# Situation of Storage and Treatment of Accumulated Water including Highly Concentrated Radioactive Materials at Fukushima Daiichi Nuclear Power Station (399th Release)

April 15, 2019 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 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, 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 11, 2019 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 April 18, 2019, are shown in Attachment -2.

1

#### (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.

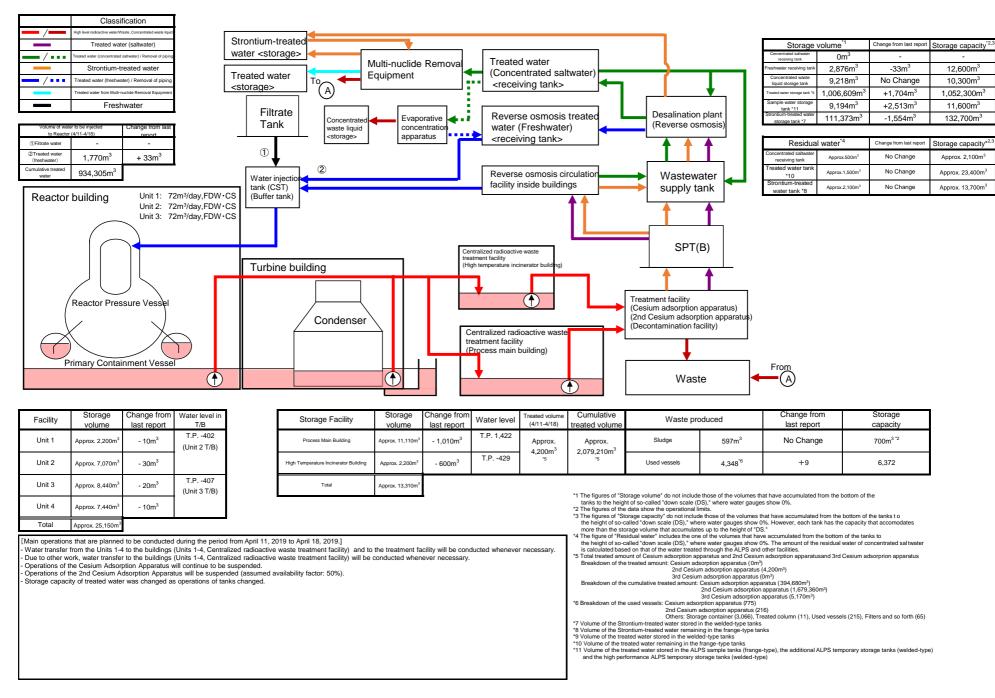
END

#### Attachment-1

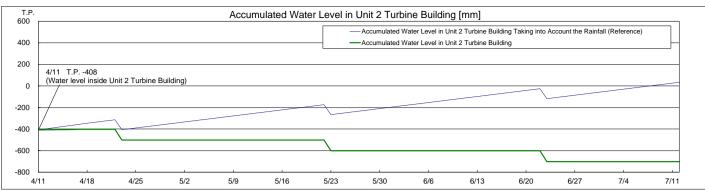
# Storage and treatment of high level radioactive accumulated water (as of April 11, 2019)

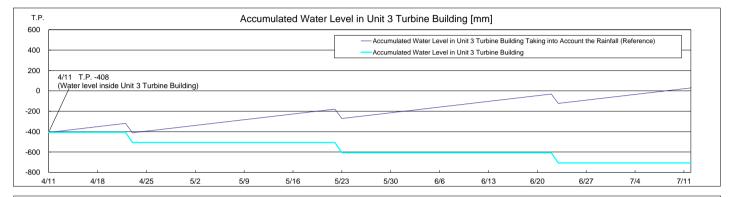
<complex-block></complex-block>	0		fication			gn level radio					(	• •	,	Storage volume*1	,2 Change from last rep	ort Storage capacity <sup>*3</sup>
														A	â	21010.gc 00.pc.00.j
		Treated wate	er (saltwater)		<b>o</b> : .											
