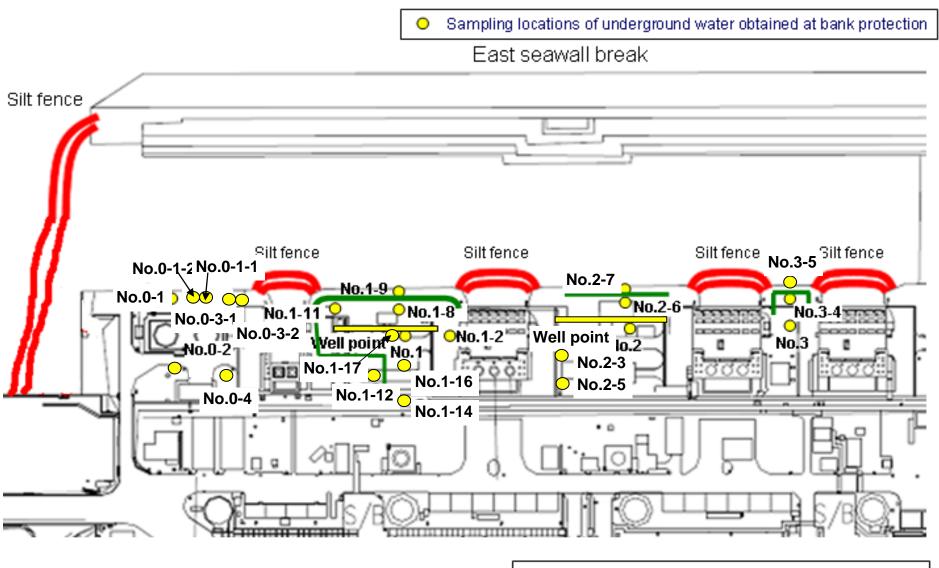
Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Underground Water Obtained at Bank Protection)



 Location where ground improvement work was completed, or being implemented (as of December 4)

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.0-1-2	Underground water observation hole No.0-2	Underground water observation hole No.0-3-1	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	Underground water observation hole No.1-17
	Date of sampling	/	/	1	/	1 /	/	/	Dec 5, 2013	/	1	1	1 /	1 /
	Time of sampling								6:56 AM					
	Chloride (unit: ppm)								370					
Cs	s-134 (Approx. 2 years)								11					
Cs	s-137 (Approx.30 years)								27					
The other y														
	Gross β								130					
F	H-3 (Approx. 12 years)	1/		1/	/				510					
Sr	-90 (Approx. 29 years)			/	/		/	/	-			/	/	

		Groundwater pumped up from the well point (between Unit 1 and 2)	Underground water observation hole No.2	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	/	Dec 4, 2013	Dec 4, 2013	Dec 5, 2013	Dec 6, 2013	Dec 7, 2013	/	Dec 4, 2013	Dec 4, 2013
	Time of sampling	/	9:42 AM	10:25 AM	9:37 AM	10:11 AM	10:00 AM		10:48 AM	10:40 AM
	Chloride (unit: ppm)		-	-	-	730	-		-	130
Cs	s-134 (Approx. 2 years)		ND(0.43)	5.2	ND(0.36)	ND(0.51)	ND(0.93)		1.1	-
Cs	-137 (Approx.30 years)		0.88	12.00	ND(0.49)	1.8	2.4		3.4	-
	Mn-54 (Approx.310 days)		ND	0.87	ND	ND	ND		ND	-
The other y	Sb-125 (Approx. 3 years)		ND	2.3	ND	ND	ND		ND	-
										-
	Gross β		450	35,000	3,200	ND(18)	190,000		ND(18)	27
H	H-3 (Approx. 12 years)		670	6300	980	870	4,500		ND(120)	ND(120)
Sr	-90 (Approx. 29 years)	<u> </u>	-	-	-	-	-	V	-	-

^{*} Data announced this time is provided in a thick-frame. The other data was announced on December 5, 6, 7 and 8.

^{* &}quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

^{* &}quot;-" indicates that the measurement was out of range.

