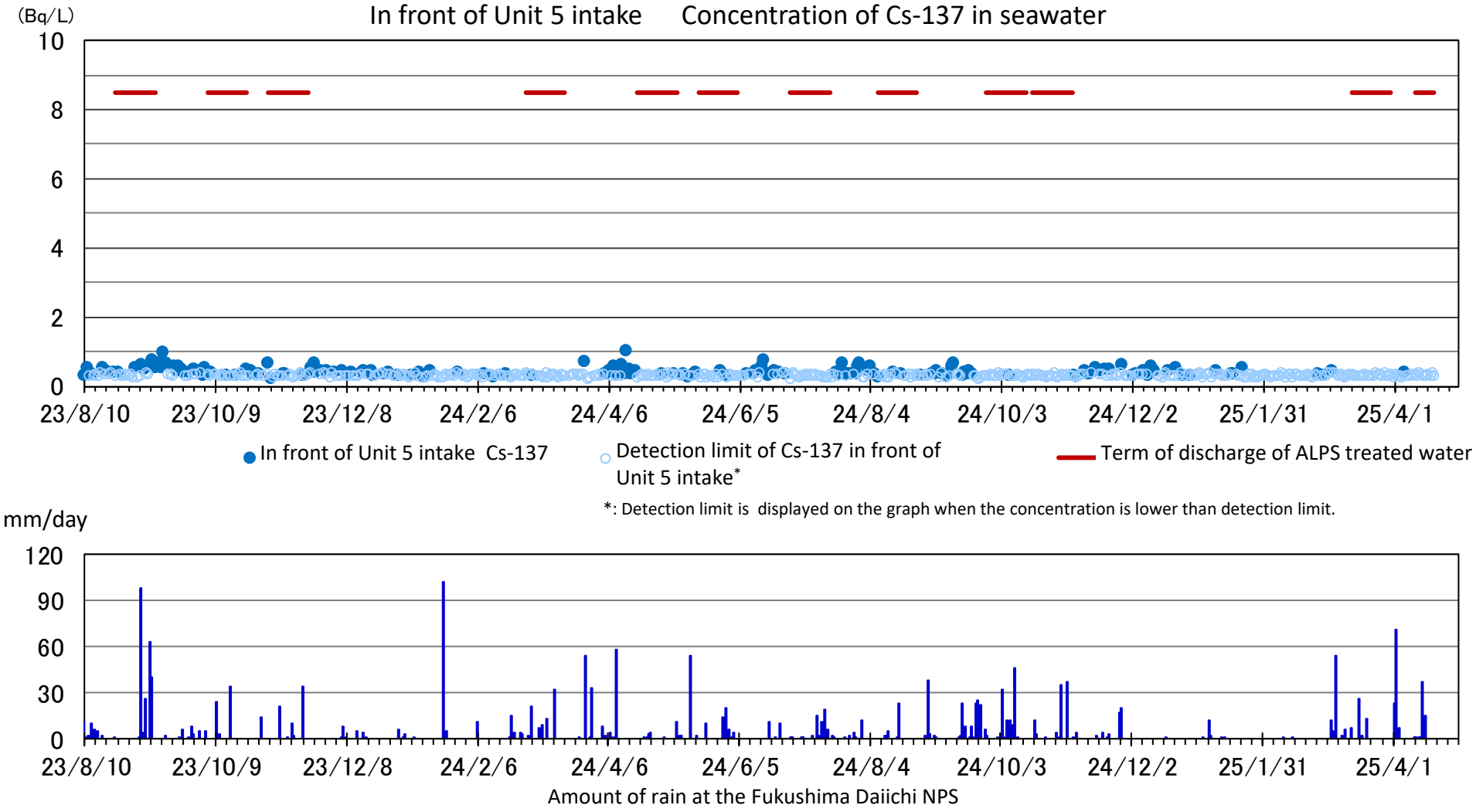
	Discharge suspension level	Investigation level
Within 3km of the power station	700 Bq/L	350 Bq/L
Within a 10km square in front of the power station	30 Bq/L	20 Bq/L

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.

