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 August 3, 2017 are shown in the Attachment -1.

3. Forecast of storing and treatment

(1) Short term forecast

Water transfer is planned so that the levels of the accumulated water in Units 1 and 2 and Units 3 and 4 building will be maintained around at the level of OP. 3,000, based on the stored amount in the Accumulated Water Storing Facilities and the operating situation of the radioactive material treatment equipment. 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)),

1
and stored and treated amounts, and other related data in the Accumulated Water Storing Facilities as of August 10, 2017, as 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 (OP. 4,000) 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 its level in the building around TP. 1,564 (OP. 3,000) considering water tank capacity.

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
**Storage and treatment of high level radioactive accumulated water (as of August 3, 2017)**

**Revised Version**

<table>
<thead>
<tr>
<th>Facility</th>
<th>Storage volume</th>
<th>Change from last report</th>
<th>Water level in T.P.</th>
<th>Water treatment facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Main Building</td>
<td>Approx. 7,600m³</td>
<td>+760m³</td>
<td>T.P. 442 (O.P. 1,804)</td>
<td>High Temperature Incinerator Building</td>
</tr>
<tr>
<td>High Temperature Incinerator Building</td>
<td>Approx. 3,370m³</td>
<td>+90m³</td>
<td>T.P. 337 (O.P. 1,593)</td>
<td>Centralized radioactive waste treatment facility (High Temperature Incinerator Building)</td>
</tr>
<tr>
<td>Total</td>
<td>Approx. 11,060m³</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Storage volume**

<table>
<thead>
<tr>
<th>Facility</th>
<th>Storage volume/ Change from last report</th>
<th>Storage capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Main Building</td>
<td>10,877m³/ -248m³</td>
<td>18,900m³</td>
</tr>
<tr>
<td>High Temperature Incinerator Building</td>
<td>9,290m³/ 10,700m³</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>198,071m³/ -1,532m³</td>
<td>225,400m³</td>
</tr>
</tbody>
</table>

**Chloride concentration**

<table>
<thead>
<tr>
<th>Radioactivity concentration</th>
<th>Place of Sampling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below/After Desalination</td>
<td>6.1E+07 Bq/L</td>
</tr>
<tr>
<td>Below/After Evaporative Concentration</td>
<td>3.0E+07 Bq/L</td>
</tr>
</tbody>
</table>

**Deposition of Cesium adsorption apparatus**

- Cesium adsorption apparatus (0m³)
- 2nd Cesium adsorption apparatus (1,435,400m³)
- Operations of the 2nd Cesium Adsorption Apparatus have been conducted; the availability factor is 45% (previously simulated: 45%).
- Breakdown of the treated amount: Cesium adsorption apparatus (758), 2nd Cesium adsorption apparatus (190), Others: Storage container (2,495), Treated column (9), Used vessel (201), Filers and so forth (65)

**Revised quantity of accumulated value of water injection to the reactor.**

**Main operations that have been conducted during the period from July 27, 2017 (the previous announcement date) to August 3, 2017**

- Water transfer from the Unit 1 Reactor Building to the Process Main Building was conducted whenever necessary.
- Water transfer from the Unit 2 Reactor Building to the Process Main Building was conducted whenever necessary.
- Water transfer from the Unit 2 Turbine Building to the Process Main Building was conducted whenever necessary.
- Water transfer from the Unit 3 Reactor Building to the Process Main Building was conducted whenever necessary.
- Water transfer from the Unit 3 Turbine Building to the Process Main Building was conducted whenever necessary.
- Water transfer from the Unit 4 Reactor Building to the Process Main Building was conducted whenever necessary.
- From November 1, operations of the Cesium Adsorption Apparatus has been suspended.
- Operations of the 2nd Cesium Adsorption Apparatus have been conducted; the availability factor is 45% (previously simulated: 45%).
- Storage capacity of treated water was changed as operations of new tanks started.
- Due to other work, water transfer to the buildings (Units 1-4, the Process Main Building, the High Temperature Incinerator Building) was conducted whenever necessary.
**Storage and treatment of high level radioactive accumulated water (as of August 10, 2017)**

### Classification
- High level radioactive waste/Concentrated waste liquid
- Strontium-treated water
- Treated water (Concentrated saltwater)

### Storage and treatment of high level radioactive accumulated water

#### Storage capacity
- **Concentrated waste liquid**
  - Change from last report: Storage capacity
  - Unit 1: 72m$^3$/day
  - Unit 2: 72m$^3$/day
  - Unit 3: 72m$^3$/day

#### Equipment
- **Receival tank**: Approx. 2,000m$^3$ (Freshwater)
- **Water injection tank**: Approx. 5,200m$^3$
- **Filtration water**: Approx. 1,512m$^3$ +37m$^3$
- **Reversal osmosis**: Approx. 225,400m$^3$
- **Treated water**: Approx. 819,900m$^3$

#### Breakdown of the cumulative treated amount
- Cesium adsorption apparatus: 370,290m$^3$
- 2nd Cesium adsorption apparatus: 1,439,600m$^3$

#### Breakdown of the treated amount
- **Unit 1**: Turbine Building (370,290m$^3$)
- **Unit 2**: Turbine Building (1,439,600m$^3$)

#### Breakdown of the used vessels
- **Cesium adsorption apparatus**: 758
- **2nd Cesium adsorption apparatus**: 190
- **Others**: Storage container (2,505), Used vessels (9), Filters and so forth (65)

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*1 The figures of "Storage volume" do not include those of the volumes that have accumulated from the bottom of the tanks to the height of so-called "down scale (DS)," where water gauges show 0%.

2 The figure of the data show the operational limits.

*3 The figures of "Storage capacity" do not include those of the volumes that have accumulated from the bottom of the tanks to the height of so-called "down scale (DS)," where water gauges show 0%. However, each tank has the capacity that accommodates more than the storage volume that accumulates up to the height of "DS."

*4 The figure of "Residual water" includes the one of the volumes that have accumulated from the bottom of the tanks to the height of so-called "down scale (DS)," where water gauges show 0%. The amount of the residual water of concentrated saltwater is calculated based on that of the water treated through the ALPS and other facilities.

*5 Total treated amount of Cesium adsorption apparatus and 2nd Cesium adsorption apparatus

*6 Breakdown of the treated amount: Cesium adsorption apparatus (370,290m$^3$), 2nd Cesium adsorption apparatus (1,439,600m$^3$)

Adapted from [Attachment-2](#)
Simulation Results of Accumulated Water Treatment in Units 1-4 Turbine

Accumulated Water Level in Unit 2 Turbine Building [mm] (Units 1-2 Connected)

Accumulated Water Level in Unit 3 Turbine Building [mm] (Units 3-4 Connected)

Storage Capacity of the Centralized Radioactive Waste Treatment Facility

Storage Capacity and Volume of the Concentrated Saltwater Tank

Note:
- The amount of water treated through the 2nd Cesium Adsorption Apparatus is estimated to be 780m³/day (Subject to change depending on the factors such as the levels of water accumulated in T/Bs.)
- Accumulated Water Levels in Unit 2 and 3 T/Bs Taking into Account the Rainfall are simulated water levels which are calculated by adding to the accumulated water amounts which are assumed to increase at the rate of 5mm/day when the surrounding areas of the Fukushima Daiichi Nuclear Power Station have the rainfall equal to the average of 5mm a day when the surrounding areas of the Fukushima Daiichi Nuclear Power Station have the rainfall equal to the average.
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