Situation of Storing and Treatment of Accumulated Water including Highly Concentrated Radioactive Materials at Fukushima Daiichi Nuclear Power Station
(12th Release)

September 14, 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 September 13, 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 September 20, 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 plan to transfer accumulated water keeping accumulated water 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

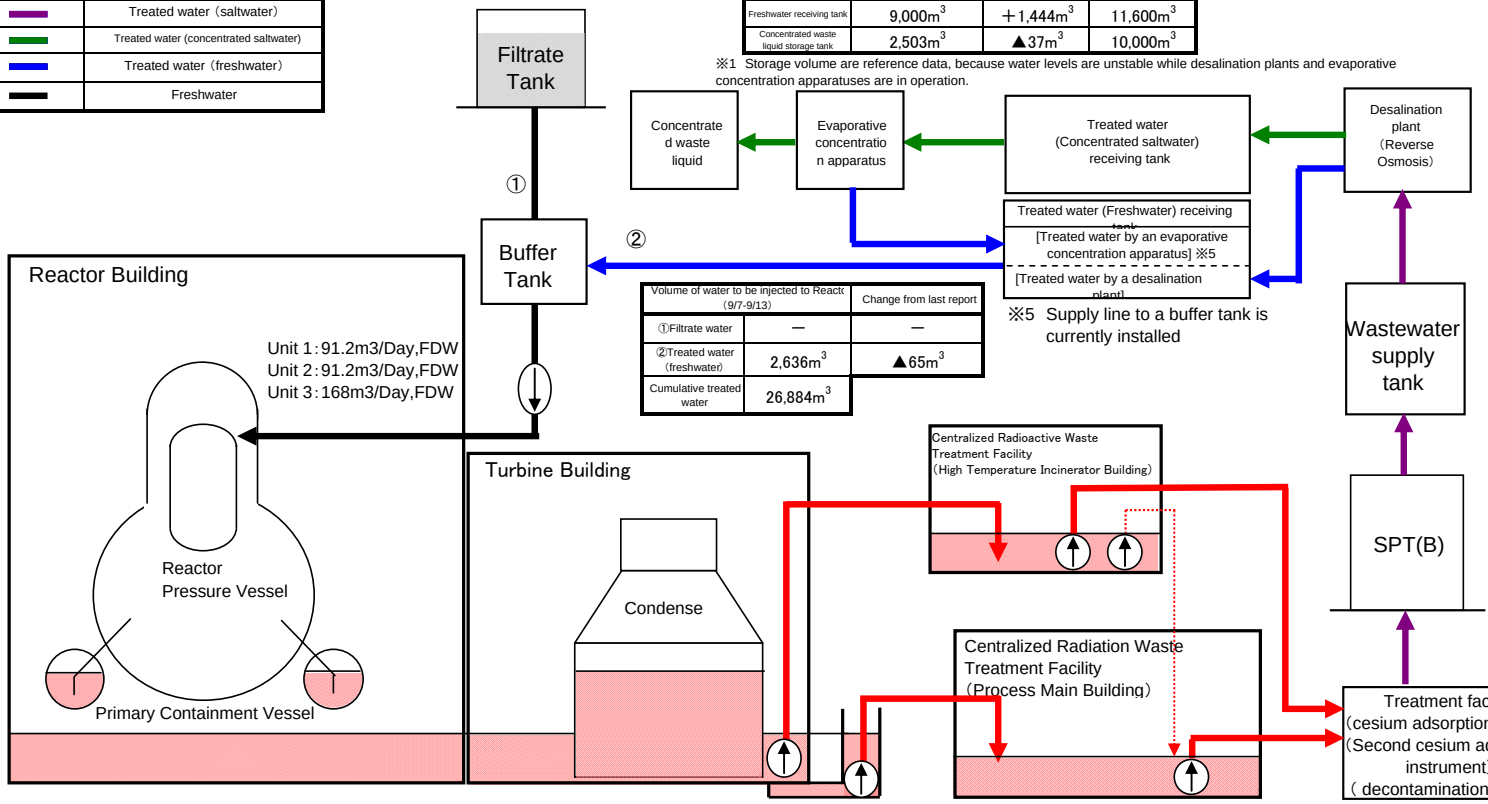
Attchment-1

Storage and treatment of high level radioactive accumulated water (as of September 13, 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
Concentrated saltwater receiving tank	44,322m^3	＋5,066m^3	60,800m^3
Freshwater receiving tank	9,000m^3	＋1,444m^3	11,600m^3
Concentrated waste liquid storage tank	2,503m^3	▲37m^3	10,000m^3

