

**Situation of Storage and Treatment of Accumulated Water including Highly Concentrated
Radioactive Materials at Fukushima Daiichi Nuclear Power Station
(45th Release)**

May 2, 2012

Tokyo Electric Power Company

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.

<Instruction>

TEPCO should report to NISA the situation of storing and treatment of the contaminated water in the Power Station and future forecast based upon the current situation have 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 Centralized Radiation 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 amount in the Accumulated Water Storing Facility (including underpass area close to the High Temperature Incinerator Building), and other related data, as of April 24, 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&2 and Units 3&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 situation 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 amount in the Accumulated Water Storing Facilities (including underpass area close to the High Temperature Incinerator Building), and other related data as of May 8, as shown in Attachment -2.

(2) Middle term forecast

Regarding accumulated water in Unit 1&2 building and Unit 3&4 building, 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 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 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 (Unit 1 to 4 (including condensers and trenches)), and storing and treatment situations in the Accumulated Water Storing Facilities (including underpass areas close to the High Temperature Incinerator Building) for 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 May 1, 2012)

| Classification | |
|----------------|--|
| | High level radioactive water |
| | Treated water (saltwater) |
| | Treated water (concentrated saltwater) |
| | Treated water (freshwater) |
| | Freshwater |

| Storage volume | 1 | Change from last report | Storage capacity | 2 |
|--|-----------------------|-------------------------|------------------------|---|
| Concentrated saltwater receiving tank | 132,037m ³ | + 3,077m ³ | 148,800m ³ | |
| Freshwater receiving tank | 9,339m ³ 3 | + 383m ³ | 25,100m ³ 4 | |
| Concentrated waste liquid storage tank | 5,482m ³ | + 10m ³ | 9,500m ³ | |

1 Storage volume are reference data, because water levels are unstable while desalination plants and evaporative concentration apparatuses are in operation.
2 Operational upper limit

| | Chlorine density |
|---|---|
| Before/ after desalination | 2,900ppm / <4ppm (sampled on April. 24) |
| Before/ after evaporative concentration | 6,900ppm / 2ppm (sampled on Dec. 20) |

| Storage volume | change from last report | Storage volume | 2 |
|--------------------------|-------------------------|--------------------|---------------------|
| Waste liquid supply tank | 948m ³ | + 95m ³ | 1,200m ³ |
| SPT(B) | 1,327m ³ | +117m ³ | 3,100m ³ |

