Situation of Storing and Treatment of Accumulated Water including Highly Concentrated Radioactive Materials at Fukushima Daiichi Nuclear Power Station
(15th Release)

October 5, 2011
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 October 4, 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 and 2 and Unit 3 and 4 building will not exceed OP. 3,000, based on the stored amount in the Accumulated Water Storing Facility and the operating situation of the radioactive material treatment equipment. Water is transferred to the Process Main Building in principle, by securing enough capacity for stably accepting accumulated water in the Process Main Building.

Hence, priority for treatment is placed on the accumulated water in the Process Main Building in order to reserve the capacity for accepting the accumulated water in the building.

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 Facility (including underpass area close to the High Temperature Incinerator Building), and other related data on October 4, as shown in Attachment -2.

(2) Middle term forecast

Regarding accumulated water in Unit 1 and 2 building and Unit 3 and 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.

We are transferring accumulated water keeping its level in the building below OP. 3,000 considering water injection amount increase to keep the reactor cold shutdown.

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 Facility (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.

Also, the water treated at the radioactive material treatment equipment can be stored in the middle and low level waste water tanks, which are currently being installed.

END

Storage and treatment of high level radioactive accumulated water (as of October 4, 2011)

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

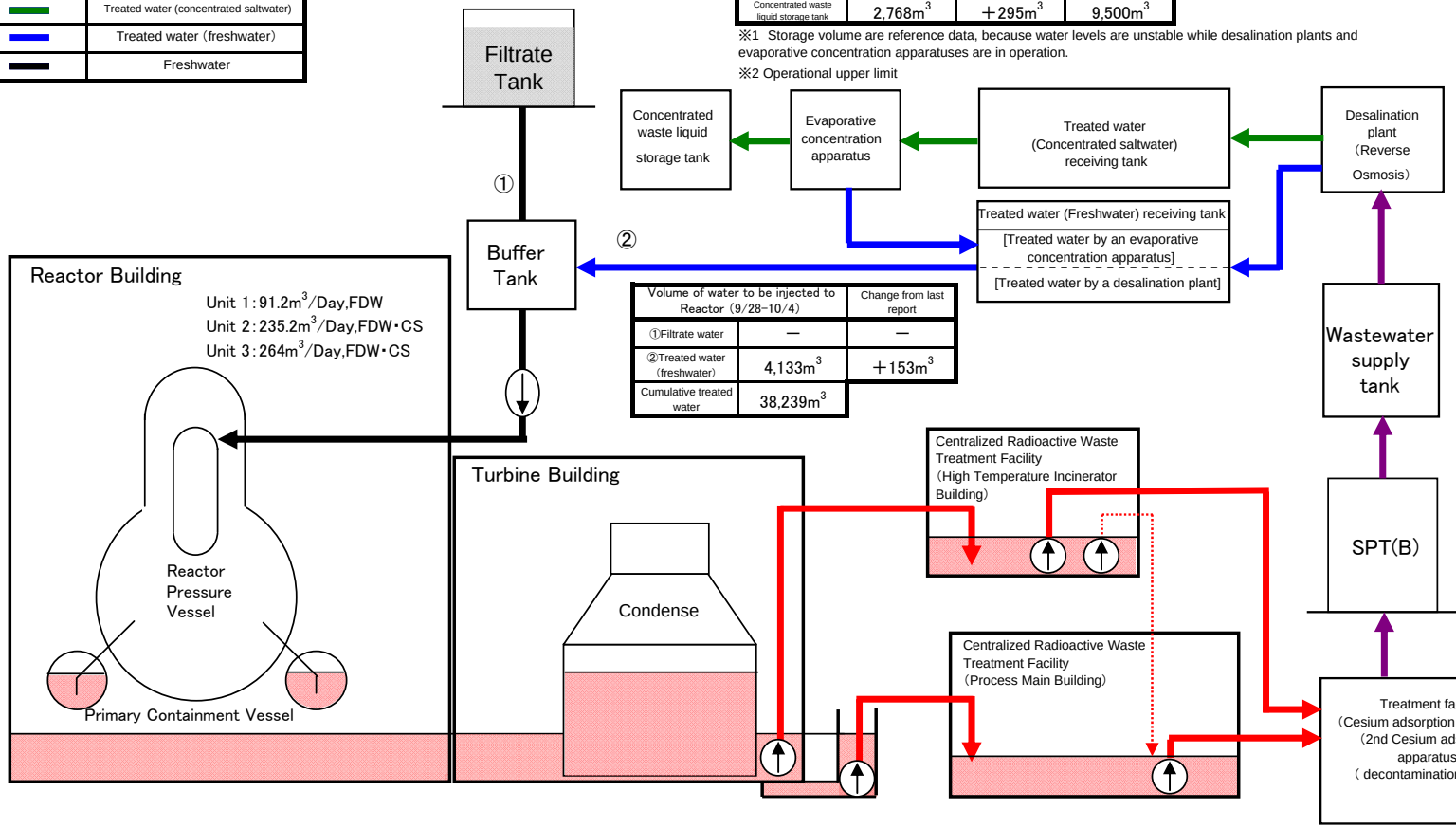
Storage volume ※1		Change from last report	Storage capacity ※2
Concentrated saltwater receiving tank	59,446m^3	+6,149m^3	69,700m^3
Freshwater receiving tank	8,603m^3	+233m^3	10,900m^3
Concentrated waste liquid storage tank	2,768m^3	+295m^3	9,500m^3

