

Fukushima Daiichi Nuclear Power Station

Commencement of the Discharge of ALPS Treated Water into the Sea

<Reference document>
August 24, 2023
Tokyo Electric Power Company Holdings, Inc.
Fukushima Daiichi Decontamination and
Decommissioning Engineering Company

- 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 1m³) was transferred to the dilution facility using the transfer facilities beginning at 19:33, diluted with seawater (Approximately 1,200m³), 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.
- 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 who confirmed that the analysis value is below 1,500 Bq/liter.

<Announced by August 24, 2023>

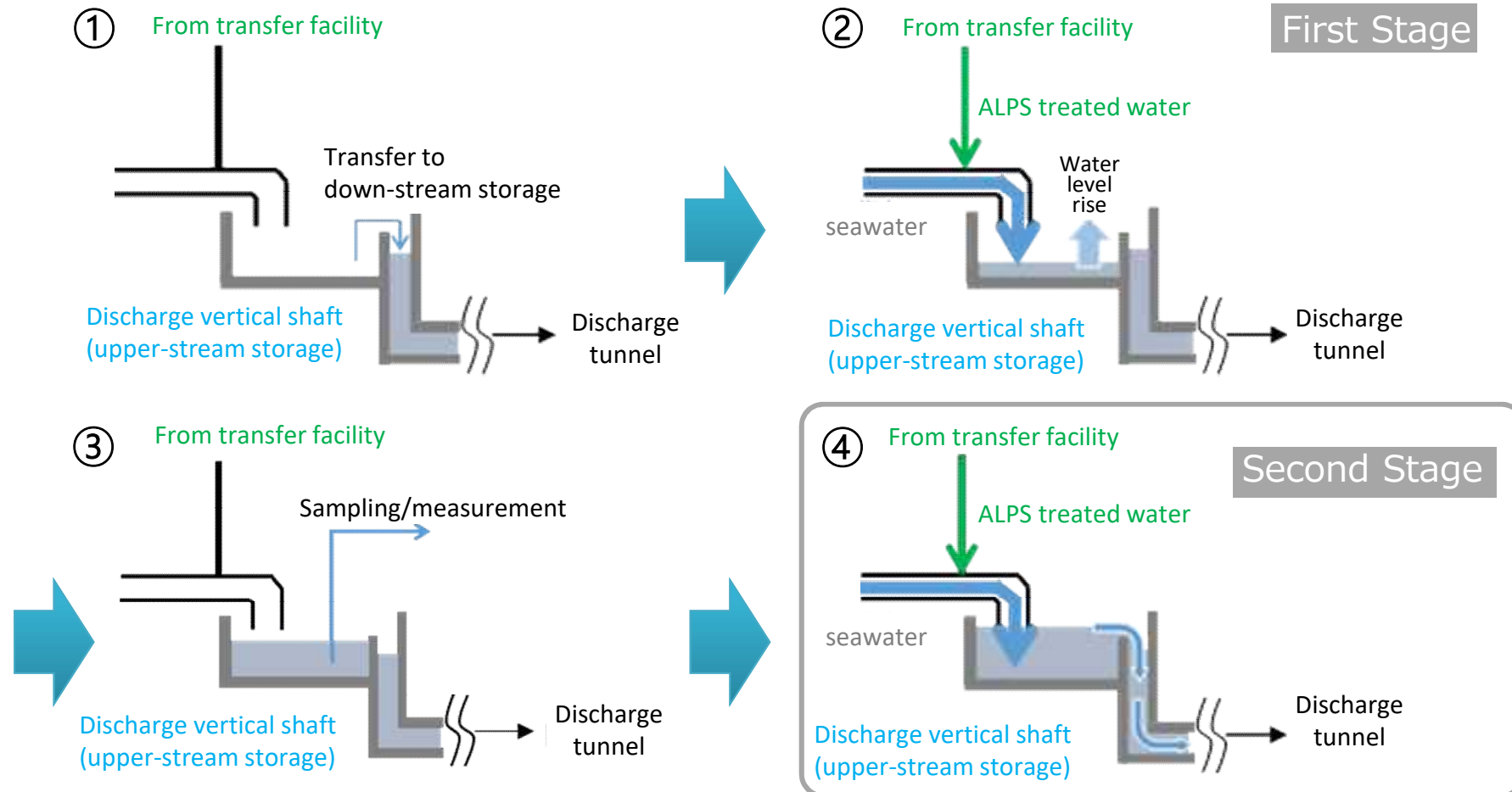
- We began continuously transferring/diluting and discharging the ALPS treated water in tank group B from the measurement/confirmation facility, and the water stored in the discharge vertical shaft (upper-stream storage) during the First Stage, into the sea at 13:03 on August 24.
- Furthermore, we sampled water from the seawater pipes in order to confirm that tritium is being suitably diluted during the period of discharge. Additionally, Seawater samples were taken from 10 locations within a 3km radius of the power station that are set for sea area monitoring in order to obtain the results quickly by raising the detection limit to approximately 10 Bq/liter. All of these samples will be subject to tritium analysis and the analysis results will be quickly disclosed.

