ALPS Treated Water Discharge Status Update and FY2025 ALPS Treated Water Discharge Plan

March 27, 2025

TEPCO

Tokyo Electric Power Company Holdings, Inc.

Report contents

1. Performance of the discharge (Management number* : 24-7-11)

2. Status of the dismantling of the J9 area tanks

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

4. FY2025 ALPS treated water discharge plan

(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.

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. Overview

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

FY2023

Management number	Tank group	Tritium concentration	Commenced	Completed	Amount of discharge	Amount of tritium radioactivity
23-1-1	Group B	14 x 10^4 Bq/liter	Aug 24, 2023	Sep 11, 2023	7,788m^3	Approx. 1.1 trillion Bq
23-2-2	Group C	14 x 10^4 Bq/liter	Oct 5, 2023	Oct 23, 2023	7,810m^3	Approx. 1.1 trillion Bq
23-3-3	Group A	13 x 10^4 Bq/liter	Nov 2, 2023	Nov 20, 2023	7,753m^3	Approx. 1.0 trillion Bq
23-4-4	Group B	17 x 10^4 Bq/liter	Feb 28, 2024	Mar 17, 2024	7,794m^3	Approx. 1.3 trillion Bq

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	7,800m^3	Approx. 2.4 trillion Bq

*Black texts; results, Gray texts; plan

1-1. Outline of the Eleventh discharge of ALPS treated water into the sea (Management number: 24-7-11)

Outline of discharge for group K4-C			
Attributes of the treated water	Concentration of the 30 types of radionuclides (excluding tritium) in scope of measurement/evaluation	Within regulatory requirements (sum of the ratios of legally required concentrations of radioactive substances is less than 1) (sum of the ratios of concentration: 0.076) (details on p1 of the link)	
	Tritium concentration	31 x 10^4 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])	
Concentration of tritium after dilution		Approximately 420 Bq/liter	
Term of discharge		March 12, 2025 – March 30, 2025 (planned)	

1-2. Analysis Results of ALPS Treated Water in the Measurement/Confirmation Tanks (Management number: 24-7-11)

- Pre-discharge analysis results for the samples taken from the measurement/confirmation tank (Group C) on January 14, 2025, were obtained. It was confirmed that the water satisfies discharge requirements (Table 1. Disclosed on March 6, 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 0.076, and it is confirmed to be less than 1.
  - Item 2: Analysis results of tritium concentration is 31 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: 24-7-11)

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	**0.076 (< 1)**
②	Tritium		Tritium concentration is less than 1 million Bq/liter	**31 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: 24-7-11) (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 0.076**, 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 C
Date and Time of Sampling	January 14, 2025	9:55
Storage Volume (m³)	8958	

Summary	Nuclides to be measured and assessed (29 nuclides) : The sum of the ratios of the concentration of each radionuclide to the regulatory concentration	0.076 (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	8.5E+00	± 2.2E+00	2.1E+00	9.7E+00	± 1.2E+00	9.6E-01	4.2E-03	4.8E-03	2000	Measurement
2	Mn-54	ND	—	2.4E-02	ND	—	1.9E-02	less than 2.4E-05	less than 1.9E-05	1000	Measurement
3	Fe-55	ND	—	1.7E+01	ND	—	1.2E+01	less than 8.4E-03	less than 6.1E-03	2000	Measurement
4	Co-60	2.2E-01	± 4.5E-02	2.4E-02	2.2E-01	± 3.3E-02	1.9E-02	1.1E-03	1.1E-03	200	Measurement
5	Ni-63	ND	—	9.2E+00	ND	—	6.1E+00	less than 1.5E-03	less than 1.0E-03	6000	Measurement
6	Se-79	ND	—	1.0E+00	ND	—	1.5E+00	less than 5.2E-03	less than 7.7E-03	200	Measurement
7	Sr-90	6.2E-01	± 6.2E-02	3.6E-02	5.3E-01	± 6.8E-02	2.8E-02	2.1E-02	1.8E-02	30	Measurement
8	Y-90	6.2E-01	—	3.6E-02	5.3E-01	—	2.8E-02	2.1E-03	1.8E-03	300	Sr-90/Y-90 Radioactive Equilibrium Assessment
9	[illegible]	1.4E-01	± 1.8E-02	7.6E-02	1.4E-01	± 3.3E-02	6.3E-02	1.4E-04	1.4E-04	1000	Measurement
10	Ru-106	ND	—	2.2E-01	ND	—	1.9E-01	less than 2.2E-03	less than 1.9E-03	100	Measurement
11	Cd-113m	ND	—	8.5E-02	ND	—	5.5E-02	less than 2.1E-03	less than 1.4E-03	40	Measurement
12	Sb-125	1.2E-01	± 6.5E-02	9.3E-02	8.2E-02	± 5.1E-02	[illegible]	1.6E-04	1.0E-04	800	Measurement
13	Te-125m	4.6E-02	—	3.4E-02	3.0E-02	[illegible]	2.8E-02	5.1E-05	3.4E-05	900	Sb-125/Te-125m Radioactive Equilibrium Assessment
14	I-129	1.3E-01	± 3.6E-02	9.0E-03	1.4E-01	± 3.8E-02	2.6E-02	1.4E-02	1.5E-02	9	Measurement
15	Cs-134	ND	—	2.9E-02	ND	—	2.0E-02	less than 4.9E-04	less than 3.4E-04	60	Measurement
16	Cs-137	1.4E-01	± 3.1E-02	2.7E-02	1.5E-01	± 2.5E-02	2.2E-02	1.6E-03	1.6E-03	90	Measurement
17	Ce-144	ND	—	3.4E-01	ND	—	2.7E-01	less than 1.7E-03	less than 1.3E-03	200	Measurement
18	Pm-147	[illegible]	—	3.4E-01	ND	—	2.4E-01	less than 1.1E-04	less than 7.9E-05	3000	Eu-154 Relative Ratio Assessment
19	[illegible]	ND	—	1.3E-02	ND	—	9.1E-03	less than 1.6E-06	less than 1.1E-06	8000	Eu-154 Relative Ratio Assessment
20	Eu-154	ND	—	7.6E-02	ND	—	5.3E-02	less than 1.9E-04	less than 1.3E-04	400	Measurement
21	Eu-155	ND	—	2.0E-01	ND	—	1.4E-01	less than 6.6E-05	less than 4.5E-05	3000	Measurement
22	U-234	ND	—	2.6E-02	ND	—	2.4E-02	less than 6.4E-03 *3	less than 6.0E-03 *3	20	Gross Alpha
23	U-238									20	Gross Alpha
24	Np-237									9	Gross Alpha
25	Pu-238									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	—	7.0E-01	ND	—	6.6E-01	less than 3.5E-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 7.6E-02	less than 7.2E-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: 24-7-11) (2/4)

TEPCO

- Analysis results of **tritium concentration is 31 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	31 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	3.1E+05	± 1.7E+04	1.9E+01	3.0E+05	± 2.2E+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

*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: 24-7-11) (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	○	7.5E-02	○	3.5E-02	
2	Co-58	○	2.3E-02	○	1.6E-02	
3	Zn-65	○	4.4E-02	○	3.2E-02	
4	Rb-86	○	2.9E-01	○	2.3E-01	
5	Sr-89	○	5.8E-02	○	4.7E-02	
6	Y-91	○	2.7E+00	○	2.6E+00	
7	Nb-95	○	3.0E-02	○	1.8E-02	
8	Ru-103	○	3.0E-02	○	3.6E-02	
9	Ag-110m	○	2.5E-02	○	1.8E-02	
10	Cd-115m	○	1.2E+00	○	1.1E+00	
11	Sn-123	○	1.3E+00	○	8.9E-01	
12	Sn-126	○	1.5E-01	○	1.1E-01	
13	Sb-124	○	5.3E-02	○	4.3E-02	
14	Te-123m	○	4.9E-02	○	4.0E-02	Measurement
15	Te-127	○	7.9E-01	○	6.0E-01	
16	Te-129m	○	7.7E-01	○	6.7E-01	
17	Te-129	○	3.5E-01	○	5.3E-01	
18	Cs-136	○	2.5E-02	○	2.0E-02	
19	Ba-140	○	1.1E-01	○	1.0E-01	
20	Ce-141	○	1.0E-01	○	7.6E-02	
21	Pm-146	○	4.0E-02	○	3.2E-02	
22	Pm-148m	○	2.5E-02	○	2.3E-02	
23	Pm-148	○	1.2E-01	○	1.3E-01	
24	Eu-152	○	1.2E-01	○	1.0E-01	
25	Gd-153	○	1.7E-01	○	1.1E-01	
26	Tb-160	○	7.6E-02	○	6.1E-02	
27	Am-243	○	2.6E-02	○	2.4E-02	
28	Cm-242	○	2.6E-02	○	2.4E-02	Measurement (substituted with gross alpha)
29	Cm-243	○	2.6E-02	○	2.4E-02	
30	Rh-103m	○	3.0E-02	○	3.6E-02	Ru-103/Rh-103m Radioactive Equilibrium Assessment
31	Rh-106	○	2.2E-01	○	1.9E-01	Ru-106/Rh-106 Radioactive Equilibrium Assessment
32	Sn-119m	○	5.5E-03	○	4.1E-03	Sn-126 Relative Ratio Assessment
33	Te-127m	○	8.1E-01	○	6.1E-01	Te-127 Relative Ratio Assessment
34	Cs-135	○	1.8E-07	○	1.4E-07	Cs-137 Relative Ratio Assessment
35	Ba-137m	○	2.6E-02	○	2.0E-02	Cs-137/Ba-137m Radioactive Equilibrium Assessment
36	Pr-144m	○	5.1E-03	○	4.0E-03	Ce-144/Pr-144m Radioactive Equilibrium Assessment
37	Pr-144	○	3.4E-01	○	2.7E-01	Ce-144/Pr-144 Radioactive Equilibrium Assessment
38	Am-242m	○	1.8E-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	9.2E-07	9.7E-07	6.0E+02
Ba-137m	1.3E-01	1.4E-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 elemer
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: 24-7-11) (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 Tank (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)	–	8.3	Sea Area 5.0~9.0
2	Suspended Solids (SS)	mg/L	2	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	1	Maximum: 40 or less Average: 30 or less
11	Coliform Count	pcs/cm^3	1	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	4	
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>

1-3. Commencement of seventh discharge in FY2024 of ALPS treated water into the sea (discharge in two-stage)

- On March 10, 2025, we measured concentration of tritium in the water sampled from the upper-stream storage as the First stage of the Seventh discharge in FY2024 of ALPS treated water into the sea (discharge in two-stage) and confirm that there are no significant differences between the calculated estimates and actual measurements for tritium concentrations, and that the water is being diluted/mixed, and that the concentration of tritium is less than the discharge criteria of 1,500Bq/liter (less than the operational limit of 700Bq/liter). In addition to this, we confirmed that there have been no changes in facility status by using seawater flow values and ALPS treated water flow values to confirm that the water is being diluted as designed. Following these results, we decide to proceed to the Second Stage.

- The sample of the water was also analyzed by the Japan Atomic Energy Agency (JAEA) who confirmed that the concentration of tritium is less than the discharge criteria of 1,500Bq/liter (less than the operational limit of 700Bq/liter.

- Therefore, we started up the seawater transfer pumps on March 12, 2025, at 1:25 p.m., which marked the commencement of the discharge into the sea from the measurement/confirmation facility tank group C.

[Reference] Procedure of discharge in two-stage

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

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

① Upper-stream storage emptied
② ALPS treated water (measurement/confirmation tank group C) tritium concentration entered into system
③ One seawater transfer pump started up
④ ALPS treated water transfer pump started up after the seawater transfer pump reaches rated flow
⑤ ALPS treated water transfer flow automatically adjusted in accordance with tritium concentration so that the ALPS treated water diluted by seawater concentration is 700Bq/liter※
⑥ After rated flow has been reached, the ALPS treated water transfer pump and the seawater transfer pump will be shutdown

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

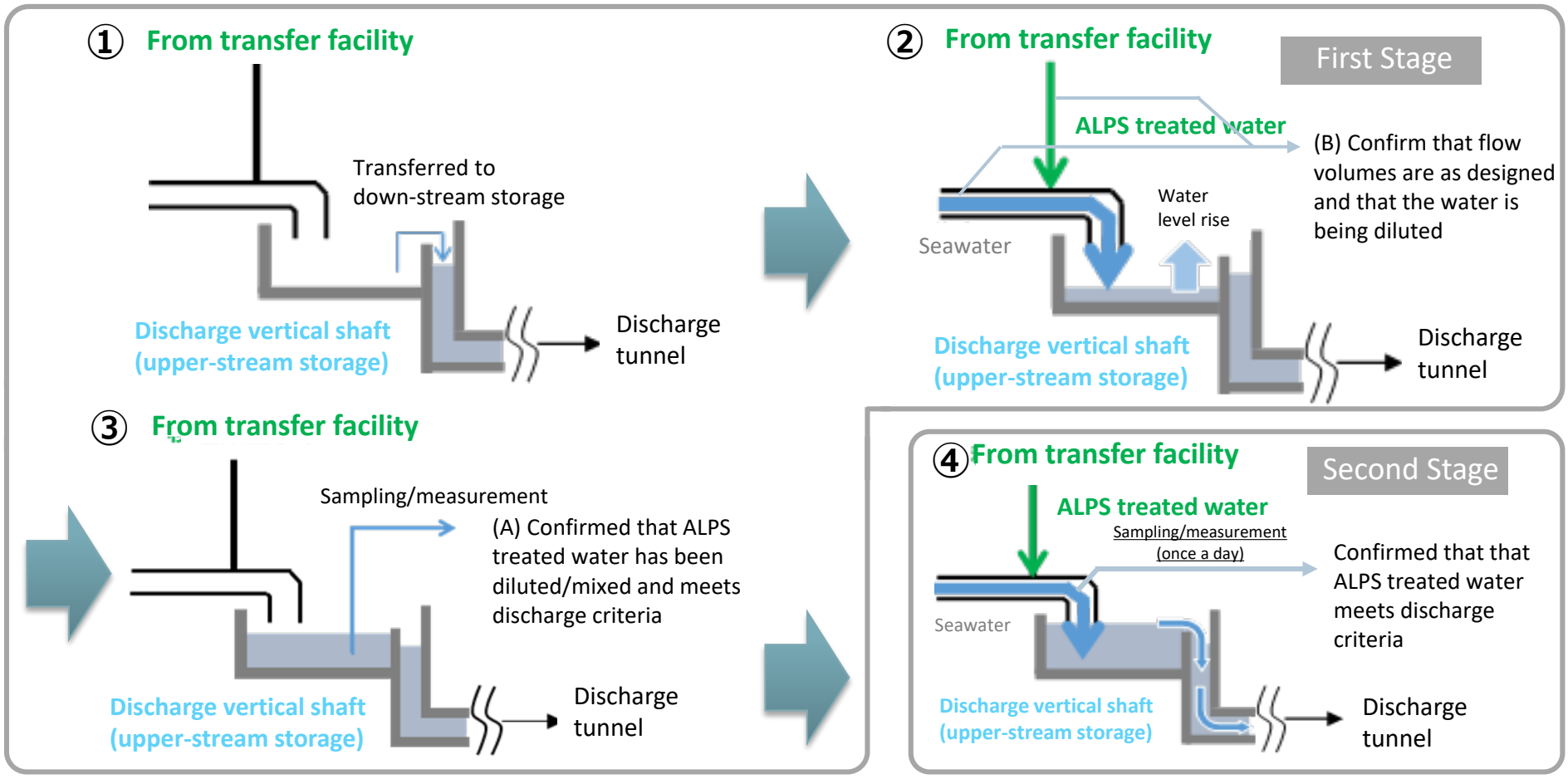
Components shall be activated as mentioned above to confirm there are no problems with performance. The concentration of tritium in the water diluted by seawater in upper-stream storage shall also be measured to confirm that through calculated estimates and actual measurements that there had been no significant difference in the concentration of tritium and less than 700Bq/liter.