※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	3,400ppm / 44ppm (sampled on Sep.27)
Before/ after evaporative concentration	12,000ppm / <1ppm (sampled on Aug.16)

Storage volume		change from last report	Storage volume ※2
Waste liquid supply tank	919m^3	▲23m^3	1,200m^3
SPT(B)	1,156m^3	▲461m^3	3,100m^3

※2 Operational Upper limit



Volume of water to be injected to Reactor (9/28-10/4)		Change from last report
①Filtrate water	—	—
②Treated water (freshwater)	4,133m^3	+153m^3
Cumulative treated water	38,239m^3	

Place of sampling	Radioactivity density ※3
Process Main Building	1.1E+06 Bq/cm^3 (sampled on Sep.27)
Exit of cesium adsorption apparatus	6.7E+01 Bq/cm^3 (sampled on Sep.26)
Exit of decontamination facility	—
High Temperature Incinerator Building	8.3E+05 Bq/cm^3 (sampled on Sep.26)
Exit of second cesium adsorption apparatus	ND(< 3.6E-01 Bq/cm^3) (sampled on Sep.26)

※3 Data of Cs-137 are described above.

Nuclide	DF ※4,5
I-131	— (—)
Cs-134	1.5E+04 (> 1.2E+06)
Cs-137	1.6E+04 (> 2.3E+06)

※4 Data sampled on Sep 26/27 (operations of cesium adsorption facility - decontamination facility)
※5 Data in parentheses are those sampled on Sep 26 (operation of the 2nd Cesium adsorption apparatus)

Facility	Storage volume	Change from last report	Water level in T/B	Transfer to
Unit 1	Approx.16,180m^3	▲850m^3	OP.4,945	High Temperature Incinerator Building
Unit 2	Approx.19,800m^3	▲500m^3	OP.2,763	
Unit 3	Approx.25,500m^3	▲400m^3	OP.3,045	High Temperature Incinerator Building
Unit 4	Approx.18,400m^3	▲300m^3	OP.3,048	
Total	Approx.79,880m^3			

Storage Facility	Storage volume	Change from last report	Water level	Treated volume (9/28-10/4)	Cumulative treated volume	Waste produced		Change from last report	Storage capacity
Process Main Building	Approx.14,360m^3	▲1,800m^3	OP.4,123	Approx.9,610m^3 ※6	Approx.114,800m^3 ※6	Sludge	581m^3	—	800m^3
High Temperature Incinerator Building	Approx.3,570m^3	+150m^3	OP.2,388			Used vessels	232 ※7	+12	393 ※8
Total	Approx.17,930m^3								

※7 Including approx. 6,400m3 (cumulative treated volume:approx.27,660m3) of treated volume by the 2nd Cesium adsorption apparatus.
※8 Including 12 used vessels of 2nd Cesium adsorption apparatus.
※9 Storage capacity will vary according to stored used vessels of 2nd Cesium adsorption apparatus.

