# Situation of Storage and Treatment of Accumulated Water containing Highly Concentrated Radioactive Materials at Fukushima Daiichi Nuclear Power Station (450th Release)

May 13, 2020 Tokyo Electric Power Company Holdings, Inc.

### 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 containing 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, 2011.

### <Instruction>

TEPCO should report to NISA the situation of storing and treatment of the contaminated water in the Power Station and the future forecast based upon the current situation has 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 Central Radioactive 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 (Units 1 to 4 (including condensers and trenches)) and stored and treated amounts, and other related data in the Accumulated Water Storing Facility as of April 30, 2020 and May 7, 2020 are shown in the Attachment -1.

#### 3. Forecast of storing and treatment

#### (1) Short term forecast

Water transfer in Units 1 and 2 and Units 3 and 4 is planned based on the stored amount in the Accumulated Water Storing Facilities and the operating situation of the radioactive material treatment equipment and the subdrain catchment facility. Water is transferred to the Process Main Building and/or High Temperature Incinerator Building as Accumulated Water Storing Facilities.

Treatment is implemented considering the state of storage and transfer of Accumulated Water Storing Facilities.

We assume stored amounts in each unit building (Units 1 to 4 (including condenser and trench)), and stored and treated amounts, and other related data in the Accumulated Water Storing Facilities as of May 14, 2020 are shown in Attachment -2.

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#### (2) Middle term forecast

Regarding accumulated water in Units 1 and 2 buildings and Units 3 and 4 buildings, 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 TP. 2,564 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 specific water-level difference between accumulated water in the building around and subdrain water and making the lowest floor surface of buildings other than Units 1 to 3 reactor buildings where circulating water is injected into exposed by 2020.

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 (Units 1 to 4 (including condensers and trenches)), and storing and treatment situations in the Accumulated Water Storing Facilities for the next 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