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



Volume of water to be injected to Reactor (9/7-9/13)		Change from last report
①Filtrate water	—	—
②Treated water (freshwater)	2,636m^3	▲65m^3
Cumulative treated water	26,884m^3	

	Chlorine density
Before/ after desalination	5,200ppm / 20ppm（sampled on Sep. 6）
Before/ after evaporative concentration	12,000ppm / ＜1ppm（sampled on Aug. 16）

Storage volume		change from last report	Storage volume
Waste liquid supply tank	711m^3	＋59m^3	1,200m^3
SPT(B)	1,064m^3	▲452m^3	3,500m^3

Place of sampling	Radioactivity density ※2
Process Main Building	1.1E+06 Bq/cm^3（sampled on Sep. 6）
Exit of cesium adsorption apparatus	8.2E+03 Bq/cm^3（sampled on Sep. 6）
Exit of decontamination facility	3.8E+01 Bq/cm^3（sampled on Sep. 6）
High Temperature Incinerator Building	6.5E+05 Bq/cm^3（sampled on Sep. 6）
Exit of second cesium adsorption apparatus	D（＜ 2.6E+00 Bq/cm^3）（sampled on Sep. 7

※2 Data of Cs-137 are described above.

Nuclide	DF ※3,4
I-131	—（—）
Cs-134	2.7E+04 （＞1.7E+05）
Cs-137	2.9E+04 （＞2.5E+05）

※3 Data sampled on Sep 6（operations of cesium adsorption facility - decontamination facility）
※4 Data in parentheses are those sampled on Sep 6/7 （operation of the second cesium adsorption instrument）

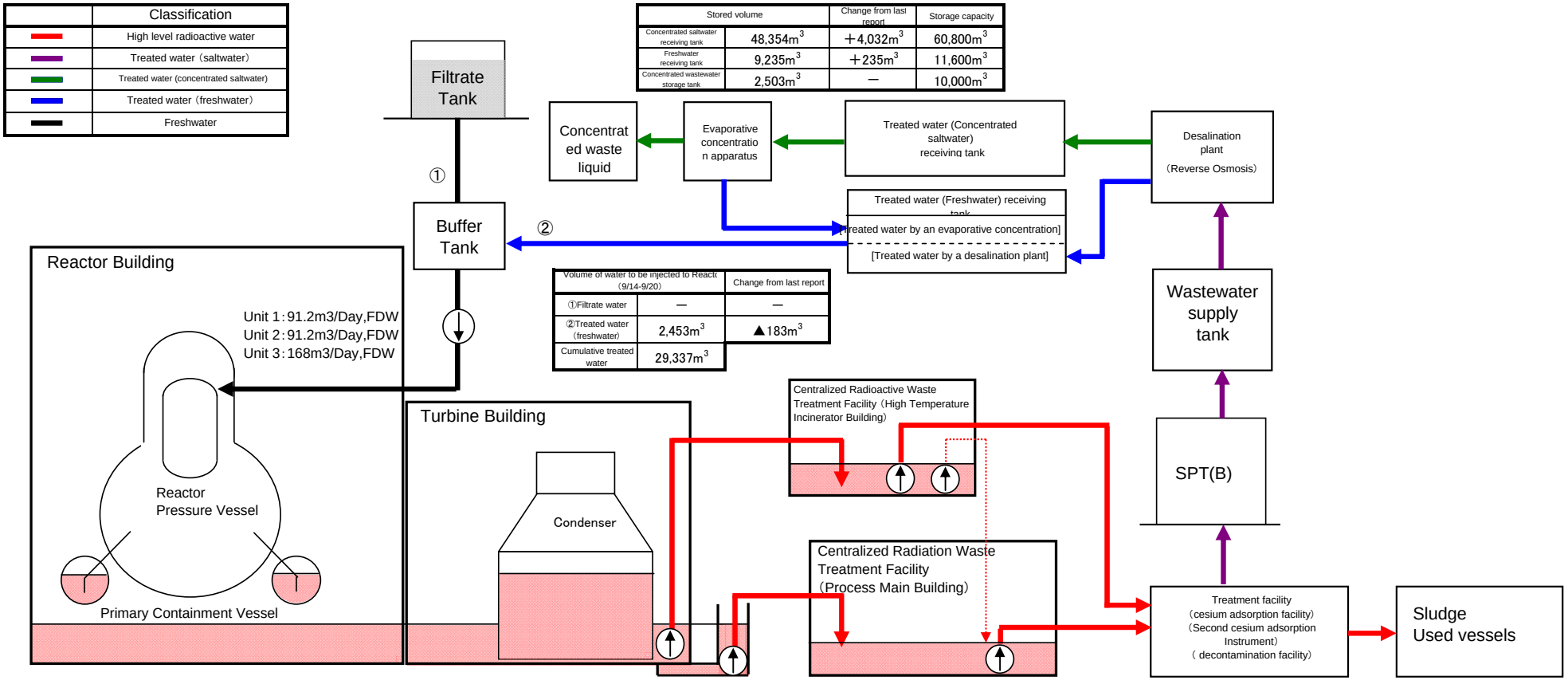
Facility	Storage volume	Change from last report	Water level in T/B	Transfer to
Unit 1	approx.16,830m^3	▲240m^3	OP.4,923	High Temperature Incinerator Building
Unit 2	approx.20,700m^3	▲3,700m^3	OP.2,909	
Unit 3	approx.25,400m^3	▲1,300m^3	OP.2,998	Process Main Building
Unit 4	approx.18,400m^3	▲1,200m^3	OP.3,051	
Total	approx.81,330m3			