Second Stage ・・・ Continuous discharge into the sea

⑦ Two seawater pumps started up in succession (commencement of discharge of diluted water from upper-stream storage)
⑧ After the two seawater pumps have reached rated flow the ALPS treated water transfer pump shall be started up (continuous discharge)

("the post-dilution tritium concentration" during continuous discharge shall be managed using calculated values and analysis values from water sampled daily from downstream of the seawater flow header)

[Reference] Method of discharge in two stage



① The discharge vertical shift (upper-stream storage) emptied

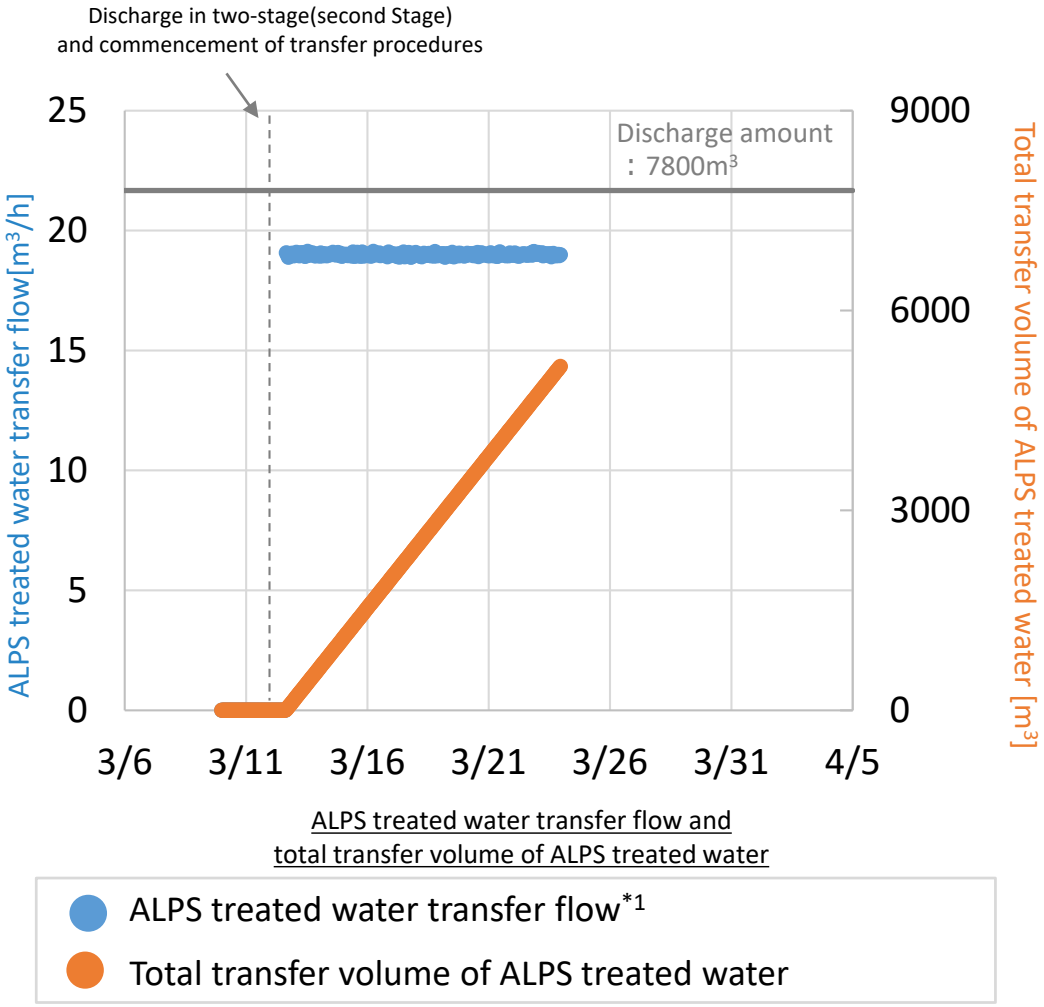
② A small amount (approximately 0.7m³) of ALPS treated water will be diluted with seawater (approximately 1,200m³) and then held in the discharge vertical shift (upper-stream storage).

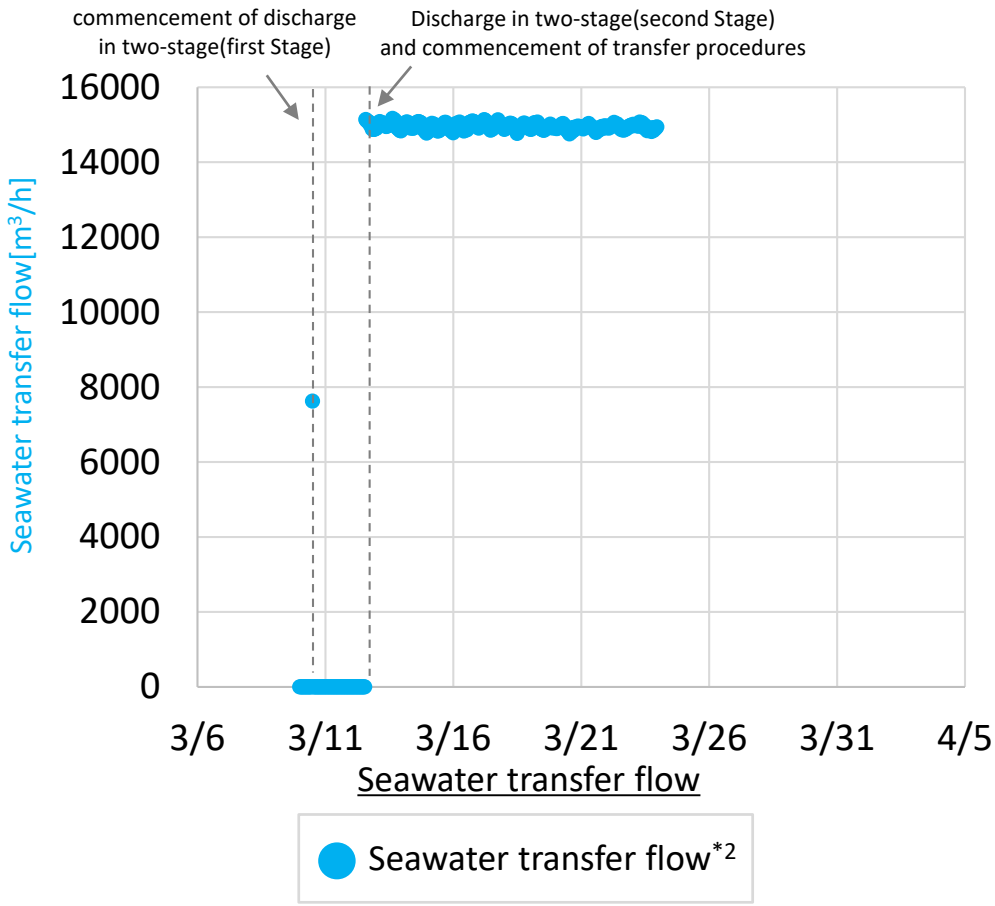
③ It will be confirmed that there are no problems with the series of operations of the ALPS treated water dilution/discharge facilities and that the concentration of tritium in water stored in the discharge vertical shift (upper-stream storage) is that through calculated estimates and actual measurements that there had been no significant difference in the concentration of tritium, and less than 700Bq/liter. As a measure to ensure that the condition of the facilities has not changed, confirm that the water is being diluted as designed by flow volumes of the seawater and ALPS treated water. [Processes ① through ③ comprise the First Stage] .

④ Then, TEPCO will move on to the Second Stage which will be continuous discharge into the sea.

1-4. Operating parameter records during the discharge (1/3)

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

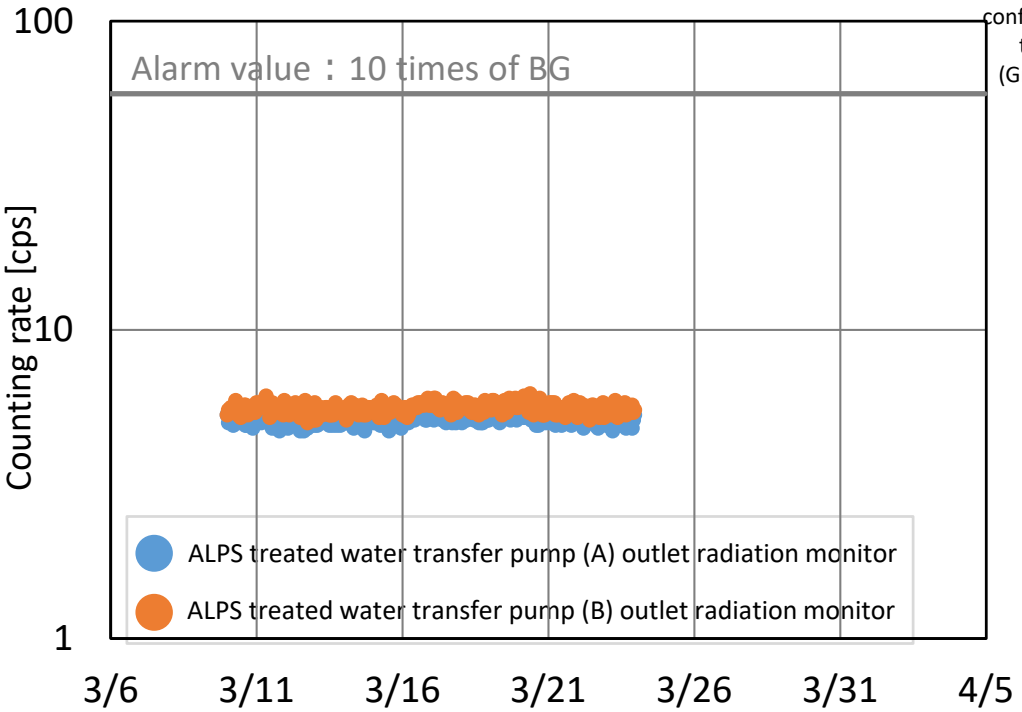




*1： The flowmeters are reduplicate, so the higher of the figures from both meters was used.
*2： Total for systems A and B

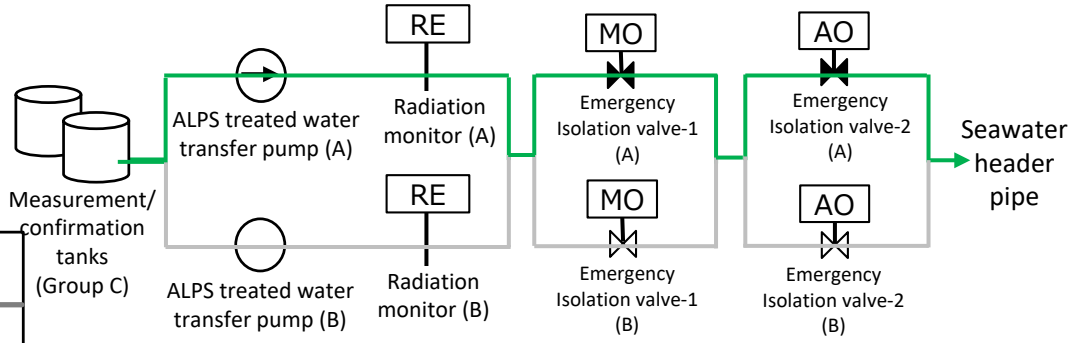
1-4. Operating parameter records during the discharge (2/3)