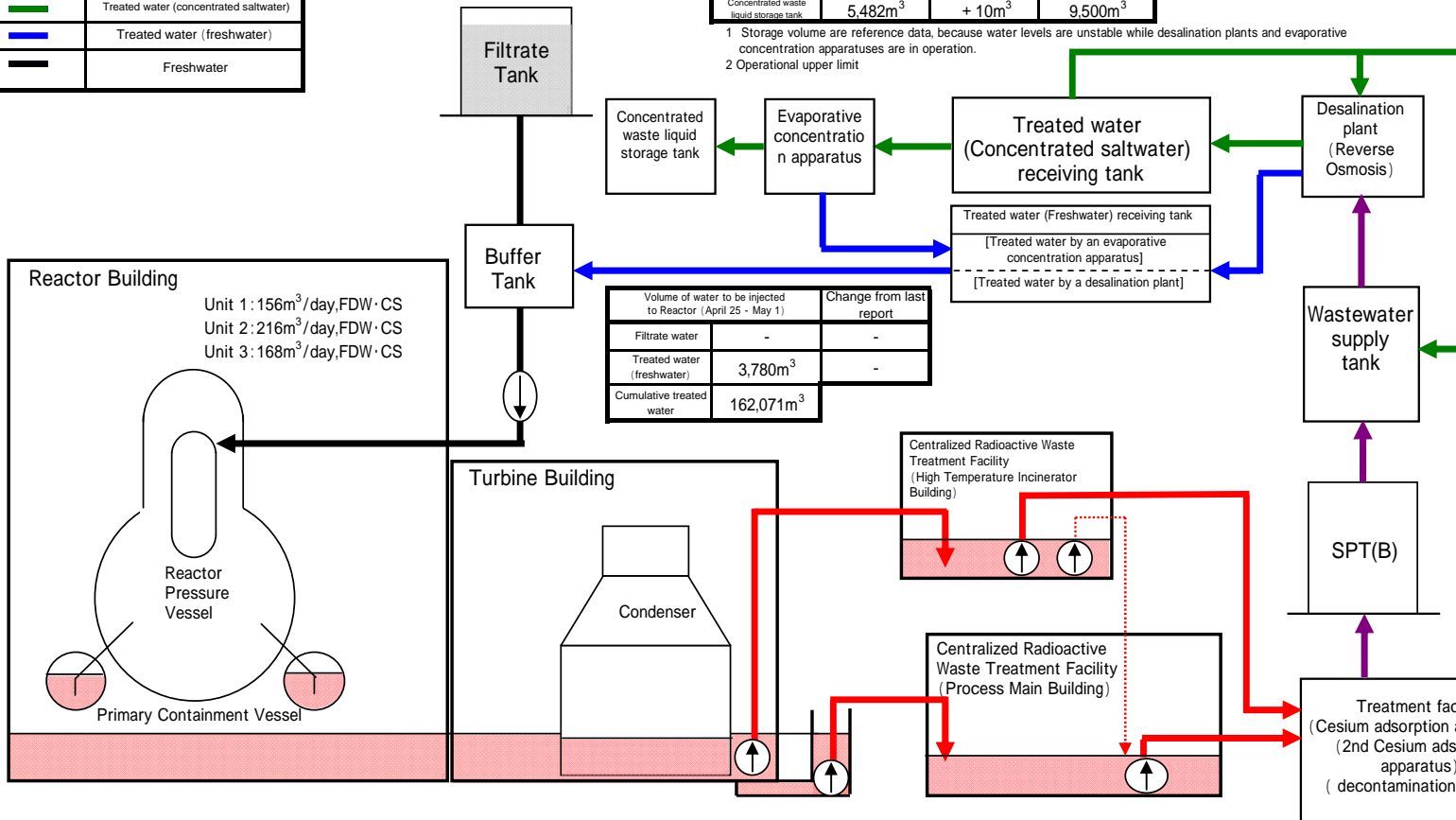
2 Operational Upper limit

| Place of sampling | Radioactivity density | 5 |
|--|----------------------------|------------------------|
| Process Main Building | 1.3E+05 Bq/cm ³ | (sampled on April. 24) |
| Exit of cesium adsorption apparatus | 8.0E+00 Bq/cm ³ | (sampled on April. 24) |
| Exit of decontamination facility | - | |
| High Temperature Incinerator Building | 8.9E+04 Bq/cm ³ | (sampled on April. 24) |
| Exit of second cesium adsorption apparatus | 8.6E-01 Bq/cm ³ | (sampled on April. 24) |

5 Data of Cs-137 are described above.

| Nuclide | DF | 6,7 |
|---------|---------|-------------|
| I-131 | - | (-) |
| Cs-134 | 1.5E+04 | (9.0E+04) |
| Cs-137 | 1.6E+04 | (1.0E+05) |

6 Data sampled on April 24 (operations of cesium adsorption facility - decontamination facility)
7 Data in parentheses are those sampled on April 24 (operation of the 2nd Cesium adsorption apparatus)



| Volume of water to be injected to Reactor (April 25 - May 1) | | Change from last report |
|--|-----------------------|-------------------------|
| Filtrate water | - | - |
| Treated water (freshwater) | 3,780m ³ | - |
| Cumulative treated water | 162,071m ³ | |

| Facility | Storage volume | Change from last report | Water level in T/B |
|----------|-----------------------------|-------------------------|--------------------|
| Unit 1 | approx.13,700m ³ | 500m ³ | OP.2,628 |
| Unit 2 | approx.21,500m ³ | 600m ³ | OP.2,986 |
| Unit 3 | approx.24,100m ³ | - | OP.3,110 |
| Unit 4 | approx.18,800m ³ | - | OP.3,106 |
| Total | approx.78,100m ³ | | |

| Storage Facility | Storage volume | Change from last report | Water level | Treated volume (April 25-5/1) | Cumulative treated | Waste produced | | Change from last report | Storage capacity |
|---------------------------------------|-----------------------------|-------------------------|-------------|-------------------------------|--------------------------------|----------------|-------------------|-------------------------|---------------------|
| | | | | | | Sludge | Used vessels | | |
| Process Main Building | approx.12,120m ³ | 100m ³ | OP.3,013 | approx.7,360m ³ 8 | approx.315,980m ³ 8 | Sludge | 581m ³ | - | 700m ³ 2 |
| High Temperature Incinerator Building | approx.5,000m ³ | +240m ³ | OP.3,557 | | | Used vessels | 411 9 | + 6 | 1,137 10 |
| Total | approx.17,120m ³ | | | | | | | | |