#### Attachment-1 (1/2)

### Storage and treatment of high level radioactive accumulated water (as of April 30, 2020)

	Classif			0						,	• •	,	Storage vol	ume [m <sup>3</sup> ] *1,2	Change from last	Storage capacity [m <sup>3</sup> ] *3,4
	High level radioactive water/ Wa												Concentrated saltwater	0	report [m <sup>3</sup> ]	Im <sup>o</sup> l <sup>o,4</sup>
													receiving tank		-	-
/	Treated water (concentrate		S	Strontium-tr	eated								Freshwater receiving tank Concentrated waste	8,011	+167	24,600
	Strontium-tre		W	/ater <stora< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>liquid storage tank</td><td>9,257</td><td>+ 12</td><td>10,300</td></stora<>									liquid storage tank	9,257	+ 12	10,300
/••••	Treated water (fresh					1ulti-nuclide	Removal	Treated					Treated water storage tank *12	1,137,125	+3,778	1,163,300
	Treated water from Multi-	nuclide Removal Facility	Т	reated wat	ter To F	quipment	•	1	ntrated salt	water)			Sample water storage tank *14	7,162	+762	11,600
	Fresh	water	<	<storage></storage>				<receiv< td=""><td>/ing tank&gt;</td><td></td><td></td><td></td><td>Treated water storage tank (Reuse) *15</td><td>3,643</td><td>No Change</td><td>12,600</td></receiv<>	/ing tank>				Treated water storage tank (Reuse) *15	3,643	No Change	12,600
													Strontium-treated water storage tank *10	52,668	-2,876	109,000
		Change from last	1	Filtra Tan	Concentrated		orative	Revers	e osmosis i	treated	Desalination		Basidualu	/ater [m <sup>3</sup> ] <sup>*5</sup>	Change from last	Storage capacit
Reactor [m <sup>3</sup>	(4/23-4/30)	report (m <sup>3</sup> )		Tan	waste liquid <storage></storage>		ntration atus	water (	Freshwater	) 🗲	(Reverse os	inosis)	Concentrated		report [m <sup>3</sup> ]	[m <sup>3</sup> ] * <sup>3,4</sup>
①Filtrate water	-	_		<u> </u>	<storage></storage>	appar	aius	<receiv< td=""><td>ring tank&gt;</td><td></td><td></td><td></td><td>saltwater tank</td><td>Approx.500</td><td>No Change</td><td>2100</td></receiv<>	ring tank>				saltwater tank	Approx.500	No Change	2100
2 Treated water	1,490	+8									T		Treated water tank *13	Approx.100	No Change	1100
(freshwater) umulative treated				1									Strontium-treated	0	Ū	0
water	1,017,145				2							.	water tank *11	0	No Change	0
				Water in					e osmosis		Wastew					
Deceter	الم بينا مانيم م	Linit 1, 7	0 m³/day,FDW • CS	tank (CS) (Buffer ta				circulat	ion facility in	side	supply ta	ank	Storage v	olume [m <sup>3</sup> ]	Change from last report [m3	orage volume [n
Reactor	pullaling		1 m³/day,FDW•C3		anky					T .			Wastewater supply tank	790	+135	1,200
			0 m³/day,FDW •CS										SPT(B)	1,277	+306	3,100
			o in /uu j,i b ii oi	-										· · ·		-
		7													Chloride	oncentration
							0.00	tralized radioactiv			SPT(	B)	Refere/After	Desalination	-	mpled on Nov 12, 201
				I			trea	tment facility			,	· /	Before/After Reverse			mpled on Feb 6, 2020
				Turbin	e building		(Hig	h temperature inc	inerator building)						480ppm/3ppm (Sa	mpled on Heb 6, 2020)
				11 -							T		Before/After Evapor	rative Concentration		-
		$\mathcal{I}$						+								
	Reactor Pres										Treatment facility		Place of	Sampling	Radioactivity	concentration <sup>*6</sup>
(	10000011100									$\rightarrow$	(Cesium adsorption	apparatus)	Process M	lain Building	2.3E+07 Bq/L (Sa	npled on Mar 3, 2020)
	/			/ C	ondenser		_				(2nd Cesium adsorp		Exit of cesium ad	sorption apparatus	3.8E+03 Bq/L (Sar	pled on Mar 22, 2019
$\rightarrow$		X	$\sim$				C	entralized rad	ioactive		(Decontamination fa	icility)	Exit of deconta	mination facility		_
$\square$	$\backslash$		$\rightarrow$					aste treatmen					High Temperature	Incinerator Building	3.4E+07 Bq/L (Sa	npled on Feb 4, 2020)
							(F	rocess main	building)		•		Exit of second cesium	adsorption apparatus	1.7E+02 Bg/L (Sa	npled on Mar 3, 2020)
PI	rimary Contair	nment Vesse	Γ 🕴								· · · · ·		Exit of third cesium	adsorption apparatus		npled on Mar 3, 2020)
								+			Wast				4.02.02.042 (00	npilod oli indi 0, 2020)
			$\cup$			$\cup$			C	$\mathbf{D}$	vvasu	C	From			
													(A)			
	Storogo	Ohana faana				Change and	Obarran farm	Mater level					Ob an and fa		Oto and and	
Facility	Storage volume [m <sup>3</sup> ]	Change from last report	Water level in T/B *8		Storage facility	Storage volume [m <sup>3</sup> ]	Change from last report [m <sup>3</sup> ]	Water level	Treated volume (4/23-4/30)	Cumulative treated volume [m <sup>3</sup> ]	Waste pr	oduced	Change fr last repo		Storage capacity	
				F				T.P.804	Approx.	Approx.						
Unit 1	Approx.1,290	No Change	_		Process Main Building	Approx.9,000	-900	1.1.004	3,540	2,265,510	Sludge [m <sup>3</sup> ]	417 *16	No Chan	ge	700 *3	
			T.P1,288	F	High Temperature		1 1	T.P.390	*7	*7		1				
Unit 2	Approx.3,260	-30	1.1. 1,200		Incinerator Building	Approx.3,190	+40	1.1.000		· ·	Used vessels	4,750 *9	+10		6,372	
			T.P1,465	F	0		1				<b>B</b>	1		1		
Unit 3	Approx.2,940	-480	1.1. 1,400		Total	Approx.12,190			*1 The figures of	of the data are treated	as a reference, because wa	ter levels during water	transfer are not stable.			
			Under	L		I	4		*2 The figures of	of the storage volume	do not include those of the fe	ollowing volumes that I	nave accumulated from	the bottom		
Unit 4	Approx.1,660	-80	T.P 1,479						Freshwater r	receiving tank (approx	lied "down scale (DS)," where the scale (DS)," where the scale of the scale of t	aste liquid storage tank	(approx.100m3), Trea	ted water storage ta	nk (approx. 2,100m <sup>3</sup> )	
Total	Approx.9,150		,						Treated wate	er storage tank (reuse	e) (approx. 0m3), Strontium-tr			-		
TULAI	Approx.8,130								*4 The figures of	of the data show the c of "Storage capacity"	do not include those of the vo	olumes that have accur	nulated from the bottor	n of the tanks to		
									the height of	f so-called "down scal	e (DS)," where water gauges t accumulates up to the heigl	show 0%. However, e	ach tank has the capa	city that accomodate	s	
ain operations	that have been c	onducted during	the period from April	i 23, 2020 to Ap	oni 30, 2020]				to The unaff of	is storage volume that	udes the one of the volumes	in or bo. that have accounting				

