

# Standardized method for calculating water amount and storage capacity of Units 1-4 contaminated water tanks

June 27, 2019

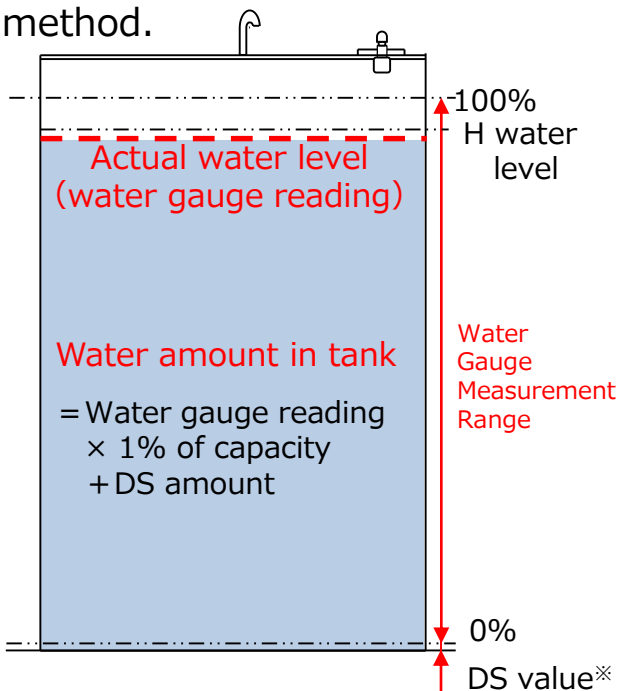
---



Tokyo Electric Power Company Holdings, Inc.

# Standardized method for calculating water amount and storage capacity of tanks **TEPCO**

- Different methods were used in each tank for calculating water amount and storage capacity. The method will be standardized for all tank areas.
- Already released information on water amounts and tank capacity will be revised using the new method.



## 【Formula for calculating the amount of water in tanks】

Water amount = Water gauge reading[%] × 1% capacity [m<sup>3</sup>/%] + Down scale(DS) amount[m<sup>3</sup>]\*

## 【Standardize point】

- The following two methods were used to calculate 1% capacity, but going forward only method ① will be employed.

① Capacity of water gauge measurement range (0-100%) is divided equally into 100.

② Full capacity of the tank according to schematics (from the bottom of tank to 100%) is divided equally into 100.

Method ② yields a water amount result that is about 0.2% higher than the result using method ① for each tank.

- All results shall be rounded to the same decimal place when calculating 1% capacity.

## 【Formula for calculating tank storage capacity】

Capacity = H water level[ % ]\* × 1% capacity [m<sup>3</sup>/%] + Down scale(DS) amount[m<sup>3</sup>]

※H water level: Automatic stop level of transfer pump

## 【Standardize point】

- Two methods have been used to calculate 1% capacity just like for water amounts as mentioned above, but only method ① will be used in the future.

※Down scale(DS) amount refers to water amounts less than the lower limit of the water gauge measurement range, and is calculated using the area of floor of the tank and the height to the 0% position.

# Water amounts and tank storage capacity following the standardization of the calculation method

- Water amounts and the storage capacity of tanks before and after standardizing the calculation method are shown in the following table. (Using data valid as of May 23, 2019.)
  - Water amount: ALPS-treated water decreased 2,215m<sup>3</sup>, Sr-treated water decreased 234m<sup>3</sup> and RO-treated water (fresh water) decreased 5m<sup>3</sup>.
  - Storage capacity: ALPS-treated water decreased 2,200m<sup>3</sup> and Sr-treated water decreased 200m<sup>3</sup>.
- The standardized calculation method will be used starting with data for July (from July 7 to August 3) for data collection-related reasons, and the data in the July 11 weekly treated water report will be calculated using the standardized method (to be released on July 16).

## 【Water amount in tanks】

[As of 7:00, May 23, 2019]

	ALPS-treated water (m <sup>3</sup> )	Sr-treated water (m <sup>3</sup> )	RO-treated water (m <sup>3</sup> ) (fresh water)
Water amount before standardization	1,034,243	104,325	7,528
Water amount after standardization	1,032,028	104,091	7,523
Change due to standardization	- 2,215	- 234	- 5

## 【Storage capacity of tanks】

[As of 7:00, May 23, 2019]

	ALPS-treated water (m <sup>3</sup> )	Sr-treated water (m <sup>3</sup> )	RO-treated water (m <sup>3</sup> )
Storage capacity before standardization	1,095,000	141,700	13,500
Storage capacity after standardization	1,092,800	141,500	13,500
Change due to standardization	- 2,200	- 200	No change