^{*} Since the water of No.3-5 was highly turbid, only chloride, Gross β and tritium were analyzed as a reference.

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: Bg/L (exclude chloride)

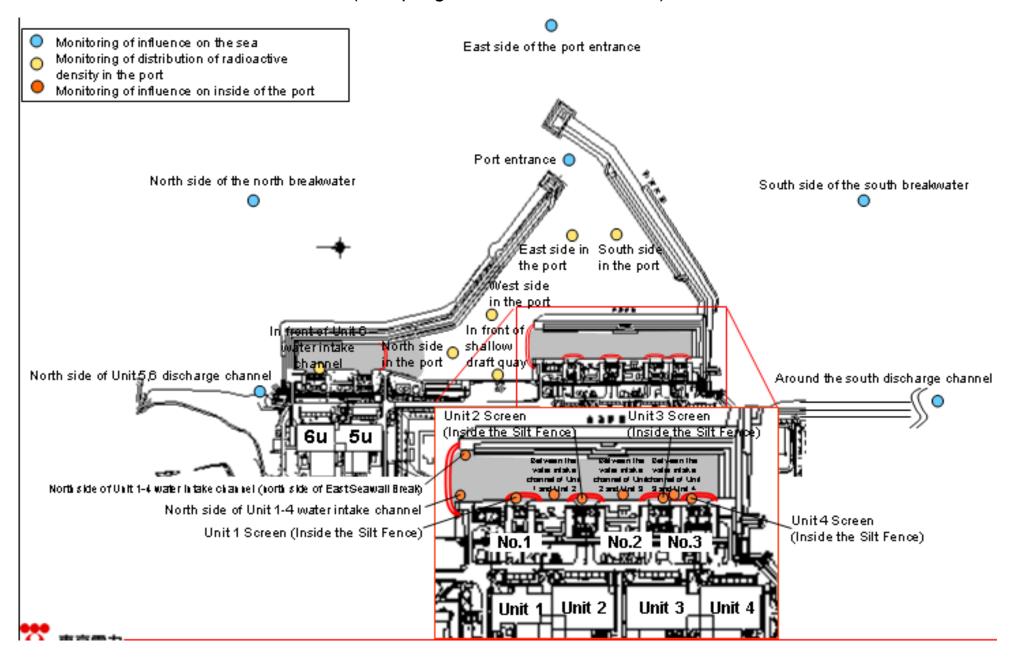
		Underground water observation hole No.0-1	Underground water observation hole No.0-1-2	Underground water observation hole No.0-2	Underground water observation hole No.0-3-1	Underground water observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-8	Underground 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	Underground water observation hole No.1-17
	Date of sampling	Dec 8, 2013	Dec 8, 2013	Dec 8, 2013	Dec 8, 2013	Dec 8, 2013	/	1 /	Dec 8, 2013	/	/	1	1 /	/
	Time of sampling	12:10 PM	11:25 AM	9:36 AM	11:00 AM	10:30 AM			6:40 AM					
	Chloride (unit: ppm)	-	-	-	-	-			360					
С	s-134 (Approx. 2 years)	5.4	ND(0.41)	ND(0.40)	ND(0.48)	ND(0.38)			13					
C	s-137 (Approx.30 years)	12	ND(0.55)	ND(0.47)	0.62	ND(0.49)			33					
The other y														
	Gross β	110	15	18	ND(15)	15			120					
ı	H-3 (Approx. 12 years)	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis			Under analysis					
S	r-90 (Approx. 29 years)	-	-	-	-	-			-	/				/

		Groundwater pumped up from the well point (between Unit 1 and 2)	Underground water observation hole No.2	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	/	Dec 8, 2013		/	Dec 8, 2013	Dec 8, 2013	/	/	
	Time of sampling		9:34 AM			9:57 AM	10:00 AM			
	Chloride (unit: ppm)		-			740	-			
С	s-134 (Approx. 2 years)		ND(0.42)			0.75	0.88			
C	s-137 (Approx.30 years)		ND(0.56)			1.6	1.4			
The other y										
	Gross β		370			22	170,000			
I	H-3 (Approx. 12 years)		Under analysis		/	Under analysis	Under analysis			
Sı	r-90 (Approx. 29 years)		-			-	-	/	/	