<complex-block></complex-block>																
			<i>p</i> (1)		water <stor< td=""><td></td><td>Aulti puolido</td><td>Domovol</td><td>Treated</td><td>water</td><td></td><td></td><td></td><td></td><td></td><td></td></stor<>		Aulti puolido	Domovol	Treated	water						
				Г	Trootod			Removal			water)			Sample water storage tank		
	/	,					quipment					ſ				,
					<storage></storage>				< receiv				★	storage tank *10 112,9	27m <sup>°</sup> - 2,152m <sup>°</sup>	132,700m <sup>3</sup>
<complex-block></complex-block>			<b>a</b>	1	Filtr		Evapor	rativo	Devere		tracted	Desalination	olant	Residual water*5		rt Storage capacity*
	to Reacto	or (4/4-4/11)			Tar			tration				(Reverse osm	iosis)		500m <sup>3</sup> No Change	Approx. 2,100m
	①Filtrate water	-	-				appara	tus			, .				1,500m <sup>3</sup> No Change	Approx. 23,400n
	2)Treated water	4 7073	4073					┣━				▲ ▲ ·	<b>▲</b>	Strontium-treated	No Change	
	(freshwater) Cumulative treated		- 127 m		1									water tank *11 Approx.	2,100m No Change	Applox. 13,7001
	water	002,000m			Waterin	2			Reverse	e osmosis			ter	Storage volume	Change from last repo	rt Storage volume
											side			Wastewater		
	Reactor	· building				tank)						Supply tai	IX	supply tank		,
<complex-block>         ····································</complex-block>		Ū										<b>↑</b>	♠	SPT(B) 864	lm° - 423m°	3,100m°
				John / day,i DVV									L		Chloride	concentration
		$\left( \begin{array}{c} \end{array} \right)$												Before/After Desalination	on 340ppm/1ppm (Sa	ampled on March 12, 2019
								Cen	tralized radioactiv	e waste		SPT(B	)	Before/After Reverse Osmosis	Circulatior 300ppm/3ppm (Sar	npled on February 14, 201
					Turki	مم امينا والم م				inerator build na)				Before/After Evaporative Conc	entration	-
					i urbii	ne building		(9		inclutor building)		<b></b>	<b>A</b>			
									1					Place of Samplin	0 Radioactiv	ty concentration*6
window pressure version         window pressure version       window	,	/							<b>V</b>						•	,
		Reactor Pres	sure Vessel										oparatus)		9	
			. )			Condenser					-	(2nd Cesium adsorpti	on apparatus)			
			$\searrow$				$ \ge $		ntralized radi	ioactive		(Decontamination fac	lity)			ampled on May 14, 2018)
	$\square$	$\mathcal{A}$		$\supset$										· · · <del>9</del> · · · · · F · · · · · · · · · · · · · ·		
								(P	rocess main b	ouilding)		1				ipida diri r dordary 22, 201
	P	rimary Contain	nment Vesse											From		
Storage frage from water level in unit <u>a keprox 2,210 m</u> + 10m <sup>3</sup> <u>-</u> Storage facility <u>visione frage frage from water level</u> <u>(44-41)</u> <u>visione devisione dev</u>									<u> </u>			Waste				
activity       volume       issterport       TB       storage       activity       volume       issterport       ***       (************************************				$\cup$						(	$\mathbf{D}$	Wasie		6		
activity       volume       issterport       TB       storage       activity       volume       issterport       ***       (************************************		Characa	Change from	Weter level in			Ctorese	Change from	Water level		Cumulativa	1		Change from	Storago	-
unit 1       Approx 2.20m <sup>2</sup> +10m <sup>3</sup> —         unit 2       Approx 7.10m <sup>3</sup> +40m <sup>3</sup> T.P. 400         unit 3       Approx 7.10m <sup>3</sup> +40m <sup>3</sup> T.P. 400         unit 4       Approx 7.40m <sup>3</sup> T.P. 400         unit 5       Approx 14.92m <sup>3</sup> Approx 14.92m <sup>3</sup> unit 6       Approx 14.92m <sup>3</sup> Total         opprox 14.92m <sup>3</sup> Total       Approx 14.92m <sup>3</sup> unit 6       Approx 14.92m <sup>3</sup> Total       Approx 14.92m <sup>3</sup> unit 6       Approx 14.92m <sup>3</sup> Total       Approx 14.92m <sup>3</sup> unit 6       Approx 14.92m <sup>3</sup> Total       Approx 14.92m <sup>3</sup> Approx 14.92m <sup>3</sup> unit 6       Approx 14.92m <sup>3</sup> Total       Approx 14.92m <sup>3</sup> Approx 14.92m <sup>3</sup> Approx 14.92m <sup>3</sup> unit 6       Approx 14.92m <sup>3</sup> Total       Approx 14.92m <sup>3</sup> Approx 14.92m <sup>3</sup> Approx 14.92m <sup>3</sup> Approx 14.92m <sup></sup>	Facility					Storage facility							luced		Ũ	
unit 2       Approx 7,100m <sup>1</sup> + 40m <sup>3</sup> T.P 408         unit 3       Approx 7,400m <sup>3</sup> T.P 408         unit 4       Approx 7,450m <sup>3</sup> T.P 408         unit 5       Approx 1,490m <sup>3</sup> T.P 408         unit 4       Approx 2,800m <sup>3</sup> Total       Approx 1,490m <sup>3</sup> Total         unit 5       Approx 1,490m <sup>3</sup> Total       Approx 1,490m <sup>3</sup> Total       Approx 1,490m <sup>3</sup> The first of the distance proteins due to the protein	Unit 1							3	T.P. 1,850				507 3		0.40	
Image: Note:	onine i	Approx. 2,210m <sup>3</sup>	+ 10m <sup>3</sup>	—		Process Main Building	Approx. 12,120m <sup>3</sup>	+ 1,090m°		Approx.	Approx.	Sludge	597m-	No Change	700m <sup>3</sup> 3	
Unit 3       Approx. 8.460m <sup>1</sup> -70m <sup>2</sup> -70m <sup></sup>									T.P. 67	1,530m <sup>3</sup>		-		-		_