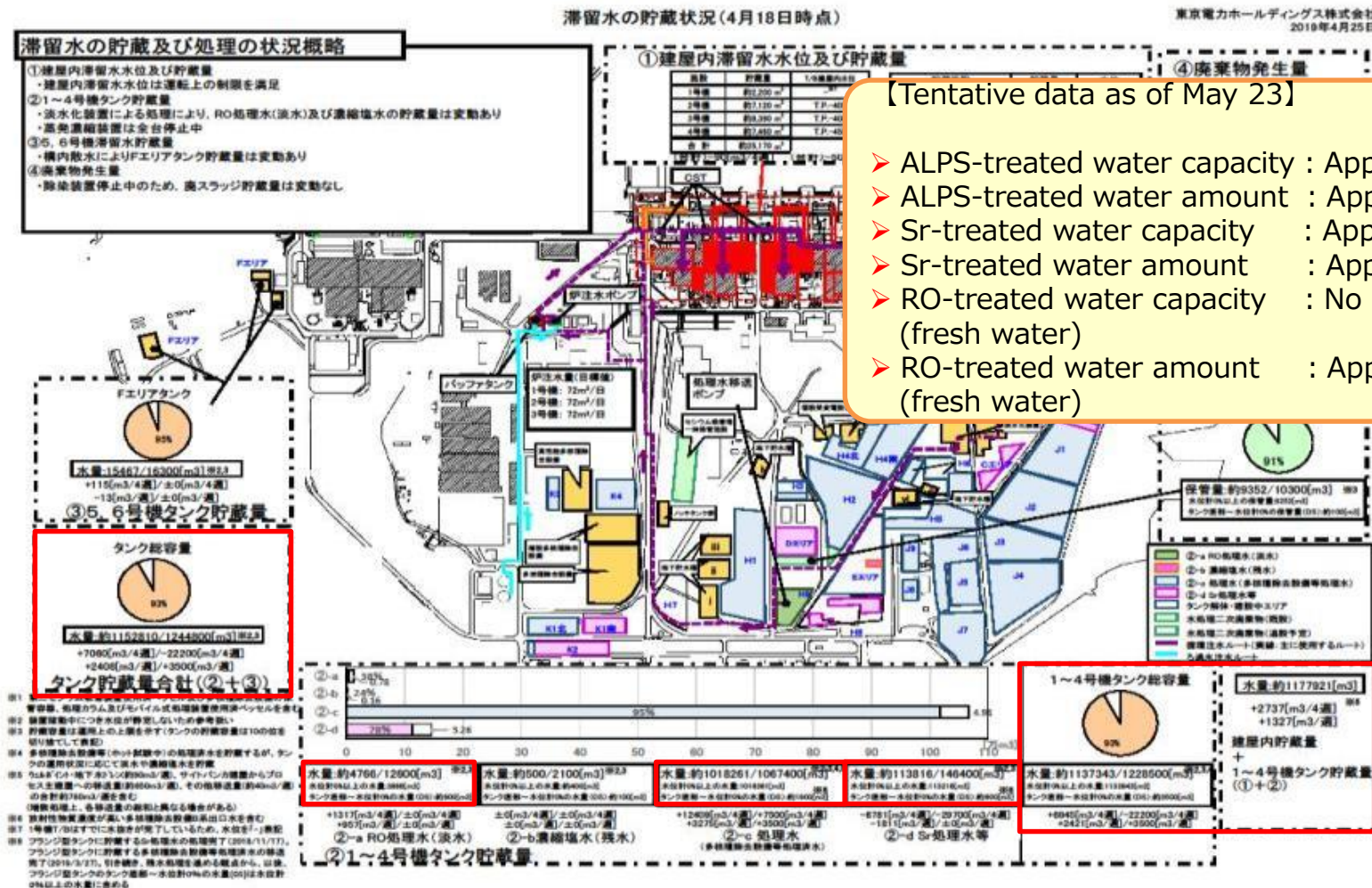
# [Reference] Updating already released data:

## Weekly water treatment reports and material for secretariat meeting of the team (Accumulated water amounts)



- Water amounts and tank capacity noted in the weekly water treatment reports will be updated using data collected on July 11 and submitted to the Nuclear Regulatory Agency on July 16.
- Data released by the secretariat meeting of the team shall employ the standardized calculation method from July.

