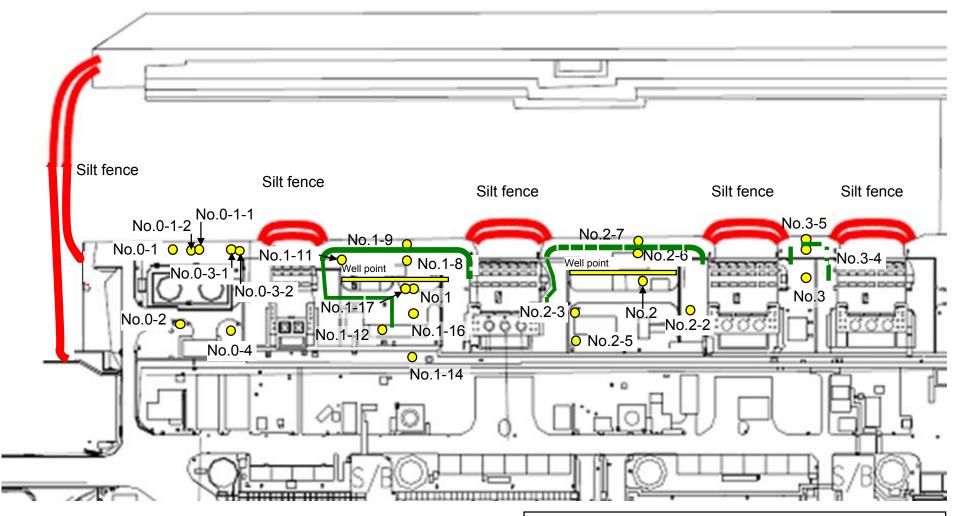
Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Underground Water Obtained at Bank Protection)

Sampling locations of underground water obtained at bank

### East seawall break



: Location where ground improvement construction was completed, or being implemented (as of December 27)

# Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (1/4) Underground Water Obtained at Bank Protection

Unit: Bq/L (exclude chloride)

		Underground water observation hole No.0-1	Underground water observation hole No.0-1-1	Underground water observation hole No.0-1-2	Underground water observation hole No.0-2	Underground water observation hole No.0-3-1	Underground water observation hole No.0-3-2	Underground water observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-8	Underground water observation hole No.1-9	Underground water observation hole No.1-11	Underground water observation hole No.1-12	Underground water observation hole No.1-14	Underground water observation hole No.1-16
	Date of sampling	/	/	/	1	/	1	/	1	/	Jan 9, 2014	/	1	/	/
	Time of sampling										7:13 AM				
	Chloride (unit: ppm)										320				
С	s-134 (Approx. 2 years)										2.9				
С	s-137 (Approx.30 years)										6.4				
	Mn-54 (Approx. 310 days)										ND				
The other y	Sb-125 (Approx. 3 years)										ND				
	Gross β										86				
	H-3 (Approx. 12 years)										380				
S	r-90 (Approx. 29 years)							V			-	Ú		/	

		Underground water observation hole No.1-17	Groundwater pumped up from the well point (between Unit 1 and 2)	Underground water observation hole No.2	Underground water observation hole No.2-2	Underground water observation hole No.2-3	Underground water observation hole No.2-5	Underground water observation hole No.2-6	Underground water observation hole No.2-7	Groundwater pumped up from the well point (between Unit 2 and 3)	Underground water observation hole No.3*	Underground water observation hole No.3-4	Underground water observation hole No.3-5
	Date of sampling		/	Jan 8, 2014	Jan 8, 2014	Jan 8, 2014	Jan 8, 2014	Jan 9, 2014	Jan 10, 2014	Jan 8, 2014	Jan 8, 2014	Jan 8, 2014	Jan 8, 2014
	Time of sampling			9:30 AM	10:35 AM	11:10 AM	11:51 AM	9:54 AM	9:15 AM	10:00 AM	9:44 AM	11:40 AM	9:10 AM
	Chloride (unit: ppm)			-	-	-	-	-	880	-	-	-	180
С	Cs-134 (Approx. 2 years)			ND(0.43)	11	ND(0.44)	13	ND(0.39)	0.58	ND(0.59)	-	1.9	12
C	s-137 (Approx.30 years)			0.55	26	0.68	30	ND(0.43)	1.7	1.1	-	4.2	30
	Mn-54 (Approx. 310 days)			ND	ND	ND	0.94	ND	ND	ND	-	ND	ND
The	Sb-125 (Approx. 3 years)			ND	ND	ND	9.8	ND	ND	ND	-	ND	ND
other y													
	Gross β			350	470	1,200	39,000	2,400	85	140,000	ND(18)	ND(18)	36
ı	H-3 (Approx. 12 years)			810	660	1,200	3200	980	840	4,400	310	110	170
S	r-90 (Approx. 29 years)			-	-	-	-	-	-	-	-	-	-