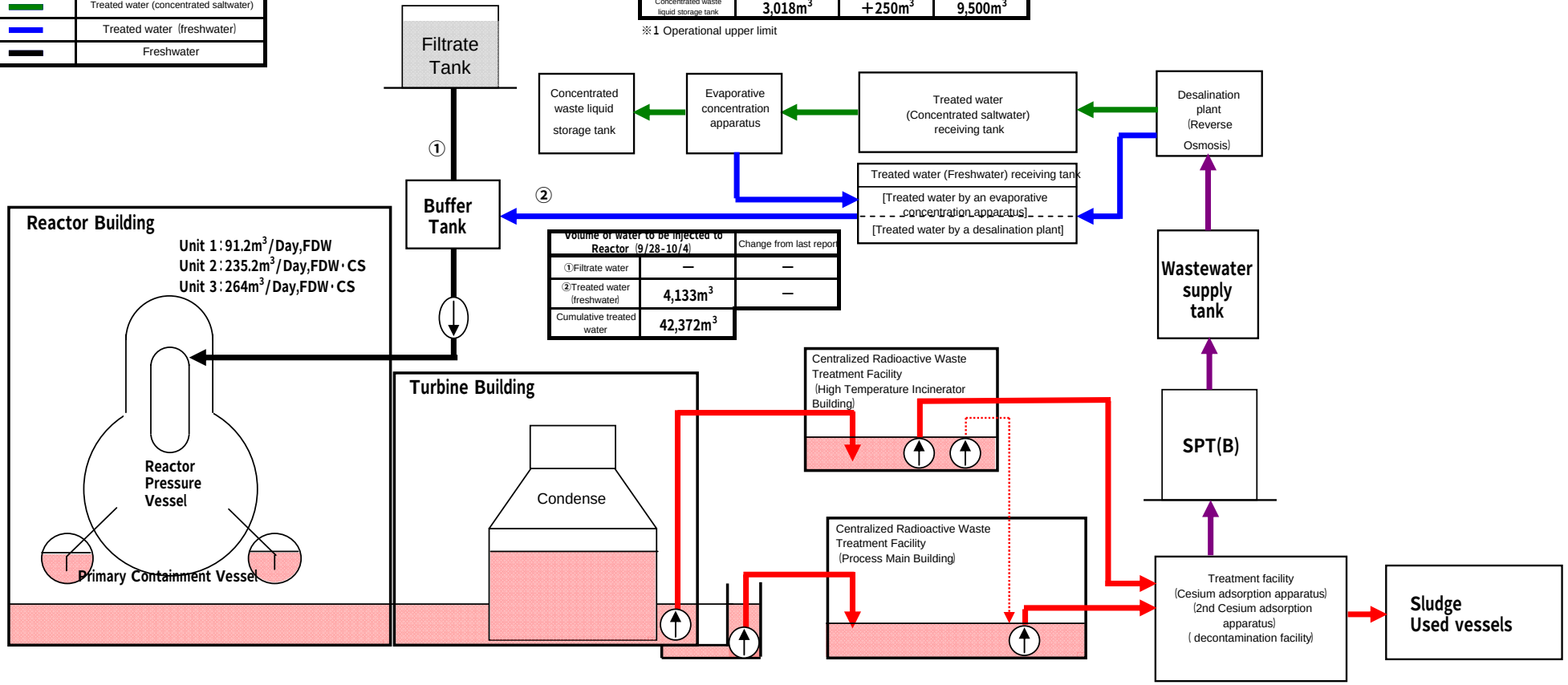
Note:
・Last report as of September 27, 2011
・Transferred from Unit 2 and 3 to process main building and high temperature incinerator building(Sep.30 Water of Unit 3 is transferred from process main building to high temperature incinerator building)
・First Cesium adsorption apparatus and 2nd Cesium adsorption apparatus have been operated in parallel (First facility utilization factor: 38.2%, Second facility utilization factor: 76.2% (reference)).
・Oct. 3 Transferred from On-site Bunker Building to process main building.
・From Oct. 3 Transferred from Unit 3 condenser to Turbine Building
・All the evapolate concentration apparatus were stopped.
・Storage capacity is discribed as "Operational upper limit" in this report