Unit 4       Approx 7,450m <sup>3</sup> + 10m <sup>3</sup> 1.P 428         Operations that have been conducted during the period from April 4, 2019 (the previous announcement data) to April 11, 2019.]       The figures of the data work ever weite guages through the bottom of the tasks to the storage task (approx. 100m <sup>3</sup> ). Storage task (approx. 100m <sup>3</sup> ).         ter transfer from the Units 1.4 to the buildings (Units 1.4, Centralized radioactive waste treatment facility) and to the treatment facility was conducted whenever necessary.       The figures of the data work ever weite guages through the bottom of the tasks to the height of too-sailed from the buildings (Units 1.4, Centralized radioactive waste treatment facility) was conducted whenever necessary.       The task advent the storage volume that accumulate guade through the ALPS and other facilities.         m April 8, operations of the 2nd Cesium Adsorption Apparatus have been resumed; the availability factor is 18% (previous simulated: 10%).       The data advent the result advent of the result advent on apparatus (150m <sup>1</sup> ).         To data the water tevioning unit accumulate guade through the ALPS and other facilities.       The data advent the result advent the result advent on apparatus (150m <sup>1</sup> ).         To data the water tevioning unit accumulate through the ALPS and the facilities.       The data advent the result advent the	Unit 2	Approx. 7,100m <sup>3</sup>	+ 40m <sup>3</sup>	T.P 408		High Temperature Incinerator Building	Approx. 2,800m <sup>3</sup>		T.P. 67	1,530m <sup>3</sup>		-		-		
Total       Approx. 25.220m <sup>2</sup> Total       Approx. 25.220m <sup>2</sup> no operations that have been conducted during the period from April 4, 2019 (the previous announcement data) to April 11, 2019.]       The figures of the during the accurulates up the height of DS <sup>2</sup> .         to the work, water transfer to the buildings (Units 1-4, Centralized radioactive waste treatment facility) and to the treatment facility was conducted whenever necessary.       The figures of the during the accurulates up the height of DS <sup>2</sup> .         a print 8, operations of the 2nd Cesium Adsorption Apparatus have been resumed; the availability factor is 18% (previous simulated: 10%).       The figures of the during the apparatus (TS) matching the matching the apparatus (TS) matching the m		Approx. 7,100m <sup>3</sup>	+ 40m <sup>3</sup>	T.P 408		High Temperature Incinerator Building	Approx. 2,800m <sup>3</sup>		T.P. 67	1,530m <sup>3</sup>	2,075,010m <sup>3</sup>	Used vessels	4,339 <sup>*9</sup>	+7	6,372	_
no perations that have been conducted during the period from April 4, 2019 (the previous announcement data) to April 11, 2019.] ter transfer from the Units 1-4 to the buildings (Units 1-4, Centralized radioactive waste treatment facility) and to the treatment facility was conducted whenever necessary. to to ther work, water transfer to the buildings (Units 1-4, Centralized radioactive waste treatment facility) was conducted whenever necessary. arations of the 2nd Cesium Adsorption Apparatus have been resumed; the availability factor is 18% (previous simulated: 10%). The factor of the vortice the net of the vortice that have accurated trough the ALPS and other facilities. The factor of the vortice the net of the vortice the vortice the vortice the net of the vortice the vortice the vortice the vortice the vortice the vortice the vorti	Unit 2	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup>	+ 40m <sup>3</sup> - 70m <sup>3</sup>	T.P 408 T.P 408		High Temperature Incinerator Building	Approx. 2,800m <sup>3</sup>		T.P. 67	1,530m <sup>3</sup>	2,075,010m <sup>3</sup> '7	Used vessels he figures of the data are treated as a he figures of the storage volume do r fibe tranks to the height of so-called reshwater receiving tank (aprox. 1 reated water storage tank (approx. 1	4,339 <sup>*9</sup> reference, because wate ot include those of the fo down scale (DS)," where hm <sup>3</sup> ), Concentrated wast 900m <sup>3</sup> ), Stronium-treated	+ 7 r levels during water transfer are not stat lowing volumes that have accumulated water gauges show 0%: liquid storage tank (approx.100m <sup>2</sup> ),	6,372	
ter transfer from the Units 1-4 to the buildings (Units 1-4, Centralized radioactive waste treatment facility) as conducted whenever necessary. e to other work, water transfer to the buildings (Units 1-4, Centralized radioactive waste treatment facility) was conducted whenever necessary. e to other work, water transfer to the buildings (Units 1-4, Centralized radioactive waste treatment facility) was conducted whenever necessary. m April 8, operations of the 2nd Cesium Adsorption Apparatus have been resumed; the availability factor is 18% (previous simulated: 10%). 3 d Cesium adsorption apparatus (1530m) 2 d Cesium adsorption apparatus (1575,100m) 3 d Cesium adsorption apparatus (5175,100m) 3 d Cesium adsorption apparatus (757,100m) 3 d Cesium adsorption apparatus (757,100m) 3 d Cesium adsorption apparatus (2167,100m) 3 d Cesium adsorption apparatus (216,100m) 3 d C	Unit 2 Unit 3	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup>	+ 40m <sup>3</sup> - 70m <sup>3</sup>	T.P 408 T.P 408		High Temperature Incinerator Building	Approx. 2,800m <sup>3</sup>		T.P. 67	1,530m <sup>3</sup>	2,075,010m <sup>3</sup> '7 '1 T '2 T '5 T '5 T '3 T '3 T	Used vessels he figures of the data are treated as a he figures of the storage volume do of the tanks to the height of so-called restruktare resonage tank (approx. 1) he lightres of the call and show the form heightres of the call and show the form	4,339 <sup>*9</sup> reference, because wate of include those of the fo down scale (DS),* where m <sup>2</sup> ), Concentrated wast joom <sup>3</sup> , Stronium-reate tional limits.	+7 r levels during water transfer are not stat lowing volumes that have accumulated water gauges show 0%: liquid storage tank (approx.100m <sup>2</sup> ), d water storage tank (approx.000m <sup>2</sup> ), d water storage carcumulated from the	6,372 ble. from the bottom	