- Water transfer from the Units 1-4 to the buildings (Units 1-4, Centrailzed radioactive waste treatment facilities) and to the treatment facilities was conducted whenever necessary.

- Due to other works, water transfer to the buildings (Units 1-4, Centrailzed radioactive waste rteatment facilities) was conducted whenever necessary. - Operations of the Cesium Adsorption Apparatus have been suspended.

From April 23, operations of the 2nd Cesium Adsorption Apparatus have been resumed; the availability factor is 42% (previous simulated : 40%).

Operations of the 3rd Cesium Adsorption Apparatus have been suspended.

- Storage capacity of treated water was changed as operations of new tanks started.

more man the storage volume that accumulates up to the neight of "DS." 5 The figure of Residual water includes the one of the volumes that have accumulated from the bottom of the tanks to the height of so-called "down scale (DS)," where water gauges show 0%. The amount of the residual water of concentrated sativater is calculated based on that of the water treated through the ALPS and other facilities. \*6 The data shown here are those of Cs-137.

to the data shown here are those or Us-137. 7 Total treated amount of Cesium adsorption apparatus and 2nd Cesium adsorption apparatus and 3rd Cesium adsorption apparatus. Breakdown of the treated amount: Cesium adsorption apparatus (0m<sup>3</sup>) 2nd Cesium adsorption apparatus (3,540m<sup>3</sup>)

3rd Cesium adsorption apparatus (0m3)

- Breakdown of the cumulative treated amount: Cesium adsorption apparatus (394,720m<sup>3</sup>) 2nd Cesium adsorption apparatus (1,830,640m<sup>3</sup>)

3rd Cesium adsorption apparatus (40,150 m³) ' \*8 The data of the water levels in the Reactor Buildings are the data as of 5 a.m., April 30. \*9 Breakdown of the used vessels: Cesium adsorption apparatus (779), 2nd Cesium adsorption apparatus (20), 3rd Cesium adsorption apparatus (2) Others: Storage container (3,436), Treated column (17), Used vessel (221), Filiters and so forth (65)

\*10 Volume of the Strontium-treated water stored in the welded-type tanks \*11 Volume of the Strontium-treated water remaining in the frange-type tanks

\*12 Volume of the treated water stored in the welded-type tanks \*13 Volume of the treated water remaining in the frange-type tanks

\*14 Volume of the treated water stored in the ALPS sample tanks (france-type), the additional ALPS temporary storage tanks (welded-type)

and the high performance ALPS temporary storage tanks (welded-type) \*15 Volume of the treated water stored in the reuse welded-type tanks which stored strontium-treated water before.

(These welded-type tanks have been resued from 2019.) \*16 Sum of sludge and supernatant water (as of 10 a.m., April 30)

Attachment-1 (2/2)

