

## Commencement of the Initial Discharge of ALPS Treated Water (Stage 2)

- At the sixth meeting of the Inter-Ministerial Council concerning the Continuous Implementation of the Basic Policy on Handling of ALPS-Treated Water held on August 22, the Japanese Government announced that it had made a decision in regards to the commencement period of the discharge of ALPS treated water into the sea and asked that TEPCO begin preparations for the commencement of discharge.
- TEPCO will quickly move forward with preparations to commence discharge with the utmost vigilance in accordance with the implementation plan, and as the First Stage of the initial discharge of ALPS treated water, a very small amount of ALPS treated water (Approximately 1m<sup>3</sup>) was transferred to the dilution facility using the transfer facilities beginning at 19:33, diluted with seawater (Approximately 1,200m<sup>3</sup>), and allowed to flow into the discharge vertical shaft (upper-stream storage). The water stored in the discharge vertical shaft (upper-stream storage) was also sampled.

<Announced on August 22,2023>

- On August 22, diluted ALPS treated water stored in the discharge vertical shaft (upper-stream storage) was sampled and the tritium concentration of the water has since been measured. The results showed that the analysis value is approximately equal to the calculated concentration and below 1,500Bq/liter. The sample of the water was also analyzed by the Japan Atomic Energy Agency (hereinafter referred to as, "JAEA") who confirmed that the analysis value is below 1,500 Bq/liter.
- This morning, weather and ocean conditions were checked and it was determined that we will proceed to Stage 2. Today at 1:00 PM, the seawater transfer pumps will be started up and we will commence the discharge. During the discharge, one tank group-worth of ALPS treated water from the measurement/confirmation facility, and the water already stored in the discharge vertical shaft (upper-stream storage) during Stage 1, will be continuously transferred/diluted and discharged into the sea.
- Furthermore, today, the intake/vertical shaft monitors will be put into operation in preparation for the discharge into the sea. We also started uploading real-time data pertaining to the discharge of ALPS treated water into the sea to our website.

# Discharge shaft (upstream water tank) water analysis results (analysis results from Stage 1)

- The concentration of tritium in diluted ALPS treated water sampled on August 22 was measured and we confirmed that the analysis value is approximately equal to the calculated concentration, and below 1,500 Bq/liter.
- Furthermore, the JAEA also analyzed the sampled water and confirmed the analysis value is below 1,500 Bq/liter.

August 24, 2023

TEPCO Holdings

Fukushima Daiichi D&D Engineering Company

## Analysis Results of the Water in the Discharge Vertical Shaft (Upper-stream Storage)

Confirmed the followings;

- ① The analysis value is below 1,500 Bq/liter.
- ② The analysis value (43 Bq/liter ~ 63 Bq/liter) is within the calculated value which is taken into account of uncertainty of mixed dilution. Furthermore, the analysis value is approximately equal to the calculated value.

Summary

Analysis Value	43~63 (Bq/L) (confirmed to be less than 1,500 Bq/L)
Comparison with calculated value	Confirmed to be consistent with calculated value (53~210 Bq/L) *3

Nuclide	Date and Time of Sampling	Analysis Results					
		TEPCO HD			JAEA *2		
		Analysis Value (Bq/L)	Uncertainty *1 (Bq/L)	Detection Limit (Bq/L)	Analysis Value (Bq/L)	Uncertainty *1 (Bq/L)	Detection Limit (Bq/L)
H-3	2023/8/22 20:34	5.3E+01	± 9.8E+00	5.9E+00	4.8E+01	± 1.0E+01	1.6E+01

• Values are expressed in exponential notation.

For example, "3.1E+01" means "3.1×10<sup>1</sup>" and equals 31. Similarly, "3.1E+00" means "3.1×10<sup>0</sup>" and equals 3.1, and "3.1E-01" means "3.1×10<sup>-1</sup>" and equals 0.31.

\*1 "Uncertainty" refers to the accuracy of analysis data.