b to other work, water transfer to the buildings (Units 1-4, Centralized radioactive waste transmit to tabulation apparatus (and apparatus bance been suspended. m April 8, operations of the 2nd Cesium Adsorption Apparatus have been resumed; the availability factor is 18% (previous simulated: 10%). Total readom adsorption apparatus (and adsorption apparatus (and adsorption apparatus (and adsorption apparatus (b, 20m)) Total readom adsorpt	Unit 2 Unit 3 Unit 4 Total	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup> Approx. 25,220m <sup>3</sup>	+ 40m <sup>3</sup> - 70m <sup>3</sup> + 10m <sup>3</sup>	T.P 408 T.P 408 T.P 458	ril 4. 2019 /tha	High Temperature Incinerator Building Total	Approx. 2,800m <sup>3</sup> Approx. 14,920m <sup>3</sup>		T.P. 67	1,530m <sup>3</sup>	2,075,010m <sup>3</sup> -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	Used vessels he figures of the data are treated as a he figures of the storage volume do ne retriviater neoving tank (apport. 90 restructure receiving tank (apport. 1) he figures of the data show the opera he figures of the data show the opera he figures of the data show the opera ne height of so-called "down scale (D nore than the storage volume that as	4,339 <sup>*9</sup> reference, because wate of include those of the fc down scale (DS), "where m?, Concentrated wast 900m <sup>3</sup> ), Strontium-treate tional limits. it include those of the vo bional limits. b, "where water gauges unrulates up to the heigi the one of the volumes	+7 r levels during water transfer are not stat lowing volumes that have accumulated liquid storage tank (approx. 100m <sup>3</sup> ) dwater storage tank (approx. 600m <sup>3</sup> ) dwater storage tank (approx. 600m <sup>3</sup> ) ums that have accumulated from the bettor or 10 <sup>5</sup> C.	6,372	_
m April 8, operations of the 2nd Cesium adsorption Apparatus (have been resumed; the availability factor is 18% (previous simulated: 10%). Breakdown of the treated amount: Cesium adsorption apparatus (m <sup>2</sup> ) 3rd Cesium adsorption apparatus (m <sup>2</sup> ) 3rd Cesium adsorption apparatus (m <sup>2</sup> ) 3rd Cesium adsorption apparatus (St 00m <sup>2</sup> ) 3r	Unit 2 Unit 3 Unit 4 Total Main operation Water transfer	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup> Approx. 25,220m <sup>3</sup> is that have been of from the Units 1-4	+ 40m <sup>3</sup> - 70m <sup>3</sup> + 10m <sup>3</sup>	T.P 408 T.P 408 T.P 458 the period from Ap (Units 1-4, Central	zed radioactive	High Temperature Incinerator Building Total previous announcement data) to waste treatment facility and to	Approx. 2,800m <sup>3</sup> Approx. 14,920m <sup>3</sup> o April 11, 2019.]	- 290m <sup>3</sup>		1,530m <sup>3</sup> -7	2,075,010m <sup>3</sup> -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	Used vessels he figures of the data are treated as a he figures of the storage volume do ne retriviater neoving tank (apport. 90 restructure receiving tank (apport. 1) he figures of the data show the opera he figures of the data show the opera he figures of the data show the opera ne height of so-called "down scale (D nore than the storage volume that as	4,339 <sup>*9</sup> reference, because wate of include those of the fc down scale (DS), "where m?, Concentrated wast 900m <sup>3</sup> ), Strontium-treate tional limits. it include those of the vo bional limits. b, "where water gauges unrulates up to the heigi the one of the volumes	+7 r levels during water transfer are not stat lowing volumes that have accumulated liquid storage tank (approx. 100m <sup>3</sup> ) dwater storage tank (approx. 600m <sup>3</sup> ) dwater storage tank (approx. 600m <sup>3</sup> ) ums that have accumulated from the bettor or 10 <sup>5</sup> C.	6,372	_
3 ded Geslum adsorption apparatus (304, 680m <sup>3</sup> ) 2 mC Casium adsorption apparatus (1,675, 160m <sup>3</sup> ) 2 mC Casium adsorption apparatus (1,675, 160m <sup>3</sup> ) 2 mC Casium adsorption apparatus (1,675, 160m <sup>3</sup> ) 3 The data of the water (evelse) in the Reactor Buildings are the data as a 0 + 2 m. A pull 1 + 1. 3 Breakdown of the curvative versites: Cesium adsorption apparatus (216). 6 The data of the water (evelse) in the Reactor Duildings are the data as a 10 + 1. 3 Breakdown of the curvative versites: Cesium adsorption apparatus (216). 6 The data of the water (evelse) in the water (evelse) i	Unit 2 Unit 3 Unit 4 Total Aain operation Water transfer Water transfer	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup> Approx. 25,220m <sup>3</sup> is that have been of from the Units 1-4 work, water transfe	+ 40m <sup>3</sup> - 70m <sup>3</sup> + 10m <sup>3</sup> conducted during 4 to the buildings	T.P 408 T.P 408 T.P 458 the period from Ap (Units 1-4, Central Units 1-4, Central	zed radioactive zed radioactive	High Temperature Incinerator Building Total previous announcement data) to waste treatment facility and to	Approx. 2,800m <sup>3</sup> Approx. 14,920m <sup>3</sup> o April 11, 2019.]	- 290m <sup>3</sup>		1,530m <sup>3</sup> -7	2,075,010m <sup>3</sup> -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	Used vessels he figures of the data are treated as a he figures of the storage volume do of the tanks to the height of so-called restrukter recording tank (approx. 1 he figures of the data show the caper he height of so-called 'down scale (D nor than the storage volume that as he figure of The data with the caper height of so-called 'down scale (D alwater is calculated based on that or he data of Residual water includes	4,339 <sup>*9</sup> reference, because wate to include those of the (DS), where m <sup>3</sup> ), Concentrated wase include those of the vo body, Stronium-treate thora or the volumes of the volumes (), where water gauges (), where water gauges (), where water (), where water (), where water (), where water (), where (	+7 revels during water transfer are not stat lowing volumes that have accumulated water gauges show %: liguid storage tank (approx.100m <sup>3</sup> ), d water storage tank (approx.100m <sup>3</sup> ), d water storage tank (approx.100m <sup>3</sup> ), unse shat have accumulated from the show %. However, each tank has the c or 'DS.' hat have accumulated from the bottom of 'DS.' hat have accumulated from the bottom how %. The amount of the residual with the ALPS and other facilities.	6,372 cle. from the bottom apacity that accomodates of the tanks to apacity that accomodates	_
