

Fukushima Daiichi Nuclear Power Station seventh discharge in FY2024
Analysis Results of the First stage of the discharge of ALPS treated water into the sea
(discharge in two-stage)

< Reference document >
M a r c h 1 2 , 2 0 2 5
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- On March 10, we commenced the First stage of the seventh discharge of FY2024 of ALPS treated water into the sea (discharge in two-stage). A small amount (approximately 0.7m^3) of ALPS treated water was diluted with seawater (approximately $1,200\text{m}^3$), which was temporarily held in the upper-stream storage and then sampled.
- In the future, we will measure concentration of tritium in the water sampled from the upper-stream storage 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 $1,500\text{Bq/liter}$ (less than the operational limit of 700Bq/liter). In addition to this, we shall confirm 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.
- After March 12, we plan to commence continuous discharge into the sea (Second stage) from the measurement/confirmation facility tank group C after confirming the results of the First stage.

< Announced by March 10, 2025 >

- 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 $1,500\text{Bq/liter}$ (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 $1,500\text{Bq/liter}$ (less than the operational limit of 700Bq/liter).
- Therefore, we plan to start up the seawater transfer pumps today (March,12) at 1:30 p.m., which marked the commencement of the discharge into the sea from the measurement/confirmation facility tank group C.
- Going forward, we will remain vigilant to ensure the safe and stable discharge of ALPS treated water.

[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

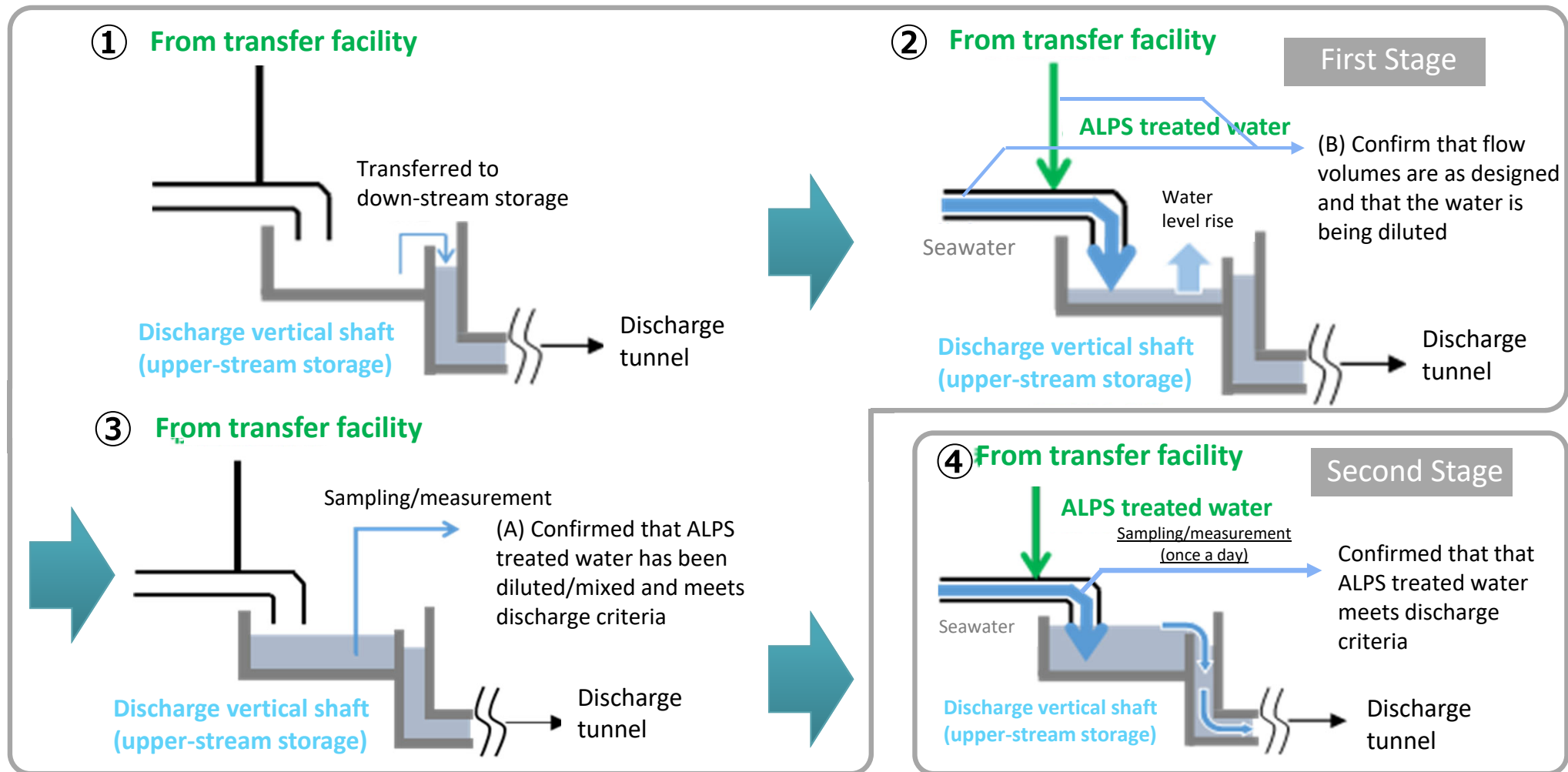
※Value determined so that the upper operational limit of 1,500Bq/liter is not exceeded in consideration of analysis uncertainty and instrument discrepancies

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

TEPCO


- 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.