

**Situation of Storage and Treatment of Accumulated Water including Highly Concentrated
Radioactive Materials at Fukushima Daiichi Nuclear Power Station
(35th Release)**

February 22, 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 (Unit 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 February 21, 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 Unit 1&2 and Unit 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 (Unit 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 February 28, 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 February 21, 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	105,347m ³ +2,806m ³	130,900m ³
Freshwater receiving tank	6,375m ³ ▲391m ³	25,100m ³
Concentrated waste liquid storage tank	5,442m ³ ▲5m ³	9,500m ³

Chlorine density	
Before/ after desalination	2,100ppm / 3ppm (sampled on Jan. 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	921m ³ ▲70m ³	1,200m ³
SPT(B)	927m ³ ▲185m ³	3,100m ³

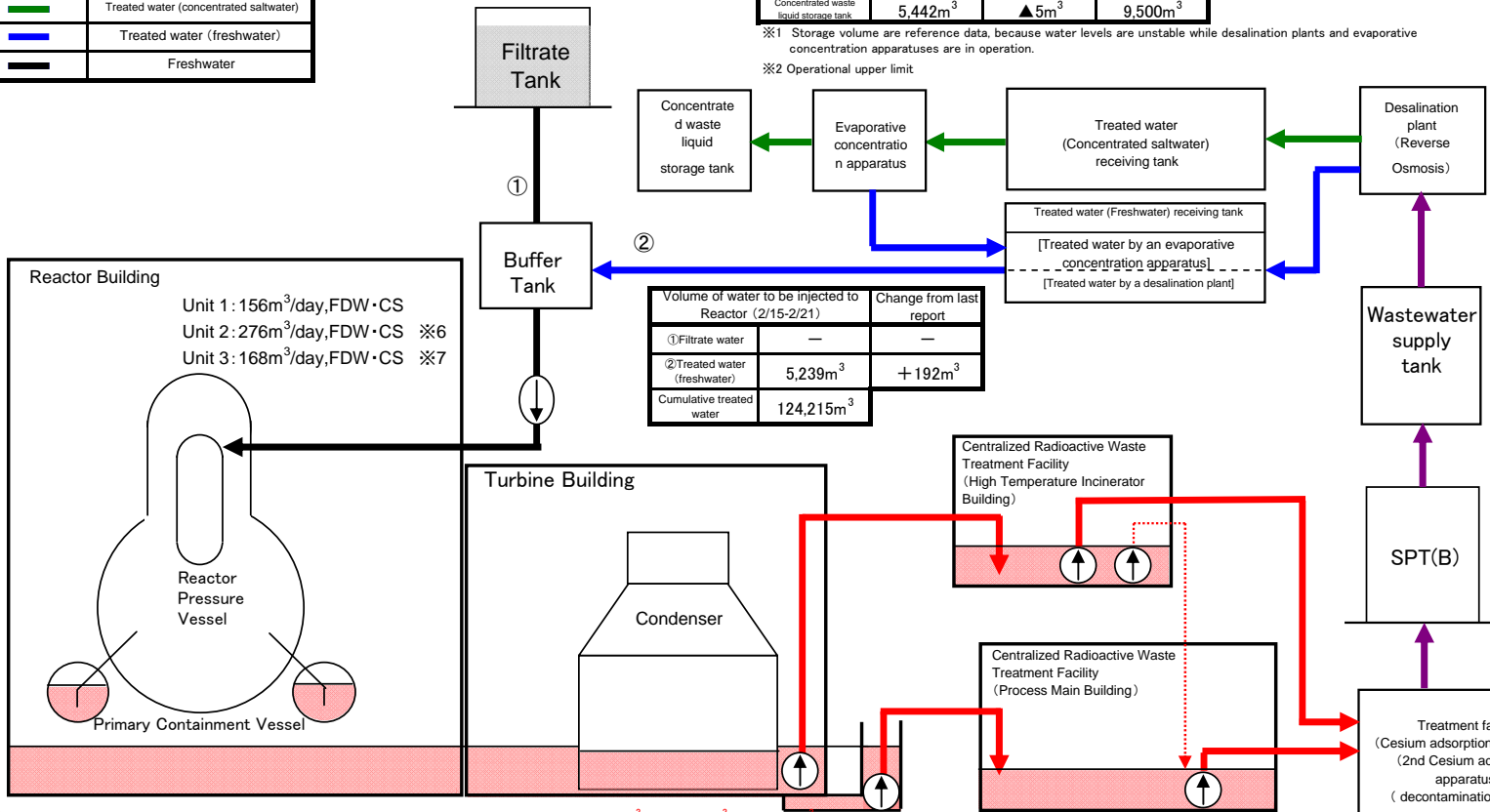
※2 Operational Upper limit

Place of sampling	Radioactivity density ※3
Process Main Building	2.8E+05 Bq/cm ³ (sampled on Jan.24)
Exit of cesium adsorption apparatus	4.6E+00 Bq/cm ³ (sampled on Jan.24)
Exit of decontamination facility	—
High Temperature Incinerator Building	2.5E+05 Bq/cm ³ (sampled on Jan.24)
Exit of second cesium adsorption apparatus	6.1E-01 Bq/cm ³ (sampled on Jan.24)

※3 Data of Cs-137 are described above.

Nuclide	DF ※4,5
I-131	— (—)