3rd Cesima adsorption apparatus (5,170 m <sup>-</sup> )         *8 The data of the water levels in the Reactor Buildings are the data as of 7 am. April 11.         *9 Breakdown of the survey weakses. Evaluation adsorption apparatus (716)         "Others: Storage evaluation of the survey weakses. Evaluation (757), 2hd Cesima adsorption apparatus (216)         "Others: Storage evaluation of the survey weakses. Evaluation (757), 2hd Cesima adsorption apparatus (216)         "Others: Storage evaluation of the survey weakses. Evaluation (757), 2hd Cesima adsorption apparatus (216)         "10 Volume of the Storontum-treated value of maximizing in the frage-type tanks         "11 Volume of the Storontum-treated value of maximizing in the frage-type tanks         "12 Volume of the treated value remaining in the frage-type tanks         "13 Volume of the treated value remaining in the frage-type tanks         "14 Volume of the treated value remaining in the frage-type tanks	Unit 2 Unit 3 Unit 4 Total Main operation Water transfer Due to other w Operations of	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup> Approx. 25,220m <sup>3</sup> Is that have been of from the Units 1-4 work, water transfe the Cesium Adsor	+ 40m <sup>3</sup> - 70m <sup>3</sup> + 10m <sup>3</sup> conducted during 4 to the buildings r to the buildings r to the buildings	T.P 408 T.P 408 T.P 458 the period from Ap (Units 1-4, Central (Units 1-4, Central units 1-4, Central	zed radioactive zed radioactive led.	High Temperature Incinerator Building Total previous announcement data) to waste treatment facility) and to waste treatment facility) was of	Approx. 2,800m <sup>3</sup> Approx. 14,920m <sup>3</sup> b) April 11, 2019.] b) the treatment fac	- 290m <sup>3</sup>		1,530m <sup>3</sup> -7	2,075,010m <sup>3</sup> -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	Used vessels he figures of the data are treated as a figures of the storage volume do r of the tanks to the height of as-called restrukter recording tark (approx. 3) he figures of the data show the oper- tare that the storage tark (approx. 3) he figures of the data show the oper- he height of so-called 'down scale (D one than the storage volume that as he figured of the data d'own scale (D one than the storage volume that as height of "Residual water 'includer he height of so-called 'down scale (D one than the storage volume that as height of model down scale (D alwater is calculated based on that the data show the set the data down the residom of the treated armour of C simulation the the reside armour of the data armour the set of the data show the reside armour to (C simulation the the set of the data armour the set of the data armour the storage armour that are storage armour the data armour that are the data armour the data	4,339 <sup>°9</sup> reference, because wate ot include those of the fo down scale (DS), "where main limits. Stornium-treated wate 300m"). Stornium-treated stornium limits, and of the vo S), where water gauges the water treated throu- 3, owner water gauges the water treated throu- 3, spontauts and 2nd ium adsorption appartal.	+7 r levels during water transfer are not stat lowing volumes that have accumulated water gauges show 0%: liquid storage tank (approx.100m <sup>3</sup> ), d water storage tank (approx.100m <sup>3</sup> ), d water storage tank (approx.100m <sup>3</sup> ), unset shat have accumulated from the bottom of to 'DS.' hat have accumulated from the bottom of the ALPS and other facilities. Paciarun adsorption apparatus and 3rd Cr s (00m <sup>3</sup> )	6,372 cle. from the bottom apacity that accomodates of the tanks to apacity that accomodates	_
16       The data of the valuer levels in the Reactor Buildings are the data as of 7 a.m., April 11.         17       The data of the valuer levels in the Reactor Buildings are the data as of 7 a.m., April 11.         16       The data of the valuer levels in the Reactor Buildings are the data as of 7 a.m., April 11.         16       The data of the valuer levels in the Reactor Buildings are the data as of 7 a.m., April 11.         17       Point and the valuer levels in the value data of the value data data of the value data of	Unit 2 Unit 3 Unit 4 Total Main operation Water transfer Due to other w Operations of	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup> Approx. 25,220m <sup>3</sup> Is that have been of from the Units 1-4 work, water transfe the Cesium Adsor	+ 40m <sup>3</sup> - 70m <sup>3</sup> + 10m <sup>3</sup> conducted during 4 to the buildings r to the buildings r to the buildings	T.P 408 T.P 408 T.P 458 the period from Ap (Units 1-4, Central (Units 1-4, Central units 1-4, Central	zed radioactive zed radioactive led.	High Temperature Incinerator Building Total previous announcement data) to waste treatment facility) and to waste treatment facility) was of	Approx. 