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

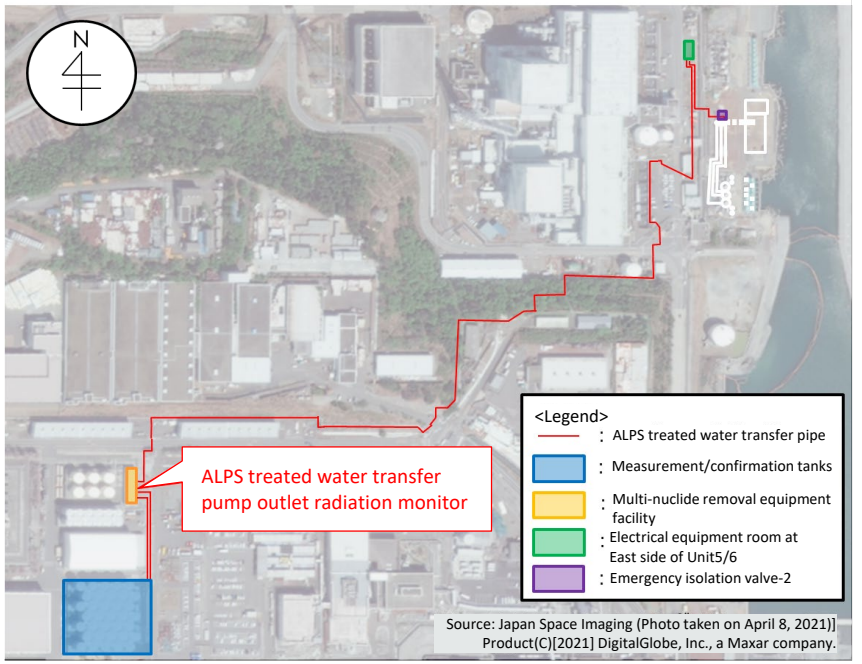


Figures of ALPS treated water transfer pump outlet radiation monitor※

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



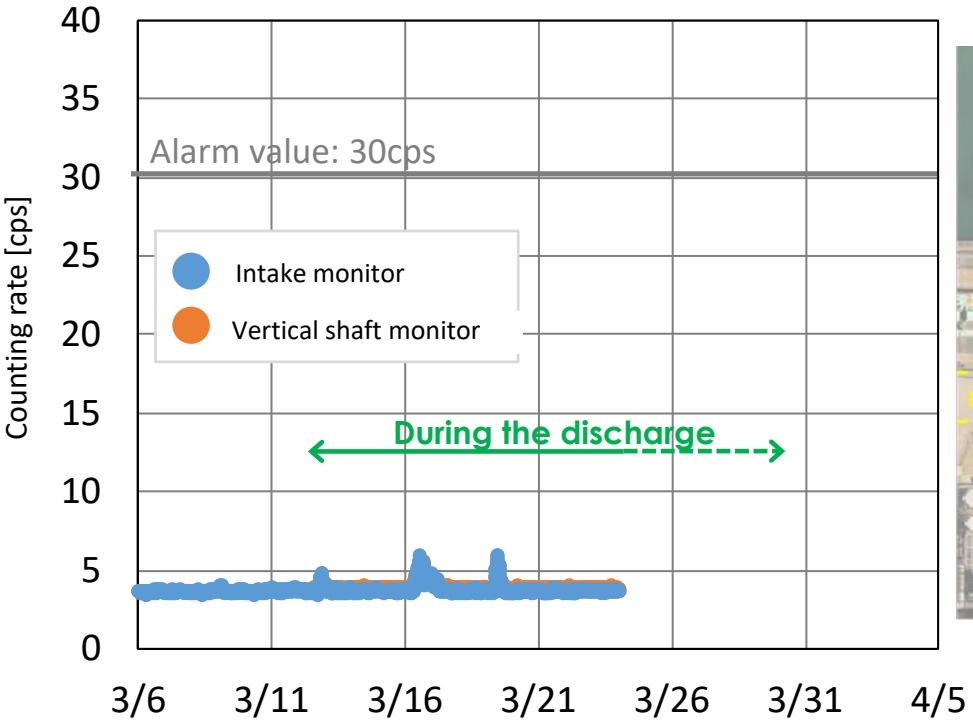
ALPS treated water transfer system schematic



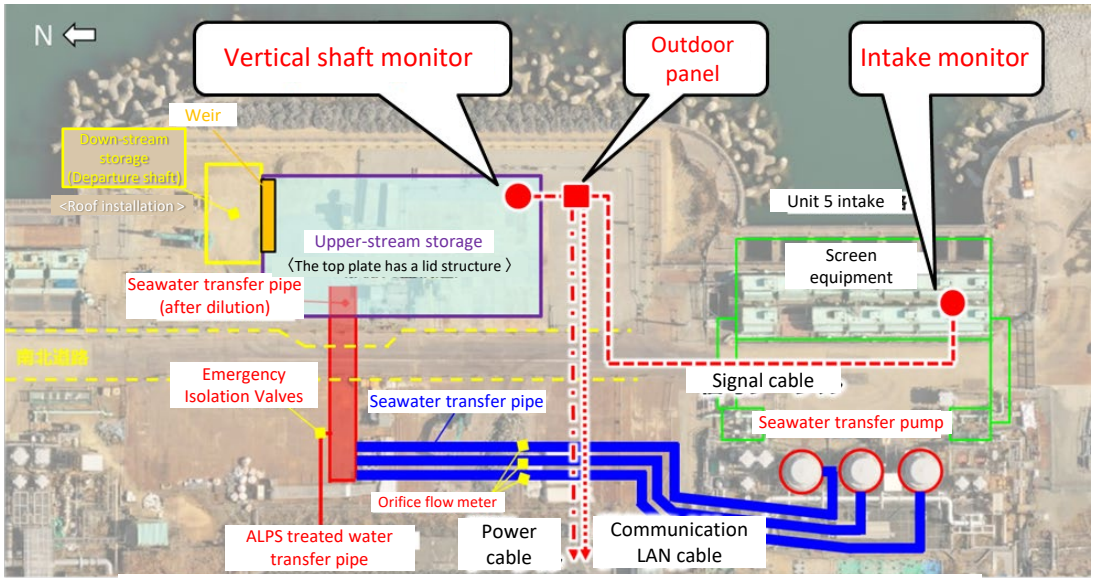
Overview of ALPS treated water dilution/discharge facility

1-4. Operating parameter records during the discharge (3/3)

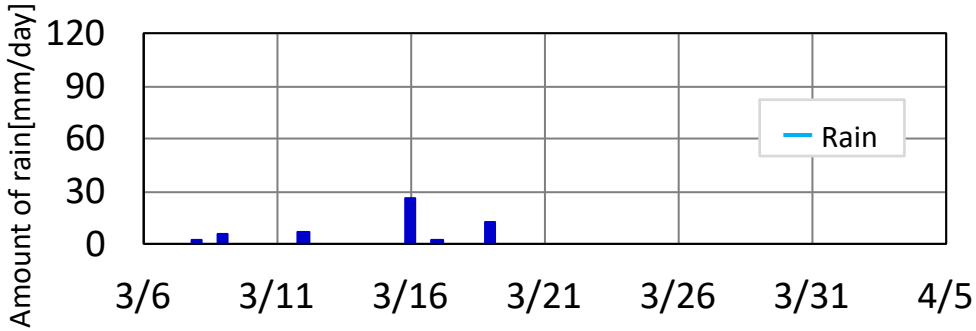
- Temporary increase in values, possibly due to rain was observed, but no abnormalities were seen in the readings.



Figures of Intake/Vertical shaft monitor



Overview of Intake/Vertical shaft monitor

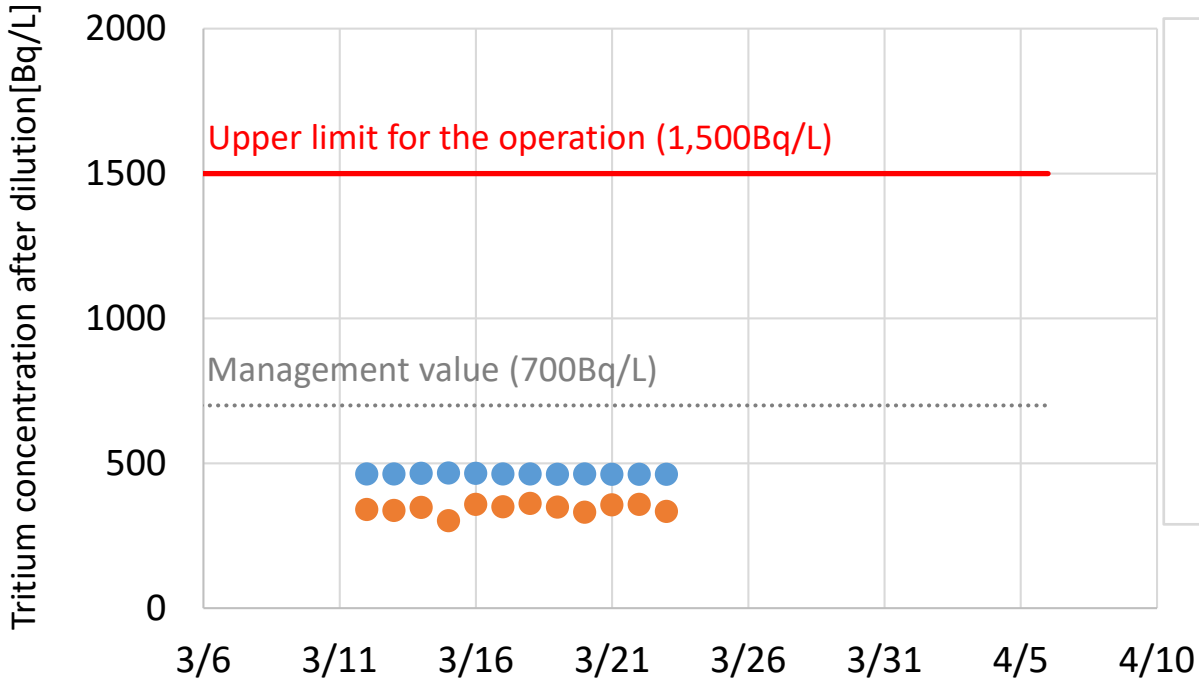


Amount of rain at the Fukushima Daiichi NPS

※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.).

1-5. 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)

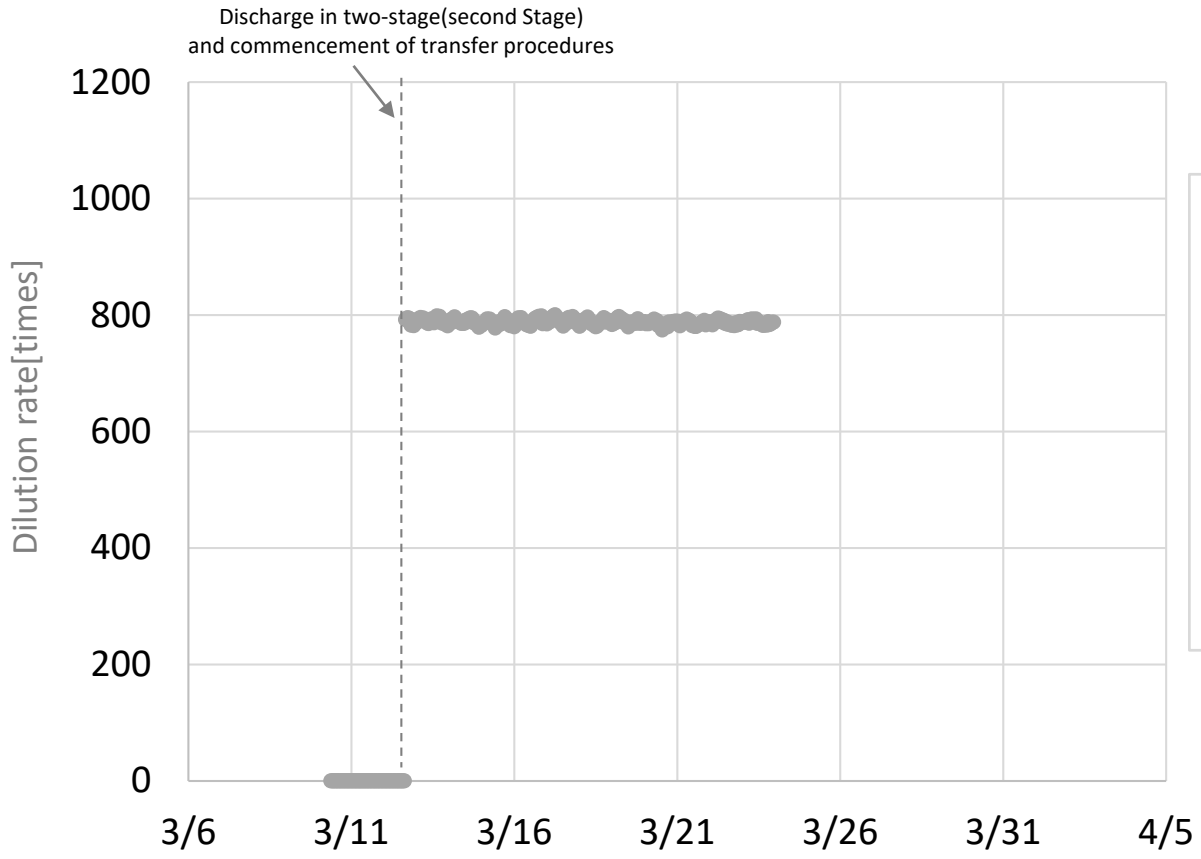
$$= \frac{\text{Tritium concentrations in ALPS treated water}^{※2} \times \text{ALPS treated water transfer flow}}{\text{Seawater transfer flow} + \text{ALPS treated water transfer flow}}$$

※2：Analysis values at measurement/confirmation tanks

	3/12	3/18～3/23
Calculated value: Time of data acquisition	16:00	7:00
Analysis value: Time of specimen sampling	16:11	6:00～9:00

[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

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

TEPCO

○ 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	February 2025		March 2025							
			24	26	3	10	12*4	13	14	15	16	17
In the vicinity of the discharge outlet	T-1	Twice a week*1	–	–	<8.6	–	<6.9	<5.9	–	–	–	–*5
	T-2	Twice a week*1	–	–	<8.6	–	<6.9	<5.9	–	–	–	–*5
	T-0-1	Once a day*2	<8.0	–	<8.5	<5.5	–*5	–*5	<7.5	<7.7	<6.1	–*5
	T-0-1A	Once a day*2	<8.0	–	<7.7	<8.9	–*5	–*5	16	7.8	<6.9	–*5
	T-0-2	Once a day*2	<8.0	–	<7.7	<8.9	–*5	–*5	<7.4	<7.7	<6.2	–*5
	T-0-3A	Twice a week*1	–	–	<7.7	–	–*5	–*5	<6.6	–	–	–*5
	T-0-3	Twice a week*1	–	–	<7.6	–	–*5	–*5	<6.6	–	–	–*5
	T-A1	Twice a week*1	–	–	<5.4	–	–*5	–*5	<6.1	–	–	–*5
	T-A2	Once a day*2	<7.2	–	<5.5	<8.6	–*5	–*5	<6.1	<6.2	<6.9	–*5
	T-A3	Twice a week*1	–	–	<5.4	–	–*5	–*5	<6.1	–	–	–*5
Outside the vicinity of the discharge outlet	T-D5	Once a week	<7.9	–	<8.6	<5.5	–	–	–	–	–	–*5
	T-S3	Once a month	–	<8.0	–	–	–	–	<8.2	–	–	–
	T-S4	Once a month	–	<7.9	–	–	–	–	<8.3	–	–	–
	T-S8	Once a month	–	–	–	–	–	–	<8.3	–	–	–