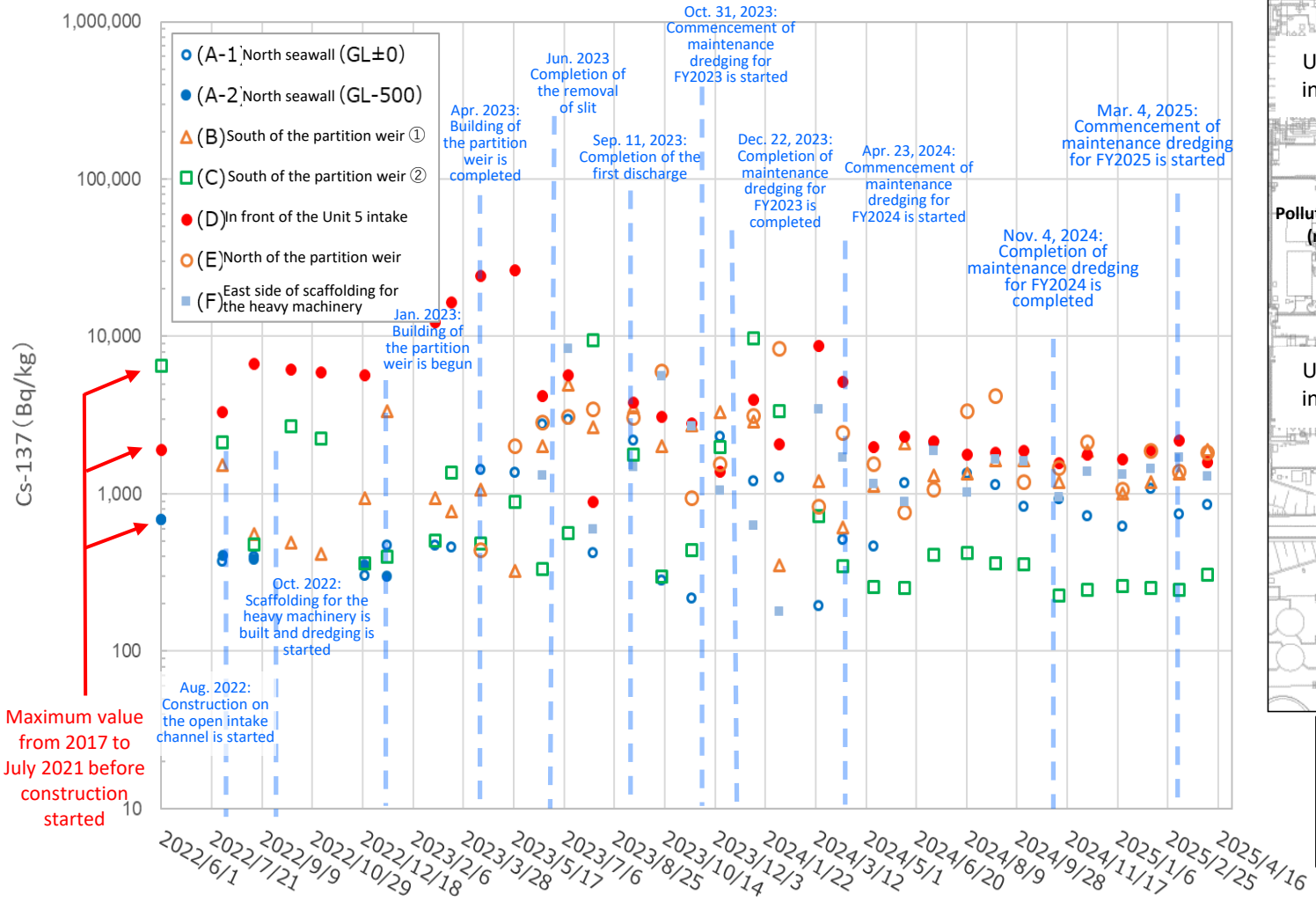
2-6. Unit 5 intake channel monitoring

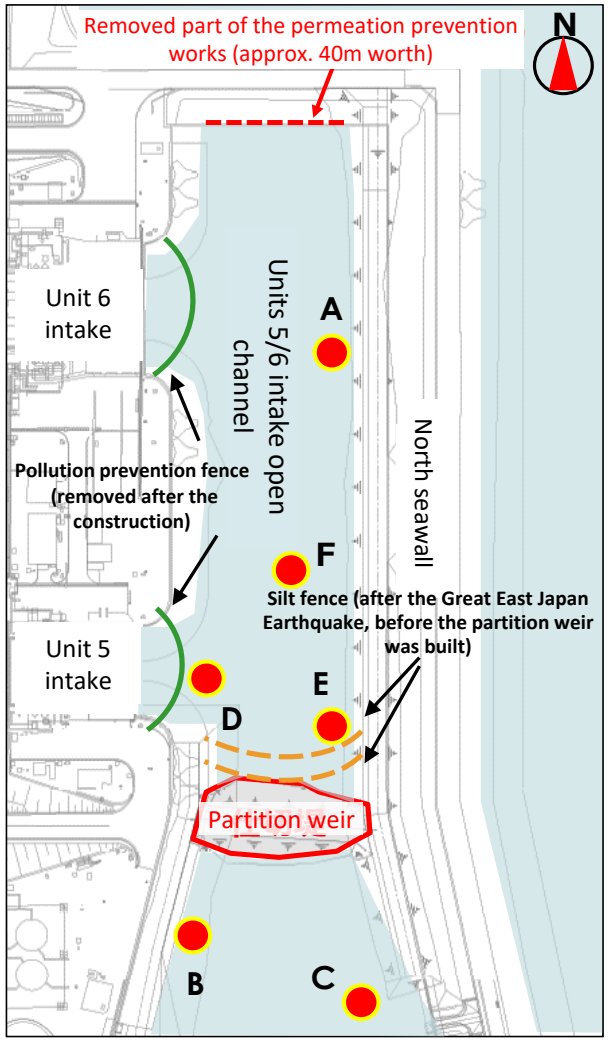
- Sea water monitoring results at near the intake for seawater to be used for dilution during the discharge of ALPS treated water have confirmed that values are similar to those outside of the term of the discharge.