<sup>\*</sup> Data announced this time is provided in a thick-frame. The other data was announced on January 9, 10 and 11.

<sup>\* &</sup>quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

 $<sup>^{\</sup>star}$  "-" indicates that the measurement was out of range.

<sup>\*</sup> The results obtained in the observation hole No.3 are just for reference, since the water was highly turbid.

# Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (2/4) Underground Water Obtained at Bank Protection

Unit: Bq/L (exclude chloride)

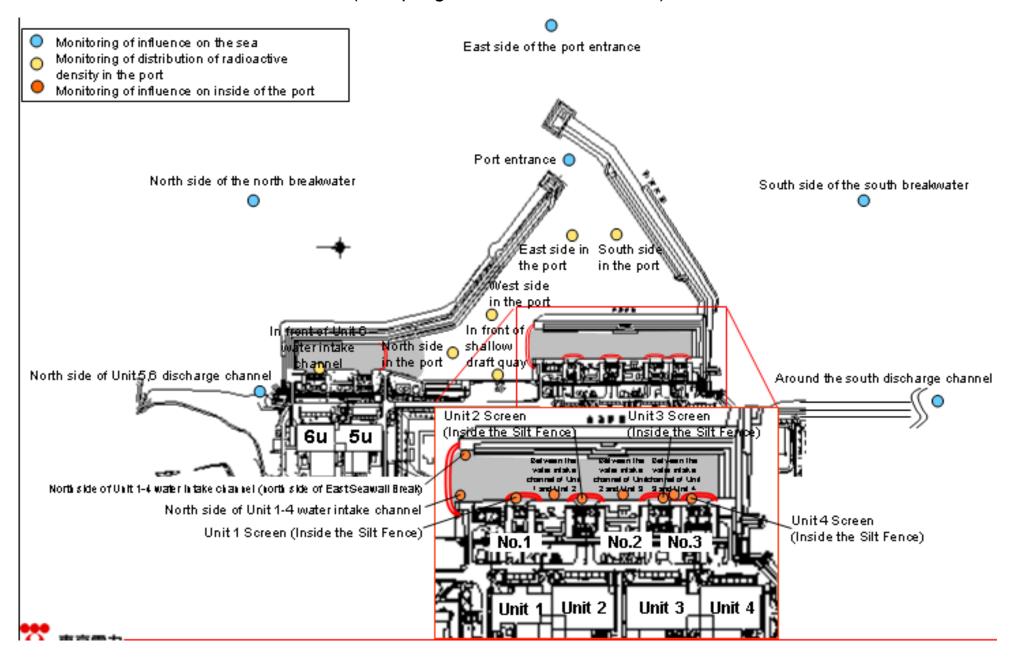
		Underground water observation hole No.0-1	Underground water observation hole No.0-1-1	Underground water observation hole No.0-1-2	Underground water observation hole No.0-2	Underground water observation hole No.0-3-1	Underground water observation hole No.0-3-2	Underground water observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-8	Underground water observation hole No.1-9	Underground water observation hole No.1-11	Underground water observation hole No.1-12	Underground water observation hole No.1-14	Underground water observation hole No.1-16
	Date of sampling	Jan 12, 2014	/	Jan 12, 2014	Jan 12, 2014	Jan 12, 2014	/	Jan 12, 2014	/	1	Jan 12, 2014	/	1 /	/	/
	Time of sampling	11:48 AM		11:10 AM	9:15 AM	10:50 AM		10:05 AM			6:57 AM				
	Chloride (unit: ppm)	-		-	-	-		-			330				
	Cs-134 (Approx. 2 years)	6.8		ND(0.35)	ND(0.49)	ND(0.39)		ND(0.44)			12				
(	Cs-137 (Approx.30 years)	15		ND(0.44)	2.2	ND(0.45)		1.4			29				
The other															
	Gross β	110		ND(19)	ND(19)	ND(19)		ND(19)			87				
	H-3 (Approx. 12 years)	Under analysis		Under analysis	Under analysis	Under analysis		Under analysis			Under analysis				
;	Sr-90 (Approx. 29 years)	-		-	-	-		-		/	-	/		/	