※: 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 after the commencement of discharge at 4PM
*5: Sampling suspended due to bad weather condition

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

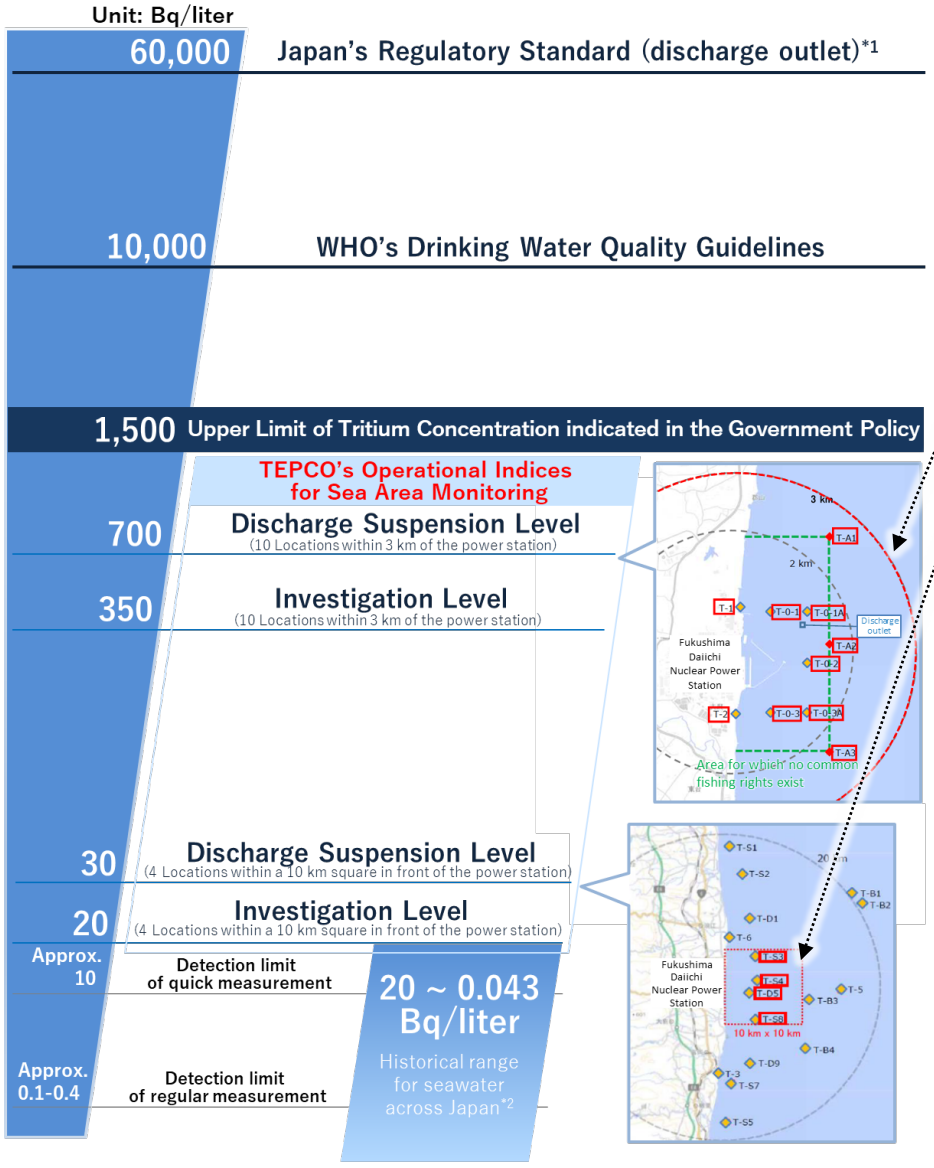
(Unit: Bq/liter)

	Sampling location*3	Frequency	March 2025				
			18	19	20	21	22
In the vicinity of the discharge outlet	T-1	Twice a week*1	<7.3	–	<5.6	–	–
	T-2	Twice a week*1	<7.3	–	<5.6	–	–
	T-0-1	Once a day*2	<7.2	–*4	<6.2	<7.4	<8.1
	T-0-1A	Once a day*2	56	–*4	8.1	41	13
	T-0-2	Once a day*2	<7.2	–*4	<6.1	<7.5	<8.2
	T-0-3A	Twice a week*1	<7.2	–	<6.9	–	–
	T-0-3	Twice a week*1	<7.2	–	<6.1	–	–
	T-A1	Twice a week*1	<7.2	–	<6.9	–	–
	T-A2	Once a day*2	<7.2	–*4	28	<5.7	<7.5
	T-A3	Twice a week*1	<7.2	–	<6.9	–	–
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: 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: 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.

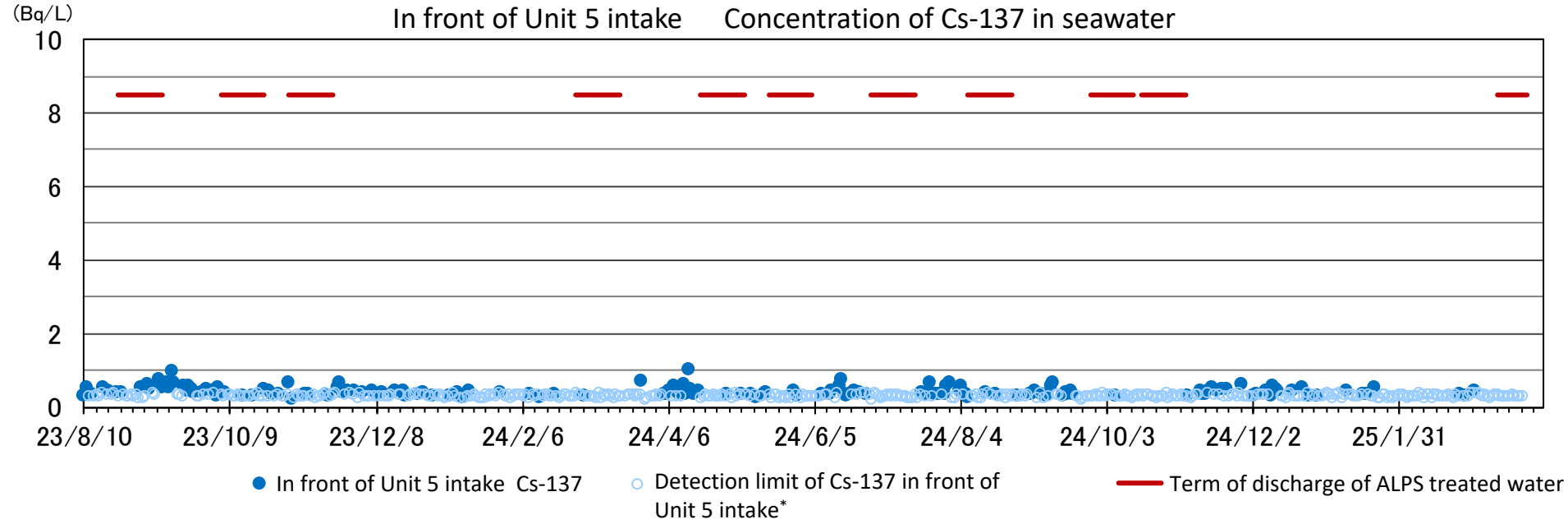
	Discharge suspension level	Investigation level
Within 3km of the power station	700 Bq/L	350 Bq/L
Within a 10km square in front of the power station	30 Bq/L	20 Bq/L

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.

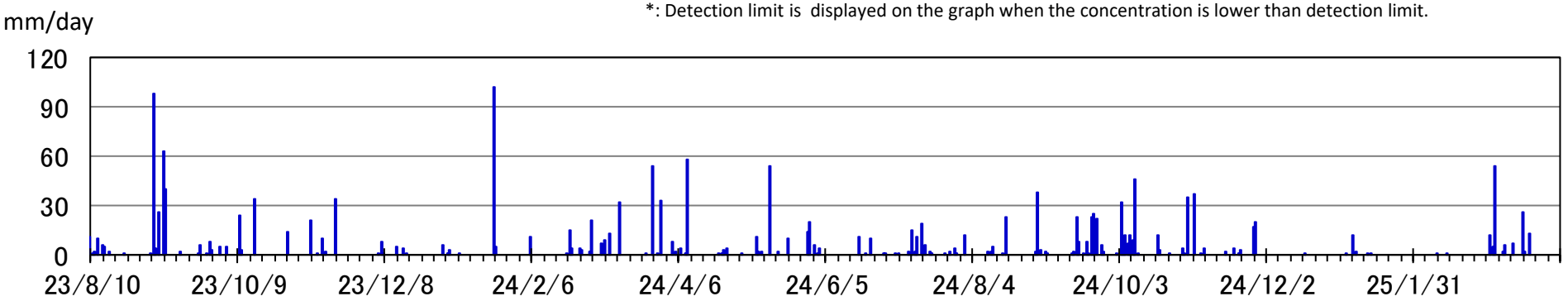
- Even if the tritium concentration exceeds indices (Discharge suspension level and Investigation level), the levels are well below the Japan's regulatory standard of 60,000 Bq/L and the WHO's drinking water quality guidelines of 10,000 Bq/L, and we assess that the surrounding sea areas are still safe.
- 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.

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.



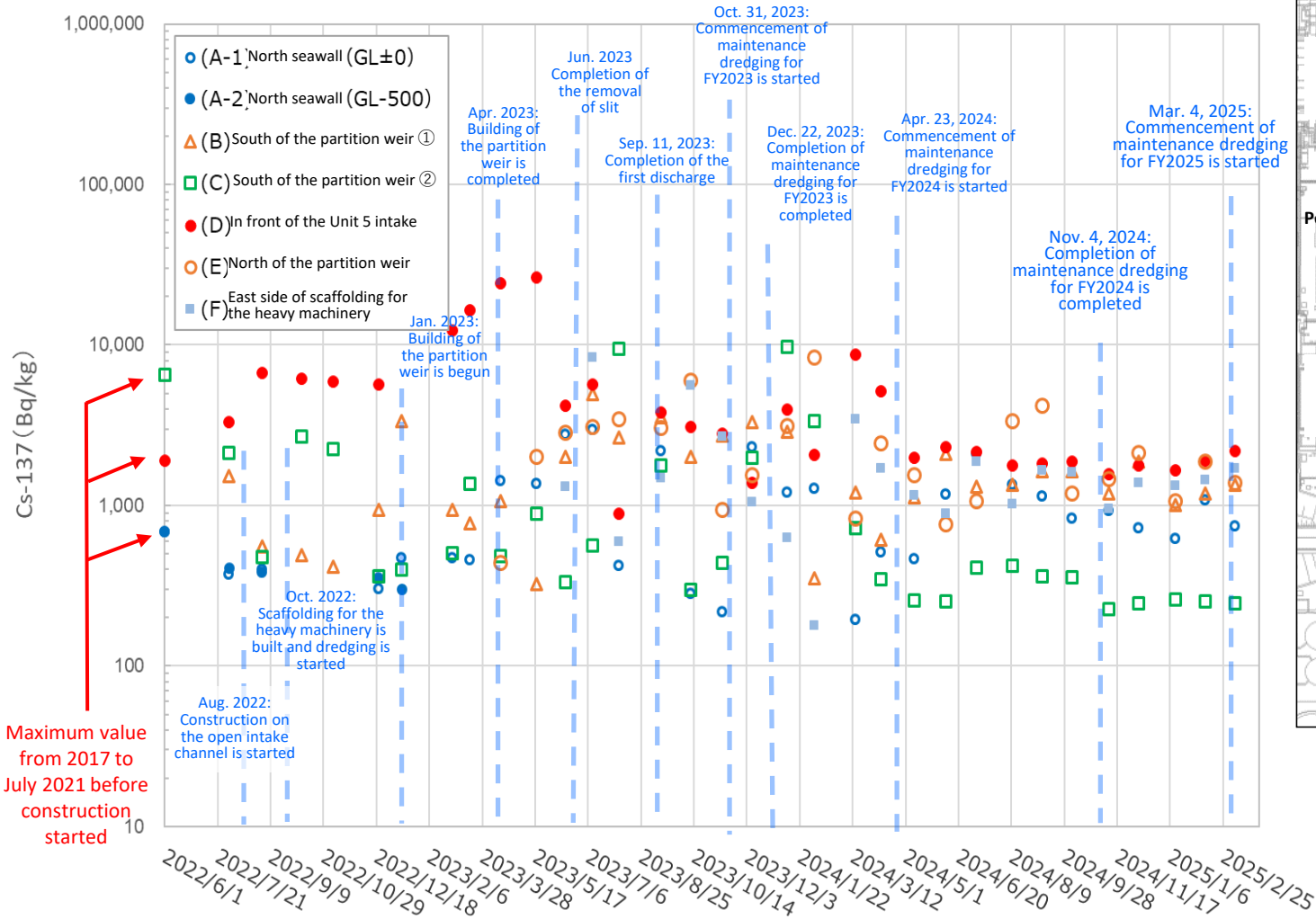
*: Detection limit is displayed on the graph when the concentration is lower than detection limit.