2-7. Monitoring results for seabed soil inside the Unit 5/6 intake open channel (1)

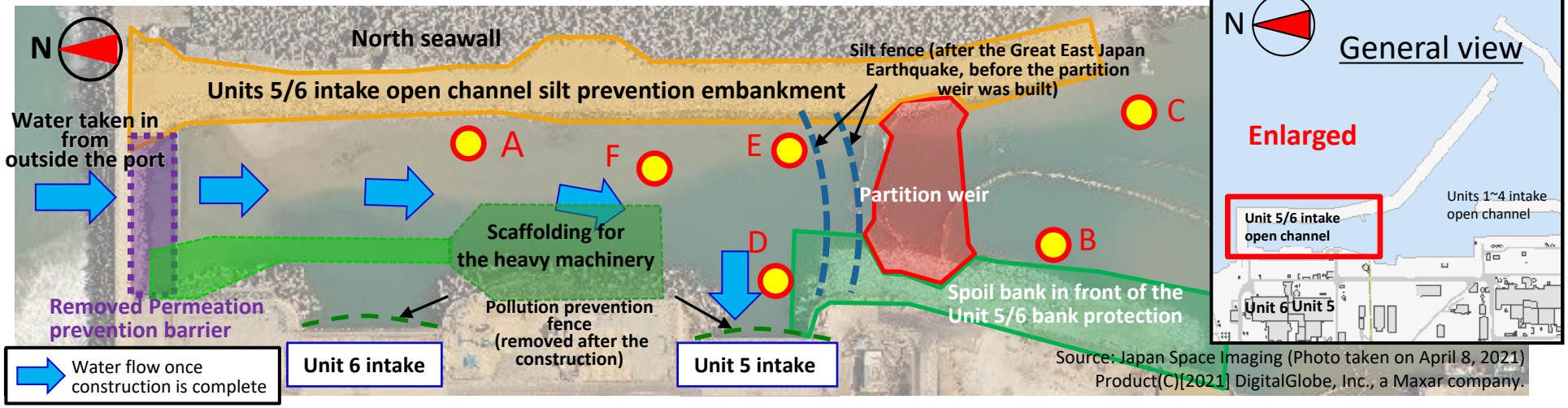
- Monitoring results for seabed soil in front of Unit 5 intake did not show significant fluctuations from the beginning of construction at the intake open channel until December 2022. While they showed higher readings after January 2023, we have confirmed that these readings decreased after the completion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





2-7. 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 April 2025.