Cs-134	6.0E+04 (2.2E+05)
Cs-137	6.1E+04 (4.1E+05)

※4 Data sampled on Jan.24 (operations of cesium adsorption facility – decontamination facility)
 ※5 Data in parentheses are those sampled on Jan.24 (operation of the 2nd Cesium adsorption apparatus)



Volume of water to be injected to Reactor (2/15-2/21)	Change from last report
① Filtrate water	—
② Treated water (freshwater)	+192m ³
Cumulative treated water	124,215m ³

※6 Amount of water injection to the reactor was changed as follows on February 19 and 20; 420m³/day→324m³/day→276m³/day.
 ※7 Amount of water injection to the reactor was changed as follows on February 17 and 19; 216m³/day→192m³/day→168m³/day.

Facility	Storage volume	Change from last report	Water level in T/B	Transfer to
Unit 1	approx. 14,100m ³	+50m ³	OP.3,105	High Temperature Incinerator Building
Unit 2	approx. 22,000m ³	+700m ³	OP.3,062	
Unit 3	approx. 23,800m ³	+400m ³	OP.3,036	High Temperature Incinerator Building
Unit 4	approx. 18,300m ³	+200m ³	OP.3,041	
Total	approx. 78,200m ³			

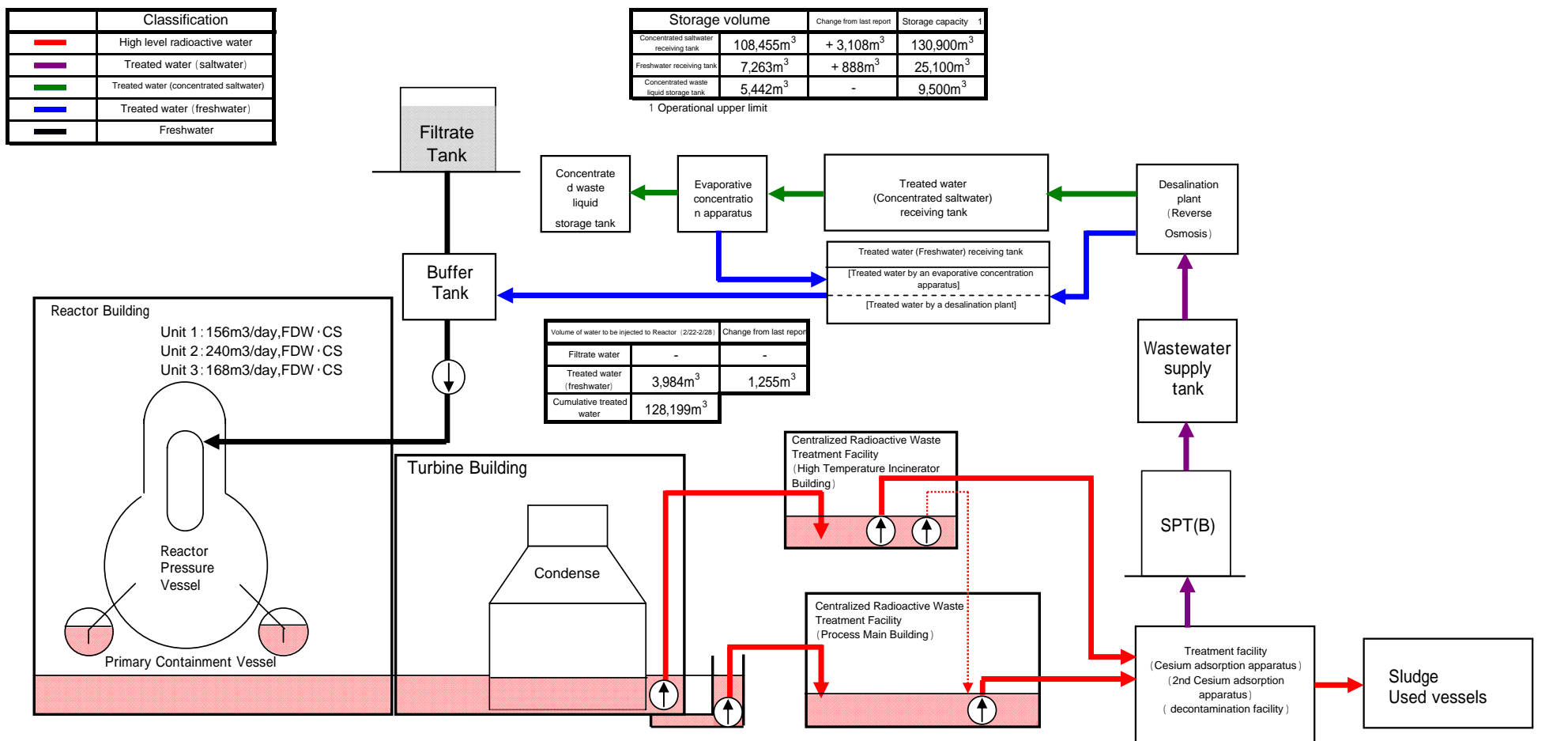
Storage Facility	Storage volume	Change from last report	Water level	Treated volume (2/15-2/21)	Cumulative treated volume	Waste produced	Change from last report	Storage capacity
Process Main Building	approx. 9,920m ³	▲1120m ³	OP.2,381	Approx. 8,010m ³ ※8	Approx. 246,810m ³ ※8	Sludge	581m ³	700 ※2
High Temperature Incinerator Building	approx. 4,490m ³	▲420m ³	OP.3,135			Used vessels	358 ※9	+8
Total	approx. 14,410m ³							

