Situation of Storing and Treatment of Accumulated Water including Highly Concentrated Radioactive Materials at Fukushima Daiichi Nuclear Power Station (10th Release)

August 31, 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 August 30, 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. 4,000, 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 6, 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, we set an immediate goal that the accumulated water level in the building will be at OP. 3,000 and the water transfer is planned on the basis of the capacity of the Process Main Building for the purpose of keeping enough capacity for the accumulated water in the building until its level reaches OP. 4,000 and keeping the accumulated water level lower than the groundwater level.

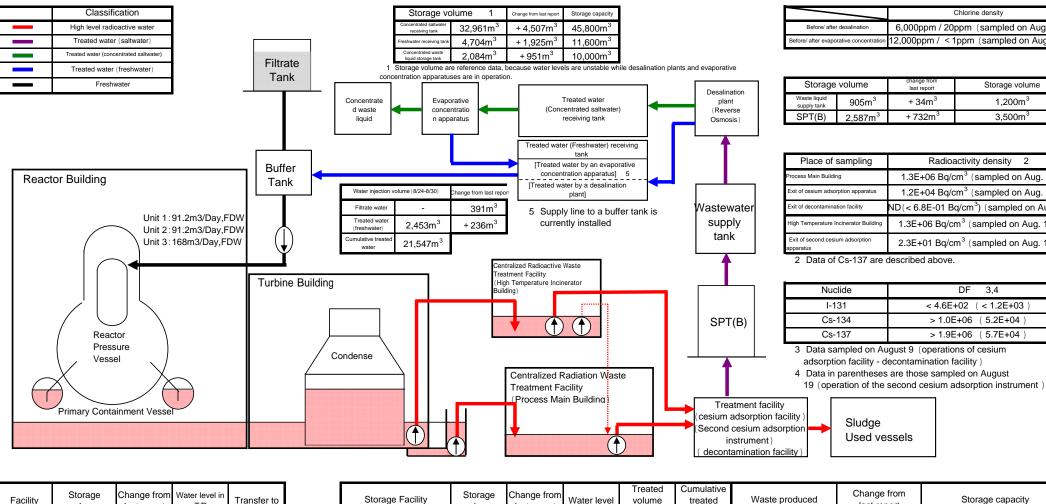
Also, treatment of the accumulated water in the Process Main Building is planned on the basis of the situation of installing the middle and low level waste water tanks, and the capacity factor and maintenance period of the radioactive material treatment equipment.

On the other hand, the accumulated water level in the High Temperature Incinerator Building is kept below OP. 4,200, and the transfer is planned when enough amount of storing capacity is reserved in the Process Main Building. Treatment of the accumulated water in the High Temperature Incinerator Building is carried out when enough storing capacity in the Process Main Building is reserved for accepting the accumulated water in the High Temperature Incinerator Building. Building.

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 reduce through transfers and treatment. According to the forecast for 3 months, water levels in the buildings of Unit 2 and 3 are estimated to decrease to OP. 3,000 after the middle of September, supposing that there is no change in the water injection amount and no effect of rainfall, although the timing may vary in accordance with the capacity factor of the radioactive material treatment equipment, or other parameters.

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.



Storage and treatment of high level radioactive accumulated water (as of August 30, 2011)

Facility	Storage volume	Change from last report	Water level in T/B	Transfer to		Storage Facility	Storage volume	Change from last report	Water level	Treated volume (8/24-8/30)	Cumulative treated volume	Waste pr	oduced	Change from last report	Storage capacity
Unit 1	approx. 17,190m ³	140m ³	OP.4,947	High Temperature		Process Main Building	approx. 18,030m ³	50m ³	OP.5,080	approx. 10,970m ³	approx. 66,980m ³	Sludge	494m ³	+ 60m ³	800m ³
Unit 2	approx. 26,400m ³	600m ³	OP.3,461	Incinerator Building		High Temperature Incinerator Building	approx. 4.050m ³	250m ³	OP.2,777	6	6	Used vessels	156 7	+ 15	201 8
Unit 3	approx. 27 100m ³	2,500m ³	OP.3,227	Process Main Building		Total	approx. 22.080m ³		6 Including approx. 3,480m3 (cumulative treated volume:5,240m3) of treated volume by the second cesium						by the second cesium
Unit 4	approx. 20.400m ³	1,700m ³	OP.3,331					adsorption facility. 7 Including 3 used vessels of Second cesium adsorption instrument.							,
Total	approx. 91,090m ³								, mordanių	, o acca reco					

Note:

Last report: as of August 23, 2011.