## Storage and treatment of high level radioactive accumulated water (as of May 7, 2020)

	Classit	ication	1	0					`		,	Storage volum	o [m <sup>3</sup> ] *1,2	Change from last	Storage capacity
	High level radioactive water/ W											Concentrated sativater		report [m <sup>3</sup> ]	[m <sup>3</sup> ] *3,4
	÷ .											receiving tank	0	-	-
/	Treated water (concentrate		St	trontium-treated								Freshwater receiving tank Concentrated waste	8,345	+ 334	24,600
	Strontium-tr		Wa	ater <storage></storage>			Turnet					liquid storage tank	9,257	No Change	10,300
/ • • •	Treated water (fresh				Multi-nuclide	Removal		d water	watar			Treated water storage tank *12 Sample water storage tank	1,142,121	+4,996	1,163,300
	Treated water from Multi-				Equipment			entrated salt	water)			*14 Treated water storage	6,433	-729	11,600
	Fresh	water	<	storage>			< recei	ving tank>				tank (Reuse) *15	4,089	+446	12,600
												Strontium-treated water storage tank *10	49,752	-2,916	109,000
			-	Filtrate			Deve			Desalination	plant				
	er to be injected to n <sup>3</sup> 1 (4/30-5/7)	Change from last report (m <sup>3</sup> )	t	Tank Concentrate waste liquid	Evapo conce			se osmosis		(Reverse os		Residual wate	er [m <sup>3</sup> ] *5	Change from last report [m <sup>3</sup> ]	Storage capacity [m <sup>3</sup> ] * <sup>3,4</sup>
(1)Filtrate water				<storage></storage>	appara			(Freshwater	)	``	,	Concentrated A	pprox.500	No Change	2100
2 Treated water			-				<recer< td=""><td>ving tank&gt;</td><td></td><td><b></b></td><td></td><td>Saitwater tark</td><td></td><td>0</td><td></td></recer<>	ving tank>		<b></b>		Saitwater tark		0	
(freshwater)	1,495	+5		1								*13 A	pprox.100	No Change	1100
umulative treated water	1,018,640											Strontium-treated water tank *11	0	No Change	0
				Water injection			Revers	se osmosis		Wastewa	ater				•
				tank (CST)		-	circula	tion facility in	side	supply ta	ank	Storage volu	me (m <sup>3</sup> 1	Change from last report [m3	orage volume [m
Reactor	r building		′0 m³/day,FDW •CS						<b></b>			Wastewater	933	+143	1,200
	-		2 m³/day,FDW ·CS							<b>↑</b>		supply tank SPT(B)	1,542	+ 265	3,100
		Unit 3: 7	′2 m³/day,FDW ∙CS									SPI(D)	1,042	7205	3,100
	(	7												011 11	
										SPT(	в)			_	oncentration
							entralized radioactiv atment facility	ve waste		0.10		Before/After Des			mpled on Nov 12, 2019
				Turbine building		(H	ligh temperature in	cinerator building)				Before/After Reverse Os		480ppm/3ppm (Sa	mpled on Feb 6, 2020)
										<b>↑</b>		Before/After Evaporative	e Concentration		-
		$\mathcal{I}$					+								
	Reactor Pres	sure Vessel								Treatment facility		Place of Sar	mpling	Radioactivity	concentration <sup>*6</sup>
	110001011100								$\rightarrow$	(Cesium adsorption		Process Main	Building	2.3E+07 Bq/L (Sa	mpled on Mar 3, 2020)
	/			Condenser		I _				(2nd Cesium adsorp		Exit of cesium adsorp	otion apparatus	3.8E+03 Bq/L (San	npled on Mar 22, 2019)
$\sim$	X	×	$\frown$				Centralized rad			(Decontamination fa	cility)	Exit of decontamin	nation facility		-
$\left( \right)$							vaste treatmer Process main					High Temperature Inci	inerator Building	3.4E+07 Bq/L (Sa	mpled on Feb 4, 2020)
					.		FIOCESS Main	bulluling)				Exit of second cesium ads	sorption apparatus	1.7E+02 Bq/L (Sa	mpled on Mar 3, 2020)
F	Primary Contai	nment Vesse					1					Exit of third cesium adso	orption apparatus	4.0E+02 Bq/L (Sa	mpled on Mar 3, 2020)
			$(\uparrow)$			_				Waste	e	From			
			$\cup$					(				$\overline{A}$			
										•					
<b>F</b> 33	Storage	Change from	Water level in		Storage	Change from	Water level	Treated volume	Cumulative treated	\\/		Change from		Storage	1
Facility	volume [m <sup>3</sup> ]	last report	T/B *8	Storage facility	volume [m <sup>3</sup> ]	last report [m <sup>3</sup>	1 * <sup>8</sup>	(4/30-5/7)	volume [m <sup>3</sup> ]	Waste pro	baucea	last report		capacity	
Unit 1	Approx.1,300	+10	-	Process Main Building	Approx.7,120	-1,880	T.P.262	Approx. 3,700	Approx. 2,269,210	Sludge [m <sup>3</sup> ]	417 *16	No Change		700 *3	
Unit 2	Approx.3,380	+120	T.P1,236	High Temperature Incinerator Building	Approx.3,210	+20	T.P.406	*7	*7	Used vessels	4,759 *9	+9		6,372	
			TD 1000		1		1	I		1		1			J
Unit 3	Approx.3,310	+370	T.P1,328	Total	Approx.10,330			*1 The figures (	of the data are treater	d as a reference, because wat	er levels during water	transfer are not stable			
	+		Under	L	1	1		*2 The figures of	of the storage volume	do not include those of the fo	lowing volumes that h	ave accumulated from the	bottom		
Unit 4	Approx.1,680	+20	T.P1,479							alled "down scale (DS)," where x. 1,100m <sup>3</sup> ), Concentrated wa			water storage tan	k (approx. 2,100m <sup>3</sup> )	
Total	Approx.9,670							Treated wate	er storage tank (reus	e) (approx. 0m3), Strontium-tre				, , , , <u>-</u> , , )	
rotai	Approx.9,670							*4 The figures of	of the data show the of "Storage capacity"	do not include those of the vo	lumes that have accun	nulated from the bottom of	the tanks to		
A=in*		and the state of the state		20, 2020 to May 7, 20201				the height of	so-called "down sca	le (DS)," where water gauges at accumulates up to the heigh	show 0%. However, e	ach tank has the capacity t	that accomodates	•	
				30, 2020 to May 7, 2020] ed radioactive waste treatment facilities) an	d to the treatment	facilities was		*5 The figure of	"Residual water" inc	ludes the one of the volumes	that have accumulated	from the bottom of the tan	nks to		
	enever necessary.		, cr	a radioactive waste redution idellities) an				saltwater is	calculated based on	le (DS)," where water gauges that of the water treated through	snow u%. The amount gh the ALPS and other	t or the residual water of co facilities.	uncentrated		
2	o								own here are those o		-				