Storage and treatment of high level radioactive accumulated water (assumed situations as of October 11, 2011)

	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	64,240m³	+4,794m³	75,100m³
Freshwater receiving tank	8,666m³	+63m³	10,900m³
Concentrated waste liquid storage tank	3,018m³	+250m³	9,500m³

※1 Operational upper limit



Volume of Water to be Injected to Reactor (9/28-10/4)		Change from last report
①Filtrate water	—	—
②Treated water (freshwater)	4,133m³	—
Cumulative treated water	42,372m³	

Facility	Storage volume	Change from last report	Water level in T/B	Transfer to
Unit 1	Approx.16,020m³	▲160m³	OP.2,871 (Unit 2 T/B)	High Temperature Incinerator Building
Unit 2	Approx.20,500m³	+700m³		
Unit 3	Approx.24,300m³	▲1,200m³	OP.3,100 (Unit 3 T/B)	High Temperature Incinerator Building
Unit 4	Approx.18,800m³	+400m³		
Total	Approx.79,620m³			

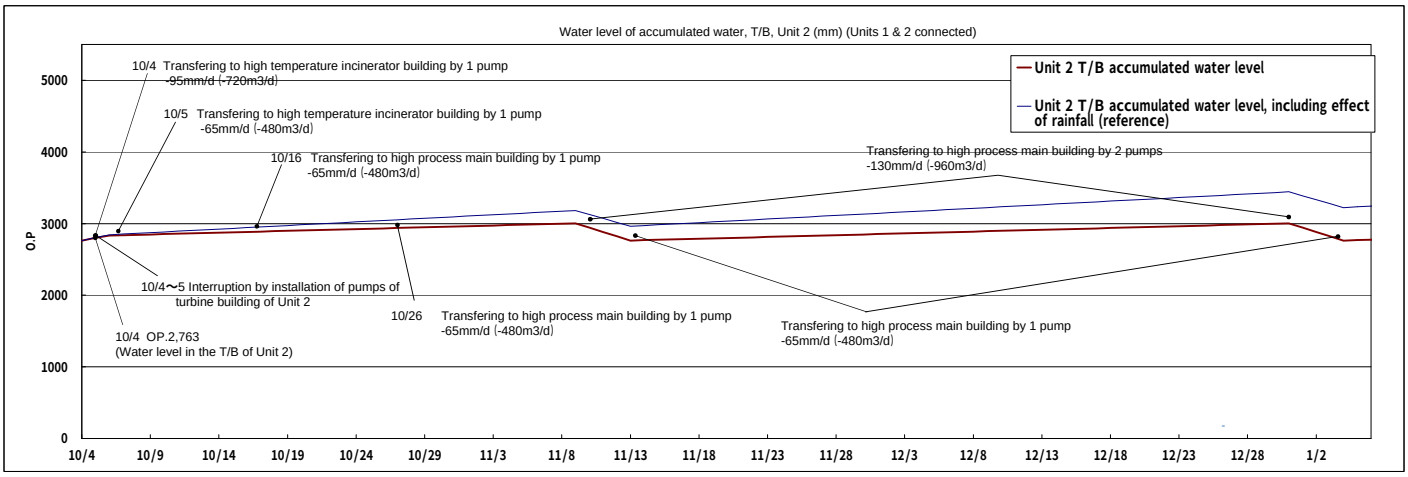
Storage Facility	Storage volume	Change from last report	Water level	Treated volume (9/28-10/4)	Cumulative treated volume	Waste produced		Change from last report	Storage capacity
Process Main Building	Approx.10,950m³	▲3,410m³	OP.3,233	9,240m³ ※2	Approx.124,040m³ ※2	Sludge	581m³	—	800m³
High Temperature Incinerator Building	Approx.4,050m³	+480m³	OP.2,788			Used vessels	244 ※3	+12	393 ※4
Total	Approx.15,000m³								