2,800m <sup>3</sup> Approx. 14,920m <sup>3</sup> b) April 11, 2019.] b) the treatment fac	- 290m <sup>3</sup>		1,530m <sup>3</sup> -7	2,075,010m <sup>3</sup> -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	Used vessels he figures of the data are treated as a refigures of the storage volume do re- reshvater receiving the (apport. 90 reshvater	4,339 <sup>°9</sup> reference, because wate of include those of the Ic down scale (DS), "where (DW), "Stronium-treat tional limits. include those of the volume S)," where water gauges of the volations in uncluster, up to the heigh the one of the volume of the volume streated throu 37. the water treated throu 37. Cost appartus and 2nd ium astorption appartus (Desima materization and	+7 I evels during water transfer are not stal lowing volumes that have accumulated water guoges show 0%. (or constant) d water storage tank (approx. 600m <sup>3</sup> ), d water storage tank (approx. 600m <sup>3</sup> ), uses that have accumulated from the bettor of "DS." Constrained from the bettor of "DS." Constrained from the bettor is the ALPS and other facilities. Sestim adsorption apparatus and 3rd Ca (0m <sup>3</sup> ) Task 0m <sup>3</sup> .	6,372 cle. from the bottom apacity that accomodates of the tanks to apacity that accomodates	_
Others 25 Storage container (2) 367). Treated column (11), Used vessel (215), Filters and so forth (65) "10 Volume of the Strotoium-readed water stored in the welded-type tanks "11 Volume of the Strotoium-readed water remaining in the frange-type tanks "12 Volume of the treated vater remaining in the frange-type tanks "13 Volume of the treated vater remaining in the frange-type tanks "14 Volume of the treated vater remaining in the frange-type tanks "14 Volume of the treated vater remaining in the frange-type tanks "14 Volume of the treated vater remaining in the frange-type tanks "14 Volume of the treated vater remaining in the frange-type tanks "14 Volume of the treated vater remaining in the frange-type tanks "14 Volume of the treated vater remaining in the frange-type tanks "14 Volume of the treated vater remaining in the frange-type tanks	Unit 2 Unit 3 Unit 4 Total Main operation Water transfer Due to other w Operations of	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup> Approx. 25,220m <sup>3</sup> Is that have been of from the Units 1-4 work, water transfe the Cesium Adsor	+ 40m <sup>3</sup> - 70m <sup>3</sup> + 10m <sup>3</sup> conducted during 4 to the buildings r to the buildings r to the buildings	T.P 408 T.P 408 T.P 458 the period from Ap (Units 1-4, Central (Units 1-4, Central units 1-4, Central	zed radioactive zed radioactive led.	High Temperature Incinerator Building Total previous announcement data) to waste treatment facility) and to waste treatment facility) was of	Approx. 2,800m <sup>3</sup> Approx. 14,920m <sup>3</sup> b) April 11, 2019.] b) the treatment fac	- 290m <sup>3</sup>		1,530m <sup>3</sup> -7	2,075,010m <sup>3</sup> 7 11 22 5 5 5 5 5 5 5 5 5 5 5 5 7 7 7 7 7 7	Used vessels be figures of the strange veiwers of the figures of the strange veiwers of the tambe to the strange veiwers of the tambe to the strange veiwers of the tambe to the strange veiwers of the figures of Strange capacity do no height of so-called down scale (D alwater is calculated based on that the figures of Strange capacity do no height of so-called down scale (D alwater is calculated based on that the data shown here are those of Cs- resakdown of the treated amount: C are readown of the called amount: Called the source of the strange of are readown of the called amount: Called the source of the strange of are readown of the called amount: Called the source of the strange of the areadown of the called the source of the areadown of the called the source of the source of the source of the source of the source of the areadown of the called the source of the areadown of the called the source of the source of the source of the source of the source of the source of the areadown of the called the source of	4,339 <sup>19</sup> reference, because water to invest the second second second metal and the second second second metal second second second second by the second second second second Structure the second second second Structure the second second second Structure the second second second Structure the second sec	+7 fevels during water transfer are not stat lowing volumes that has accumulated lowing volumes that has accumulated water storage tank (approx.100m <sup>3</sup> ), urnes that have accumulated from the ba have (SN-16wever, each tank has the co- have (SN-16wever, each tank has the other on the haves accumulated from the bottor on show (SN-16wever, each tank has the co- low (SN-16wever), tank has the co- low (SN-16wev	6,372 cle. from the bottom apacity that accomodates of the tanks to apacity that accomodates	_