Sampling points		Before construction 2017 to July 2021	FY2022 Aug. ~ Mar.	2023 Apr. ~ Dec.	2024 Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	2025 Jan.	Feb.	Mar.	Apr.
A-1 North side of the Unit 5/6 open channel North side of the silt fence (GL±0m)	Cs-134	4.4～52.3	31.5～39.8	32.0～69.5	44.5	51.1	34.6	34.4	34.8	53.6	51.4	40.4	59.0	64.5	38.1	57.6	37.4	45.4	38.7	45.0
	Cs-137	163.6～678.6	303.2～468.1	216.7～2975.0	1,210.0	1,270.0	195.2	510.4	461.7	1,169.0	2,107.0	1,337.0	1,135.0	826.2	922.9	725.1	615.9	1,079.0	741.1	850.5
A-2 North side of the Unit 5/6 open channel North side of the silt fence (GL-0.5m)	Cs-134	14.4～58.5	32.5～38.3	-	※Only sampled from the surface (GL±0m) since sand was removed during dredging															
	Cs-137	310.0～689.8	299.1～404.0	-																
B South side of the partition weir ① (South side of the silt fence)	Cs-134	723.0	34.5～65.6	48.8～97.1	75.2	38.2	52.8	35.1	50.6	48.1	39.7	58.2	55.7	64.5	42.5	57.6	39.4	38.9	48.3	55.0
	Cs-137	6,475.0	412.8～3,331.0	323.8～4943.0	2,868.0	353.9	1,205.0	613.8	1,125.0	2,086.0	1,308.0	1,342.0	1,638.0	1,622.0	1,190.0	1,863.0	1,006.0	1,185.0	1,340.0	1,889.0
C South side of the partition weir ② (South side of the silt fence)	Cs-134	183.0	30.9～68.7	37.1～234.8	153.3	115.8	42.4	26.5	36.9	39.2	29.5	41.4	38.1	48.6	31.0	29.8	33.8	28.9	39.2	36.7
	Cs-137	1,893.0	360.8～2,671.0	295.9～9519.0	9,737.0	3,345.0	723.9	348.9	257.0	253.0	409.7	419.6	361.7	356.2	227.4	246.4	258.6	252.8	245.6	306.9
D Unit 5 intake	Cs-134	–	101.6～3,546.0	50.2～690.7	61.8	50.3	177.8	114.8	79.6	50.3	40.3	64.9	69.3	83.5	52.0	50.7	35.9	35.9	39.7	44.4
	Cs-137	–	3,301.0～144,000.0	951.7～26400.0	3,981.0	2,069.0	8,661.0	5,140.0	1,970.0	2,305.0	2,166.0	1,763.0	1,834.0	1,866.0	1,563.0	1,773.0	1,656.0	1,898.0	2,175.0	1,587.0
E North side of the partition weir	Cs-134	–		35.6～147.0	64.4	161.2	46.4	40.4	38.3	37.0	41.6	55.0	50.1	55.7	33.1	42.7	38.4	59.7	30.0	44.4
	Cs-137	–		437.1～5795.0	3,145.0	8,371.0	829.4	2,427.0	1,551.0	764.6	1,066.0	3,371.0	4,154.0	1,191.0	1,460.0	2,118.0	1,060.0	1,878.0	1,388.0	1,834.0
F East side of scaffolding for the heavy machinery	Cs-134	–		40.2～166.1	58.6	31.3	55.3	37.8	87.1	34.1	40.7	49.1	74.8	58.6	48.2	63.2	40.0	42.8	42.2	50.0
	Cs-137	–		592.4～8303.0	630.9	178.7	3,446.0	1,694.0	1,148.0	891.0	1,884.0	1,020.0	1,654.0	1,606.0	955.9	1,392.0	1,332.0	1,447.0	1,710.0	1,295.0

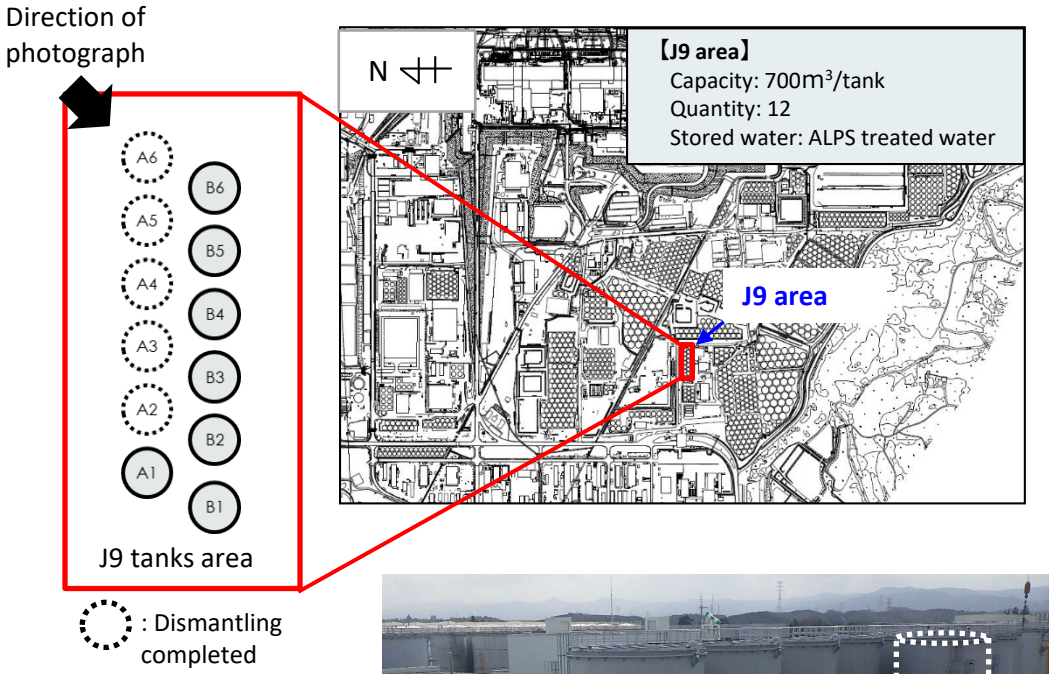
※Unit: Bq/liter, Figures in gray were below the detection limit

Report contents

* 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, “24-7-11” indicates that the data is for the seventh discharge of 2024, which is the eleventh discharge to date.