2 Shows the operational limit.
8 Including approx. 6,630m³ (cumulative treated volume: approx.161,750m³) of treated volume by the 2nd Cesium adsorption apparatus.
9 Including 42 used vessels of 2nd Cesium adsorption apparatus.
10 Storage capacity will vary according to stored used vessels of 2nd Cesium adsorption apparatus.

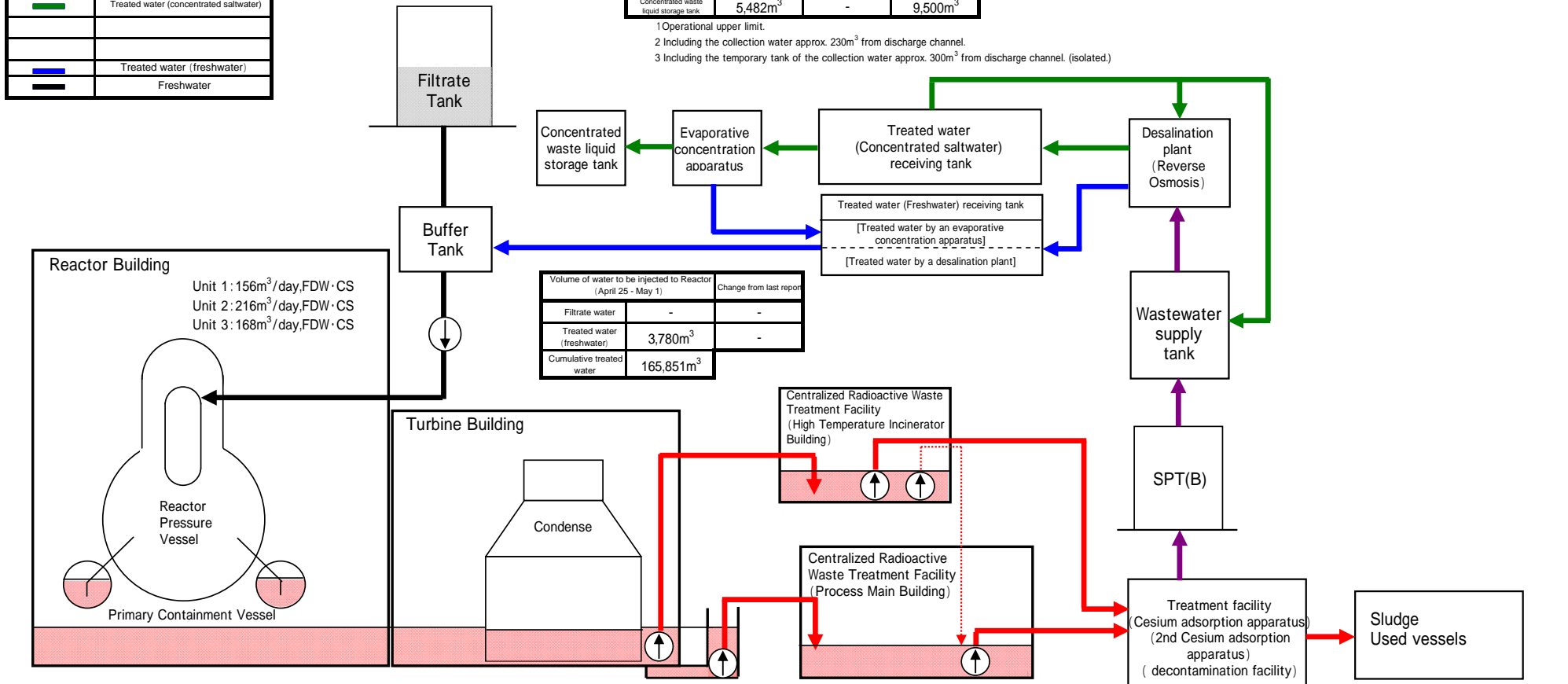
- Note:
- * The previous update was reported as of April 24, 2012
 - * Water transfer from Unit 2 to High Temperature Incinerator Building is under operation.
 - * On April 26, water transfer from Unit 3 to High Temperature Incinerator Building was resumed and is under operation.
 - * The two line operation was conducted for Cesium Adsorption Apparatus and 2nd Cesium Adsorption Apparatus. (Capacity factor for Cesium Adsorption Apparatus: 8.7% (Projected: 10%), Capacity factor for 2nd Cesium Adsorption Apparatus: 78.9% (Projected: 75%)(Ref.))
 - * On April 25, 26, water transfer from the trench between Process Main Building and High Temperature Incinerator Building to High Temperature Incinerator Building was conducted.
 - * On April 26, Cesium Absorption Instrument was stopped.
 - * From April 27 to 29, water transfer from #1 T/B to #2 T/B was conducted.
 - * On April 28, water was transferred from On-site Banker Building to Process Main Building.
 - * Change of the reservoir capacity of Concentrated Salt Water Tank due to the augmentation of tanks.