*11 Volume of the Strated water remaining in the frange-type tanks *12 Volume of the treated voter remaining in the frange-type tanks *13 Volume of the treated voter remaining in the frange-type tanks *14 Volume of the treated voter strong in the ALPS asmole tanks (frange-type), the additional ALPS temporary storage tanks (welded-type)	Unit 2 Unit 3 Unit 4 Total Main operation Water transfer Due to other w Operations of	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup> Approx. 25,220m <sup>3</sup> Is that have been of from the Units 1-4 work, water transfe the Cesium Adsor	+ 40m <sup>3</sup> - 70m <sup>3</sup> + 10m <sup>3</sup> conducted during 4 to the buildings r to the buildings r to the buildings	T.P 408 T.P 408 T.P 458 the period from Ap (Units 1-4, Central (Units 1-4, Central units 1-4, Central	zed radioactive zed radioactive led.	High Temperature Incinerator Building Total previous announcement data) to waste treatment facility) and to waste treatment facility) was of	Approx. 2,800m <sup>3</sup> Approx. 14,920m <sup>3</sup> b) April 11, 2019.] b) the treatment fac	- 290m <sup>3</sup>		1,530m <sup>3</sup> -7	2,075,010m <sup>3</sup> -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	Used vessels he figures of the data are treated as a he figures of the storage volume do to file tanks to the height of ac-called restructure recording that, fagorov. 30 he figures of the data show the oper he figures of the data show the oper he figures of the data show the oper he height of ac-called 'down scale (D nor than the storage volume that as he figure of 'Residual water' include he height of ac-called 'down scale (D nor than the storage volume that as height of ac-called 'down scale (D nor than the storage volume that as a the figure of 'Residual water' include he data shown here are those of Ca- olar treated amount of Casim adown to the treated amount of Casim adown the data of the vater levels in the Res	4,339 <sup>°9</sup> reference, because wate of include those of the fo down scale (DS), " where 300m"), Sconcentrated was 300m"), Sconcentrated was 300m"), Simotium-stead 300m"), where water gauges the one of the volume 30, where water gauges 31, where water gau	+7 I levels during water transfer are not stal lowing volumes that have accumulated water gauges show 0%: liquid storage tank (approx. 100m <sup>3</sup> ), dwater storage tank (approx. 100m <sup>3</sup> ), dwater storage tank (approx. 100m <sup>3</sup> ), unser shat have accumulated from the bottom of the NLPS and other localities. Paciari adsorption apparatus and 3rd Cr (0 <sup>m3</sup> ) ratus (0 <sup>m3</sup> ) ratus (0 <sup>m3</sup> ) ratus (1675, 160m <sup>3</sup> ) ratus (6,170m <sup>3</sup> ) ratos (6,170m <sup>3</sup> ) ratos (7,10m <sup>3</sup> ) ratos (7,10	6,372 ble, from the bottom bottom of the tanks to apacity that accomodates of the tanks to the tanks to accomodates differentiated assum adsorption apparatus.	_
"13 Volume of the treated water remaining in the frange-type tanks 14 Volume of the treated water school in the ALPS sample tanks (frane-type), the additional ALPS temporary storage tanks (welded-type)	Unit 2 Unit 3 Unit 4 Total Main operation Water transfer Due to other w Operations of	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup> Approx. 25,220m <sup>3</sup> Is that have been of from the Units 1-4 work, water transfe the Cesium Adsor	+ 40m <sup>3</sup> - 70m <sup>3</sup> + 10m <sup>3</sup> conducted during 4 to the buildings r to the buildings r to the buildings	T.P 408 T.P 408 T.P 458 the period from Ap (Units 1-4, Central (Units 1-4, Central units 1-4, Central	zed radioactive zed radioactive led.	High Temperature Incinerator Building Total previous announcement data) to waste treatment facility) and to waste treatment facility) was of	Approx. 2,800m <sup>3</sup> Approx. 14,920m <sup>3</sup> b) April 11, 2019.] b) the treatment fac	- 290m <sup>3</sup>		1,530m <sup>3</sup> -7	2,075,010m <sup>3</sup> -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	Used vessels he figures of the data are treated as a he figures of the storage volume do r of the tanks to the height of so-called restrict the tanks to the height of so-called restrict the tanks of the tanks of the tank height of so-called tanks of the tank height of so-called 'down scale (D one than the storage volume that as he figure of Residual water 'include he height of so-called 'down scale (D on the tank of the so-tank of the tank height of so-called 'down scale (D on the tank of the so-tank of the tank height of so-called 'down scale (D on the tank of the so-tank of the tank height of the so-tank of the tank height of the so-tank of the tank reakdown of the tank of the tank reakdown of the used vessels: Cesia the data of the water levels in the Res reakdown of the used vessels: Cesia	4,339 <sup>°9</sup> reference, because wate to include those of the fo down scale (DS), ' where Min,' Concentrated was 900m'). Strontum-reteat 900m'). Strontum-reteat 900m', Concentrated was 900m', Concentrated was 91, 'where water gauges the water gauge	+7  r levels during water transfer are not stat lowing volumes that have accumulated water gauges show 0%: liquid storage tank (approx.100m <sup>-1</sup> ), d water storage tank (approx.100m <sup>-1</sup> ), d water storage tank (approx.100m <sup>-1</sup> ), d water storage tank (approx.100m <sup>-1</sup> ), there show 1% are accumulated from the bottom of to "DS." and have accumulated from the bottom of the ALPS and other facilities. Sealum adsorption apparatus and 3rd Ca (0m <sup>-1</sup> ) ratus (0m <sup>2</sup> ) ratus (1675, 160m <sup>3</sup> ) rption apparatus (1675, 160m <sup>3</sup> ) rption apparatus (1677, 160m <sup>3</sup> ) ratus (1673, 170m <sup>3</sup> ) ratus (170m <sup>3</sup> )	6,372 the from the bottom ottom of the tanks to apacity that accomodates apacity that accomodates ter of concentrated esium adsorption apparatus. (216)	
