Situation of Storage and Treatment of Accumulated Water including Highly Concentrated Radioactive Materials at Fukushima Daiichi Nuclear Power Station (400th Release)

April 22, 2019

Tokyo Electric Power Company Holdings, Inc.

1. Introduction

This document is to report the following matters in accordance with the instruction of "Installment of treatment facility and storing facility of water including highly concentrated radioactive materials at Fukushima Daiichi Nuclear Power Station of the Tokyo Electric Power Company (Instruction) "(NISA No. 6, June 8, 2011), dated on June 9, 2011.

<Instruction>

TEPCO should report to NISA the situation of storing and treatment of the contaminated water in the Power Station and the future forecast based upon the current situation has to be reported to NISA as soon as the treatment facility starts its operation. Also, subsequently, continued report has to be submitted to NISA once a week until the treatment of the accumulated water in the Central Radioactive Waste Treatment Facility is completed.

2. Situation of storing and treatment of accumulated water in the building (actual record)

Stored amounts in each unit building (Units 1 to 4 (including condensers and trenches)) and stored and treated amounts, and other related data in the Accumulated Water Storing Facility as of April 18, 2019 are shown in the Attachment -1.

3. Forecast of storing and treatment

(1) Short term forecast

Water transfer in Units 1 and 2 and Units 3 and 4 is planned based on the stored amount in the Accumulated Water Storing Facilities and the operating situation of the radioactive material treatment equipment and the subdrain catchment facility. Water is transferred to the Process Main Building and/or High Temperature Incinerator Building as Accumulated Water Storing Facilities.

Treatment is implemented considering the state of storage and transfer of Accumulated Water Storing Facilities.

We assume stored amounts in each unit building (Units 1 to 4 (including condenser and trench)), and stored and treated amounts, and other related data in the Accumulated Water Storing Facilities as of April 25, May 2 and May 9, 2019, are shown in Attachment -2.

(2) Middle term forecast

Regarding accumulated water in Units 1 and 2 buildings and Units 3 and 4 buildings, from the viewpoint of reducing the risks of discharging to the ocean and leaking into the groundwater, it is necessary to keep enough capacity for the accumulated water in the building until its level reaches TP. 2,564 and to keep the accumulated water level lower than the groundwater level.

On the other hand, based on the view of limiting inflow of underwater to buildings and reducing the amount of emerged accumulated water, we are planning to transfer accumulated water keeping specific water-level difference between accumulated water in the building around and subdrain water and making the lowest floor surface of buildings other than Units 1 to 3 reactor buildings where circulating water is injected into exposed by 2020.

As for accumulated water of the Process Main Building and the High Temperature Incinerator Building, we are planning to treat the accumulated water considering the situation of construction of middle and low level waste water tanks, the operation factor of the radioactive material treatment instruments and duration for maintenance.

We forecast stored amounts in each unit building (Units 1 to 4 (including condensers and trenches)), and storing and treatment situations in the Accumulated Water Storing Facilities for the next 3 months, as shown in Attachment -3.

Stored amounts in each building and the water storage equipment are forecasted to be unchanged in case transfer and treatment were implemented as scheduled without rain. However, it would be subject to change depending on the operation factor of the radioactive material treatment instruments and so on.

Also, the water treated at the radioactive material treatment equipment (fresh water and condensed salt water) can be stored in the middle and low level waste water tanks.

END

Others: Storage container (3,066), Treated column (11), Used vessel (215), Filiters and so forth (65)