		Underground water observation hole No.1-17	Groundwater pumped up from the well point (between Unit 1 and 2)	Underground water observation hole No.2	Underground water observation hole No.2-2	Underground water observation hole No.2-3	Underground water observation hole No.2-5	Underground water observation hole No.2-6	Underground water observation hole No.2-7	Groundwater pumped up from the well point (between Unit 2 and 3)	Underground water observation hole No.3*	Underground water observation hole No.3-4	Underground water observation hole No.3-5
	Date of sampling	/	/	Jan 12, 2014	Jan 12, 2014	Jan 12, 2014	/	1	Jan 12, 2014	Jan 12, 2014	/	/	
	Time of sampling			9:06 AM	10:23 AM	10:55 AM			9:33 AM	10:00 AM			
	Chloride (unit: ppm)			-	-	-			750	-			
С	Cs-134 (Approx. 2 years)			ND(0.36)	12:00 AM	ND(0.39)			1.5	ND(0.64)			
С	s-137 (Approx.30 years)			0.57	28	ND(0.50)			3.6	1.5			
The other y													
·													
	Gross β			330	500	1,200			110	140,000			
I	H-3 (Approx. 12 years)			Under analysis	Under analysis	Under analysis			Under analysis	Under analysis			
S	r-90 (Approx. 29 years)		/	-	-	-			-	-			

<sup>\* &</sup>quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

<sup>\* &</sup>quot;-" indicates that the measurement was out of range.

Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Seawater)



## Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (3/4) Seawater

Unit: Bq/L

	1F, North side of Unit 5,6 discharge channel	1F, In front of Unit 6 water intake channel	1F, In front of shallow draft quay	1F, North side of Unit 1-4 water intake channel	1F, North side of Unit 1-4 water intake channel (north side of East Seawall Break)	1F, Unit 1 Screen (Inside the Silt Fence)	water intake	1F, Between the water intake channel of Unit 1 and Unit 2 (lower layer)	1F, Unit 2 Screen	1F, Between the water intake channel of Unit 2 and Unit 3	Screen	1F, Between the water intake channel of Unit 3 and Unit 4	Specified by the	WHO Guideline s for drinking- water quality
Date of Sampling			/	Jan 9, 2014		/	Jan 9, 2014	Jan 9, 2014			/			
Time of sampling				7:04 AM			7:09 AM	7:09 AM						
Cs-134(Approx. 2 years)				18			19	17					60	10
Cs-137(Approx.30 years)				49			48	44					90	10
Gross β				330			350	150						
H-3 (Approx. 12 years)				820			620	300					60,000	10,000
Sr-90 (Approx. 29 years)			/	-	/	/	-	-		/		/	30	10