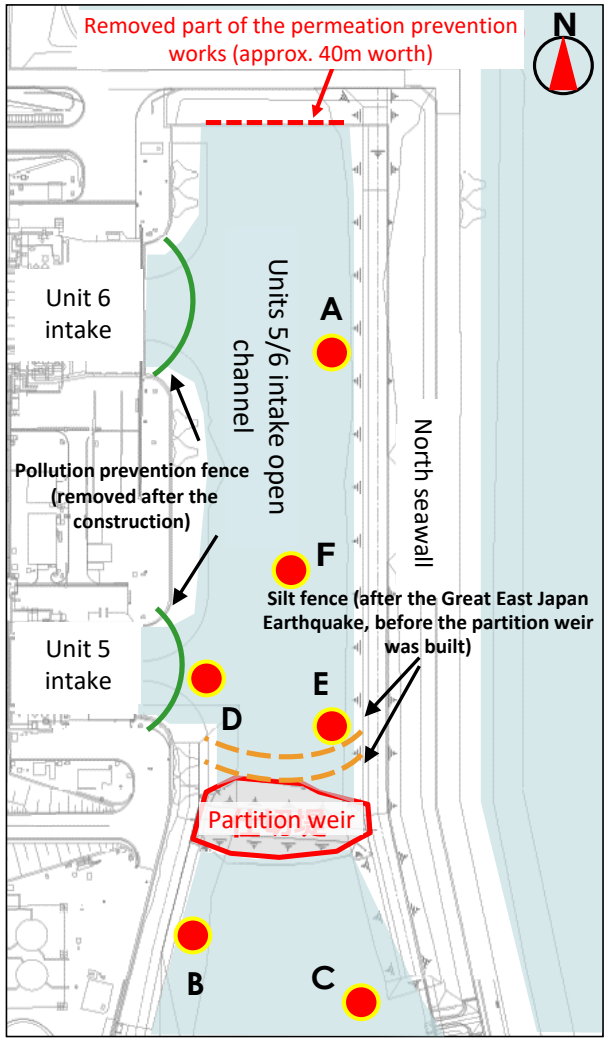


Amount of rain at the Fukushima Daiichi NPS

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

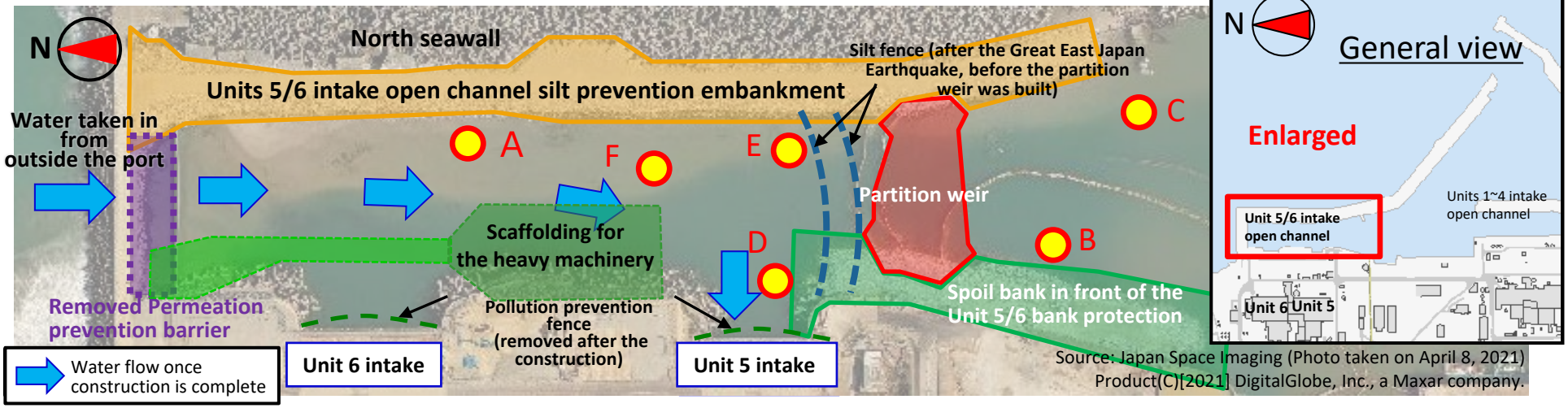
- Monitoring results for seabed soil in front of Unit 5 intake did not show significant fluctuations from the beginning of construction at the intake open channel until December 2022. While they showed higher readings after January 2023, we have confirmed that these readings decreased after the completion 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 March 2025.



Source: Japan Space Imaging (Photo taken on April 8, 2021)
Product(C)[2021] DigitalGlobe, Inc., a Maxar company.

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.
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
	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
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
	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
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
	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
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
	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
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
	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
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
	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

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

Report contents

1. Performance of the discharge (Management number* : 24-7-11)

2. Status of the dismantling of the J9 area tanks

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

4. FY2025 ALPS treated water discharge plan

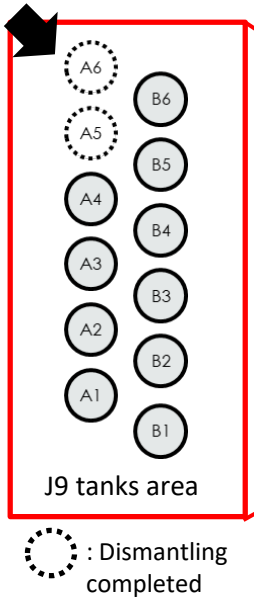
(Reference) Sea area monitoring history after the commencement of discharge

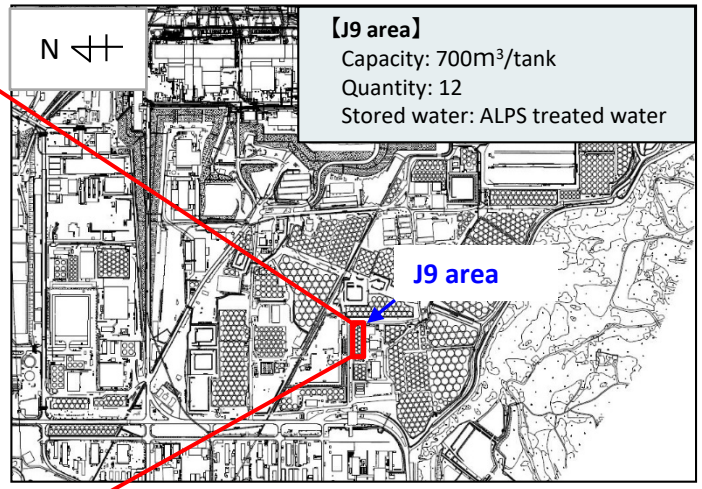
* The management number is made up of the fiscal year, followed by the discharge number for that fiscal year, and the total number of discharges to date. For example, “24-7-11” indicates that the data is for the seventh discharge of 2024, which is the eleventh discharge to date.

2. 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 first tank was completed on March 4. And second tank was completed on March 14, 2025.

Direction of photograph



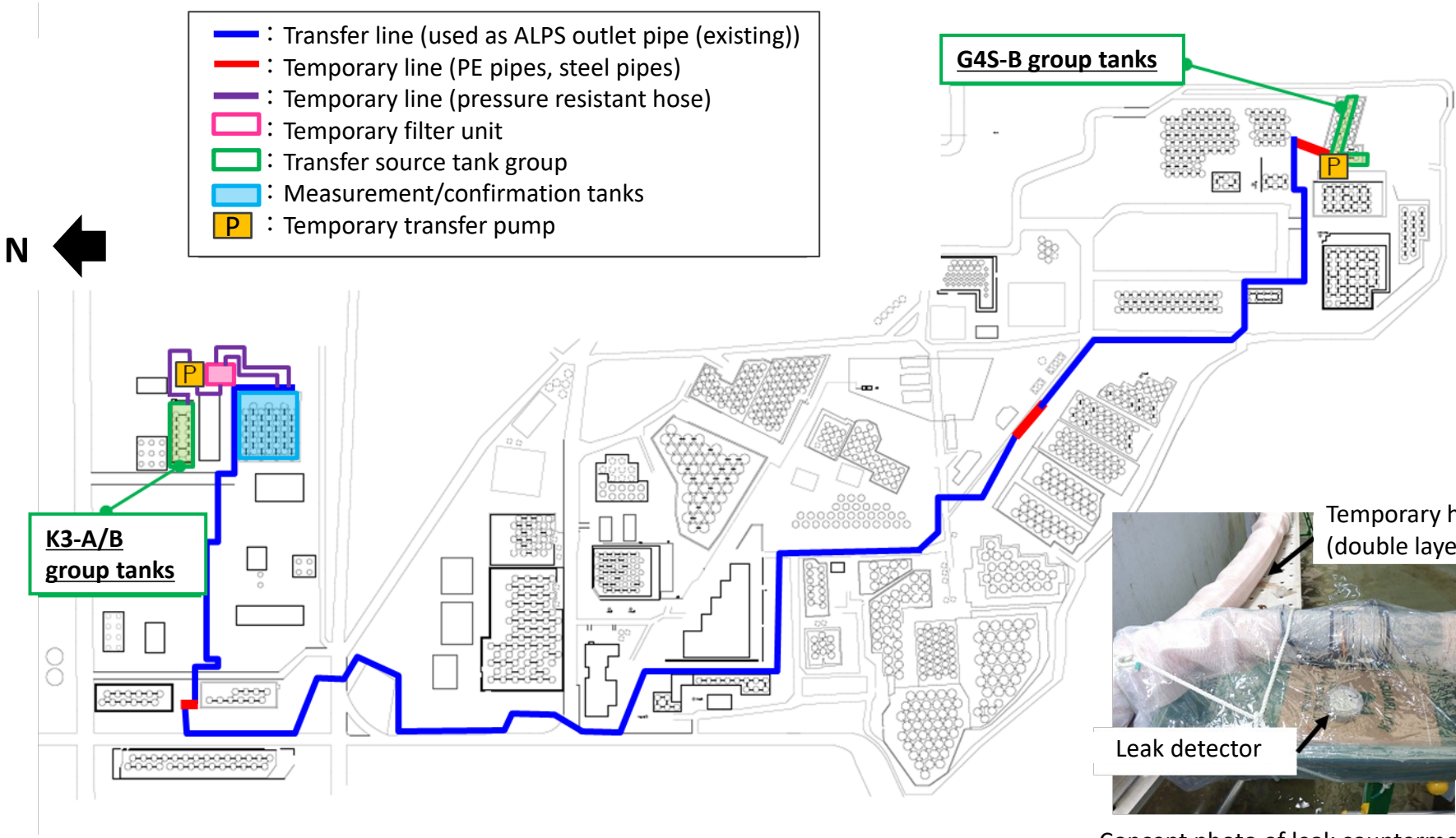


Report contents

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

- Transfer of ALPS treated water from G4S area Group B and K3 area Group A/B to measurement/confirmation facility tank group A in preparation for the discharge of Management number: 25-1-12 was conducted (from January 6, 2025 to February 10, 2025). Circulation/agitation has been commenced since February 13, 2025 and a sample was taken on February 21, 2025. It is currently being analyzed.



Concept photo of leak countermeasures

Report contents

1. Performance of the discharge (Management number* : 24-7-11)

2. Status of the dismantling of the J9 area tanks

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

4. FY2025 ALPS treated water discharge plan

【Main points of the FY2025 ALPS treated water discharge plan】
- Number of annual discharges: 7 times
- Annual amount of water to be discharged: Approx. 54,600m³
- Annual amount of tritium to be discharged: Approx. 15 trillion Bq

(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. Basic thinking behind the discharge plan

- As a general rule, **we will start by discharging water with a low concentration of tritium**.
- Based on this general rule, **we will create a discharge plan for the following fiscal year at the end of each fiscal year and announce it**. In addition to tritium concentrations, space needed for facilities required for decommissioning, and the need to secure enough relay tanks used for holding ALPS treated water after secondary treatment are also considered during the drafting of the discharge plan.

※ Issues that will be considered when formulating the discharge plan

– Based on tritium concentration trends in the water generated daily, we will decide whether to prioritize the amount of water being generated daily or in storage when discharging water during the next fiscal year in order to reduce the annual amount of tritium to be discharged while ensuring that the concentration of radioactive substances, with the exception of tritium, meet regulatory standards (sum of the ratios of the concentration of each radionuclide to the regulatory concentration limit is less than 1).

– During the initial stage of discharge, we will discharge stored water that does not requires secondary treatment in order to keep the process smooth.

– The preparation of relay tanks and inspection/repairs required due to the deterioration over time of storage tanks on site is also considered.

4. Consideration when deliberating the FY2025 discharge plan

- As a general rule, water with low tritium concentration shall be discharged first as before. And when deliberating the ALPS treated water discharge plan, the following issues are taken into consideration.

  ① Estimates of the tritium concentrations in contaminated water (slide 31)

  ② The amount of contaminated water generated (slide 32)

  ③ Site usage (slide 33)

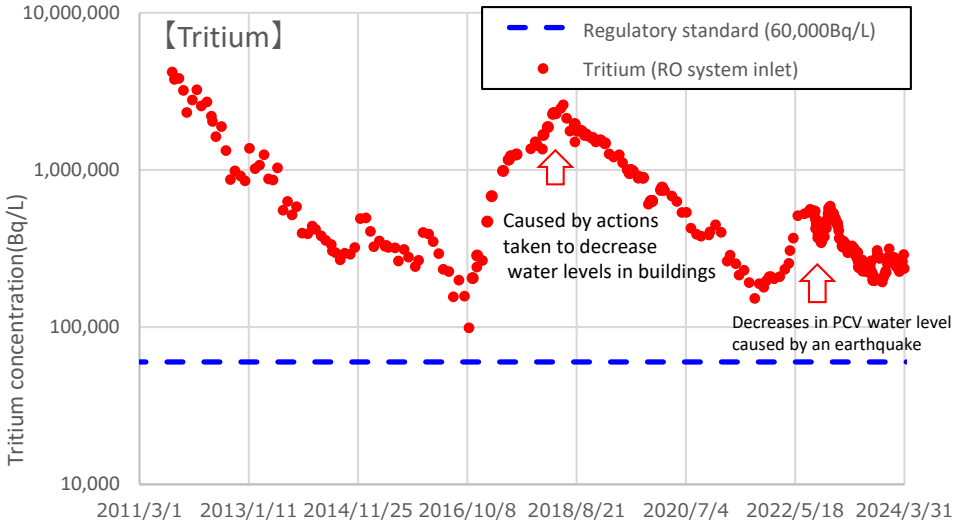
  ④ Other considerations (slide 35)

- Each condition is explained on the following pages

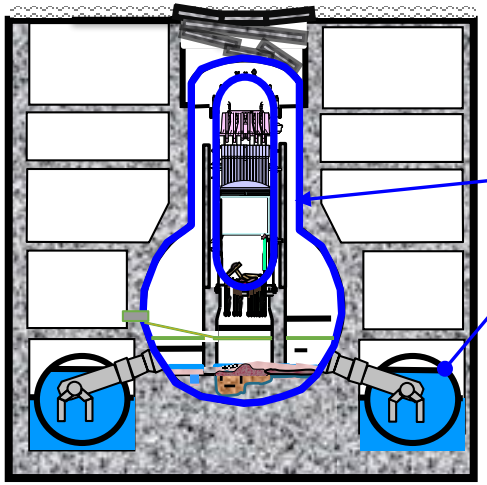
4-1. Estimates of the tritium concentrations in contaminated water

- There was no significant increase in the concentration of tritium in contaminated water.
- However, the Nuclear Regulation Authority has requested that the water levels in the primary containment vessels (PCV) and suppression chambers (S/C) be lowered as quickly as possible in consideration of seismic resistance/safety.
- Tritium concentrations inside the PCVs are high (Unit 1: Approx. 20 million Bq/L; Approx. 4,800m³; Unit 3: Approx. 10 million Bq/L; Approxi. 6,600m³), and water drained from them to reduce water levels will be treated as stagnant water from inside the building, so we expect※ to see fluctuations in the concentrations of tritium in the contaminated water generated during FY2025.
- Therefore, the FY2025 discharge plan calls for the ALPS treated water currently being stored that has relatively low concentrations of tritium and does not require secondary treatment to be discharged.