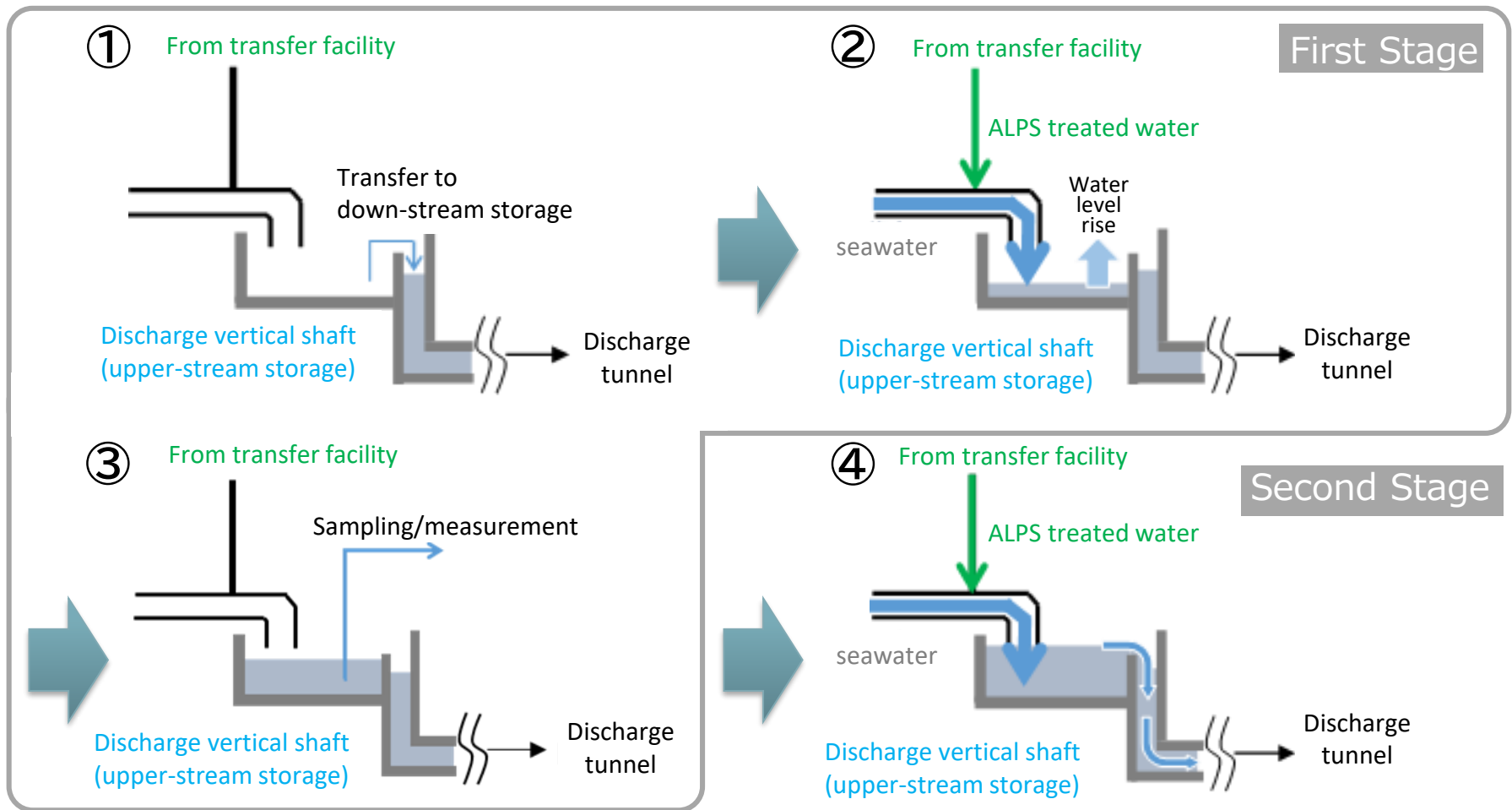
"Uncertainty" is calculated using "Expanded Uncertainty: Coverage Factor k=2".

\*2 Analysis results from the Okuma Analysis and Research Center of the Japan Atomic Energy Agency, a National Research and Development Agency, which are based on the basic policy on handling of ALPS treated water.

\*3 Analysis value (53±9.8≈43~63) is within the calculated value which is taken into account of uncertainty of mixed dilution.

The JAEA also analyzed the sampled water and confirmed the analysis value is below 1,500 Bq/liter.