3. Status of dismantling of the J9 area tanks

- On February 13, 2025 the J9 area tanks were taken out of service and dismantling began on February 14, 2025.
- Dismantling of the fifth tank was completed on April 21.



＜Tank Dismantling Results＞

Tank number	Dismantling completed date
A6	Mar 4, 2025
A5	Mar 14, 2025
A4	Mar 31, 2025
A3	Apr 10, 2025
A2	Apr 21, 2025

Report contents

1. History of the discharge of ALPS treated water
   (Management number* : 24-7-11)

2. Performance of the discharge of ALPS treated water
   (Management number* : 25-1-12)

3. Status of the dismantling of the J9 area tanks

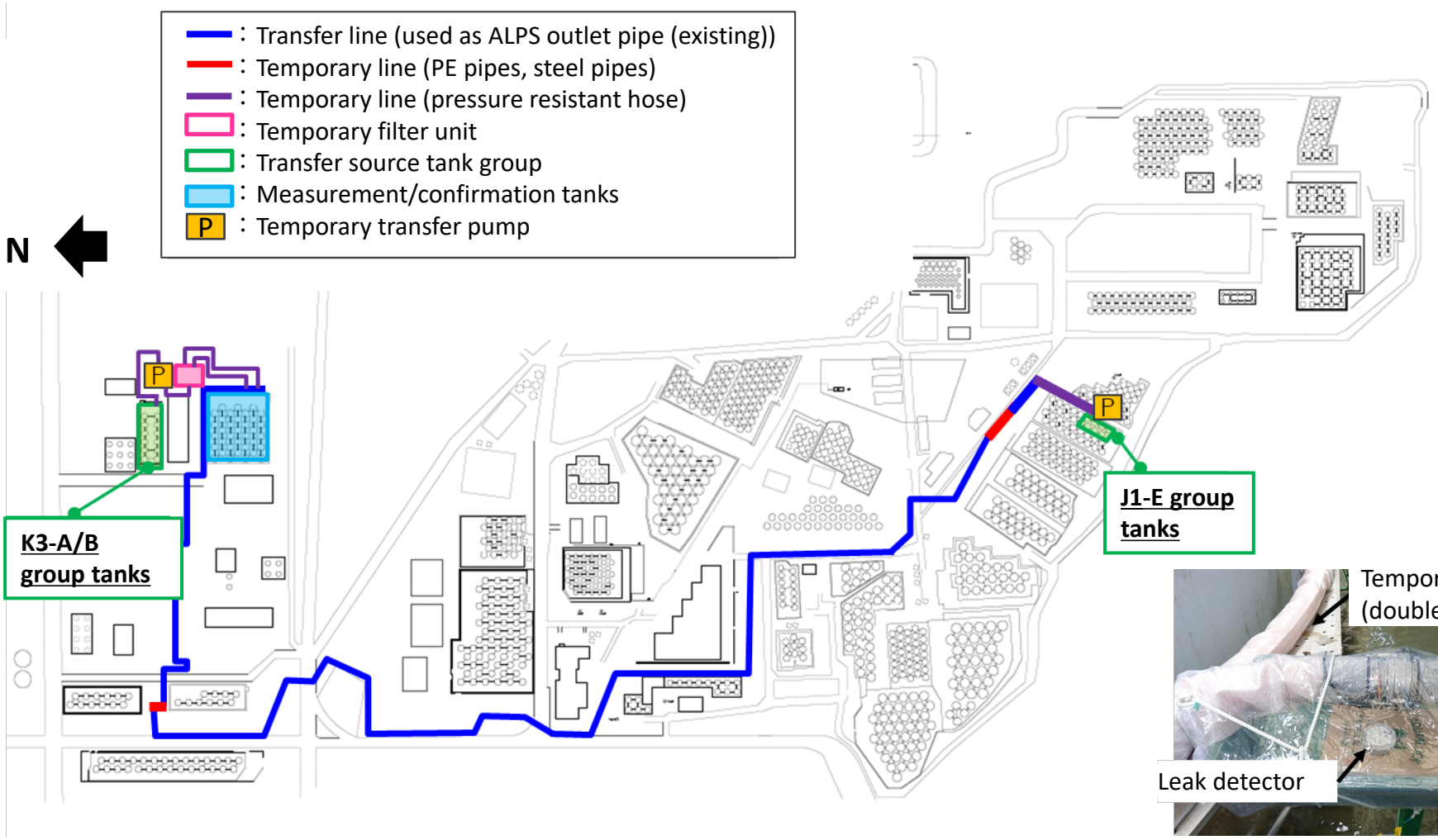
4. Transfer of ALPS treated water in preparation for the future discharges

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

* 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, “24-7-11” indicates that the data is for the seventh discharge of 2024, which is the eleventh discharge to date.