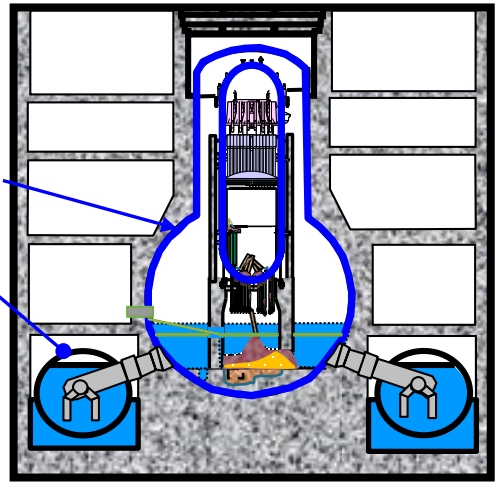
※ The same goes for draining from pipes and equipment in the future during the course of decommissioning



Tritium concentrations in contaminated water



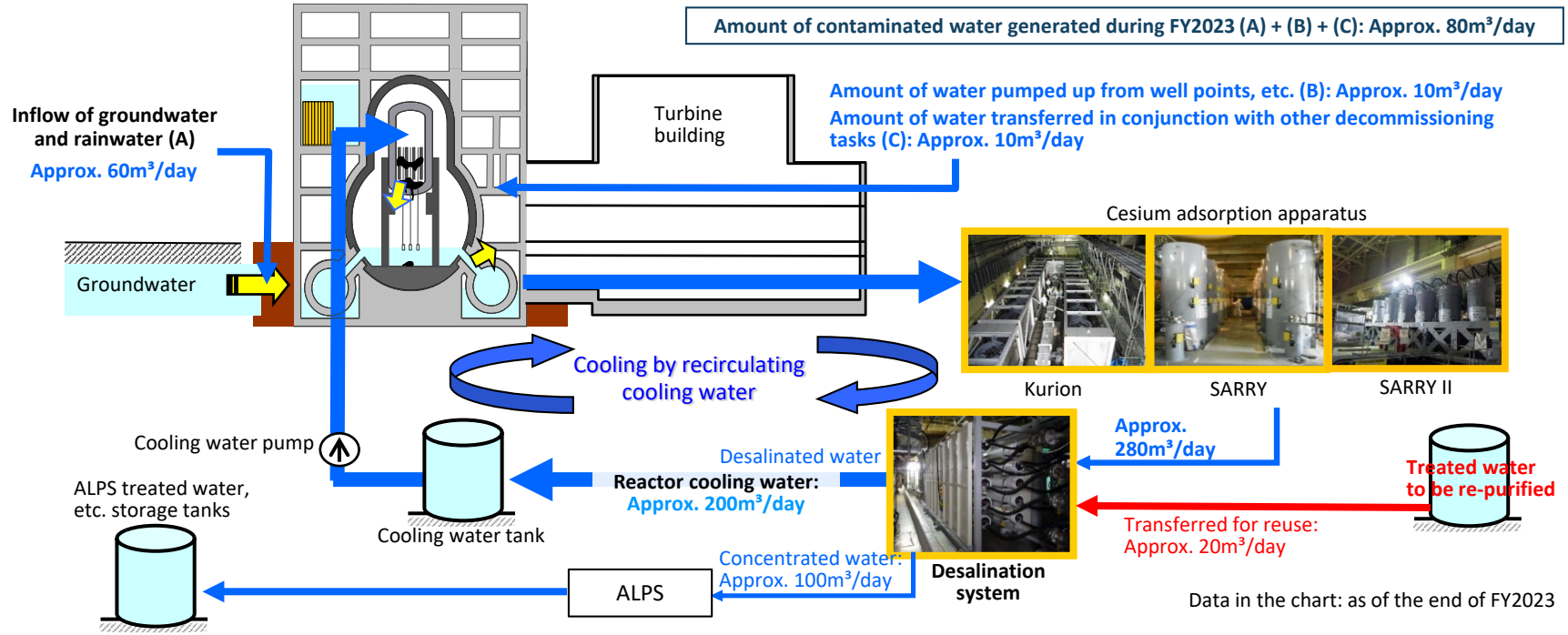
Unit 1



Unit 3

4-2. Amount of contaminated water generated (As of FY2023)

- During FY2023, contaminated water was generated at a rate of approximately 80m³/day with approximately 60m³ of that water flowing into buildings on a daily basis. Approximately 10m³/day of contaminated groundwater from 2.5m above sea level (well points) was pumped up and approximately 10m³/day of contaminated water was transferred in conjunction with other decommissioning tasks.
  The data for FY2024 is currently being compiled and is expected to show a decline in these numbers, but just to be safe we've assumed that the numbers will be the same as FY2023.
- In conjunction with the decrease in the amount of contaminated water being generated, the amount of fresh water injected as reactor coolant is showing a downward trend, so the required amount of desalinated water will be secured by replenishing the desalination system with treated water to be re-purified that is currently being stored in tanks (approximately 20m³/day).
  This will not result in an increase in the amount of ALPS treated water, etc., and will have no impact on the amount of water being stored in tanks in the long run.



Data in the chart: as of the end of FY2023

4-3. Site usage

- In addition to area E (flanged tanks being dismantled) where facilities for retrieving fuel debris from Unit 2 will be constructed, we plan to construct facilities for the retrieval of fuel debris from Unit 3 in the J8 and J9 areas adjacent to area E.

- Dismantling of the tanks in the J9 area tanks will take place first before J8※1 as the tanks are emptied in conjunction with ocean discharge.

- The J8 and J9 tank area dismantling implementation plan was approved on February 3, 2025. On February 13, 2025, the water level meters on the J9 area tanks were removed, and storage functions were halted. Dismantling of the tanks in the J9 area began on February 14, 2025 (J9 area tank dismantling period: ~Around the end of FY2025※2)

- Prior to dismantling, the residual water inside the J9 area tanks will be treated and preparations, such as the removal of obstructions from the vicinity that do not interfere with tank storage functions, etc., will gradually be made.

※1 Since the J8 area tanks are being used to store treated water to be re-purified, dismantling will begin after the water inside them has been transferred to other tanks that have been emptied.

※2 The J8 and J9 area tank dismantling will be the first time that welded tanks have been dismantled, so we will prioritize safety and move forward while checking procedures and accumulating knowledge.

[Reference] Areas of dismantled tank groups

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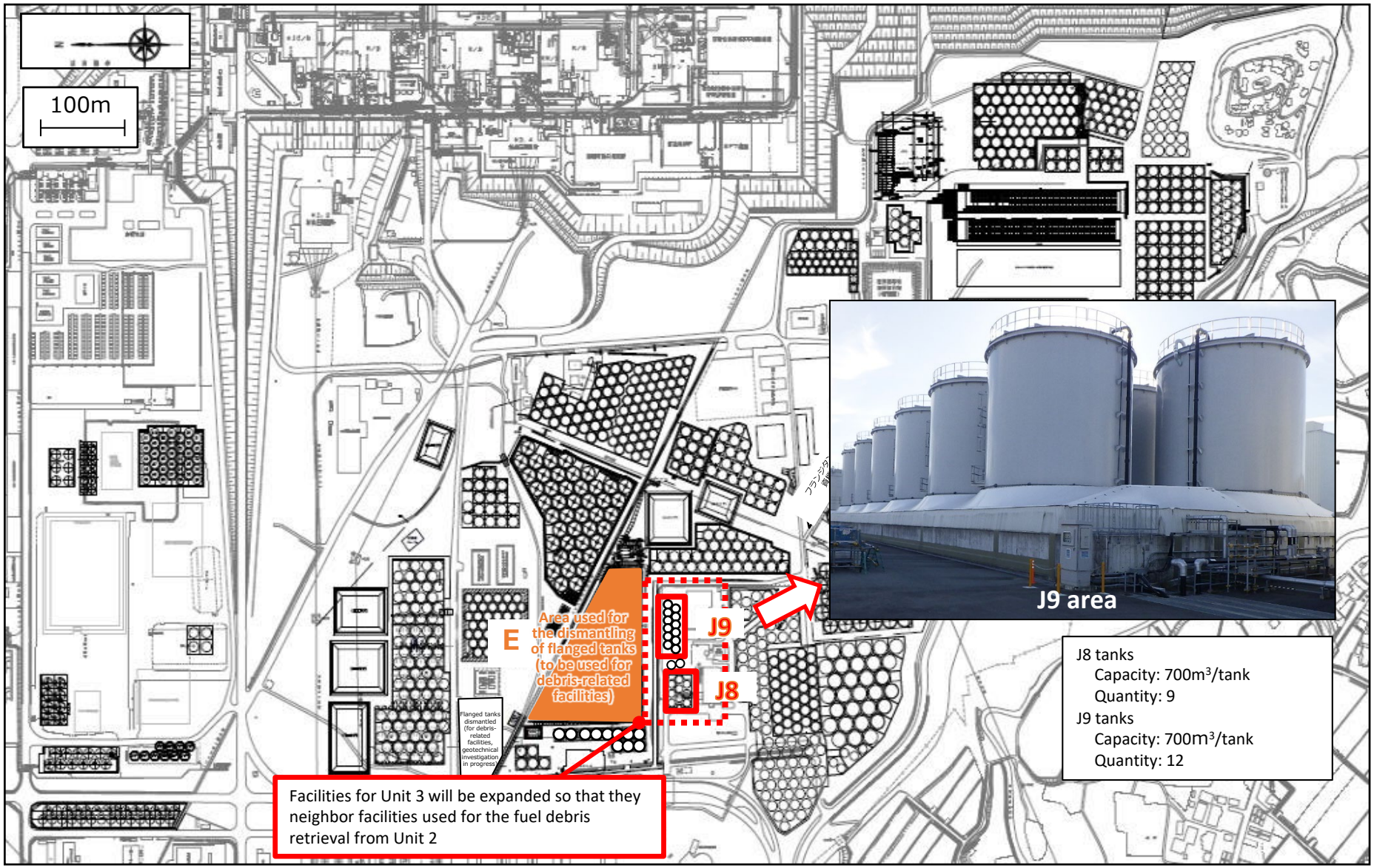

4-4. Other considerations

Full inspection of measurement/confirmation tanks and cleaning of the bottoms

- Full inspections of the tanks (including cleaning of the bottoms) have been planned for the maintenance/management of ALPS treated water discharge facilities, and the time required to do so has been allotted.

  FY2024: Cleaning of the bottom of tank groups A~C and full inspection of tank Group B

  FY2025: Full inspection of Group C

  FY2026: Full inspection of tank Group A planned

Other storage tanks

- Tank areas that are prioritized for inspections and have fulfilled discharge requirements have been reflected in the plan and will be "drained to perform a visual inspection of the inside of the tanks" in succession.
- Tanks that have recently been difficult to drain have been subjected to an internal inspection using a submersible ROV※ and will be subject to observe trend.

※ The video footage from the submersible ROV is clear and confirm the condition of paint and the extent of corrosion visible. If significant corrosion is discovered thickness measurements will be taken from the outside using ultrasonic thickness testing.

- Furthermore, as always all tanks will be subjected to visual inspection once a year and thickness measurements will be taken from the outside once a year for tanks subject to this inspection in accordance with the period of time they have been in service.
- Tanks in poor condition will be drained and sealant reapplied in order to ensure integrity.

4-5. FY2025 ALPS-treated water discharge plan（1/2）

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- As of March 2025, the FY2025 discharge plan is as follows. There will be seven discharges during the year with each discharge releasing approximately 7,800m³ for an annual discharge of approximately 54,600m³. The annual tritium discharge volume will be approximately 15 trillion Bq.

Management number※1	Transfer source tank※2	Amount of water to be transferred ※3		Discharge commencement period
25-1-12	G4 south area Group B（Transferred to Measurement/Confirmation facility Group A） K3 area Group A/B※5（Transferred to Measurement/Confirmation facility Group A）	※4 ：Approx. 8,080m³ ：Approx. 910m³	Secondary treatment: None Sum of the ratios to regulatory concentrations: 0.45~0.55※6 Tritium concentration: 220,000~370,000Bq/liter ※7 Total tritium volume: 2.8 trillion Bq	April
25-2-13	K3 area Groups A/B※5（Transferred to Measurement/Confirmation facility Group C） J1 area Group E（Transferred to Measurement/Confirmation facility Group C）	：Approx.7,000m³ ：Approx. 800m³	Secondary treatment: None Sum of the ratios to regulatory concentrations: 0.45~0.62※6 Tritium concentration: 220,000~380,000Bq/liter ※7 Total tritium volume: 1.9 trillion Bq	June~July
25-3-14	J1 area Group E（Transferred to Measurement/Confirmation facility Group A） G5 area Group E（Transferred to Measurement/Confirmation facility Group A）	：Approx. 7,300m³ ：Approx. 500m³	Secondary treatment: None Sum of the ratios to regulatory concentrations: 0.47~0.62※6 Tritium concentration: 200,000~380,000Bq/liter ※7 Total tritium volume: 2.9 trillion Bq	July~August
25-4-15	G5 area Groups E/C/B（Transferred to Measurement/Confirmation facility Group B）	※4 ：Approx. 9,000m³	Secondary treatment: None Sum of the ratios to regulatory concentrations: 0.47~0.62※6 Tritium concentration: 200,000~220,000Bq/liter ※7 Total tritium volume: 1.6 trillion Bq	September

Continues on next slide

※1 The management number is made up of the fiscal year, followed by the discharge number for that fiscal year, and the total number of discharges to date.
For example, “25-1-12” indicates that the data is for the first discharge of FY2025, which is the twelfth discharge to date.