## (Reference) Method of initially discharging small amounts

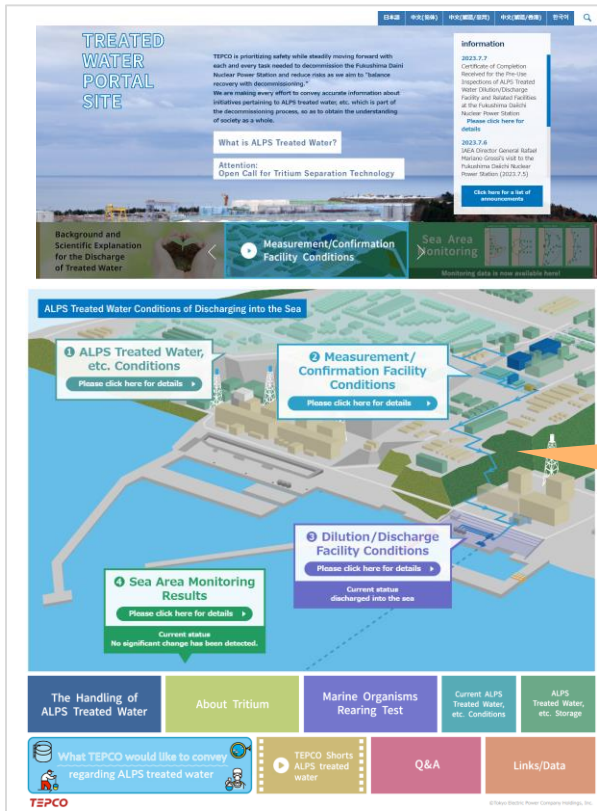


- ① The discharge vertical shaft (upper-stream storage) will be emptied. (Upper-stream storage has been emptied as of today)
- ② A very small amount of (approximately 1m<sup>3</sup>) ALPS treated water will be diluted with seawater (approximately 1,200m<sup>3</sup>) and then held in the discharge vertical shaft (upper-stream storage).
- ③ The water in the discharge vertical shaft (upper-stream storage) will be sampled and the tritium concentration will be measured in order to confirm that actual concentration is approximately the same as the calculated tritium concentration, and that the concentration of tritium is less than 1,500Bq/liter. [Processes ① through ③ comprise the First Stage]
- ④ Then, TEPCO will move on to the Second Stage which will be continuous discharge into the sea.

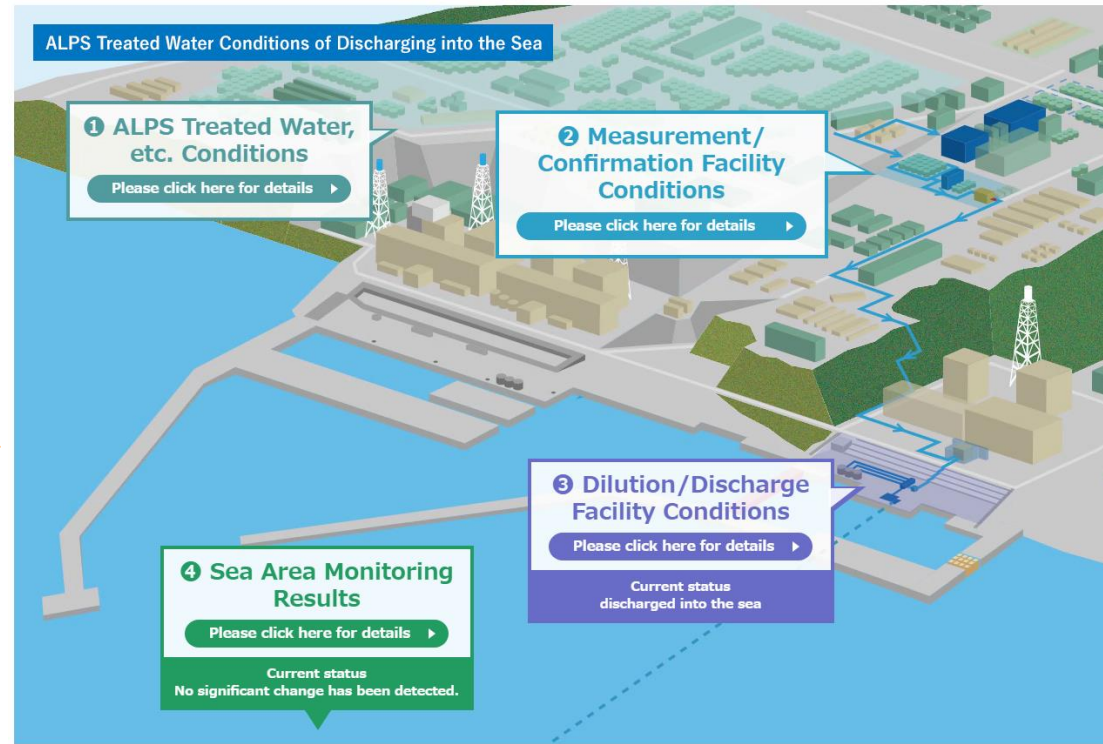
# (Reference) Treated Water Portal Site Page “ALPS Treated Water Conditions of Discharging into the Sea”