													ι	Jnit: Bq/L
	1F, Unit 4 Screen (Inside the Silt Fence)	1F, Around the south discharge channel		1F, East side in the port	1F, West side in the port	1F, North side in the port		North side of the north breakwater		East side of the port entrance	Southeast side of the port entrance	South side of the south breakwater	Density Limit Specified by the Reactor Regulatio n *	WHO Guideline s for drinking- water quality
Date of Sampling		/	/	/	/	/	/			/	/			
Time of sampling				/		/		/		/				
Cs-134(Approx. 2 years)	/			/		/	/	/		/			60	10
Cs-137(Approx.30 years)		/		/	/					/	/		90	10
Gross β			/	/			/	/		/				
H-3 (Approx. 12 years)										/			60,000	10,000
Sr-90 (Approx. 29 years)	/	/	/	/	/	/	/	/	/	/	/	/	30	10

<sup>\*</sup> Data announced this time is provided in a thick-frame. The other data was announced on January 10.

<sup>\* &</sup>quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

<sup>\* &</sup>quot;-" indicates that the measurement was out of range.

<sup>\*</sup> Density Limit Specified by the Rule for the Installation, Operation, etc. of Commercial Nuclear Power Reactors (the density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2 [the amount is converted from Bq/cm to Bq/L]).

## Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (4/4) Seawater

Unit: Bq/L

	1F, North side of Unit 5,6 discharge channel	1F, In front of Unit 6 water intake channel	1F, In front of shallow draft quay	1F, North side of Unit 1-4 water intake channel	1F, North side of Unit 1-4 water intake channel (north side of East Seawall Break)	1F, Unit 1 Screen (Inside the Silt Fence)	water intake channel of Unit 1	1F, Between the water intake channel of Unit 1 and Unit 2 (lower layer)	1F, Unit 2 Screen	1F, Between the water intake channel of Unit 2 and Unit 3	Screen	1F, Between the water intake channel of Unit 3 and Unit 4	Specified by the	WHO Guideline s for drinking- water quality
Date of Sampling			/	Jan 12, 2014			Jan 12, 2014	Jan 12, 2014	/		/			
Time of sampling				6:47 AM			6:53 AM	6:53 AM						
Cs-134(Approx. 2 years)				23			17	12					60	10
Cs-137(Approx.30 years)				50			46	31					90	10
Gross β				450			410	160						
H-3 (Approx. 12 years)				Under analysis			Under analysis	Under analysis					60,000	10,000
Sr-90 (Approx. 29 years)			/	-			-	-	/	/		/	30	10

														Jnit: Bq/L
	1F, Unit 4 Screen (Inside the Silt Fence)	1F, Around the south discharge channel	1F, Port entrance	1F, East side in the port	1F, West side in the port	1F, North side in the port		North side of the north breakwater		East side of the port entrance	Southeast side of the port entrance	South side of the south breakwater	Density Limit Specified by the Reactor Regulatio n *	WHO Guideline s for drinking- water quality
Date of Sampling	/	/	/	/	/	/	/	/	/	/	/		ı I	
Time of sampling		/				/		/		/	/		i i	
Cs-134(Approx. 2 years)	/	/			/	/	/	/	/	/	/		60	10
Cs-137(Approx.30 years)	/	/		/		/		/		/	/		90	10
Gross β													i	
H-3 (Approx. 12 years)	/									/			60,000	10,000
Sr-90 (Approx. 29 years)	/	/	/	/	/	/	/	/	/	/	/	/	30	10

<sup>\* &</sup>quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

<sup>\* &</sup>quot;-" indicates that the measurement was out of range.

<sup>\*</sup> Density Limit Specified by the Rule for the Installation, Operation, etc. of Commercial Nuclear Power Reactors (the density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2 [the amount is converted from Bq/cm to Bq/L]).