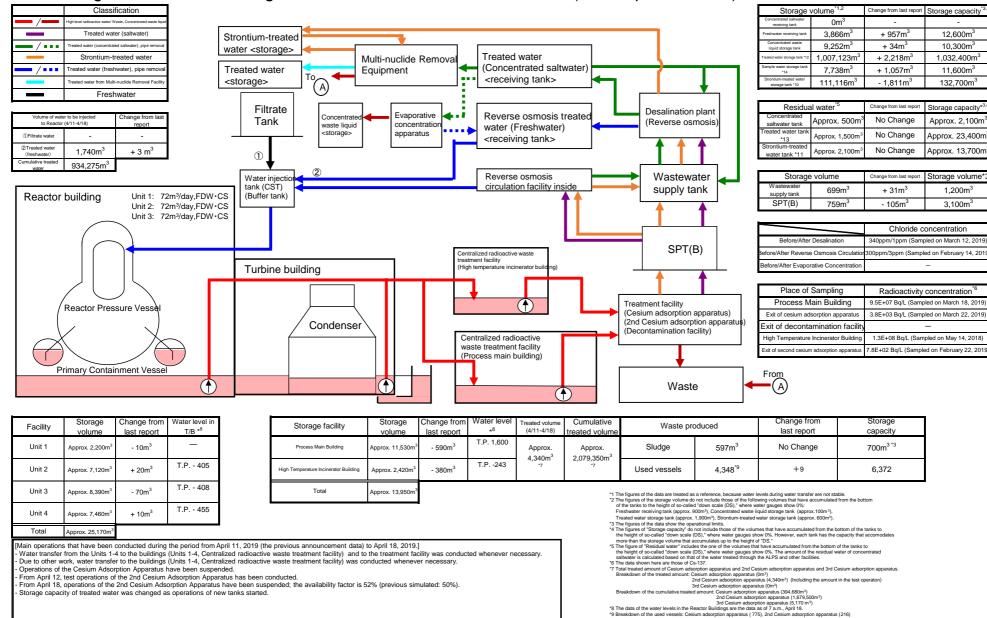
12 Volume of the treated water meaning in the frange-type tanks.

13 Volume of the treated water remaining in the frange-type tanks.

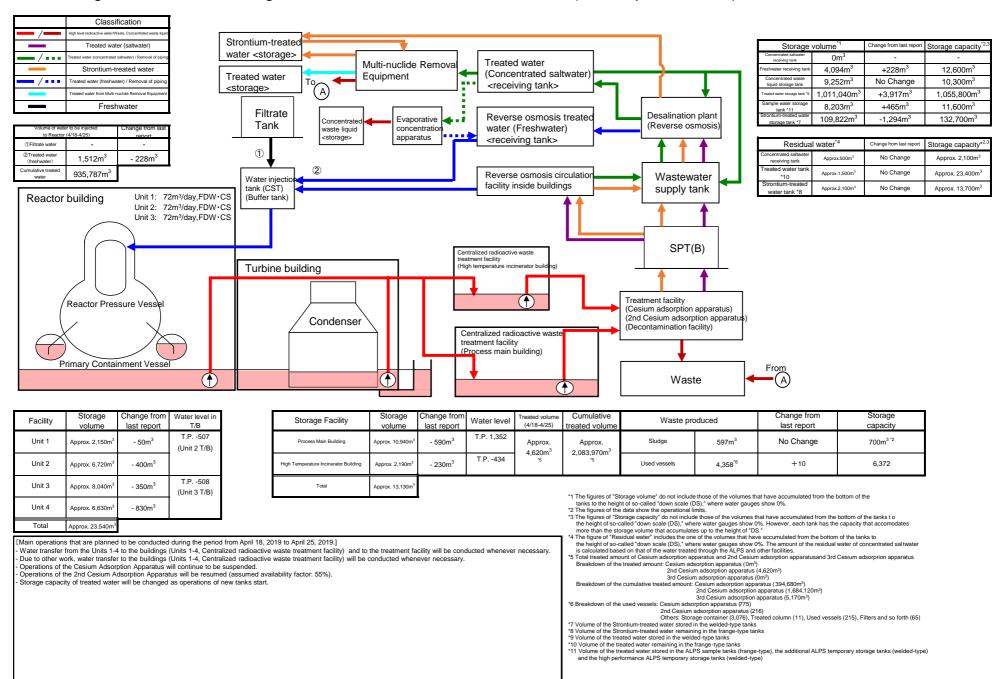
14 Volume of the treated water stored in the ALPS sample tanks (range-type), the additional ALPS temporary storage tanks (welded-type) and the high performance ALPS temporary storage tanks (welded-type).