Storage and treatment of high level radioactive accumulated water (assumed situations as of May 8, 2012)

| Classification | |
|---------------------------------------|--|
| █ | High level radioactive water |
| █ | Treated water (saltwater) |
| █ | Treated water (concentrated saltwater) |
| █ | Treated water (freshwater) |
| █ | Freshwater |

| Storage volume | | Change from last report | Storage capacity ¹ |
|--|-----------------------|-------------------------|-------------------------------|
| Concentrated saltwater receiving tank | 135,061m ³ | + 3,024m ³ | 148,800m ³ |
| Freshwater receiving tank | 9,255m ³ | 84m ³ | 25,100m ³ |
| Concentrated waste liquid storage tank | 5,482m ³ | - | 9,500m ³ |

- 1 Operational upper limit.
- 2 Including the collection water approx. 230m³ from discharge channel.
- 3 Including the temporary tank of the collection water approx. 300m³ from discharge channel. (isolated)



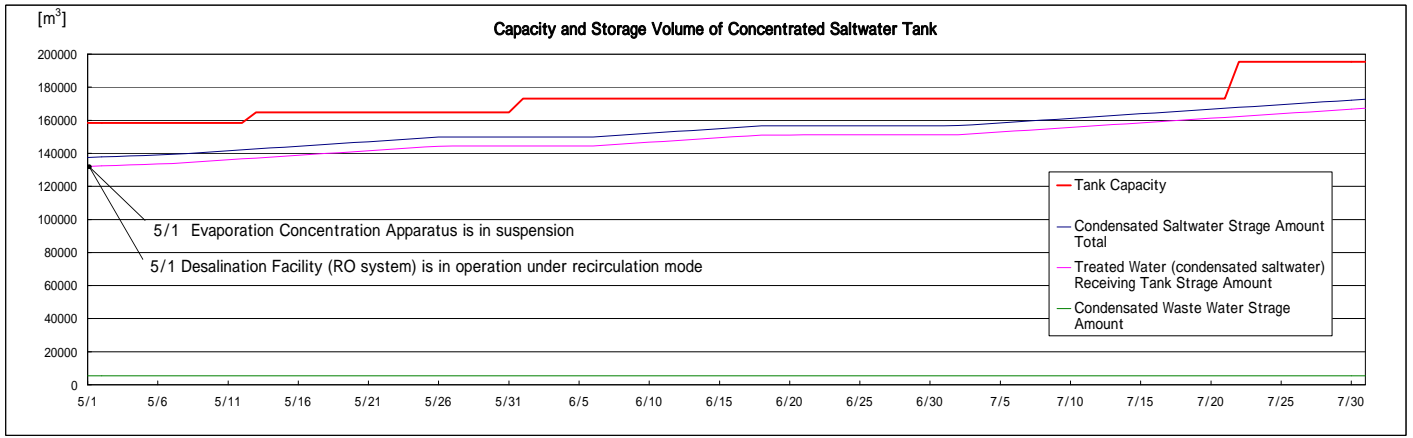
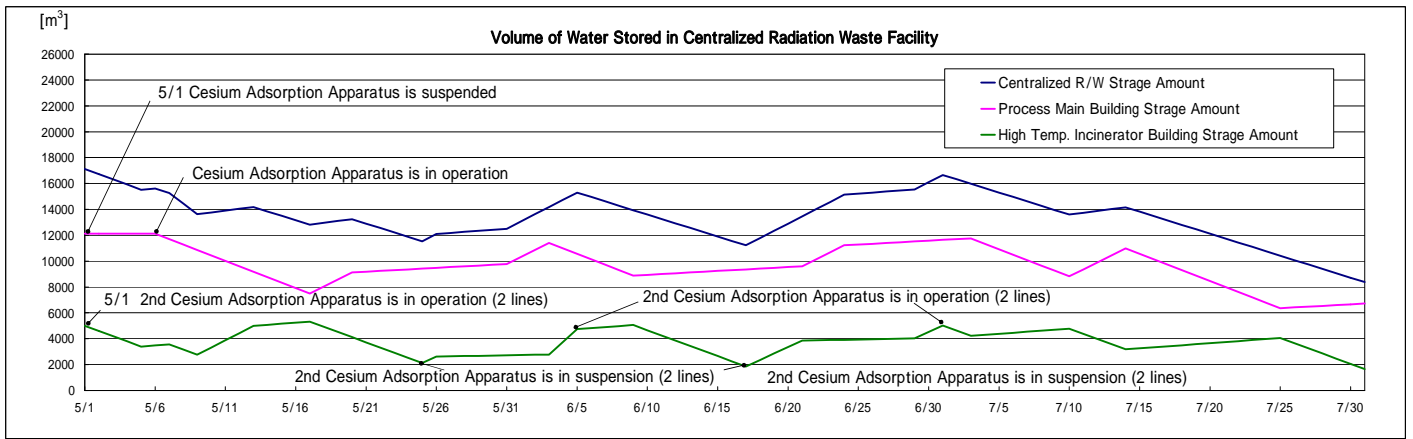
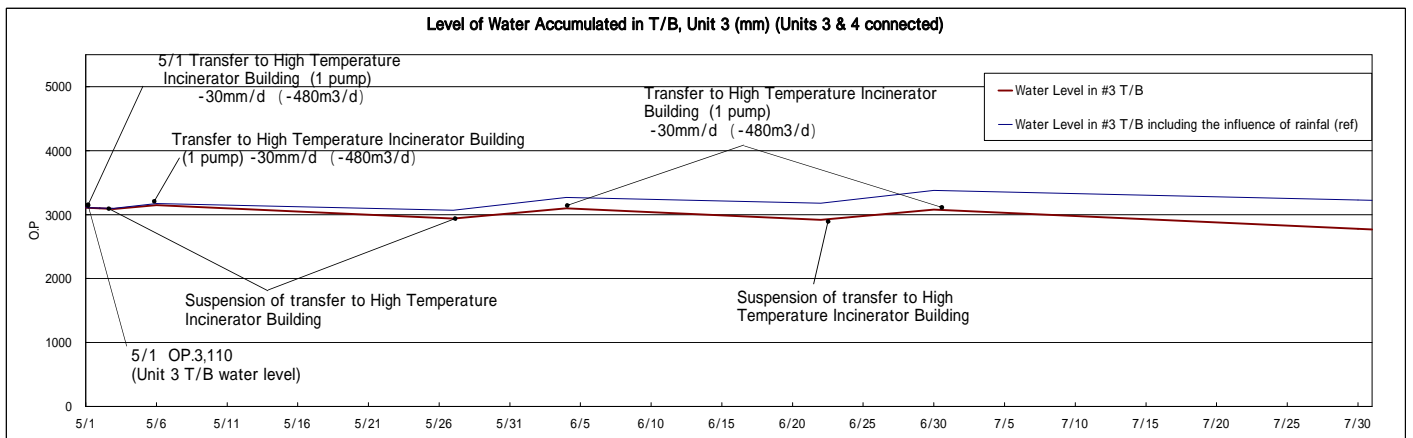
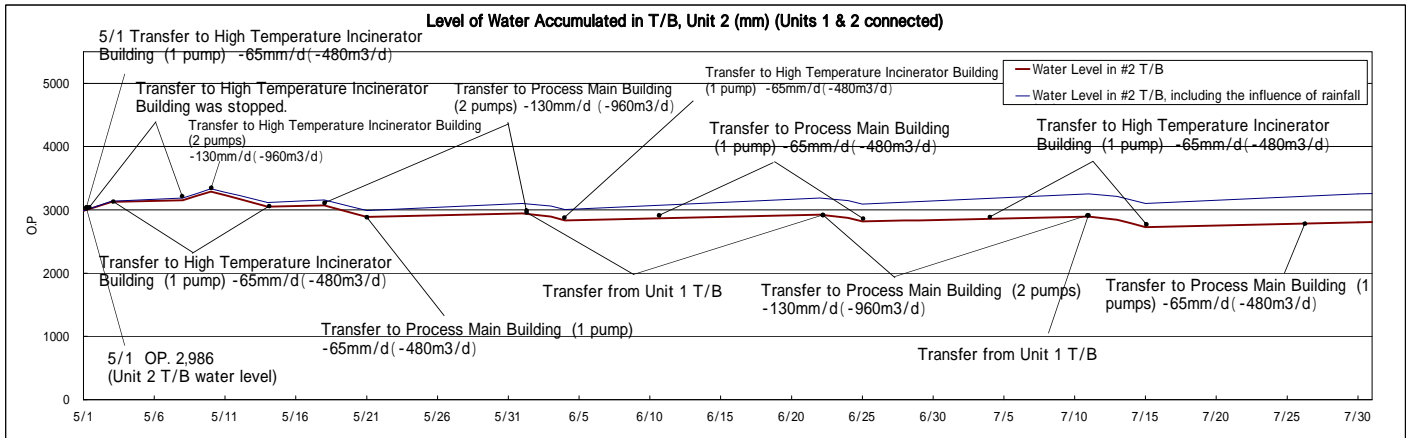
| Volume of water to be injected to Reactor (April 25 - May 1) | | |
|--|-------------------------|---|
| | Change from last report | |
| Filtrate water | - | - |
| Treated water (freshwater) | 3,780m ³ | - |
| Cumulative treated water | 165,851m ³ | |

