

**Situation of Storing and Treatment of Accumulated Water including Highly Concentrated
Radioactive Materials at Fukushima Daiichi Nuclear Power Station
(34th Release)**

February 15, 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 14, 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 not exceed 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 21, 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 below 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 14, 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	102,541m ³ + 3,122m ³	130,900m ³
Freshwater receiving tank	6,766m ³ 976m ³	25,100m ³
Concentrated waste liquid storage tank	5,447m ³ + 5m 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	2,100ppm / 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	991m ³ + 66m ³	1,200m ³
SPT(B)	1112m ³ + 164m ³	3,100m ³

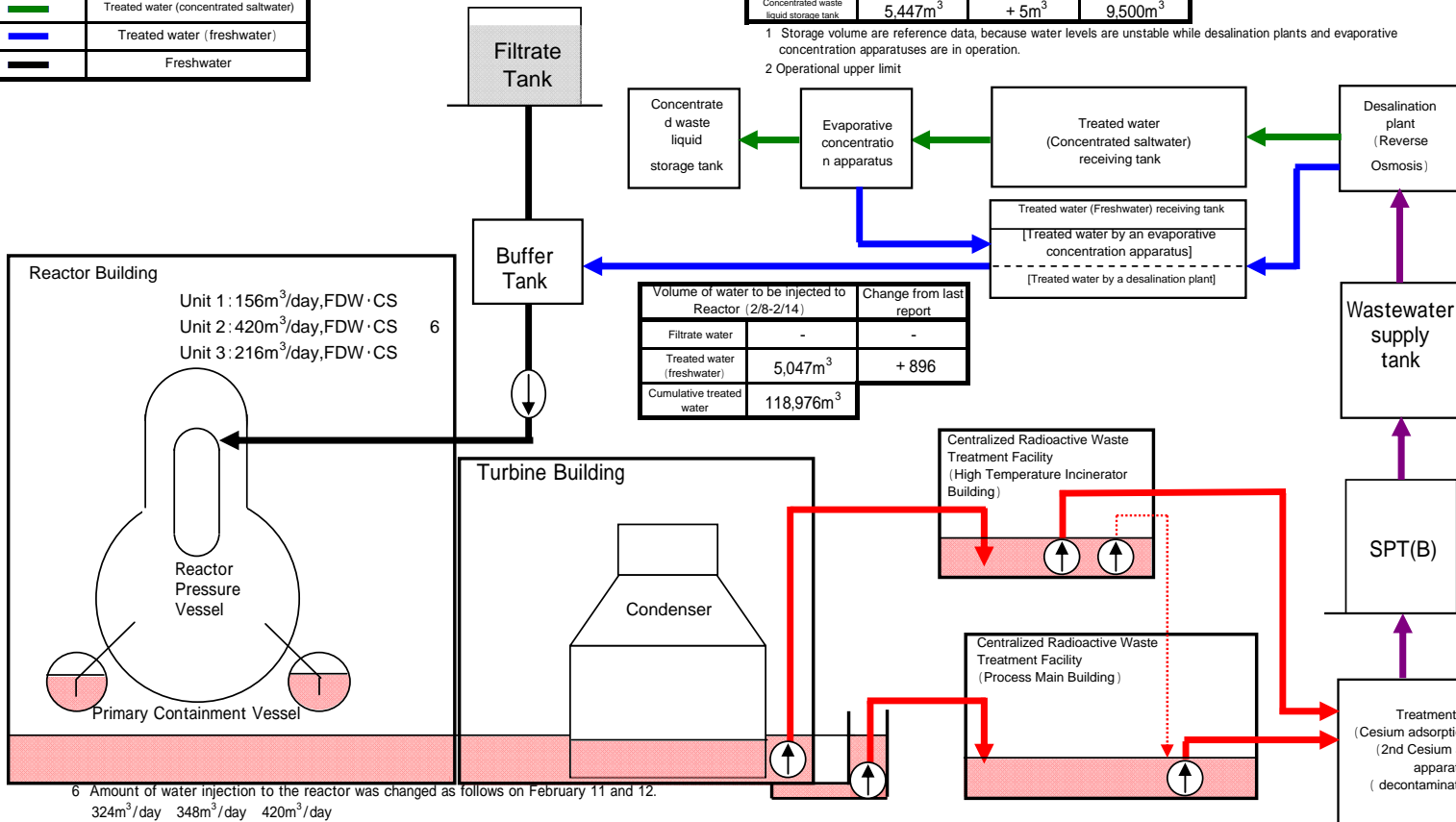
2 Operational Upper limit

Place of sampling	Radioactivity density 3
Process Main Building	2.8E+05 Bq/cm3 (sampled on Jan.24)
Exit of cesium adsorption apparatus	4.6E+00 Bq/cm3 (sampled on Jan.24)
Exit of decontamination facility	-
High Temperature Incinerator Building	2.5E+05 Bq/cm3 (sampled on Jan.24)
Exit of second cesium adsorption apparatus	6.1E-01 Bq/cm3 (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)



6 Amount of water injection to the reactor was changed as follows on February 11 and 12.
 324m³/day 348m³/day 420m³/day

Volume of water to be injected to Reactor (2/8-2/14)	Change from last report
Filtrate water	-
Treated water (freshwater)	5,047m ³ + 896
Cumulative treated water	118,976m ³

Facility	Storage volume	Change from last report	Water level in T/B	Transfer to
Unit 1	approx. 14,050m ³	+ 50m ³	OP.2,996	High Temperature Incinerator Building
Unit 2	approx. 21,300m ³	700m ³	OP.2,953	
Unit 3	approx. 23,400m ³	+ 500m ³	OP.2,996	Process Main Building
Unit 4	approx. 18,100m ³	+ 500m ³	OP.3,007	
Total	approx. 76,850m ³			

Storage Facility	Storage volume	Change from last report	Water level	Treated volume (2/8-2/14)	Cumulative treated volume	Waste produced	Change from last report	Storage capacity
Process Main Building	approx. 11,040m ³	1210m ³	OP.2,701	Approx. 8,020m ³	Approx. 238,800m ³	Sludge	581m ³	700 2
High Temperature Incinerator Building	approx. 4,910m ³	+ 130m ³	OP.3,479	7	7	Used vessels	350 8	1,137 9
Total	approx. 15,950m ³							

2 Shows the operational limit.
 7 Including approx. 5,190m³ (cumulative treated volume: approx. 107,140m³) of treated volume by the 2nd Cesium adsorption apparatus.
 8 Including 30 used vessels of 2nd Cesium adsorption apparatus.
 9 Storage capacity will vary according to stored used vessels of 2nd Cesium adsorption apparatus.