#### <Reference> The Highest Dose Until the Previous Measurement (Groundwater Obtained at Bank Protection)

Unit: Bq/L

		Ground observati No.	tion hole	observa	ndwater ation hole 0-1-1	observa	dwater tion hole )-1-2	observa	dwater ition hole .0-2	observa	ndwater ation hole 0-3-1	observa	dwater ition hole 0-3-2	Groun observa No.		Ground observati No	ion hole	Ground observat No.1	ion hole	Ground observati No.		Ground observati No.	tion hole		dwater tion hole 1-4 <sup>*</sup>	observa	dwater tion hole 1-5 <sup>*</sup>
	Cs-134 (Approx. 2 years)	7.6	[12/15]	ND		ND		0.61	[10/13]	0.44	[11/24]	0.41	[12/26]	ND		13	[8/29]	1.9	[7/8]	11,000	[7/9]	10	[9/2]	1.5	[7/8]	310	[8/5]
(	Cs-137 (Approx.30 years)	17	(12/15) (12/29)	0.58	[12/7]	0.51	[11/17]	1.6	[10/13]	0.86	[11/20]	0.91	[12/26]	0.49	[12/1]	31	[8/29]	3.6	[7/8]	22,000	[7/9]	24	[9/2]	3.6	[7/8]	650	[8/5]
	Ru-106 (Approx. 370 days)	ND		ND		ND		ND		ND		ND		ND		26	[5/24]	7.9	[7/8]	160	[8/15]	17	(7/22) (8/8)	3.1	[8/8]	ND	
The	Mn-54 (Approx. 310 days)	ND		ND		ND		ND		ND		0.40	<1/5>	ND		ND		1.0	[7/5]	62	[7/5]	ND		ND		ND	
other	Co-60 (Approx. 5 years)	ND		ND		ND		ND		ND		ND		ND		0.50	[7/19]	ND		3.1	[7/8]	ND		ND		ND	
	Sb-125 (Approx. 3 years)	ND		ND		ND		ND		ND		ND		ND		1.7	[7/11]	ND		250	[7/15]	1.4	(7/12) (8/26)	ND		12	[8/8]
	Gross β	300	[8/22]	21	[12/7]	21	[11/10]	87	[10/13]	ND		67 <sup>*2</sup>	[12/11]	29	[12/29]	1,900	[5/24]	4,400	[7/8]	900,000	(7/5) (7/9)	160,000	(8/12) (8/15)	380	[8/19]	56,000	[8/5]
	H-3 (Approx. 12 years)	45,000	[8/29]	18,000	[12/7]	74,000	[12/15]	3,900	<1/5>	ND		70,000	[12/29]	36,000	<1/5>	500,000	(5/24) (6/7)	630,000	[7/8]	430,000	[9/16]	290,000	[7/12]	98,000	[7/11]	72,000	[8/15]
	Sr-90(Approx. 29 years)	Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		1,200	[6/7]	Under analysis		Under analysis		Under analysis		Under analysis		Under analysis	

																	Unit: Bq/L
		observa	ndwater ation hole o.1-8	Groun observa No.			dwater tion hole 1-11	observa	dwater tion hole 1-12	observa	dwater ition hole 1-14	Ground observat No.1	ion hole		dwater tion hole 1-17	Ground pumped the we (betwee and	up from II point n Unit 1
С	Cs-134 (Approx. 2 years)	47	[11/25]	170	[9/3]	0.94	[10/31]	74	[10/21]	1.2	[11/14]	3.1 <sup>*2</sup>	[12/13]	1.2	[12/5]	110	[9/23]
C	s-137 (Approx.30 years)	110	[11/25]	380	[9/3]	2.2	[12/2]	170	[10/21]	2.3	[11/21]	3.4	[10/10]	0.66	[12/12]	250	[9/23]
	Ru-106 (Approx. 370 days)	ND		ND		ND		5.4	[10/28]	ND		9.2	[10/28]	4.1	[12/12]	25	[9/2]
The	Mn-54 (Approx. 310 days)	9.7	[12/16]	ND		ND		ND		ND		ND		ND		0.83	[12/30]
other y	Co-60 (Approx. 5 years)	0.63	[12/23]	ND		ND		0.51	[10/24]	ND		0.9	[11/7]	0.61	[11/25]	ND	
	Sb-125 (Approx. 3 years)	ND		ND		ND		61	[10/21]	ND		11	[12/5]	2.1	[11/25]	ND	
	Gross β	39,000	<1/6>	2,100	[11/17]	2,300	[12/26]	730	[10/21]	320	<1/9>	2,200,000	<1/9>	130	(12/2) (12/23)	700,000	[9/23]
	H-3 (Approx. 12 years)	12,000	<1/6>	860	[11/14]	85,000	[9/13]	440,000	[10/31]	11,000	[11/25]	43,000	(9/26)	26,000	<1/6>	460,000	[8/19]
S	Gr-90(Approx. 29 years)	Under analysis		Under analysis		Under analysis		Under analysis	[10/21]	Under analysis		Under analysis		Under analysis		-	