- On the Treated Water Portal Site, a page summarizing the status of each of the facilities related to the discharge of ALPS treated water into the sea has been published.

Screen image of “Treated Water Portal Site”



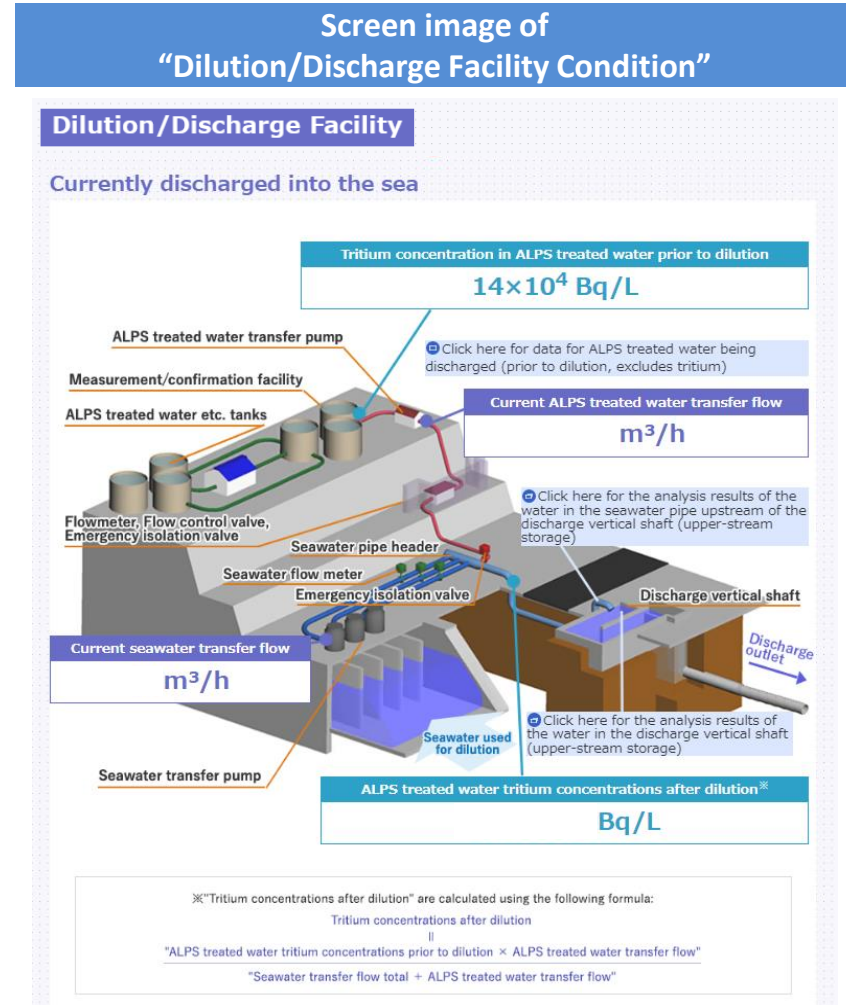
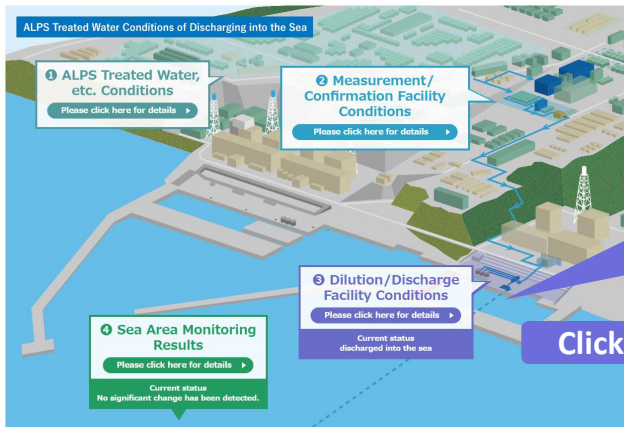
Screen image of  
“ALPS Treated Water Conditions of Discharging into the Sea”



# (Reference) Webpage for "Dilution/Discharge Facility Conditions"

- This page enables users to view real-time data, such as seawater and ALPS treated water flow, at a glance.