- Due to other works, water transfer to the buildings (Units 1-4, Centrailzed radioactive waste rteatment facilities) was conducted whenever necessary. - Operations of the Cesium Adsorption Apparatus have been suspended.

Operations of the 2nd Cesium Adsorption Apparatus have continued to be conducted; the availability factor is 44% (previous simulated : 45%). - Operations of the 3rd Cesium Adsorption Apparatus have been suspended.

To the treate anown nere are tnose of US-137. To total treated amount of Cesium adsorption apparatus and 2nd Cesium adsorption apparatus. Breakdown of the treated amount: Cesium adsorption apparatus (0m<sup>3</sup>) 2nd Cesium adsorption apparatus (3/00m<sup>3</sup>) 3rd Cesium adsorption apparatus (0/m<sup>3</sup>)

Breakdown of the cumulative treated amount: Cesium adsorption apparatus (394,720m<sup>3</sup>) 2nd Cesium adsorption apparatus (1,834,340m<sup>3</sup>)

3td Cesium adsorption apparatus (1.00-r,90-m) 3td Cesium adsorption apparatus (40,150 m) \*8 The data of the water levels in the Reactor Buildings are the data as of 5 a.m., May 7. \*9 Breakdown of the used vessels: Cesium adsorption apparatus (779). 2nd Cesium adsorption apparatus (20), 3rd Cesium adsorption apparatus (2) Others: Storage container (3,445), Treated column (17), Used vessel (221), Filiters and so forth (65)

<sup>10</sup> Volume of the Strontium-treated water received in the welded-type tanks <sup>11</sup> Volume of the Strontium-treated water remaining in the frange-type tanks <sup>12</sup> Volume of the treated water remaining in the frange-type tanks <sup>13</sup> Volume of the treated water remaining in the frange-type tanks

\*14 Volume of the treated water stored in the ALPS sample tarks (frange-type), the additional ALPS temporary storage tanks (welded-type) and the high performance ALPS temporary storage tanks (welded-type) \*15 Volume of the treated water stored in the exact exact exact welded-type)

(These welded-type tanks have been resued from 2019.) \*16 Sum of sludge and supernatant water (as of 10 a.m., May 7)