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

- Transfer of ALPS treated water from K3 area Group A/B and J1 area Group E to measurement/confirmation facility tank group C in preparation for the discharge of Management number: 25-2-13 was conducted from April 3, 2025. It will be completed on April 25, 2025. Circulation/agitation will be commenced from May 9, 2025 and sample will be taken on May 16, 2025.



Concept photo of leak countermeasures

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1. History of the discharge of ALPS treated water
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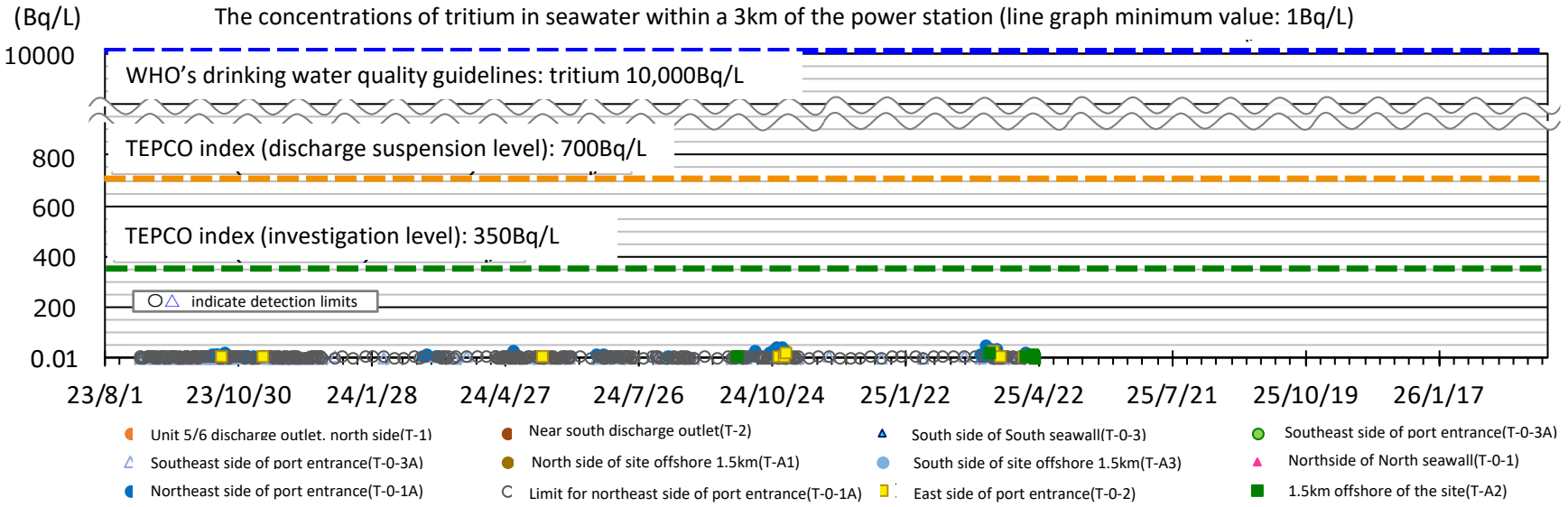
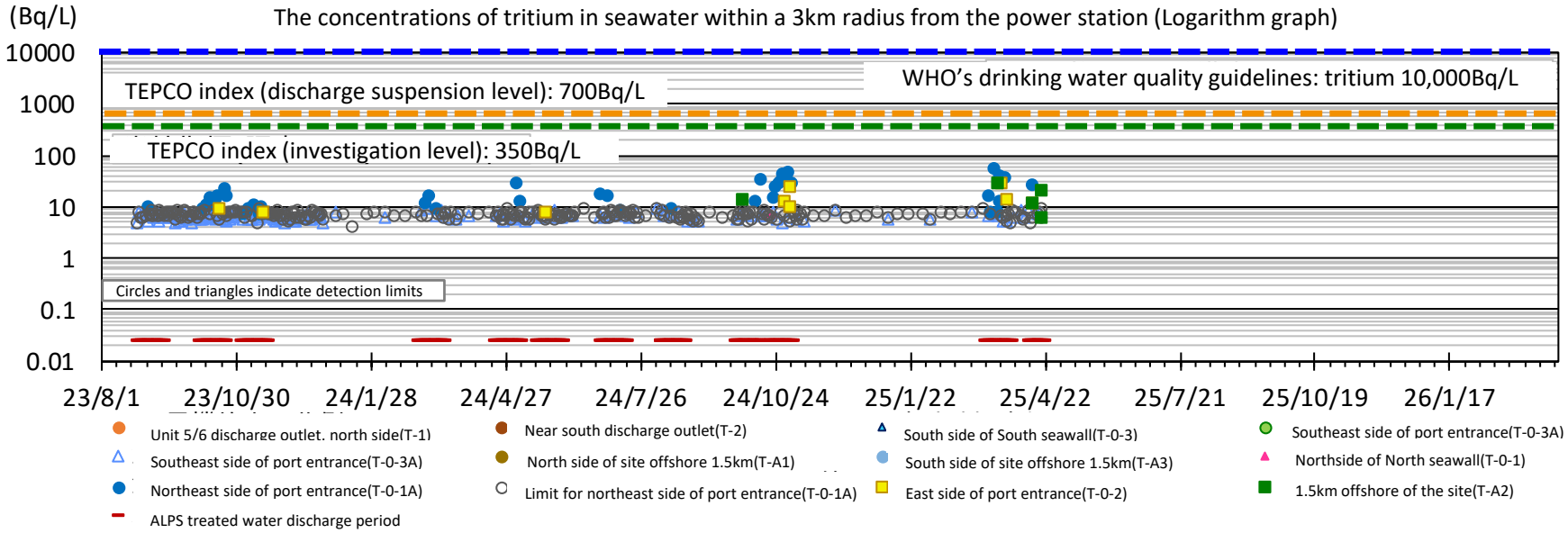
[Reference] Sea area monitoring results (1/2)　quick monitoring