Materials from the Secretariat of the team for the Countermeasures for Decommissioning and Contaminated Water



**[Tentative data as of May 23]**

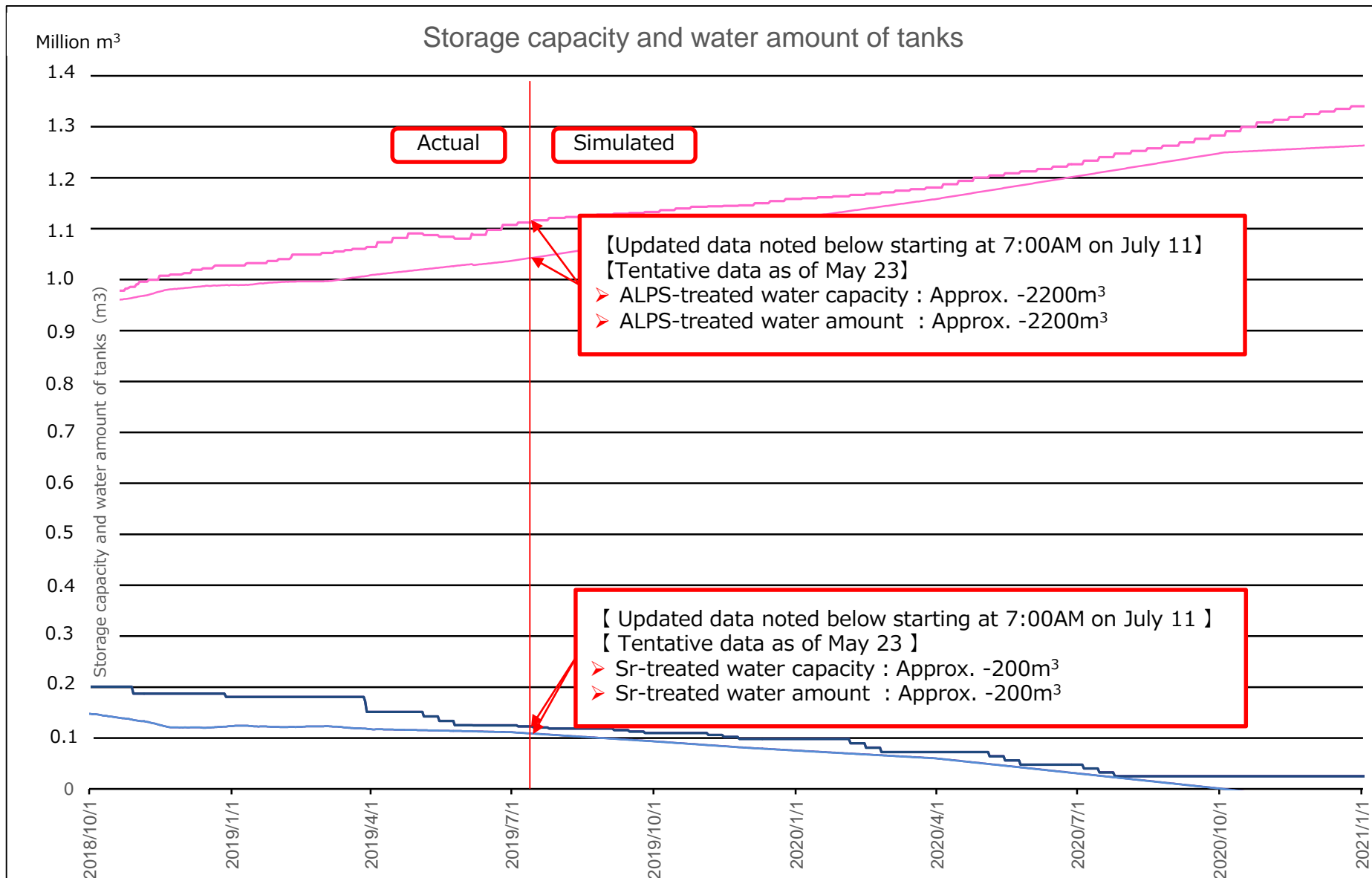
- ALPS-treated water capacity : Approx. -2200m<sup>3</sup>
- ALPS-treated water amount : Approx. -2200m<sup>3</sup>
- Sr-treated water capacity : Approx. -200m<sup>3</sup>
- Sr-treated water amount : Approx. -200m<sup>3</sup>
- RO-treated water capacity : No change (fresh water)
- RO-treated water amount : Approx. -5m<sup>3</sup> (fresh water)

# 【Reference】 Updating already released data:

## Material for secretariat of the team (Water balance simulation)



Materials from the Secretariat of the team for the Countermeasures for Decommissioning and Contaminated Water



# 【Reference】 Updating already released data: Treated water portal site (1/2)

【Treated water portal site】

The screenshot shows the TEPCO website's "Current Treated Water Conditions" page. It displays the amount of treated water being stored as of April 18, 2019, as 1,132,077 m<sup>3</sup>. A 3D diagram of a storage tank shows two layers: a top layer of ALPS etc. treated water (1,018,261 m<sup>3</sup>) and a bottom layer of Cesium/Strontium-treated water (113,816 m<sup>3</sup>). The total capacity is approximately 1.37 million m<sup>3</sup>.