Transferred from Unit 2 and 3 to Process Main Building and High Temperature Incinerator Building

cesium adsorption facility - conducted operations of 2 lines (decontamination facility and second cesium adsorption facility)

((reference)operation rate of decontamination facility :89.2 %, operation rate of second cesium adsorption facility :82.9%)

August 23 Transfer from Unit 3 to Process Main Building was switched to that from Unit 3 to High Temperature Incinerator Building by two pumps

August 24 Transfer from Unit 3 to High Temperature Incinerator Building. was switched to that from Unit 3 to Process Main Building

August 25 Transfer from Unit 2 to Process Main Building was switched to that from Unit 2 to High Temperature Incinerator Building.

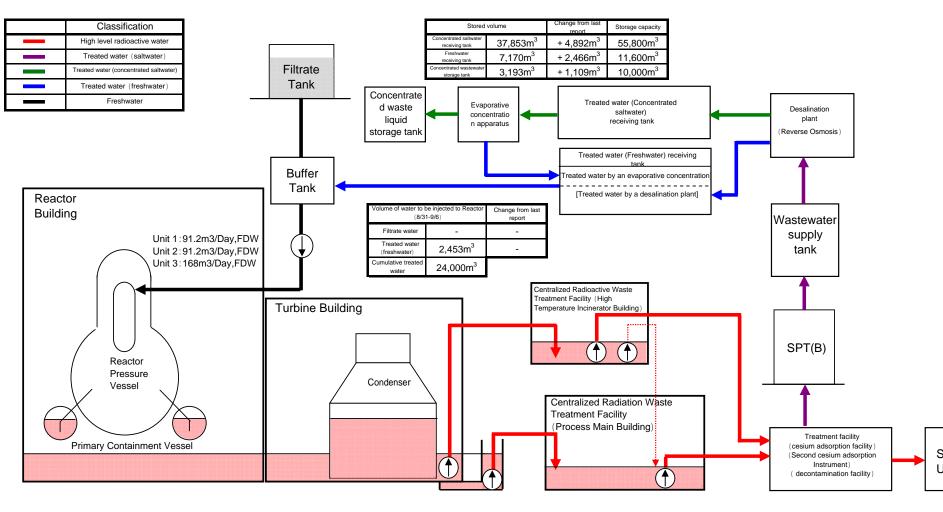
Attchment-1

Chlorine density									
/20ppm (sampled on Aug. 9)									
<pre>/ <1ppm (sampled on Aug. 16)</pre>									

	Storage volume						
	1,200m ³						
3	3,500m ³						

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Bq/cm ³ (sampled on Aug. 9)
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Bq/cm ³ (sampled on Aug. 19)
ove

DF	3,4		
1.6E+02	(< 1.2	E+03)	
1.0E+06	(5.2E	+04)	
1.9E+06	(5.7E	+04)	



Storage and treatment of high level radioactive accumulated water (assumed situations as of September 6, 2011)

Facility	Storage volume	Change from last report	Water level in T/B	Transfer to	
Unit 1	approx. 17,090m ³	100m ³	OP.3,259	Process Main	
Unit 2	approx. 23,000m ³	3,400m ³	(Unit 2 T/B)	Building	
Unit 3	approx. 26,500m ³	600m ³	OP.3,152	Process Main Building High Temperature Incinerator Building	
Unit 4	approx. 19,900m ³	500m ³	(Unit 3 T/B)		
Total	approx. 86,490m ³				

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. 15,630m ³	2,400m ³	OP.4,454	10,920m ³ 1	approx. 77,900m ³ 1	Sludge	554m ³	60m ³	800m ³	
High Temperature Incinerator Building	approx. 4,260m ³	+ 210m ³	OP.2,950			Used vessels	173 2	+ 17	393 3	
Total	approx. 19,890m ³	1 Including approx. 3,360m3 (cumulative treated volume:5,600m3) of treated volume by the second cesium adsorption facility.								