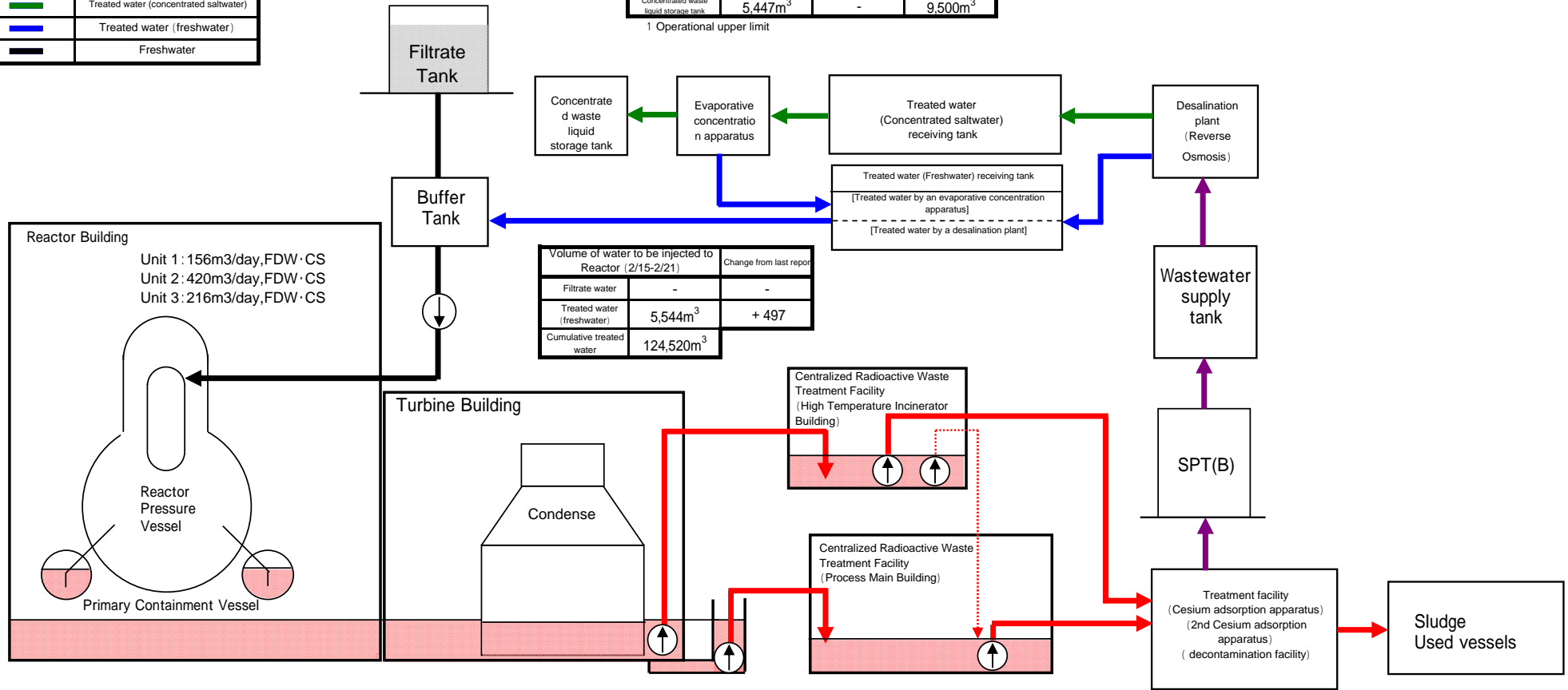
Note:
 - Last report as of February 7, 2012
 - Water transferred from Unit 2 and 3 to Process Main Building and Temperature Incinerator Building.
 (On February 7, transfer from Unit 2 to High Temperature Incinerator Building was restarted. From February 10, transfer from Unit 2 to High Temperature Incinerator Building was suspended and transfer after the restart was operated by 2 pumps. From February 7 to 12, transfer from Unit 3 to High Temperature Incinerator Building was suspended and from February 12, the transfer from Unit 3 to Process Main Building was operated.)
 - First Cesium adsorption apparatus and 2nd Cesium adsorption apparatus have been operated in parallel (First facility utilization factor: 33.7% (Plan: 35%), Second facility utilization factor: 61.8% (Plan 60%) (reference))
 - On February 10, water transferred from On-site Bunker Building to Process Main Building.

Storage and treatment of high level radioactive accumulated water (assumed situations as of February 21, 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	105,649m ³	+ 3,108m ³	130,900m ³	
Freshwater receiving tank	6,094m ³	672	25,100m ³	
Concentrated waste liquid storage tank	5,447m ³	-	9,500m ³	