Storage Facility	Storage volume	Change from last report	Water level	Treated volume (8/24-8/30)	Cumulative treated volume	Waste produced		Change from last report	Storage capacity
Process Main Building	approx.17,760m^3	＋1,990m^3	OP.5,010	approx.10,870 m^3 ※6	approx.89,300 m^3 ※6	Sludge	579m^3	＋24m^3	800m^3
High Temperature Incinerator Building	approx.2,670m^3	▲1,380m^3	OP.1,641			Used vessels	187 ※7	＋14	393 ※8
Total	approx.20,430m^3								

※6 Including approx. 3,870m3 (cumulative treated volume:approx.12,950m3) of treated volume by the second cesium adsorption facility.
※7 Including 7 used vessels of Second cesium adsorption instrument.
※8 Storage capacity will vary according to stored used vessels of Second cesium adsorption instrument.

Note:
・Last report: as of Sepyrmbrt 6, 2011.
・Transferred from Unit 2 and 3 to process main building and high temperature incinerator building
・September 6/7 transferred from Unit 2 condenser to turbine building
・September 7 transferred from site banker building to process main building
・cesium adsorption facility－conducted operations of 2 lines (decontamination facility and second cesium adsorption facility)
((reference)operation rate of decontamination facility :83.3%、operation rate of second cesium adsorption facility :92.1%）
・September 13 cesium adsorption facility and decontamination facility paused due to maintenance work
・All evapolative concentration apparatus paused

Storage and treatment of high level radioactive accumulated water (assumed situations as of September 20, 2011)



Facility	Storage volume	Change from last report	Water level in T/B	Transfer to
Unit 1	approx.16,310m3	▲520m3	OP.2,864 (Unit2 T/B)	Process Main Building
Unit 2	approx.20,400m3	▲300m3		
Unit 3	approx.24,800m3	▲600m3	OP.2,928 (Unit3 T/B)	Process Main Building High Temperature Incinerator Building
Unit 4	approx.17,900m3	▲500m3		
Total	approx.79,410m3			