(Reference) Today's completed tasks



- 13:03 Commencement of discharge into the sea (water transfer pump startup)
- 13:13 Commencement of intentional overflow from upper-stream storage to down-stream storage
- 13:15 Confirmation that there were no abnormalities with down-stream storage
- 13:20 Commencement of operation of intake/vertical shaft monitors
- 14:16 ALPS treated water transfer pump startup
- 14:33 Confirmation that there were no abnormalities in the field

(Reference) Method of initially discharging small amounts

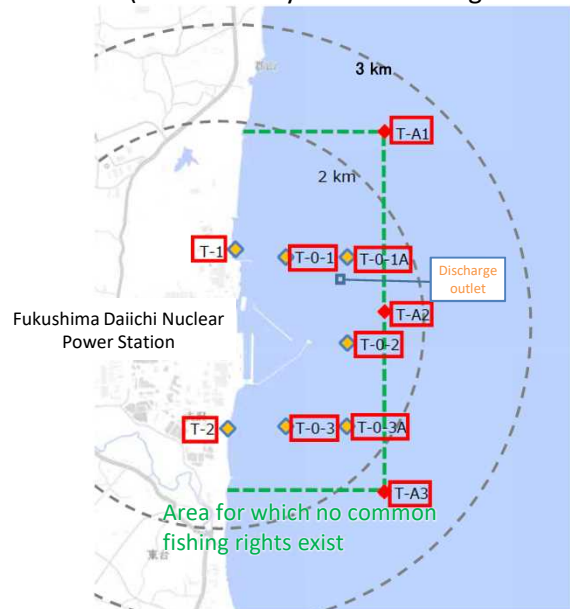


- ① The discharge vertical shaft (upper-stream storage) will be emptied.
- ② A very small amount of (approximately 1m³) ALPS treated water will be diluted with seawater (approximately 1,200m³) and then held in the discharge vertical shaft (upper-stream storage).
- ③ The water in the discharge vertical 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.

Manual shutdown by operators (in response to sea area monitoring) TEPCO

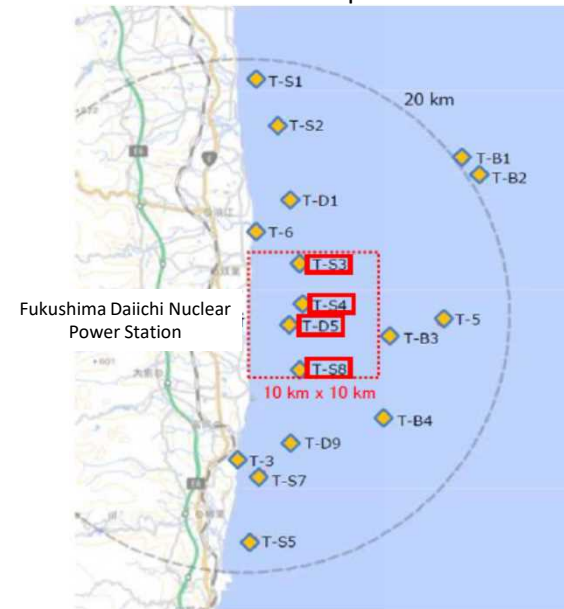
- Seawater tritium analysis is implemented once a week at all points on Figures 1 and 2 below, with the detection limit set to 0.1-0.4Bq/liter.
- In addition, quick tritium measurements with the detection limit set to 10Bq/liter will be implemented at the locations outlined in the red frames in Figures 1 and 2 below. In the case "discharge suspension level" indicators are exceeded, the discharge into the sea will be suspended.
- In light of the monitoring frequency outlined by the various organizations within the Comprehensive Monitoring Plan, frequency of quick tritium measurements specifically near the discharge outlets shown in Figure 1 will be increased from once a week to every day for approximately one month after the start of the discharge into the sea.

Figure 1. Sampling locations within a 3km radius of the power station (in the vicinity of the discharge outlet)



: Monitoring locations for quick tritium measurements (10 locations)
Indicator (discharge suspension level): 700Bq/liter
 Analysis frequency: once a week → every day for approximately one month after the start of the discharge into the sea

Figure 2. Sampling locations within a 10km square in front of the power station



: Monitoring locations for quick tritium measurements (4 locations)
Indicator (discharge suspension level): 30Bq/liter
 Analysis frequency: Once a week (T-D5),
 Once a month (T-S3, T-S4, T-S8)