Unit: Bq/L Groundwater Groundwater Groundwater Groundwater Groundwater Groundwater Groundwater Groundwater Groundwater pumped up from Groundwater Groundwater Groundwater observation hole the well point observation hole observation hole observation hole observation hole No.2 No.2-1 No.2-2 No.2-3 No.2-5\*1 No.2-6 No.2-7 (between Unit 2 No.3 No.3-1 No.3-4 No.3-5 and 3) [12/25] (7/25)Cs-134 (Approx. 2 years) 0.50 [7/9] 0.66 [9/1] 11 0.84 <1/5> 13 <1/8> 0.56 [10/30] 1.3 [11/21] 1.1 [12/12] 3.5 [7/25] 1.2 1.9 <1/8> 29 [12/18] <1/8> [8/8] [7/11] [8/29] 1.2 1.1 Cs-137 (Approx.30 years) 28 <1/1> 2.6 <1/5> 30 <1/8> 0.61 [10/13] 3.1 [11/21] 2.4 [12/7] 5.9 [8/8] 2.6 [8/1] 4.3 [11/27] 74 [12/18] [8/1] [9/1] Ru-106 (Approx. 370 days) ND Mn-54 (Approx. 310 days) ND ND ND 0.29 [12/6] 0.94 <1/8> ND ND ND ND ND 0.54 [10/30] The other v Co-60 (Approx. 5 years) ND Sb-125 (Approx. 3 years) 26 (9/29) 1.6 <1/1> Gross β 1,700 [7/8] 380 [7/29] 530 [12/29] 1,500 [12/6] 46,000 (9/29) 3,200 [12/5] 270 [12/20] 240,000 [12/12] 1,400 [7/11] 180 [8/1] ND 43 [12/18] [11/24] (2012/12 870 [9/18] H-3 (Approx. 12 years) [12/8] 440 [8/26] 580 [12/29] 1,700 [12/6] 6,300 [12/4] 1,200 1,000 5,100 [12/6] 3,200 460 [8/1] 170 160 [12/18] [11/27] [12/4] 12] Under Under Under Under Under Under Under Under [2012/12/ Sr-90(Approx. 29 years) 8.3 54 [5/31] analysis analysis analysis analysis analysis analysis 12) analysis analysis

<sup>\*1</sup> The analysis result of No.2-5 obtained on September 29 is the reference value, since we could not sample groundwater by a regular procedure

<sup>\*2</sup> Analysis result of pumped water

<sup>\*3</sup> The results obtained in the observation hole No.1-14 on January 9 are just for reference, since the water was highly turbid

<sup>\* &</sup>quot;ND" indicates that the measurement result is below the detection limit.

<sup>\*</sup> Date of sampling is provided in parentheses.

<sup>\* &</sup>quot;\*" is provided next to the name of the holes where the sampling could not be performed due to the chemical injection of ground improvement.