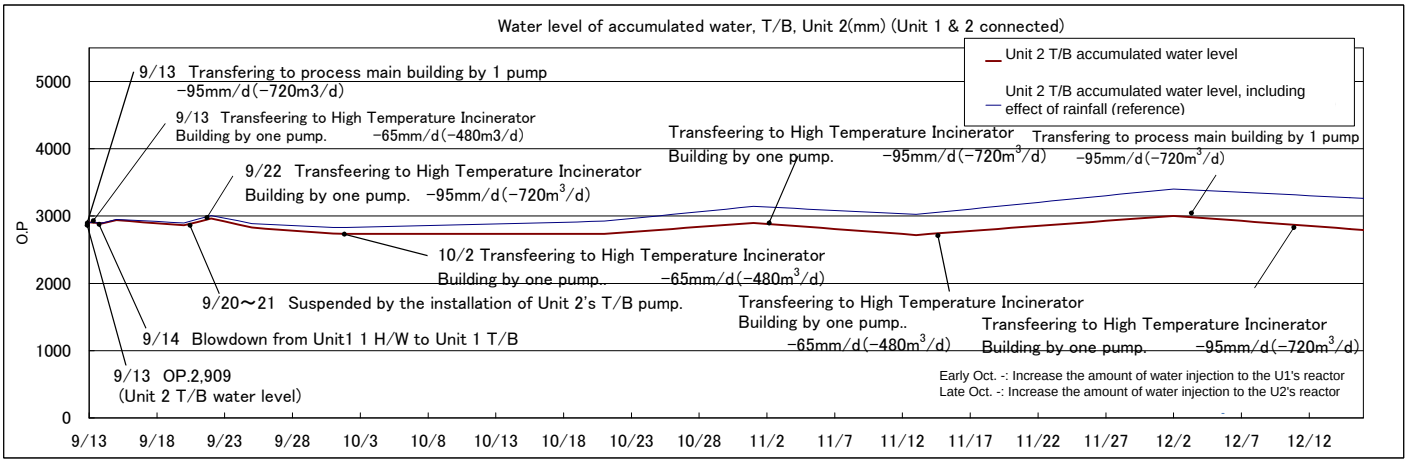
Storage Facility	Storage volume	Change from last report	Water level	Volume to be treated (8/24-8/30)	Cumulative treated volume	Waste produced		Change from now	Storage volume
Process Main Building	approx.17,570m3	▲190m3	OP.4,961	6,720m3 ※1	approx.96,020m3 ※1	Sludge	591m3	＋12m3	800m3
High Temperature Incinerator Building	approx.3,260m3	＋590m3	OP.2,125			Used vessels	202 ※2	＋15	393※3
Total	approx.20,830m3								

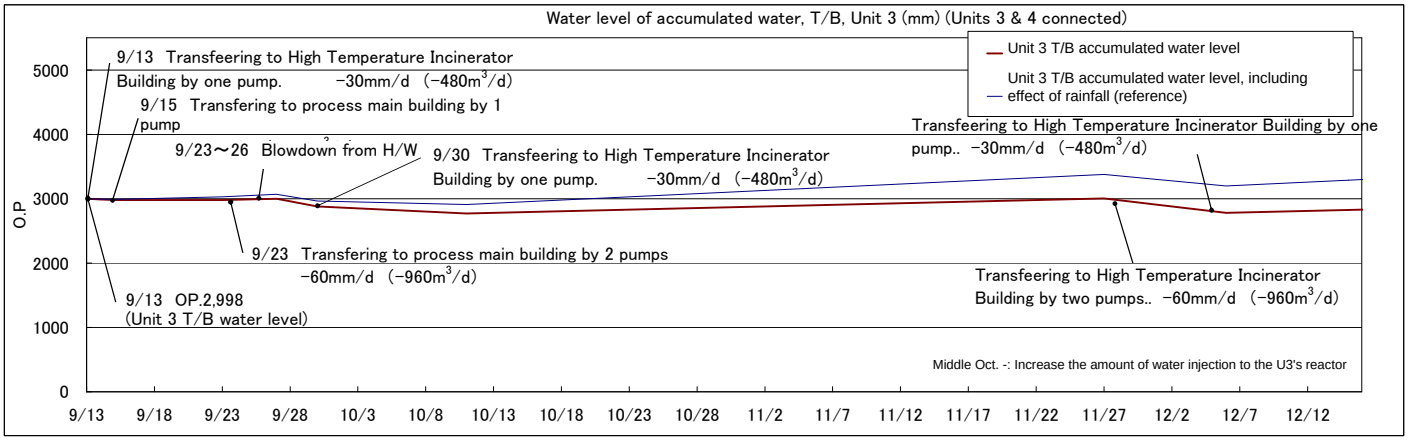
※1 Including approx. 3,780m3 (cumulative treated volume:approx.16,730m3) of treated volume by the second cesium adsorption facility.
※2 Including 9 used vessels of Second cesium adsorption instrument.
※3 Storage capacity will vary according to stored used vessels of Second cesium adsorption instrument.