Screen image of  
"ALPS treated water Conditions of Discharging into the Sea"



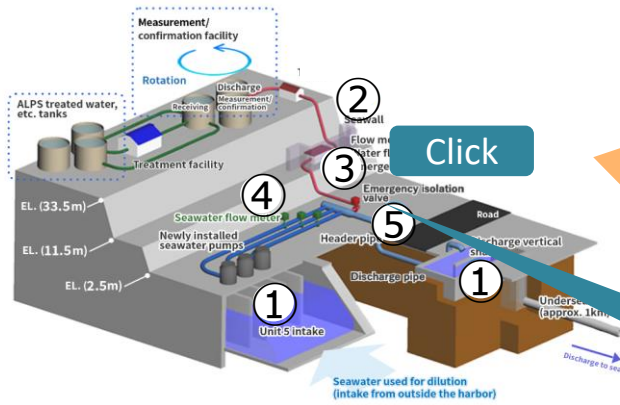


# (Reference) Further disclosure of real-time monitoring data

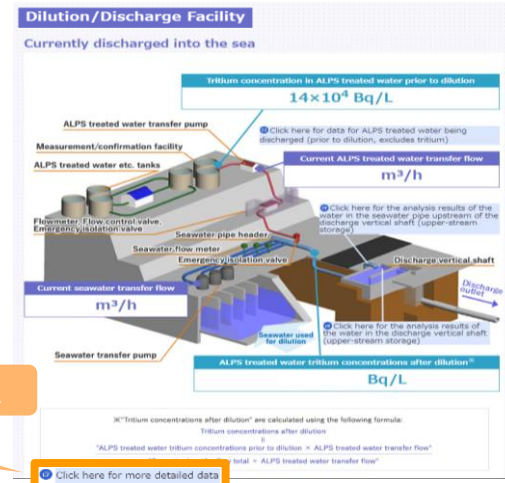
- Various data relating to the discharge of ALPS treated water into the sea have been disclosed on our website in more detail than the “Dilution/Discharge Facility Conditions” page.

## Screen image of webpage for real-time data

Discharging from ALPS treated water dilution/discharge facilities at the Fukushima Daiichi Nuclear Power Station

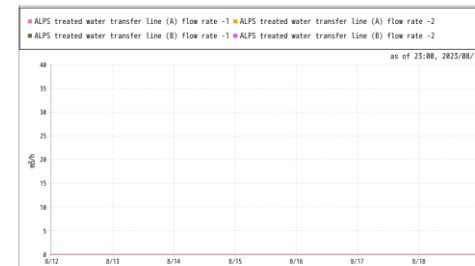


Screen image of “Treated Water Portal Site”