and the high performance ALPS temporary storage tanks (welded-type)	Unit 2 Unit 3 Unit 4 Total Main operation Water transfer Due to other w Operations of	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup> Approx. 25,220m <sup>3</sup> Is that have been of from the Units 1-4 work, water transfe the Cesium Adsor	+ 40m <sup>3</sup> - 70m <sup>3</sup> + 10m <sup>3</sup> conducted during 4 to the buildings r to the buildings r to the buildings	T.P 408 T.P 408 T.P 458 the period from Ap (Units 1-4, Central (Units 1-4, Central units 1-4, Central	zed radioactive zed radioactive led.	High Temperature Incinerator Building Total previous announcement data) to waste treatment facility) and to waste treatment facility) was of	Approx. 2,800m <sup>3</sup> Approx. 14,920m <sup>3</sup> b) April 11, 2019.] b) the treatment fac	- 290m <sup>3</sup>		1,530m <sup>3</sup> -7	2,075,010m <sup>3</sup> -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	Used vessels be figures of the data are treated as a be figures of the storage volume do t of the tanks to the height of a-called of the tanks to the tanks to the tanks the tanks of the tanks to the tanks to the tanks to the tanks the tanks of the tanks to the tanks to the tanks of the tanks to the tanks to the tanks the data of the varuel revels in the Res reakdown of the used vessels: Cesus Other Others	4,339 <sup>*9</sup> reference, because wate of include those of the fo down scale (DS), " where the down scale (DS), " where water down scale (DS), " where water gauges the ore of the volumes (DS), where water gauges (DS), wher	+7 I levels during water transfer are not stal lowing volumes that have accumulated water gauges show 0%: I figud songe tank (approx. 100m <sup>2</sup> ), water storage tank (approx. 100m <sup>2</sup> ), wa	6,372 ble, from the bottom when of the tanks to apacity that accomodates ther of concentrated asium adsorption apparatus. (216) (5), Filters and so forth (85)	
	Unit 2 Unit 3 Unit 4 Total Main operation Water transfer Due to other w Operations of	Approx. 7,100m <sup>3</sup> Approx. 8,460m <sup>3</sup> Approx. 7,450m <sup>3</sup> Approx. 25,220m <sup>3</sup> Is that have been of from the Units 1-4 work, water transfe the Cesium Adsor	+ 40m <sup>3</sup> - 70m <sup>3</sup> + 10m <sup>3</sup> conducted during 4 to the buildings r to the buildings r to the buildings	T.P 408 T.P 408 T.P 458 the period from Ap (Units 1-4, Central (Units 1-4, Central units 1-4, Central	zed radioactive zed radioactive led.	High Temperature Incinerator Building Total previous announcement data) to waste treatment facility) and to waste treatment facility) was of	Approx. 2,800m <sup>3</sup> Approx. 14,920m <sup>3</sup> b) April 11, 2019.] b) the treatment fac	- 290m <sup>3</sup>		1,530m <sup>3</sup> -7	2,075,010m <sup>3</sup> -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	Used vessels be figures of the data are treated as a be figures of the storage volume do to figures of the storage volume to ta be figures of the storage volume to be restruct recovering tark (approx. 1) be figures of Storage volume that as be figure of Storage volume that as to a late the advance of Ca- or a late that advance of Ca- or a late the storage volume that as composited work of the treated attaced volume of the Storage volume that as former of the treated value volume that be volume of the Storage volume that as former of the treated value volume. Chain be volume of the Storage value volume that as former of the treated value volume that be volume of the storage value volume that be volume that the storage value volume that be volume that the storage value volume that be volume that as the volume that be volume that as the volume that be volume that as the volume that be volume that the volume that be volume that the volume that be vol	4,339 <sup>°9</sup> reference, because wate of include those of the fo down scale (DS), "where 300m"), Sconcentrated was 300m"), Sconcentrated was 300m"), Sconcentrated was 300m"), Sconcentrated was 300m", Sconcentrated was 300m", Sconcentrated was 300m", Sconcentrated was 300m", Sconcentrated was 300m appartue of the volume 300m appartue and 200 300m appartue	+7 I evels during water transfer are not stal lowing volumes that have accumulated water gauges show 0%: I figuid storage tank (approx.100m <sup>-1</sup> ), d water storage tank (approx.100m <sup>-1</sup> ), d water storage tank (approx.100m <sup>-1</sup> ), umers that have accumulated from the bottom of to 'D'S.' that have accumulated from the bottom of the ALPS and other facilities. Paciarm adsorption apparatus and 3rd Cr (0 <sup>m<sup>-1</sup></sup> ) ratus (In <sup>-3</sup> ) ratus (1,6375) ratus (4,675,100m <sup>-1</sup> ), ratus (6,757,100m <sup>-1</sup> ) ratos (7 <sup>m<sup>-1</sup></sup> ), as of 7 a.m., April 11. 775), 2nd Cesium adsorption apparatus (2,170 m <sup>-1</sup> ), Treated column (11), Used vessel (2 te tanks france-type), the additional ALPS tempore	6,372 ble, from the bottom when of the tanks to apacity that accomodates ther of concentrated asium adsorption apparatus. (216) (5), Filters and so forth (85)	

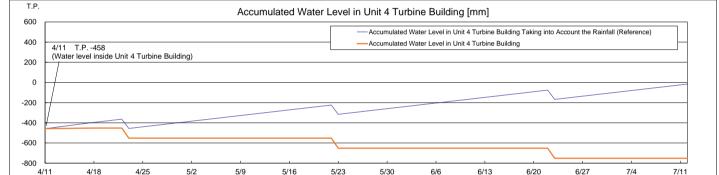
# Storage and treatment of high level radioactive accumulated water (as of April 18, 2019)

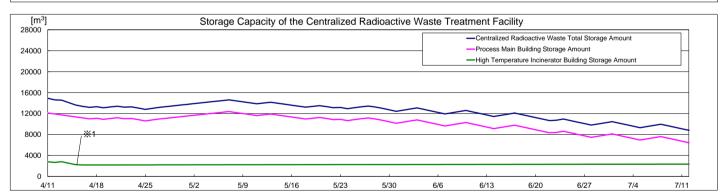


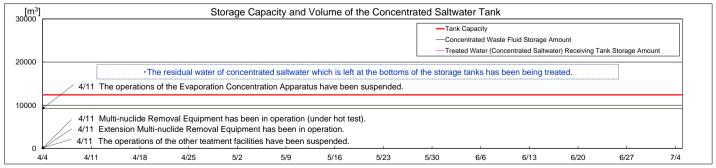
### Simulation Results of Accumulated Water Treatment in Units 1-4 Turbine











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 "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 calc ulated by adding to the accumulated water amounts which are assumed to increase at the rate of 8mm a day when the surrounding areas of the Fukushima Daiichi Nuclear Power Station have the rainfall equal 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.

\*1 Storage place of water transported from the Units 1-4 will be changed over from the high temperature incinerator building to the process main building