Attachment-2

ade capa

[m<sup>3</sup>] \*2,3

24,600

10,300

1,163,300

11,600

12,600

109,000

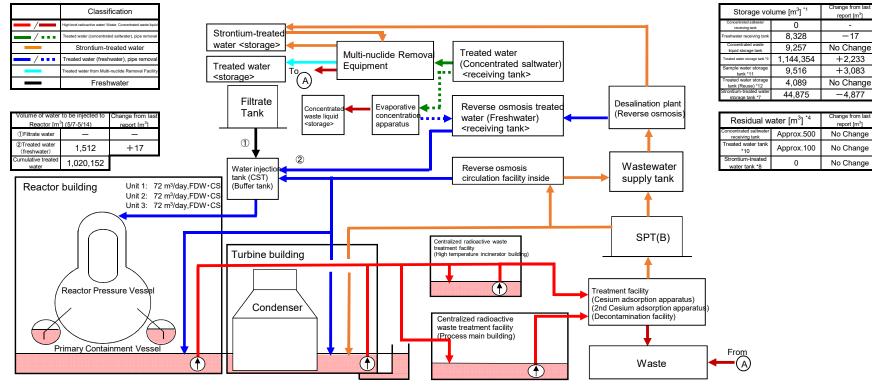
Storage capacity\*

Approx.2,100

Approx.1,100

0

### Storage and treatment of high level radioactive accumulated water (as of May 14, 2020)



Storage Facility	Storage volume [m <sup>3</sup> ]	Change from last report [m <sup>3</sup> ]	Water level	Treated volume (5/7-5/14)	Cumulative treated volume [m <sup>3</sup> ]	Waste pro	oduced	Change from last report	Storage capacity	
Process Main Building	Approx.8,220 +1,100		T.P.590	Approx. 1,680	Approx. 2.270.890	Sludge [m <sup>3</sup> ]	417	No Change	700 *2	
High Temperature Incinerator Building	Approx.3,130	-80	T.P.343	*5	*5	Used vessels	4,770 *6	+11	6,372	
Total	Approx.11,350									

[Main operations that are planned to be conducted during the period from May 7, 2020 to May 14, 2020]

Water transfer from the Units 1-4 to the buildings (Units 1-4, Centrailzed radioactive waste treatment facilities) and to the treatment facilities will

be conducted whenever necessary

Storage

Approx.1,310

Approx.3,340

Approx.2,800

Approx.1,580

Approx.9,030

Facility

Unit 1

Unit 2

Unit 3

Unit 4

Total

- Due to other works, water transfer to the buildings (Units 1-4, Centrailzed radioactive waste rteatment facilities) will be conducted whenever necessary.

- Operations of the Cesium Adsorption Apparatus will continue to be suspended.

Operations of the 2nd Cesium Adsorption Apparatus will be conducted (assumed availability factor : 20%).

Operations of the 3rd Cesium Adsorption Apparatus will continue to be suspended.

Change from

last report

+10

-40

-510

-100

Water level in

T/B

T.P.-1.236

T.P.-1.573

TP - 1479

Under

\*1 The figures of "Storage volume" do not include those of the volumes that have accumulated from the bottom of the tanks to the height of so-called "down scale (DS)," where water gauges show 0%. \*2 The figures of the data show the operational limits.

\*3 The figures of "Storage capacity" do not include those of the volumes that have accumulated from the bottom of the tanks to the height of so-called "down scale (DS)," where water gauges show 0%. However, each tank has the capacity that accomodates more than the storage volume that accumulates up to the height of "DS."

Hore that the storage volume translocation accumulates up to the neight of DS.
47 the figure of Residual water includes the one of the volumes that have accumulated from the bottom of the tanks to the height of so-called 'down scale (DS)," where water gauges show 0%. The amount of the residual water of concentrated saltwater is calculated based on that of the water treated through the ALPS and other facilities.
45 Total treated amount of Cesium adsorption apparatus and 2nd Cesium adsorption apparatus

Breakdown of the treated amount: Cesium adsorption apparatus (0m<sup>3</sup>) 2nd Cesium adsorption apparatus (1,680m<sup>3</sup>)

- 3rd Cesium adsorption apparatus (0m<sup>3</sup>) ... Breakdown of the cumulative treated amount: Cesium adsorption apparatus (394,720m<sup>3</sup>) 2nd Cesium adsorption apparatus (1,836,020m<sup>3</sup>)
- 3rd Cesium adsorption apparatus (40,150m<sup>3</sup>) \*6 Breakdown of the used vessels: Cesium adsorption apparatus (779)