(3) ALPS treated water transfer line flow rate

Graph

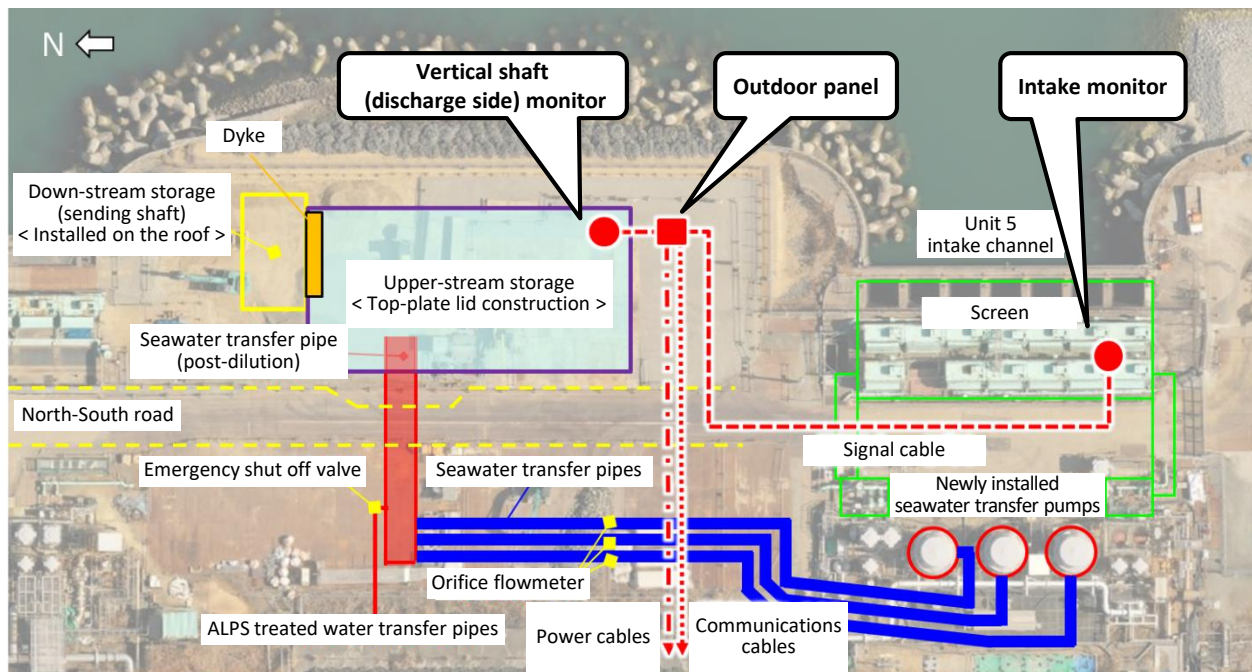


- ① Intake/Vertical shaft monitor (Unit 5 intake/upper-stream storage)
- ② Radiation monitor (ALPS treated water transfer pump outlet)
- ③ ALPS treated water transfer line flow rate
- ④ Seawater flow rate
- ⑤ Tritium concentration in ALPS treated water that has been diluted with seawater (calculated value)

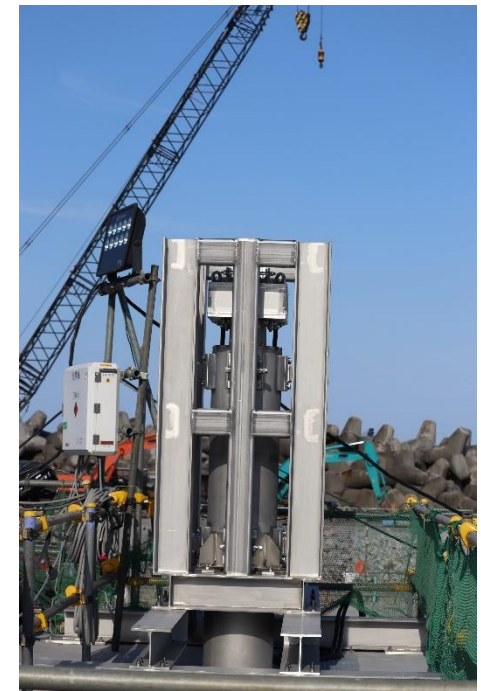
ALPS treated water transfer line (A) flow rate -1	ALPS treated water transfer line (A) flow rate -2	ALPS treated water transfer line (B) flow rate -1	ALPS treated water transfer line (B) flow rate -2	Total ALPS treated water transfer line volume (A)	Total ALPS treated water transfer line volume (B)	ALPS treated water transfer pump (A)	ALPS treated water transfer pump (B)
0	0	0	0	0	0	Stopped	Stopped

## (Reference) Intake/vertical shaft monitors

- In order to bring peace of mind to society over the 20~30 years during which ALPS treated water will be discharged into the sea, TEPCO believes that it is important to confirm that there are no fluctuations in the seawater used for dilution, and for this reason we have installed intake/vertical shaft monitors that are independent from dilution/discharge facilities and can continuously take measurements.
- Learning from our experience with the operation of other monitors, we will not target specific nuclides, but rather confirm the count rate of gross gamma radiation (amount of radiation measured during one minute).



Intake/vertical shaft monitor diagram



Vertical shaft monitor