*10 Volume of the Strontium-treated water stored in the welded-type tanks
*11 Volume of the Strontium-treated water remaining in the frange-type tanks
*12 Volume of the treated water stored in the welded-type tanks

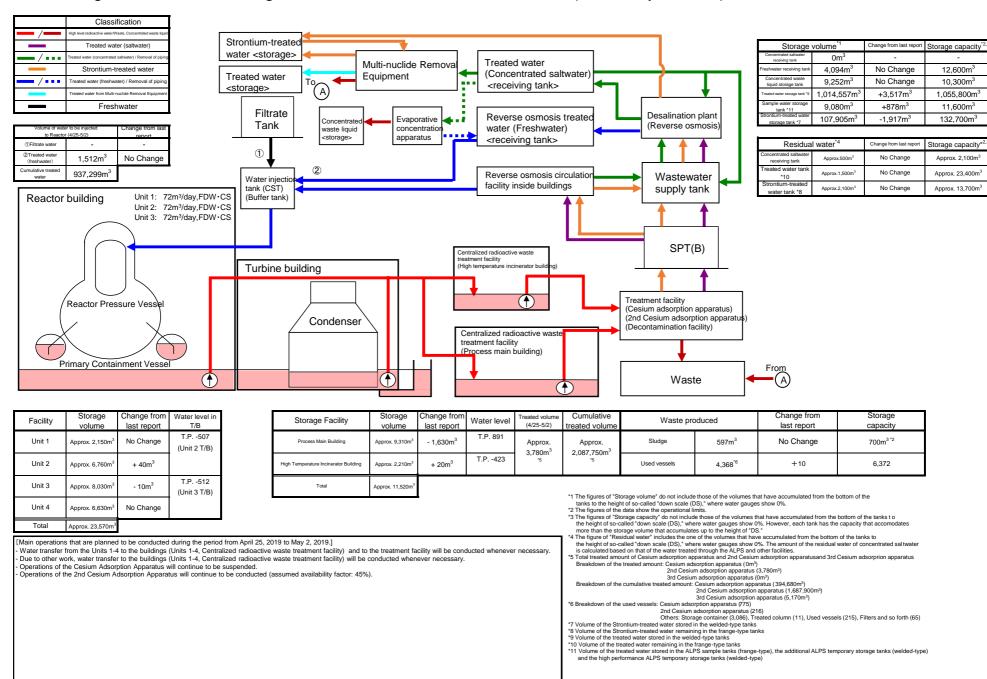
Storage and treatment of high level radioactive accumulated water (as of April 18, 2019)



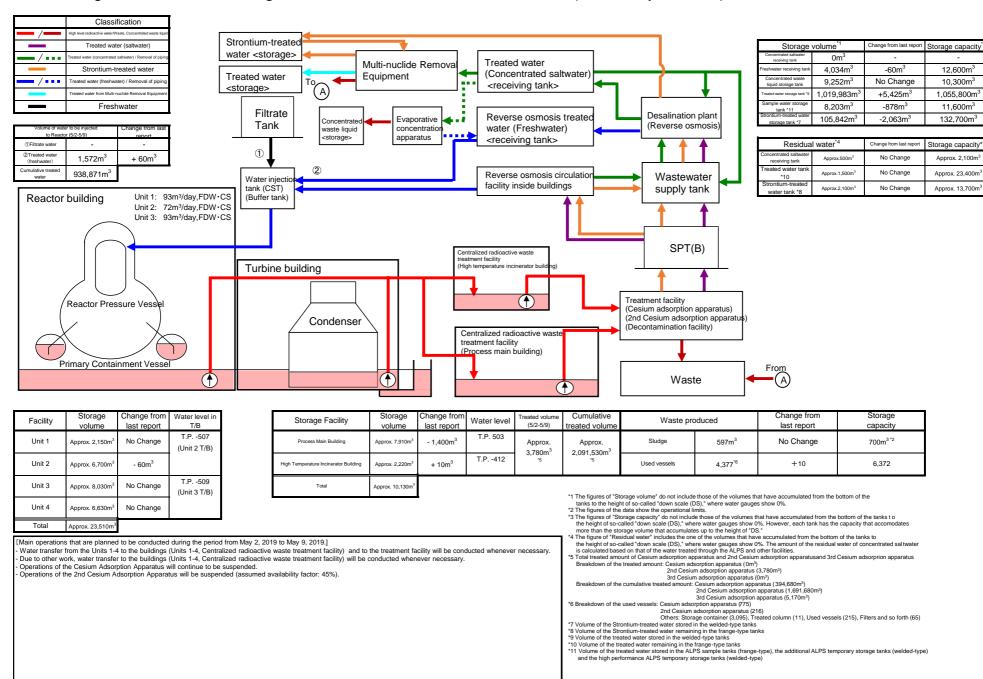
Storage and treatment of high level radioactive accumulated water (as of April 25, 2019)