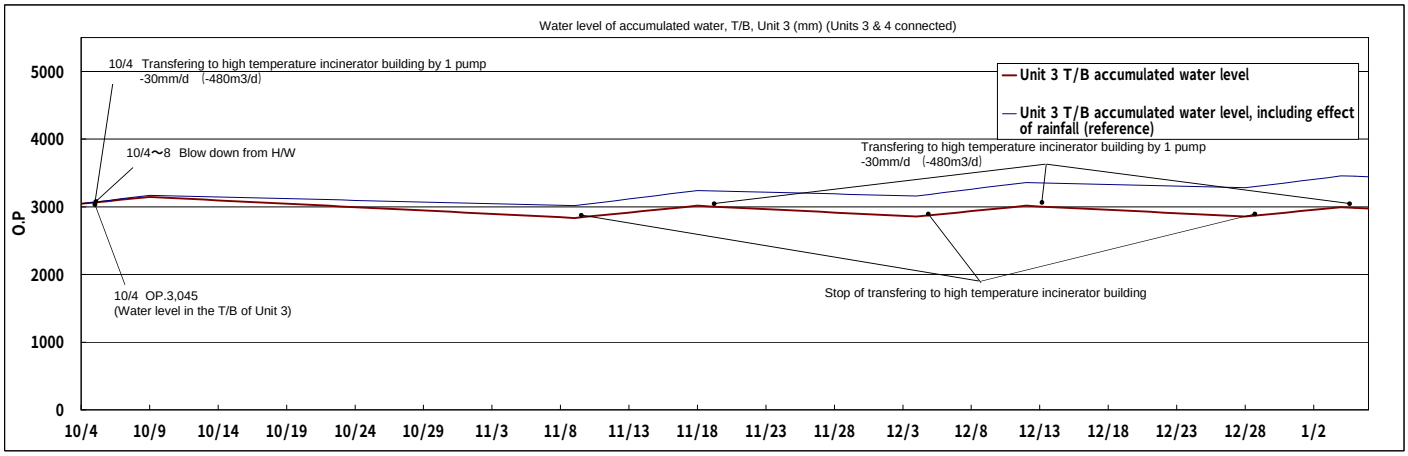
※7 Including approx. 5,880m3 (cumulative treated volume:approx.33,540m3) of treated volume by the 2nd Cesium adsorption apparatus.
※8 Including 16 used vessels of 2nd Cesium adsorption apparatus.
※9 Storage capacity will vary according to stored used vessels of 2nd Cesium adsorption apparatus.