Amount of treated water being stored (as of April 18, 2019)

**1,132,077 m<sup>3</sup>**

\* Amount of water between the bottom of a tank and the lower measuring limit of the water gauge

↑

1,018,261 m<sup>3</sup>

ALPS etc. treated water

113,816 m<sup>3</sup>

Cesium/Strontium-treated water

Approximately 1.37 million m<sup>3</sup>

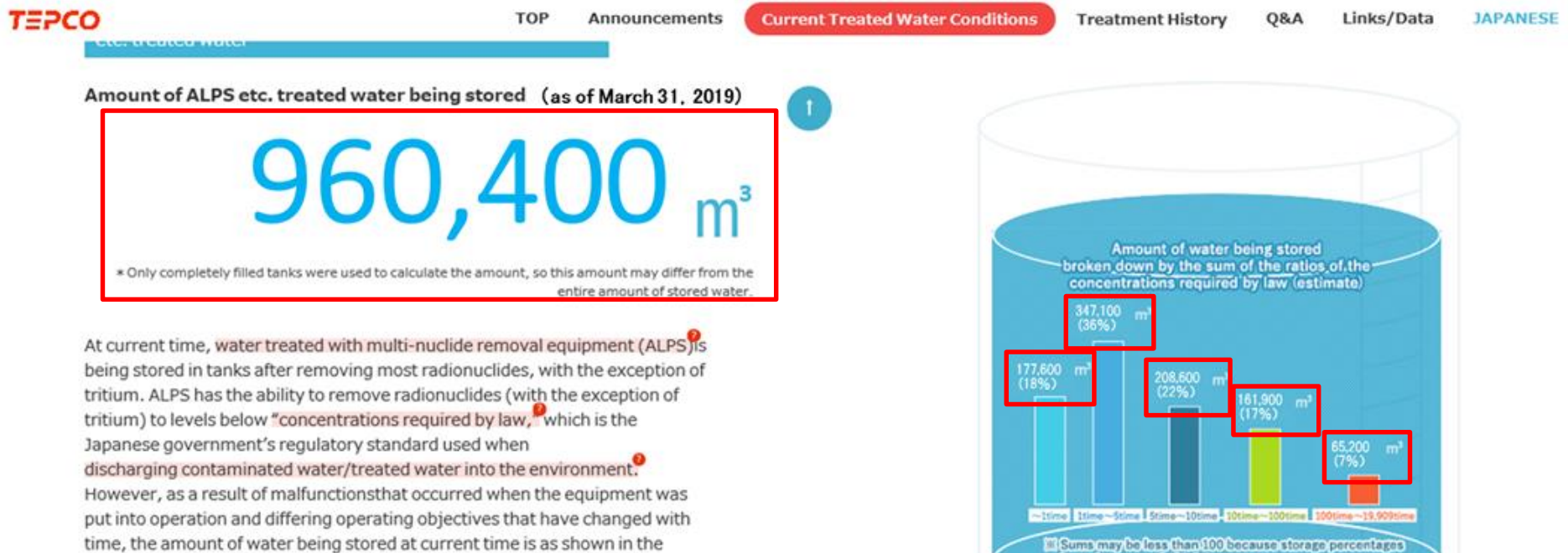
↓

This material will be updated after the “Secretariat meeting of the Team for Countermeasures for Decommissioning and Contaminated Water Treatment” on July 25 to keep with convention of updating data after the monthly meeting.

Changes in ALPS-treated water amount and Sr-treated water amount will be also updated in this material.

# 【Reference】 Updating already released data: Treated water portal site (2/2)

【Treated water portal site】



- ALPS treated water storage amounts each ratio of concentrations required by law (shown on the portal site)
- These are values calculated for each ratio of concentrations required by law (estimate) using storage amounts calculated based on water gauge readings taken during data collection (end of each quarter) for tanks that have been completely filled during the last quarter.
- Data after standardization will be updated when the treated water portal site (amount of treated water being stored) is updated at the end of July.

2019FY		
June	July	August
	<ul style="list-style-type: none"> <li>■ Secretariat meeting (6/27) (Explanation of the plan)</li> <li>▼ Updating of data (7/7~)</li> <li>■ Submission of report (released on July 16)</li> </ul>	<ul style="list-style-type: none"> <li>■ Secretariat meeting (July 25) (Water amount and tank storage capacity after standardization)</li> <li>■ Updating of treated water portal site</li> </ul>