¹ Operational upper limit



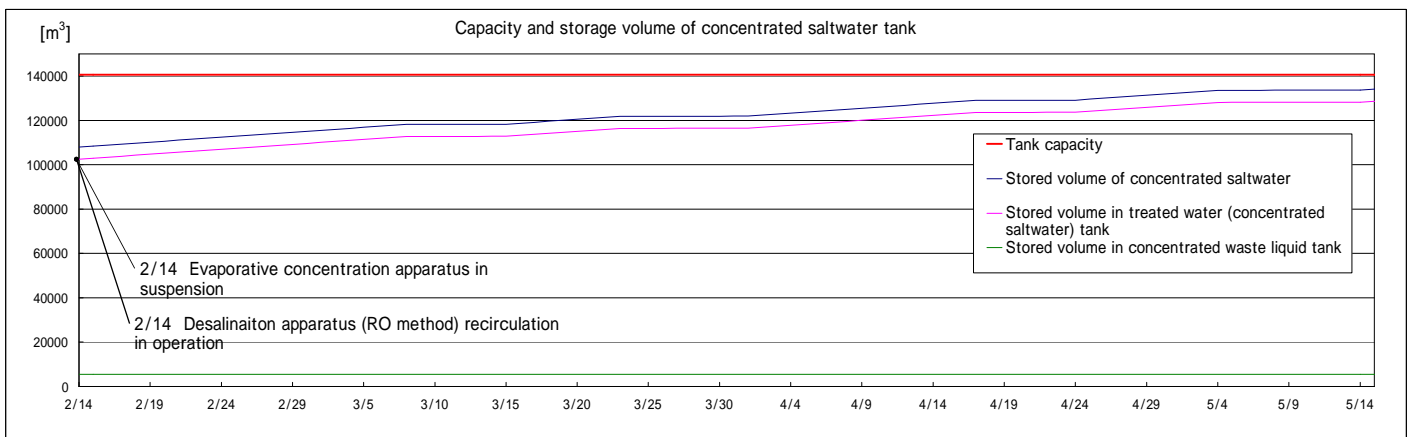
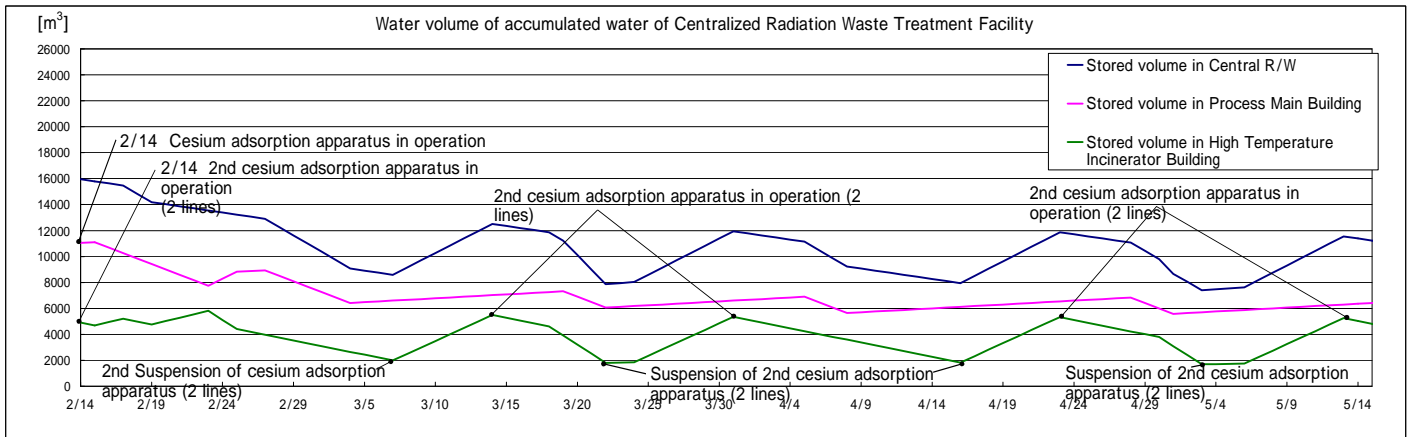
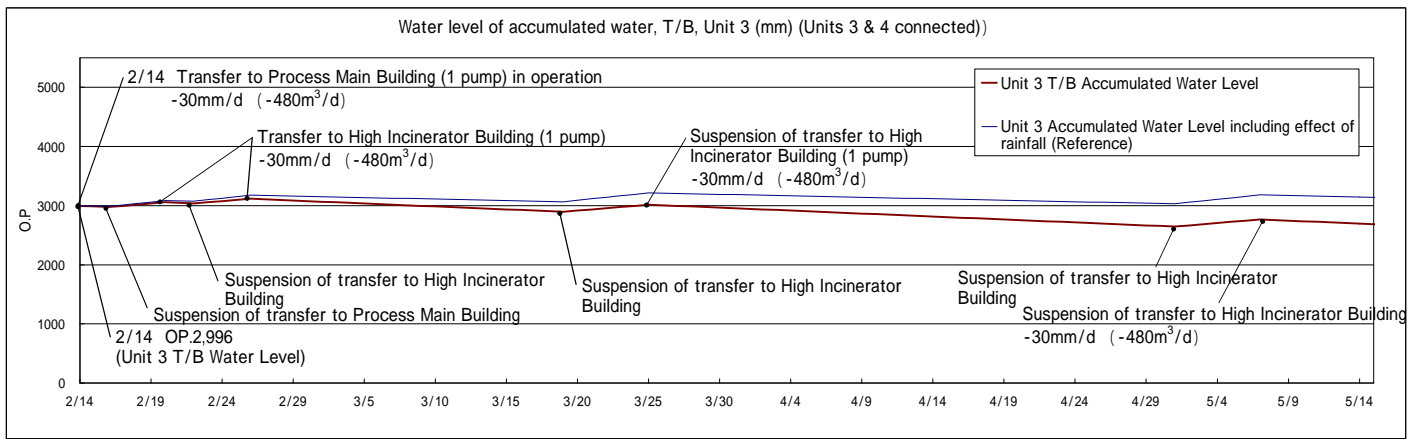
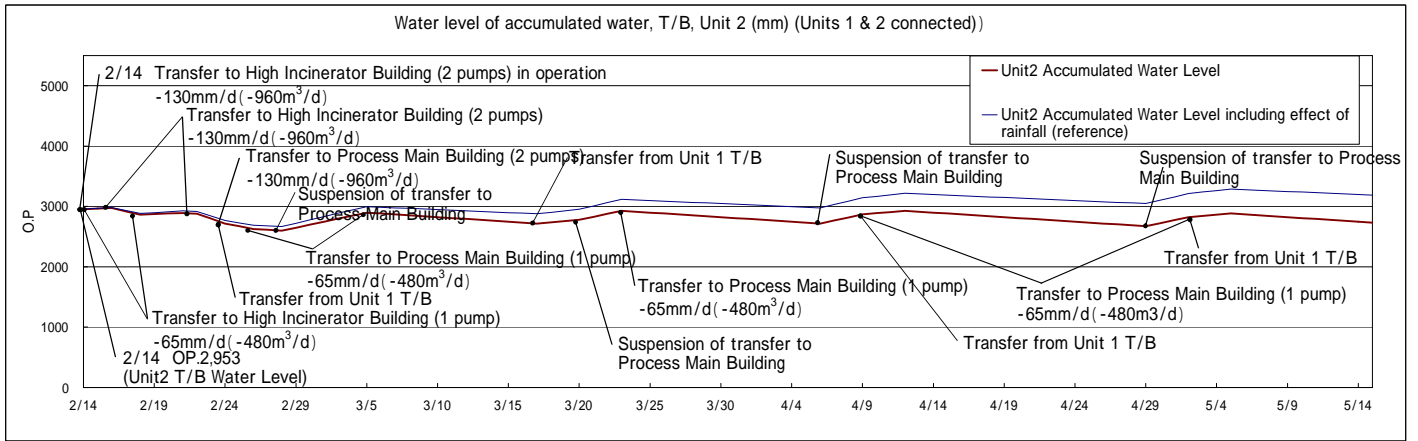
Volume of water to be injected to Reactor (2/15-2/21)		Change from last report
Filtrate water	-	-
Treated water (freshwater)	5,544m ³	+ 497
Cumulative treated water	124,520m ³	