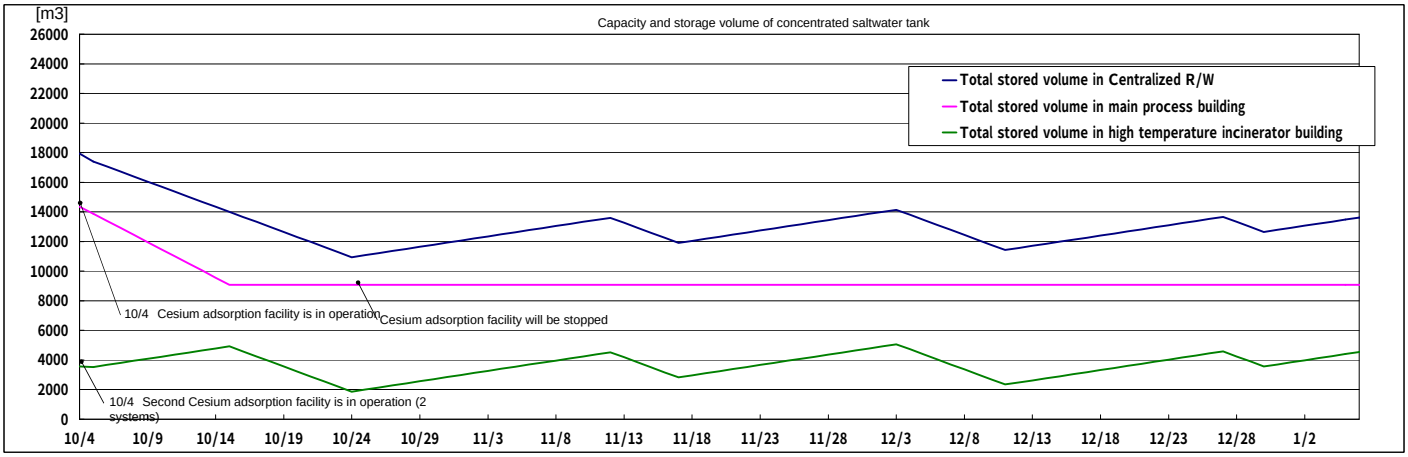
Note:
- Water of Unit 2 and Unit 3 will be transferred to high temperature incinerator building (Transferred form Unit 2 will be stopped temporarily.)
- First Cesium adsorption apparatus and 2nd Cesium adsorption apparatus have been operated in parallel (First facility utilization factor: 40%, Second facility utilization factor: 70% (reference)).
- Warter of Unit 3 condenser will be transferred to Turbine Building ongoingly.
- Oct 10, Vapor Condensation Devices (3A, 3B and 3C) will be operated.
- Storage capacity is discribed as "Operational upper limit" in this report.

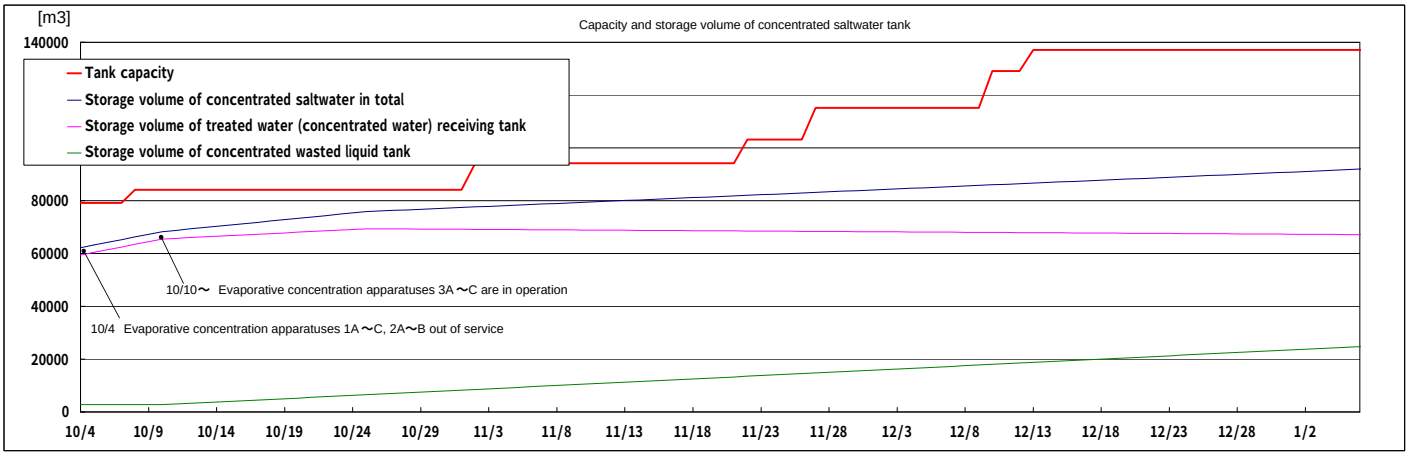
Attachment 3

Simulation result of the treatment of accumulated water in T/B, Unit 1～4









Note
- Amount of water treatment is assumed to be 1320m3/d (It can be adjusted according to level of accumulated water in T/B.)
- Amount of water injection into nuclear reactor is assumed to be double of the previous amount.
- 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.