※2 Shows the operational limit.
 ※8 Including approx. 5,420m³ (cumulative treated volume: approx. 112,560m³) of treated volume by the 2nd Cesium adsorption apparatus.
 ※9 Including 32 used vessels of 2nd Cesium adsorption apparatus.
 ※10 Storage capacity will vary according to stored used vessels of 2nd Cesium adsorption apparatus.

Note:

- Last report as of February 14, 2012
- Water transferred from Unit 2 and 3 to Process Main Building and Temperature Incinerator Building.
 (On February 16, transfer from Unit 3 to Process Main Building was stopped. From February 20, transfer from Unit 3 to High Temperature Incinerator Building was started.)
- First Cesium adsorption apparatus and 2nd Cesium adsorption apparatus have been operated in parallel (First facility utilization factor: 30.8% (Plan: 35%), Second facility utilization factor: 64.5% (Plan 60%) (reference))
- On February 20, water transferred from outlet valve pit of Unit 2 circulating water pump to Unit 2 Turbine Building.

Storage and treatment of high level radioactive accumulated water (assumed situations as of February 28, 2012)



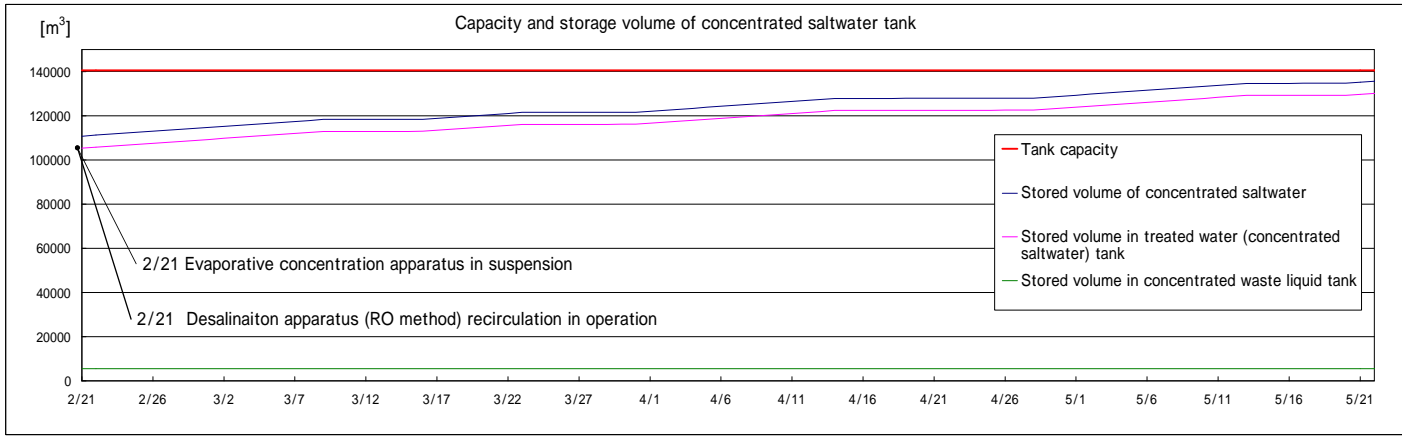
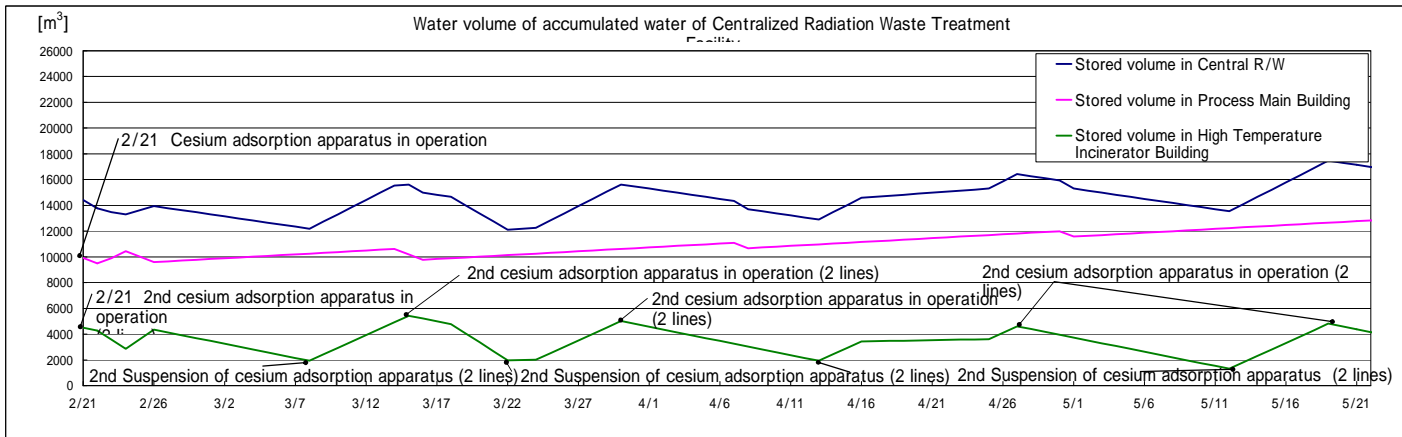
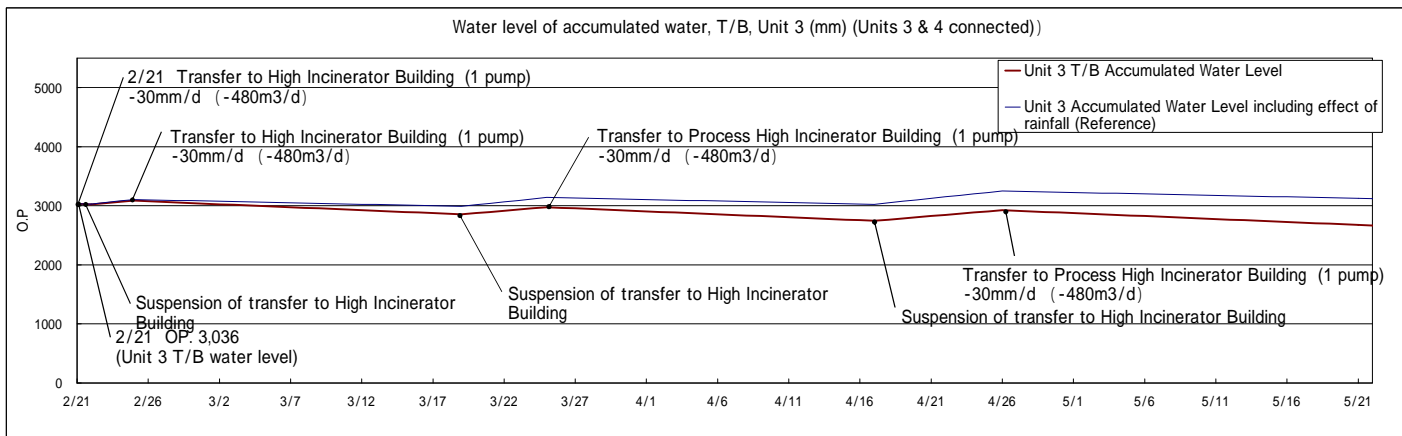
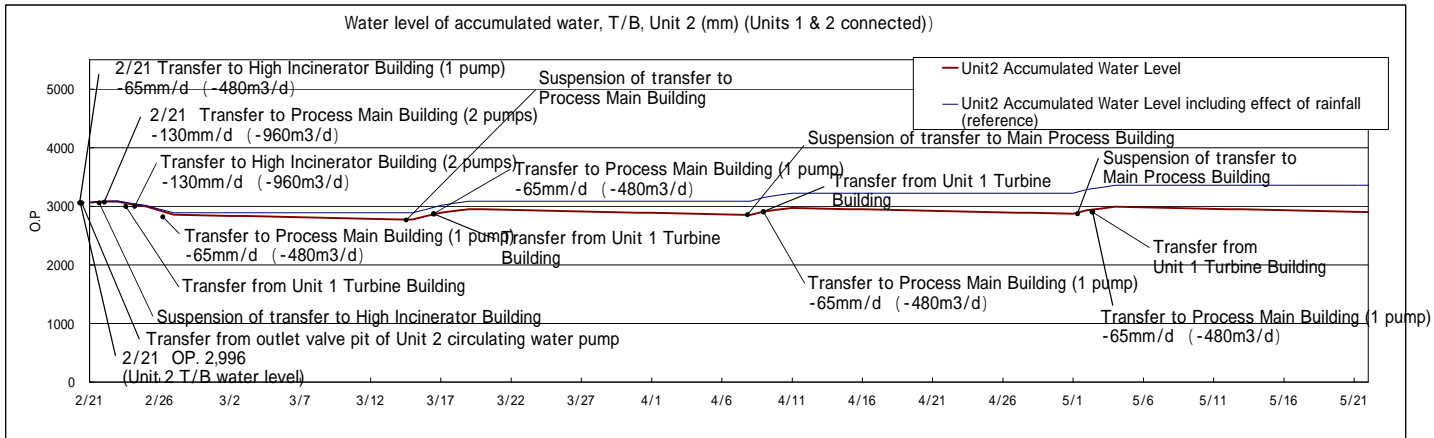
Facility	Storage volume	Change from last report	Water level in T/B	Transfer to
Unit 1	approx. 13,900m ³	200m ³	OP.2,846 (Unit 2 T/B)	Process Main Building
Unit 2	approx. 20,500m ³	1,500m ³	OP.3,055 (Unit 3 T/B)	High Temperature Incinerator Building
Unit 3	approx. 23,900m ³	+ 100m ³		
Unit 4	approx. 18,500m ³	+ 200m ³		
Total	approx. 76,800m ³			