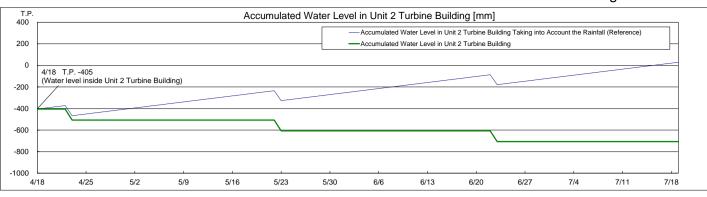
Storage and treatment of high level radioactive accumulated water (as of May 2, 2019)

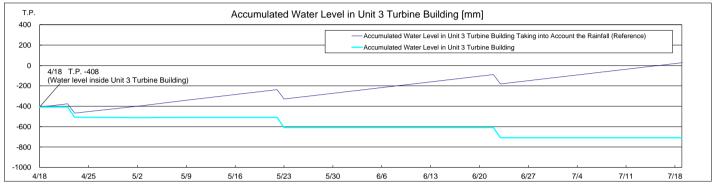


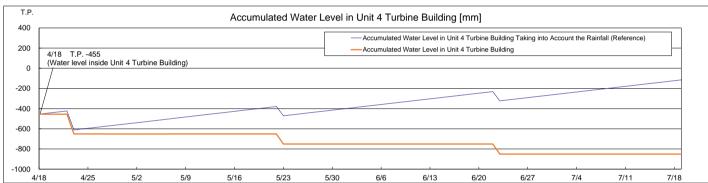
Storage and treatment of high level radioactive accumulated water (as of May 9, 2019)

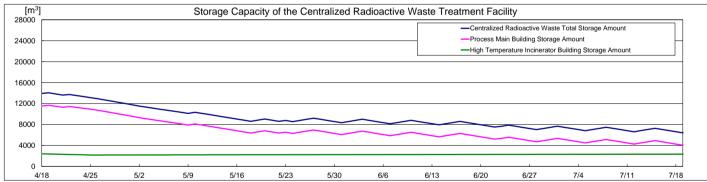


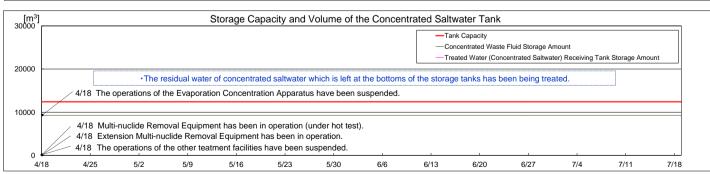
Simulation Results of Accumulated Water Treatment in Units 1-4 Turbine Buildings











- The amount of water treated through the 2nd Cesium Adsorption Apparatus is estimated to be 780m 3/d (Subject to change depending on the factors such as the levels of water accumulated in T/Bs.)

 -"Accumulated Water Levels in Unit 2, 3 and 4 T/Bs" are simulated water levels in consideration of the change of the water levels caused by recent rainfall, inflow of groundwater, etc.
 in the surrounding areas of the Fukushima Dailchi Nuclear Power Station.

 -"Accumulated Water Levels in Unit 2, 3 and 4 T/Bs Taking into Account the Rainfall" are simulated water levels which are calc ulated by adding to the accumulated water amounts which are assumed to increase at the rate of 8mm a day when the surrounding areas of the Fukushima Dailchi Nuclear Power Station have the rainfall equal to the average amount of rain which fell for three months from August to October in 2015 to 2017.
- Unit 2 Turbine Building water level is controled by retained water transfer pumps in the Unit 2 reactor building.
 Unit 3 Turbine Building water level is controled by retained water transfer pumps in the Unit 3 turbine building.
 Unit 4 Turbine Building water level is controled by retained water transfer pumps in the Unit 4 turbine building.