2nd Cesium adsorption apparatus (230) 3rd Cesium adsorption apparatus (2)

Chters: Storage container (3456), Treated column (17), Used vessels (221), Filters and so forth (65) \*7 Volume of the Strontium-treated water stored in the welded-type tanks

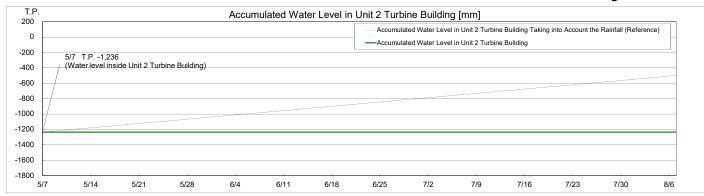
\*8 Volume of the Strontium-treated water remaining in the frange-type tanks \*9 Volume of the treated water stored in the welded-type tanks

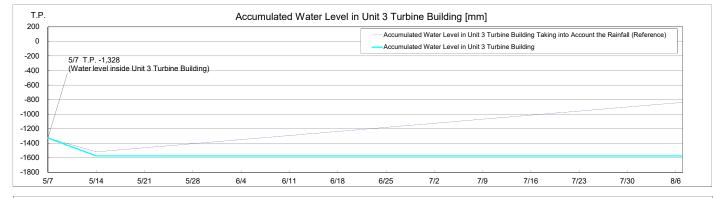
10 Volume of the treated water remaining in the frange-type tanks

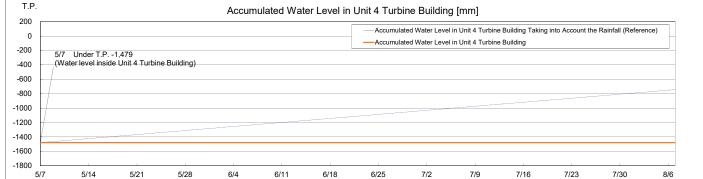
\*11 Volume of the treated water stored in the ALPS sample tanks (frange-type), the additional ALPS temporary storage tanks (welded-type) and the high performance ALPS temporary storage tanks (welded-type) \*12 Volume of the treated water stored in the reuse welded-type tanks which stored strontium-treated water before

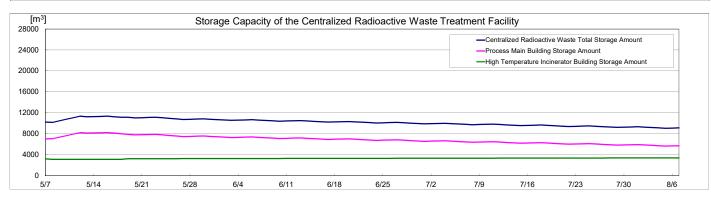
(These welded-type tanks have been reused from 2019.)

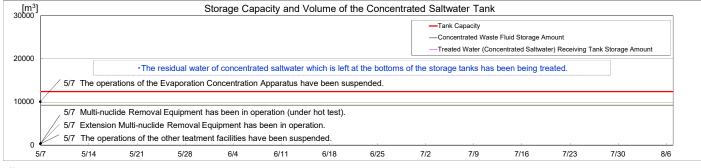
#### Simulation Results of Accumulated Water Treatment in Units 1-4 Turbine Buildings











Note - The amount of water treated through the 2nd Cesium Adsorption Apparatus is estimated to be 780m<sup>3</sup>/d (Subject to change depending on the factors such as the levels of water accumulated in T/Bs.) - "Accumulated Water Levels in Unit 2, 3 and 4 T/Bs" are simulated water levels in consideration of the change of the water levels caused by recent rainfall, inflow of groundwater, etc.

"Accumulated Water Levels in Unit 2, 3 and 4 T/Bs Taking into Account the Rainfall" are simulated water levels which are calculated by adding to the average amount of rain which fell for three months from August to October in 2015 to 2017.

Unit 2 Turbine Building water level is controled by retained water transfer pumps in the Unit 2 reactor building.
 Unit 3 Turbine Building water level is controled by retained water transfer pumps in the Unit 3 turbine building.
 Unit 4 Turbine Building water level is controled by retained water transfer pumps in the Unit 4 turbine building.