Storage Facility	Storage volume	Change from last report	Water level	Treated volume (2/22-2/28)	Cumulative treated volume	Waste produced	Change from last report	Storage capacity
Process Main Building	approx. 9,190m ³	730m ³	OP.2,174	7,980m ³	approx.254,790m ³ ²	Sludge	581m ³	700m ³
High Temperature Incinerator Building	approx. 4,550m ³	+ 60m ³	OP.3,182	2		Used vessels	362 3	+ 4
Total	approx. 13,740m ³							

- 1 Shows the operational limit.
- 2 Including approx. 5,040m³ (cumulative treated volume: approx.117,600m³) of treated volume by the 2nd Cesium adsorption apparatus.
- 3 Including 32 used vessels of 2nd Cesium adsorption apparatus.
- 4 Storage capacity will vary according to stored used vessels of 2nd Cesium adsorption

Note:

- Transfer from Unit 2 and 3 to Process Main Building and High Temperature Incinerator Building is planned.
- (Water transfer from Unit 2 to High Temperature Incinerator Building will be suspended and re-started the transfer to Process Main Building and High Temperature Incinerator Building. The transfer from Unit 3 to High Temperature Incinerator Building will be temporarily suspended.)
- First Cesium adsorption apparatus and 2nd Cesium adsorption apparatus are planned to be operated in parallel (Planned facility utilization factor of the First: 35%, Planned facility utilization factor of the Second: 60%) (reference))
- Water is planned to be transferred from outlet valve pit of Unit 2 circulating water pump to Unit 2 Turbine Building.
- Transfer from Unit 1 Turbine Building to Unit 2 Turbine Building is planned.



Note: - Amount of water treatment is assumed to be 1,140m³/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.