#### <Reference> The Highest Dose Until the Previous Measurement\* (Seawater)

Unit: Bq/L

	,	de of Unit 5,6 e channel	,	nt of Unit 6 ike channel	, .	t of shallow quay	,	de of Unit 1-4 ke channel		ke channel de of East		1 Screen Silt Fence)	intake char and Unit	en the water nnel of Unit 1 2 (surface yer)	intake cha	een the water nnel of Unit 1 (lower layer)		2 Screen s Silt Fence)	intake chan	en the water inel of Unit 2 Unit 3		3 Screen Silt Fence)	intake char	en the water nnel of Unit 3 Unit 4
Cs-134(Approx. 2 years)	1.8	[6/21]	2.8	[12/2]	5.3	[8/5]	89	[10/10]	32	[10/11]	73	[10/10]	87	[10/10]	93	[10/10]	370	[10/9]	52	[12/21]	350	[7/15]	28	[9/16]
Cs-137(Approx.30 years)	3.3	[6/26]	5.8	[12/2]	8.6	[8/5]	190	[10/10]	73	[10/11]	170	[10/10]	200	[10/10]	200	[10/10]	830	[10/9]	110	[10/11] [12/21]	770	[7/15]	53	[12/16]
Gross β	17	<1/6>	46	[8/19]	40	[7/3]	1,400	[11/7]	320	[8/12]	740	[10/28]	1,200	[12/8]	450	[7/16]	1,700	[10/9]	480	[10/7]	1,000	[7/15]	390	[8/12]
H-3 (Approx. 12 years)	8.6	[6/26]	24	[8/19]	340	[6/26]	4,800	[11/7]	510	[9/2]	2,800	[10/28]	2,800	[12/8]	1,600	[9/1]	2,100	[10/28]	1,200	[10/7]	410	[9/2]	650	[8/12]
Sr-90 (Approx. 29 years)	5.8	[6/26]	-		7.4	[6/26]	Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis	

Unit: Bq/L

		4 Screen e Silt Fence)		d the south e channel	1F, Por	t entrance	1F, East si	de in the port	1F, West sid	de in the port	1F, North s	ide in the port	1F, South s	ide in the port	North side of the north breakwater	Northeast side of the port entrance	East side of the south breakwater	Southeast side of the north breakwater	South side of the south breakwater
Cs-134(Approx. 2 years)	62	[9/16]	ND		3.3	[12/24]	3.3	[10/17]	4.4	[12/24]	5.0	[12/2]	3.5	[10/17]	ND	ND	ND	ND	ND
Cs-137(Approx.30 years)	140	[9/16]	3.0	[7/15]	7.3	[10/11]	9.0	[10/17]	10	[12/24]	8.4	[12/2]	7.8	[10/17]	ND	ND	1.6 [10/18]	ND	ND
Gross β	360	[10/7]	13	[12/16] [12/30]	69	[8/19]	74	[8/19]	60	[7/4]	69	[8/19]	79	[8/19]	ND	ND	ND	ND	ND
H-3 (Approx. 12 years)	400	[8/12] [10/7]	1.9	[11/25]	68	[8/19]	67	[8/19]	59	[8/19]	52	[8/19]	60	[8/19]	4.7 [8/14]	ND	6.4 [10/8]	ND	ND
Sr-90 (Approx. 29 years)	Under analysis		0.36	[6/26]	3.5	[6/20]	Under analysis		Under analysis		-		-		-	-	-	-	-

<sup>\*</sup> The highest result announced in "Detailed Analysis Results in the Port of Fukushima Dailchi NPS, around Discharge Channel and Bank Protection" or the other handouts is provided.

[Reference] Standard values

Unit: Bq/L

	Cs-134	Cs-137	H-3	Sr-90
Density Limit Specified by the Rule for the Installation, Operation, etc. of Commercial Nuclear Power Reactors (the density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2)	60	90	60,000	30
WHO Guidelines for drinking-water quality	10	10	10,000	10

As for "1F, North side of Unit 1-4 water intake channel", the data is obtained since January 14, 2013. For the other locations, the data is obtained since June 14.

<sup>\* &</sup>quot;ND" indicates that the measurement result is below the detection limit.

<sup>\*</sup> Date of sampling is provided in parentheses.

 $<sup>^{\</sup>star}$  "-" indicates that the measurement was out of range.