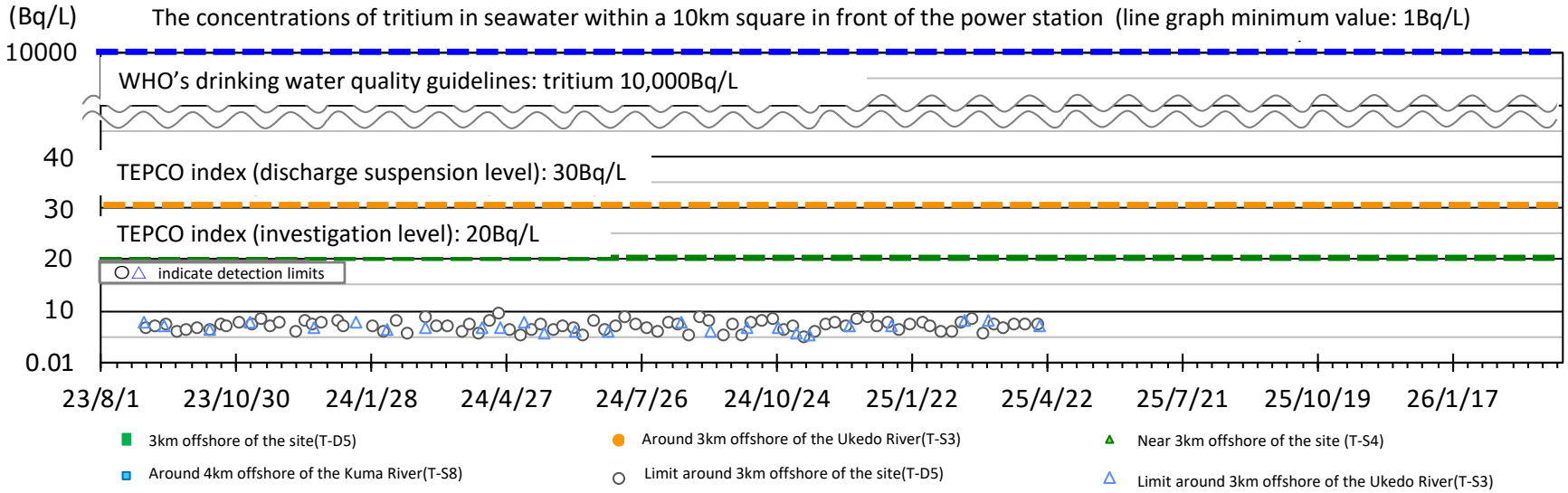
within 3km of the power station

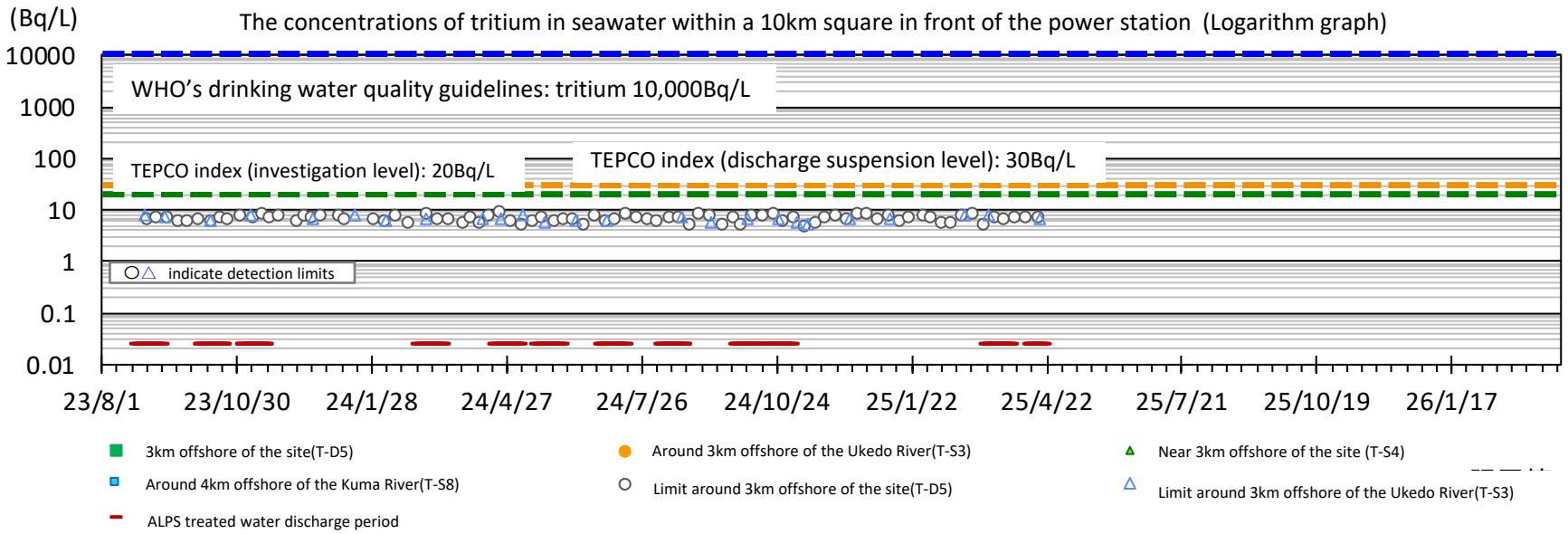




[Reference] Sea area monitoring results (2/2)　quick monitoring

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.

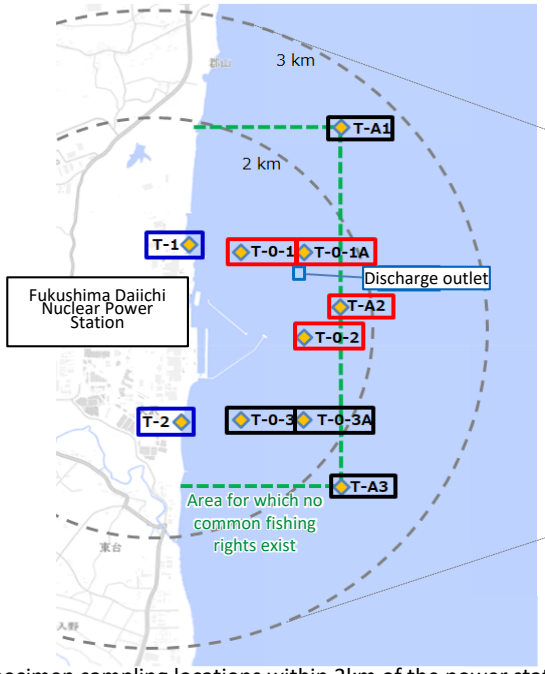


Figure 1: Specimen sampling locations within 3km of the power station (near the discharge outlet)

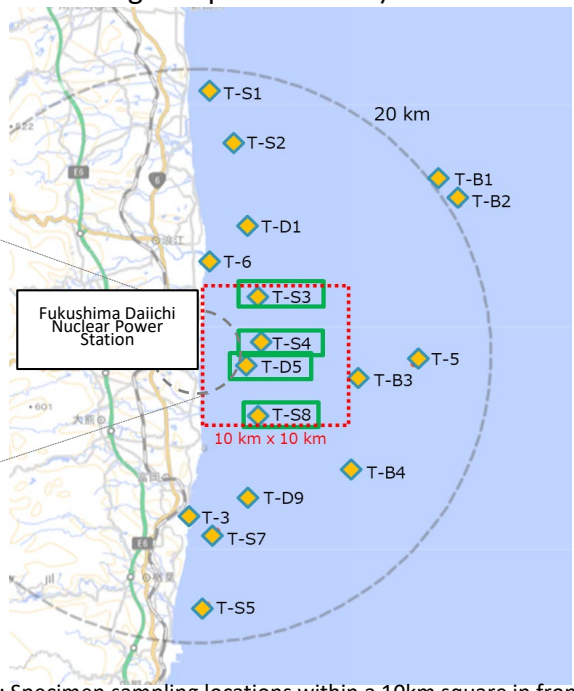


Figure 2: Specimen sampling locations within a 10km square in front of the power station

: Monitoring points used to obtain quick results (10 locations)

Index (Discharge suspension level) 700Bq/L

Index (investigation level) 350Bq/L

: Monitoring points used to obtain quick results (4 locations)

Index (Discharge suspension level) 30Bq/L

Index (investigation level) 20Bq/L

	【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)