※2 The tank order from which water will be transferred will not be impacted by increases/decreases in the transfer volume (factual measurements). But order of discharge may be moved forward or backward.

※3 Underlined parts indicate actual values.

※4 Since there will be no water remaining in the receiving tanks (Measurement/Confirmation tank groups A/B) after the tank inspections, the amount of water to be transferred will total approximately 9,000m³ (discharge volume is approximately 7,800m³).

※5 K3 area Group A/B tanks emptied as a result of transfer/discharge during FY2023 and FY2024 will be reused to receive ALPS treated water.

※6 Conservative values calculated from the analytical values of the seven major nuclides (Cs-134, Cs-137, Sr-90, I-129, Co-60, Sb-125, Ru-106) measured after ALPS treatment and storage in tanks, plus the maximum value of C-14 (0.11) and an estimate of the total of other nuclides at 0.3.

※7 Tank group average, estimated taking into consideration decay as of April 1, 2025.

4-5. FY2025 ALPS-treated water discharge plan（2/2）

TEPCO

Continued from previous slide

Management number※1	Transferred tank※2	Amount transferred		Discharge commencement period
25-5-16	G5 area group A/B（Transferred to measurement/confirmation facility Group C）	: Approx. 7,800m³	Secondary treatment: None Sum of the ratios to regulatory concentrations: 0.47~0.59※3 Tritium concentration: 220,000~260,000Bq/liter ※4 Total tritium volume: 1.9 trillion Bq	Oct~Nov
25-6-17	G5 area group A/D（Transferred to measurement/confirmation facility Group A） G4 north area group A/B（Transferred to measurement/confirmation facility Group A）	: Approx. 4,000m³ : Approx. 3,800 m³	Secondary treatment: None Sum of the ratios to regulatory concentrations: 0.46~0.76※3 Tritium concentration: 260,000~300,000Bq/liter ※4 Total tritium volume: 2.2 trillion Bq	Nov~Dec
Inspection suspension (including full inspections of measurement/confirmation facility Group C tanks)				
25-7-18	G4 north area group A/B（Transferred to measurement/confirmation facility Group B） H2 area group J（Transferred to measurement/confirmation facility Group B）	: Approx. 3,700m³ : Approx. 4,100 m³	Secondary treatment: None Sum of the ratios to regulatory concentrations: 0.58~0.78※3 Tritium concentration: 260,000~270,000Bq/liter ※4 Total tritium volume: 2.0 trillion Bq	Mar

➥ FY2025 total tritium discharge volume: Approx. 15trillion Bq

※1 The management number is made up of the fiscal year, followed by the discharge number for that fiscal year, and the total number of discharges to date. For example, "25-1-12" indicates that the data is for the first discharge of 2025, which is the twelfth discharge to date.

※2 Whereas the order of the tanks from which water will be transferred will not change due to increases or decreases in the amount of water transferred (actual measurements), the discharge number may be moved up or back.

※3 Conservative values calculated from the analytical values of the seven major nuclides (Cs-134, Cs-137, Sr-90, I-129, Co-60, Sb-125, Ru-106) measured after ALPS treatment and storage in tanks, plus the maximum value of C-14 (0.11) and an estimate of the total of other nuclides at 0.3..

※4 Tank group average, estimated taking into consideration decay as of April 1, 2025

4-6. FY2025 order of discharge

TEPCO

- G4 south area Group B
  - Water will be transferred/discharged as planned in accordance with the FY2024 discharge plan.

- K3 area Groups A/B
  - The tanks in the vicinity of Multi-nuclide removal equipment (ALPS) will be discharged as planned so that the space can be effectively utilized in the long period.
  - Of these tanks in the vicinity, water in the tanks in the K3 tank area shall be transferred/discharged and inspections will be conducted to ensure that it can be used for a long period.

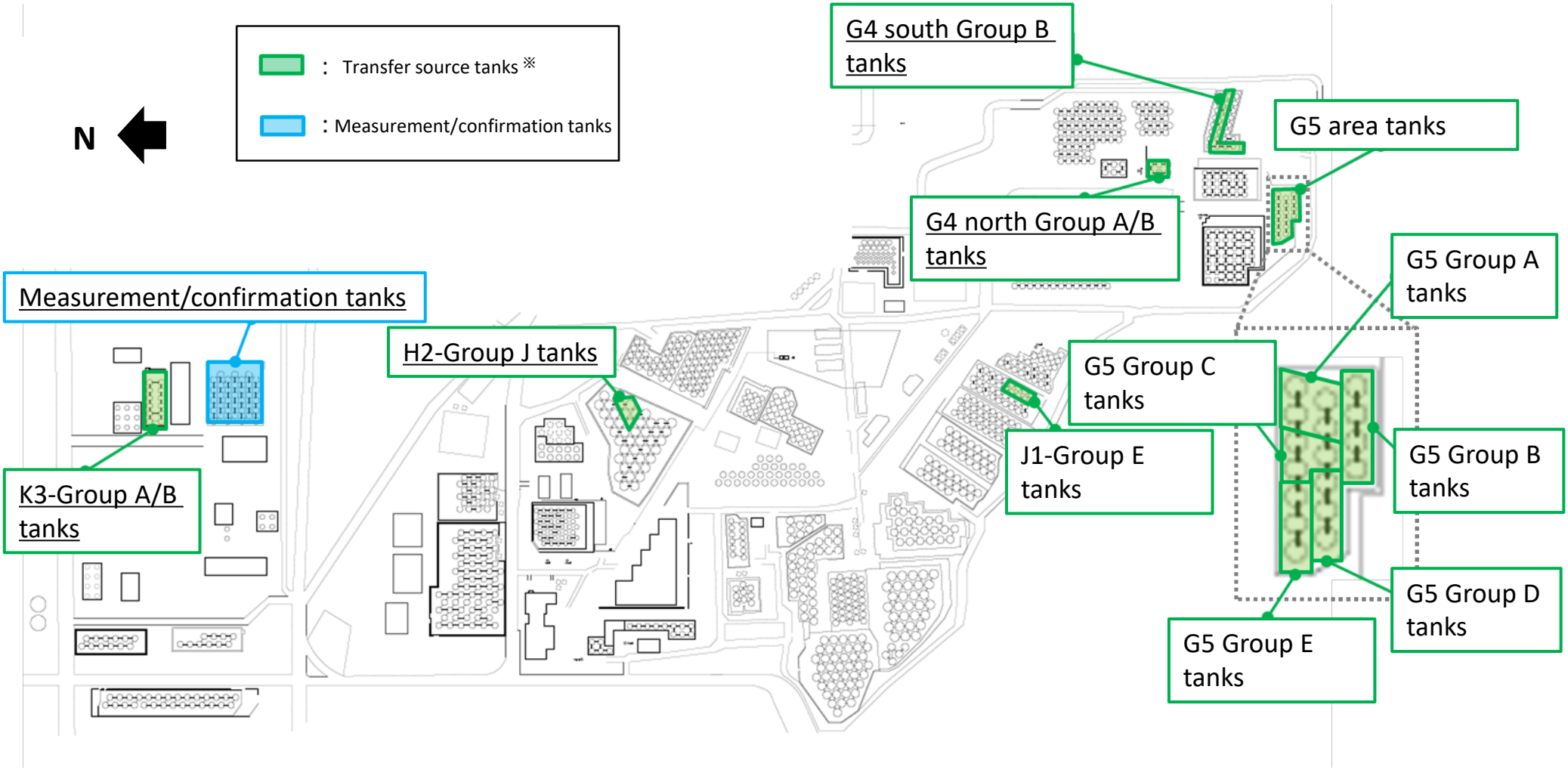
- J1 area Group E
  - As a horizontal development of the K4-E side plate corrosion, we plan to conduct sequential internal inspections of the storage tanks.

    Internal inspections will be implemented in the form of visual inspections of drained tanks, however if the tank cannot be drained due to a lack of empty tanks to transfer the water, a submersible ROV will be used to perform the inspection.
  - The J1 area tanks are old and the internal inspection priority is relatively high, however with the exception of tank J1-E, secondary treatment is necessary.

    Therefore, the water in J1-E will be transferred/discharged as soon as possible to perform an inspection. After that, inspections will be conducted by transferring stored water from other tanks in the J1 area in turn, starting from this tank.

- G5 area Groups A~E, G4 north area Groups A/B, H2 area Group J
  - Transfer/discharge will be starting with the tank areas with the lowest tritium concentrations.

[Reference] Location of transfer source tanks for the FY2025 discharges



※: After the water has been transferred, the tanks will be inspected and used to store ALPS treated water that continues to accumulate daily.

[Reference] Inspections of welded tanks used to store ALPS treated water, etc.

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- Welded tanks are designed to have a service life of 20 years as a result of wall thickness specifications that consider sealant specifications/corrosion, but efforts are made to detect abnormalities early by regularly implementing external and internal inspections before the end of this 20 year service period (refer to the chart below), and repairs suitably implemented to maintain integrity over the long-term.

※ Some tanks have been manufactured with a service life of five years (G3, H8, and J1 areas put into service early in 2013) by regular inspections/repairs/sealant reapplication have been implemented to confirm that there is no problem with continued use.

Inspection Type		Liquid in tanks	Target		Frequency	Inspection details
Annual inspection	①Visual inspection	Implemented regardless of whether or not there is liquid in the tanks	All tanks		Once a year	Outer surface: Checked for deformation, cracks, paint peeling, corrosion, and leaks Target areas Sidewalls, nozzles, bolts/nuts, caulking to prevent rain from seeping into the bottom plate, ancillary facilities (vertical ladders, etc.)
	②Sidewall thickness measurements taken from the outside (ultrasonic flaw detection)		・Membrane thickness: Less than 100μm ・Thickness allowance: Less than 1mm ・Service life: More than 10 years		Once a year	Sidewalls: Checked to confirm that there is no abnormal thinning
Full inspection	③Internal inspection (after draining water) (ultrasonic flaw detection)	No	All tanks	Tanks that have been emptied through the discharge of ALPS-treated water, etc.	Once every 10 years	Sidewalls: Paint blistering, peeling, base material thinning Bottom plate: Same as above (Internal paint membrane thickness measurements, wall thickness measurements)
	④Underwater internal inspection (submersible ROV)	Yes		Tanks that cannot be drained		Sidewalls: Paint blistering, peeling, base material corrosion Bottom plate: Same as above

[Reference] Future tank inspection plans

＊ These current plans may be revised in the future. If revisions are made, they will be announced when the finalized discharge plan is announced.

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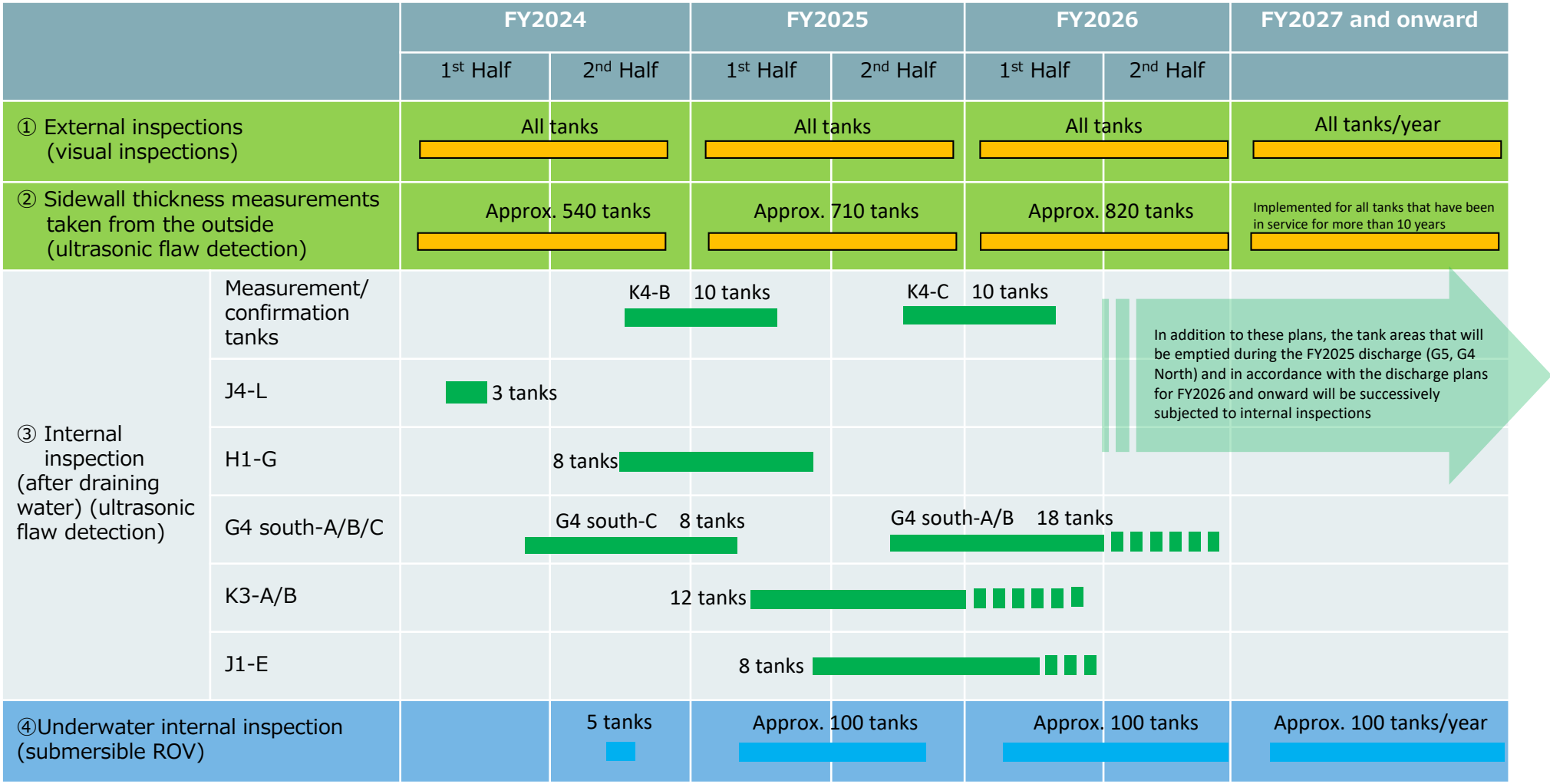
- Approx. 1,000 welded tanks will be drained and subjected to internal inspections or submersible ROV inspections if required.