Facility	Storage volume	Change from last report	Water level in T/B	Transfer to
Unit 1	approx. 14,080m ³	+ 30m ³	OP.2,887 (Unit 2 T/B)	High Temperature Incinerator Building
Unit 2	approx. 20,800m ³	500m ³		High Temperature Incinerator Building
Unit 3	approx. 23,800m ³	+ 400m ³	OP.3,047 (Unit 3 T/B)	High Temperature Incinerator Building
Unit 4	approx. 18,400m ³	+ 300m ³		High Temperature Incinerator Building
Total	approx. 77,080m³			

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. 9,080m ³	1,960m ³	OP.2,142	7,980m ³	approx.246,780m ³	Sludge	581m ³	-	700m ³
High Temperature Incinerator Building	approx. 4,950m ³	+ 40m ³	OP.3,515	2	2	Used vessels	358 3	+ 8	1,137 4
Total	approx. 14,030m³								

- Shows the operational limit.
- Including approx. 5,040m³ (cumulative treated volume: approx. 112,180m³) of treated volume by the 2nd Cesium adsorption apparatus.
- Including 32 used vessels of 2nd Cesium adsorption apparatus.
- 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 is planned. The transfer from Unit 3 to temporarily suspended, and after the resume, it is planned to transfer to Process Main Building.)
 · 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)



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 in case we consider 3-year-averaged rainfall near 1F from August to October.