2 Including 5 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 transfer from Unit 2 and 3 to Process Main Building and High Temperature Incinerator Building.

(Transfer from Unit 2 to High Temperature Incinerator Building will switch to that from Unit 2 to Process Main Building by one pump and Transfer from Unit 3 to Process Main Building will switch to that from Unit 3 to Process Main Building by one pump and Transfer from Unit 3 to Process Main Building will switch to that from Unit 3 to Process Main Building by one pump and Transfer from Unit 3 to Process Main Building will switch to that from Unit 3 to Process Main Building by one pump and Transfer from Unit 3 to Process Main Building will switch to that from Unit 3 to Process Main Building by one pump and Transfer Building by one pump)

Plan 2 lines (cesium adsorption facility - decontamination facility and second cesium adsorption facility) of operations

((reference) assumed operation rate of decontamination facility :90%, assumed operation rate of second cesium adsorption facility :80%)

Plan to transfer from condenser of Unit 2 to Turbine Building.

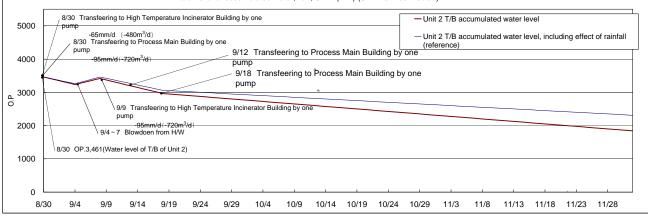
Plan to install Temporary Storage Facility for Cesium Adsorption Tower (expanded)

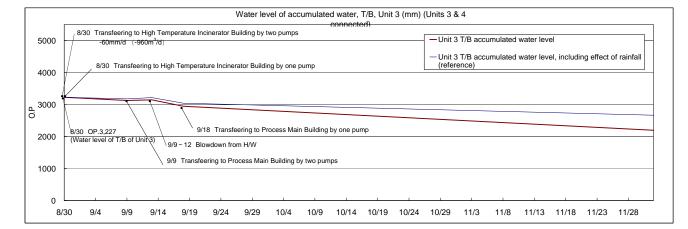
Plan to start operations of evaporative concentration apparatuses(1A,1B,1C) on August 31

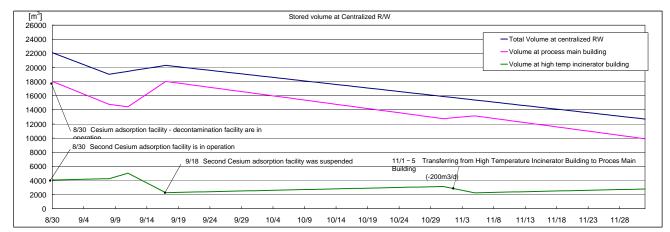
Attchment-2

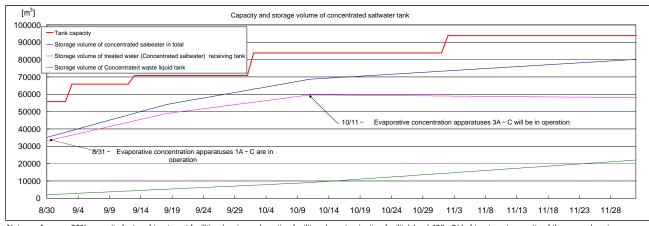
Sludge Used vessels

Water level of accumulated water, T/B, Unit 2(mm) (Unit 1 & 2 connected)









Note · Assume 90% capacity factor of treatment facilities (cesium adsorption facility - decontamination facility) (and 480m3/d of treatment capacity of the second cesium adsorption)