Report contents

1. Performance of the discharge (Management number* : 24-7-11)

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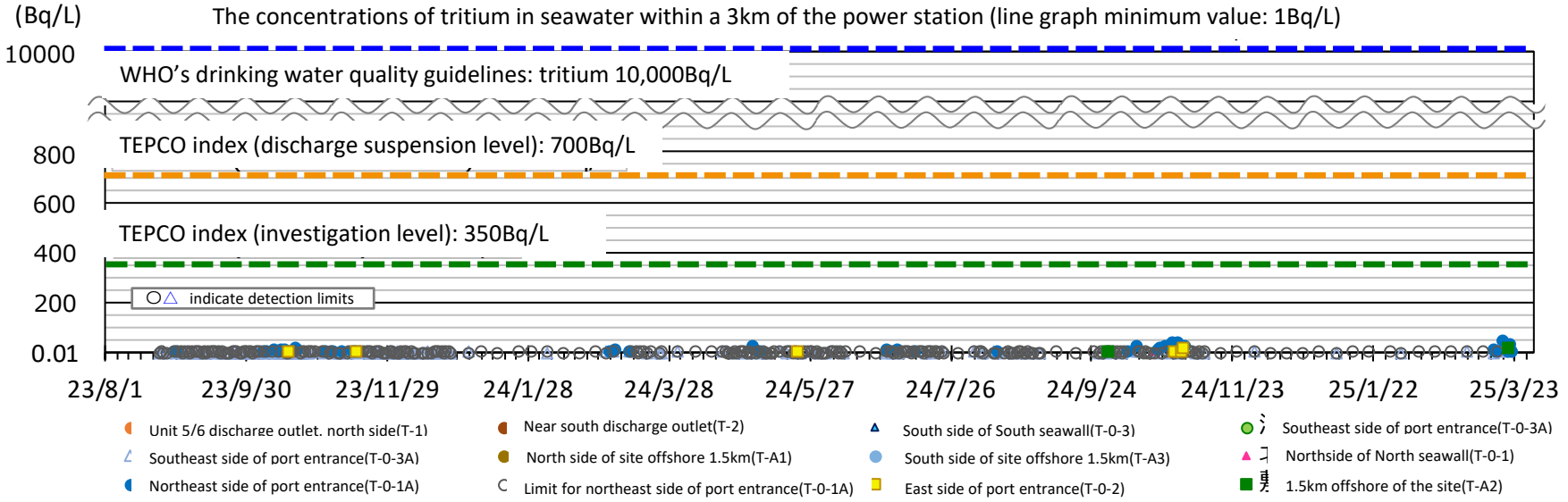
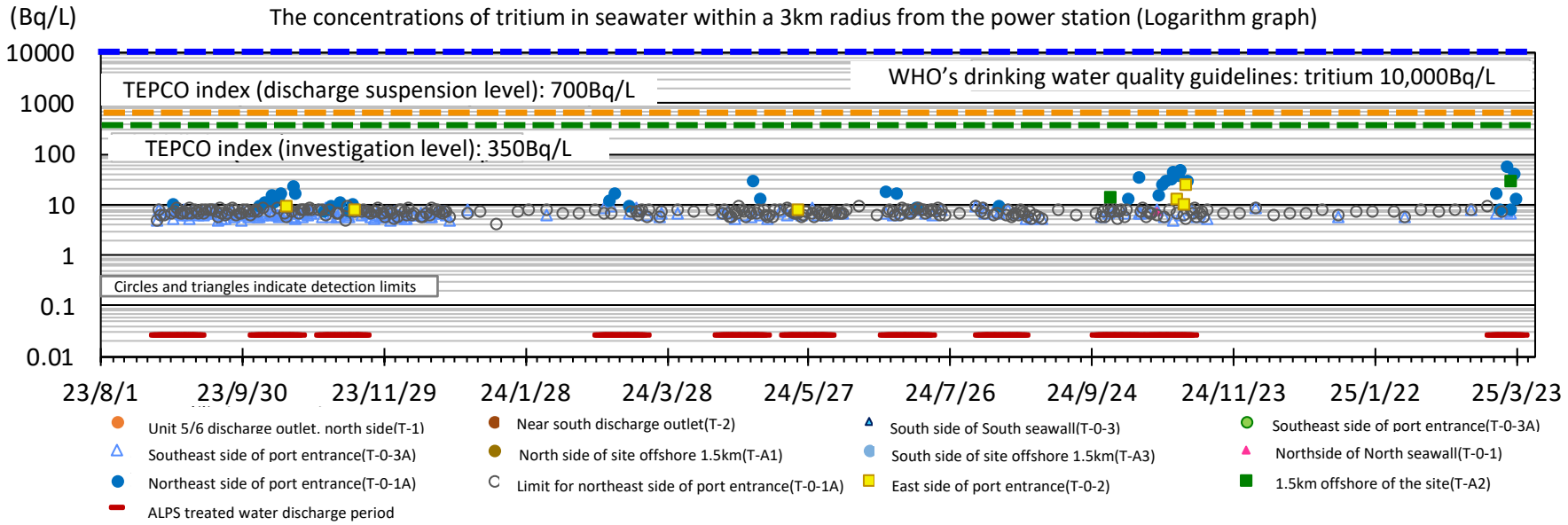
* The management number is made up of the fiscal year, followed by the discharge number for that fiscal year, and the total number of discharges to date. For example, “24-7-11” indicates that the data is for the seventh discharge of 2024, which is the eleventh discharge to date.

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

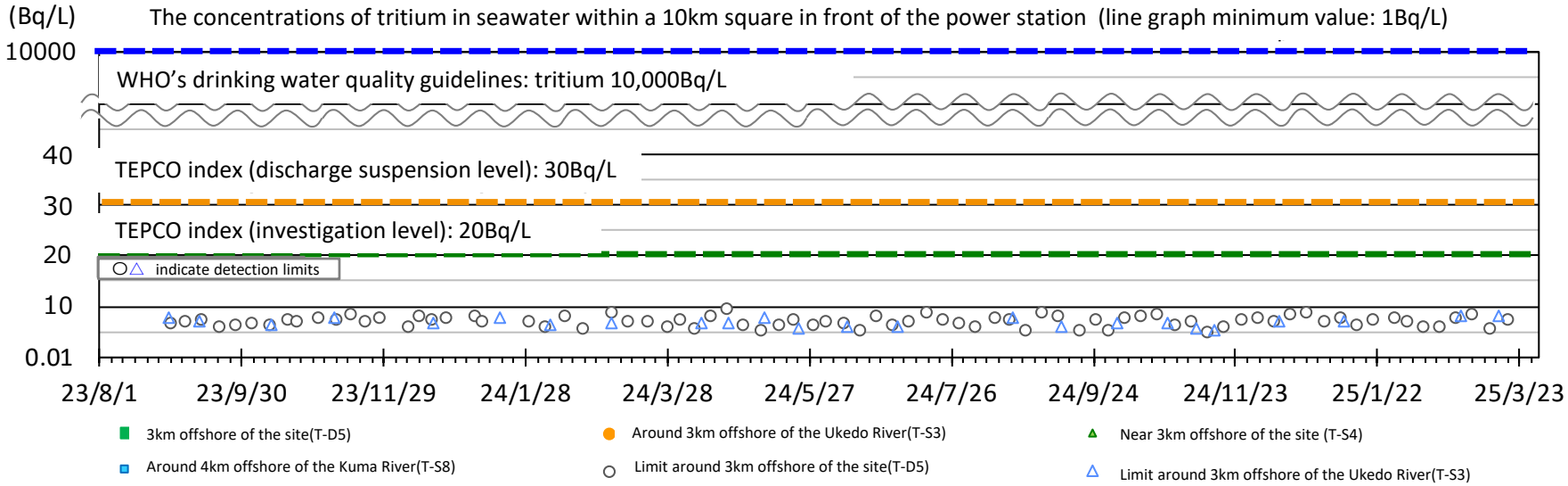
within 3km of the power station

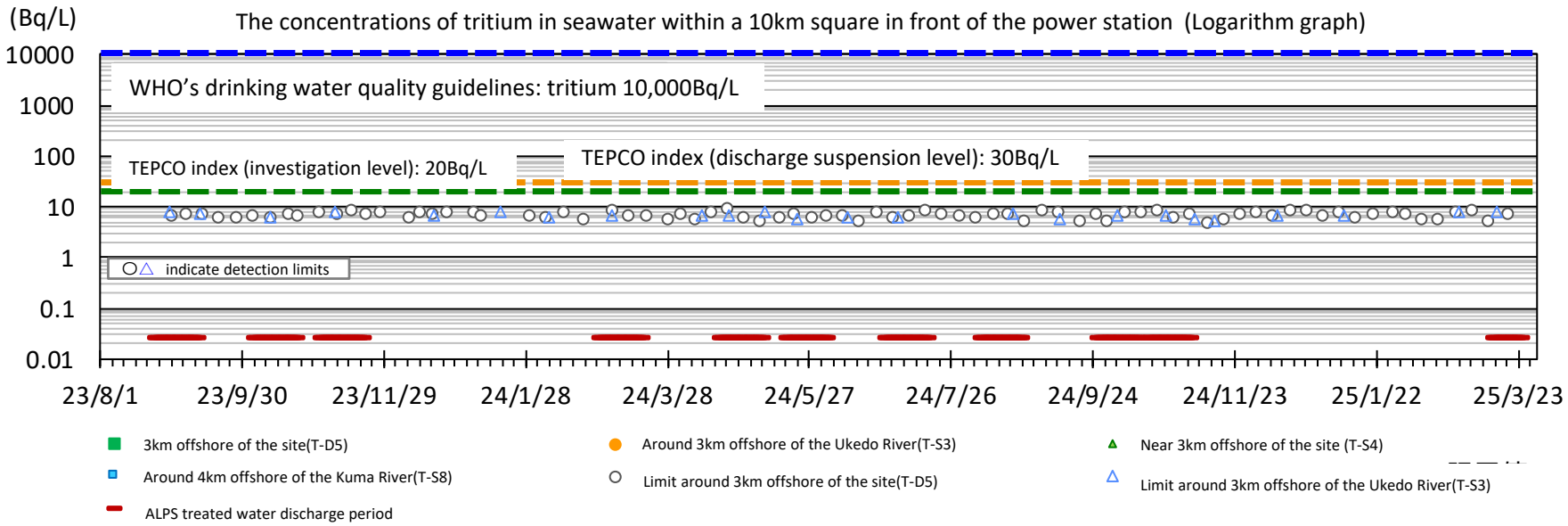




[Reference] Sea area monitoring results (2/2)　quick monitoring

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.

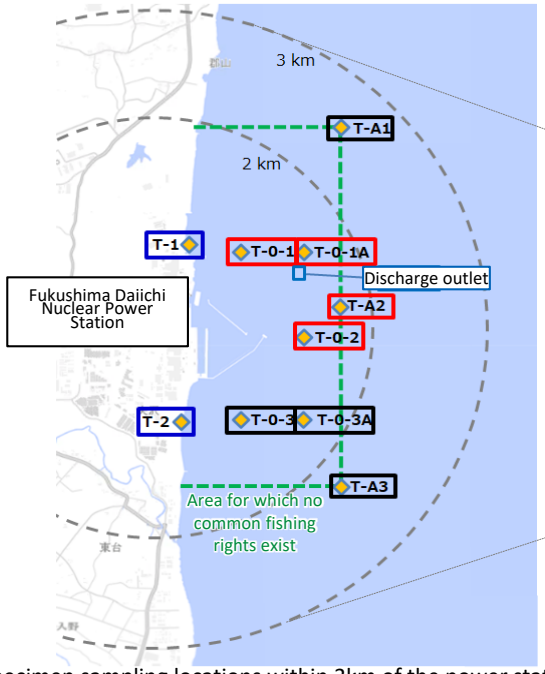


Figure 1: Specimen sampling locations within 3km of the power station (near the discharge outlet)

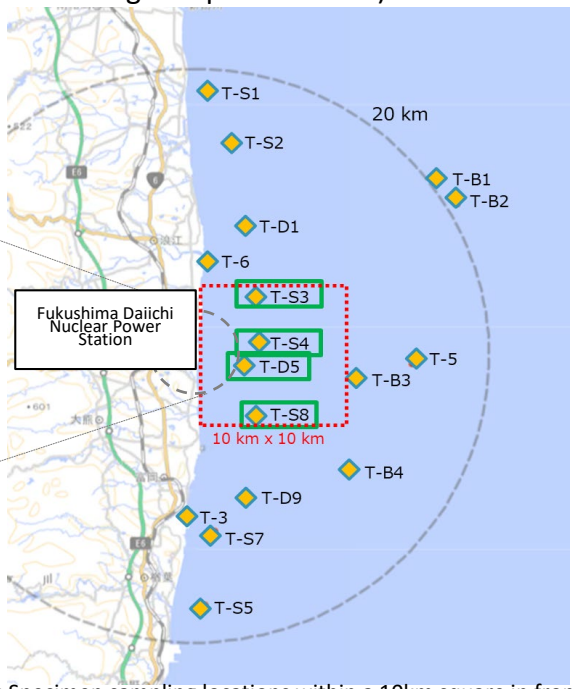


Figure 2: Specimen sampling locations within a 10km square in front of the power station

: 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)