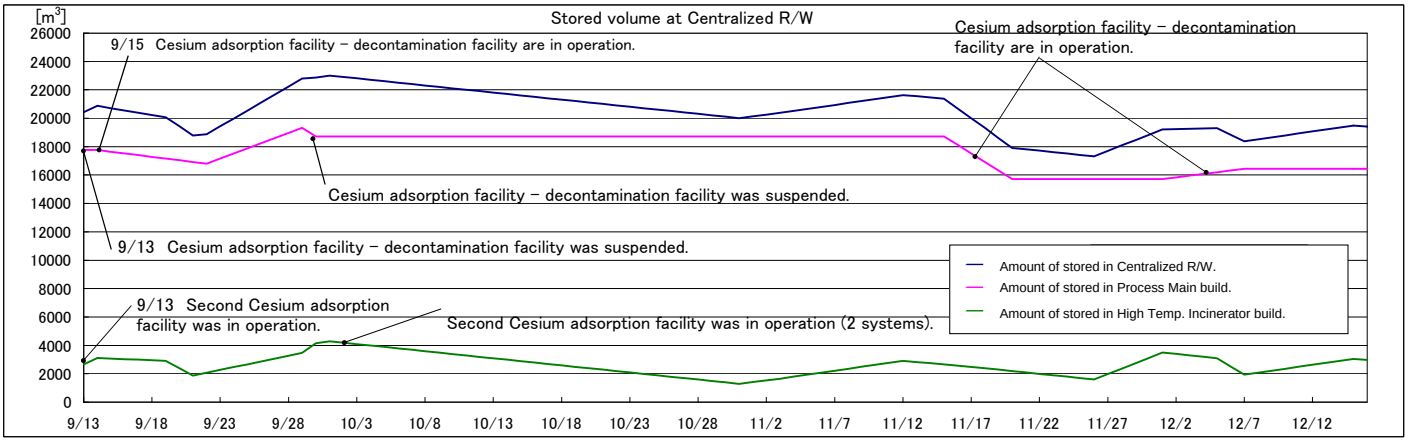
Note:
・Plan to transferred from Unit 2 and 3 to process main building and high temperature incinerator building
・Plan 2 lines (cesium adsorption facility - decontamination facility and second cesium adsorption facility) of operations
（(reference) assumed operation rate of decontamination facility :35%、assumed operation rate of second cesium adsorption facility ：90%）
・Plan to pause cesium adsorption facility and decontamination facility for maintenance work
・Plan to stop all the evapolate concentration apparatus.
・Plan to transfer from condenser of Unit 1 to Turbine Building.

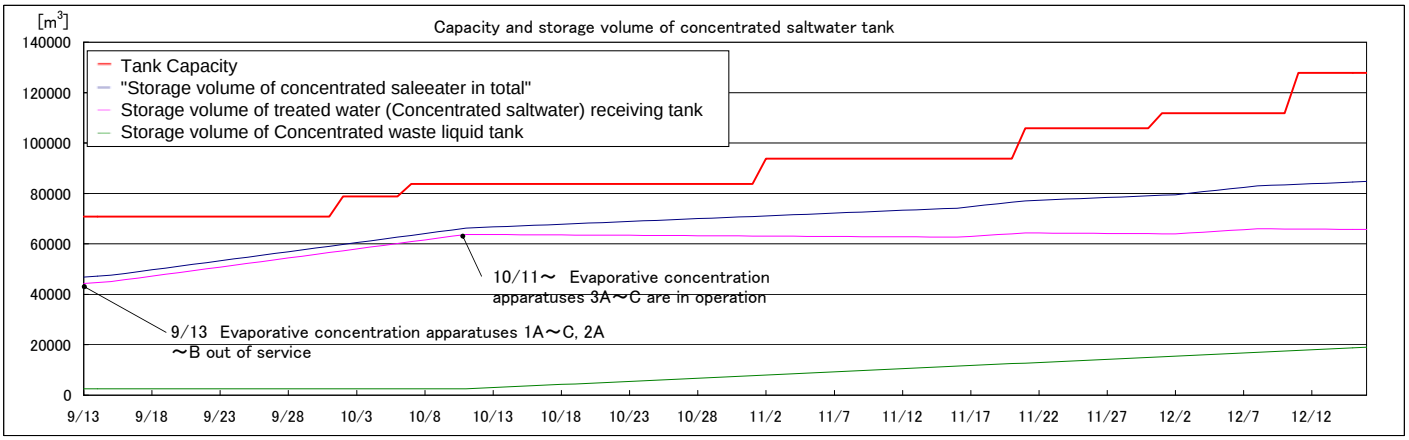
Simulation result of the treatment of accumulated water in T/B, Unit 1～4

Attachment -3









Note ・Assume that the handing amount by the treatment facilities is 1,140m^3/d in September, 1,080m^3/d in and after October. (increase the handling amount depending on the situation like the water 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

・Assume that the volume of water injection to the reactor after the increase is twice as much as that of current volume.