| Facility | Storage volume | Change from last report | Water level in T/B |
|--------------|-----------------------------------|-------------------------|----------------------|
| Unit 1 | approx.13,900m ³ | + 200m ³ | OP,3,149 (Unit2 T/B) |
| Unit 2 | approx.22,600m ³ | + 1,100m ³ | |
| Unit 3 | approx.24,200m ³ | + 100m ³ | OP,3,129 (Unit3 T/B) |
| Unit 4 | approx.18,900m ³ | + 100m ³ | |
| Total | approx.79,600m³ | | |

| Storage Facility | Storage volume | Change from last report | Water level | Treated volume (May 2- 8) | Cumulative treated | Waste produced | Change from last report | Storage capacity |
|---------------------------------------|-----------------------------------|-------------------------|-------------|----------------------------|------------------------------|----------------|-------------------------|---------------------|
| Process Main Building | approx.11,750m ³ | 370m ³ | OP,2,903 | approx.6,720m ³ | approx.315,760m ³ | Sludge | 581m ³ | 700m ³ 1 |
| High Temperature Incinerator Building | approx.3,270m ³ | 1,730m ³ | OP,2,125 | | | Used vessels | 413本 5 | 1,137 6 |
| Total | approx.15,020m³ | | | | | | | |

- 1 Shows the operational limit.
- 4 Including approx. 6,300m³ (cumulative treated volume: approx.161,420m³) of treated volume by the 2nd Cesium adsorption apparatus.
- 5 Including 42 used vessels of 2nd Cesium adsorption apparatus.
- 6 Storage capacity will vary according to stored used vessels of 2nd Cesium adsorption apparatus.

Note:
 ·Water transfer from Unit 2 to High Temperature Incinerator Building is scheduled to be suspended.
 ·Water transfer from Unit 3 to High Temperature Incinerator Building is scheduled to be suspended.
 ·The two line operation utilizing Cesium Adsorption Apparatus and 2nd Cesium Adsorption Apparatus is scheduled. (Capacity factor for Cesium Adsorption Apparatus: 5%, Capacity factor for 2nd Cesium Adsorption Apparatus: 75.0%(Ref.))
 ·On May 7, Cesium Adsorption Apparatus is scheduled.



Note: - Amount of water treatment is assumed to be 1,320m3/d (It can be adjusted according to level of accumulated water in T/B.)
 - Assume 5mm increase per day of accumulated water level of T/B including influences of rainfall considering 3-year-averaged rainfall near 1F from August to October.