^{* &}quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

^{* &}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	by the	WHO Guideline s for drinking- water quality
Date of Sampling				Dec 5, 2013		/	Dec 5, 2013	Dec 5, 2013	/	/	/			
Time of sampling				6:43 AM			6:49 AM	6:49 AM						
Cs-134(Approx. 2 years)				43			36	22					60	10
Cs-137(Approx.30 years)) /			90			84	44					90	10
Gross β				1000			890	250						
H-3 (Approx. 12 years)			/	1,900			1,800	300	/		/		60,000	10,000
Sr-90 (Approx. 29 years)				-			-	-	/	/	/	/	30	10

												_	U	Init: 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	Northeast side of the port entrance	East side of the port entrance	Southeast side of the port entrance	South side of the south breakwater	by the	drinking-
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)	/	/	/	/	V	/	/	-	-	-	-	-	30	10

^{*} Data announced this time is provided in a thick-frame. The other data was announced on December 6.

^{* &}quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

^{* &}quot;-" indicates that the measurement was out of range.

^{*} 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			/	Dec 8, 2013	/		Dec 8, 2013	Dec 8, 2013	/		/			
Time of sampling				6:29 AM			6:35 AM	6:35 AM						
Cs-134(Approx. 2 years)				38	/		33	18					60	10
Cs-137(Approx.30 years)				89			73	44					90	10
Gross β				1,100			1200	200						
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

^{* &}quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.

^{* &}quot;-" indicates that the measurement was out of range.

^{*} 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)

Jnit: Bg/L	Jnit:	Ba/L
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		Ground observati No.0	on hole		dwater tion hole)-1-1	observa	ndwater ation hole 0-1-2	observa	ndwater ation hole o.0-2	observ	ndwater ation hole .0-3-1	observa	idwater ition hole 0-3-2	observa	dwater tion hole 0-4	Ground observat No	ion hole	Ground observat No.1	ion hole	observa	dwater tion hole 1-2*	observat	dwater tion hole 1-3*	observa	dwater tion hole 1-4*	Groun observa	ndwater ation hole .1-5*
	Cs-134 (Approx. 2 years)	6.5	[12/1]	ND		ND		0.61	[10/13]	0.44	[11/24]	ND		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)	16	[12/1]	0.58	[12/7]	0.51	[11/17]	1.6	[10/13]	0.86	[11/20]	0.54	[12/6]	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		ND		ND		ND		1.0	(7/5)	62	(7/5)	ND		ND		ND	
other	Y 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		19	[12/6]	ND		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]	65,000	[12/1]	1,100	[12/1]	ND		64,000	[12/6]	20,000	[12/1]	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	1	Under analysis		Under analysis		1,200	[6/7]	Under analysis		Under analysis		Under analysis		Under analysis		Under analysis	
																-	Jnit: Bq/L										

		observa	dwater tion hole .1-8	observa	dwater tion hole .1-9	Groun observa No.		observa	dwater tion hole 1-12	observa	dwater tion hole 1-14	Ground observati No.		observa	dwater tion hole 1-17	Groun- pumped the we (betwee	
C	s-134 (Approx. 2 years)	47	[11/25]	170	[9/3]	0.94	[10/31]	74	[10/21]	1.2	[11/14]	1.6	[11/14]	1.2	[12/5]	110	[9/23]
С	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]	0.55	[12/5]	250	[9/23]
	Ru-106 (Approx. 370 days)	ND		ND		ND		5.4	[10/28]	ND		9.2	[10/28]	4.0	[11/22] [11/28]	25	[9/2]
The	Mn-54 (Approx. 310 days)	7.1	(11/25) (12/2)	ND		ND		ND		ND		ND		ND		ND	
other y	Co-60 (Approx. 5 years)	0.58	[11/18]	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	18,000	[11/25]	2,100	[11/17]	72	[10/3]	730	[10/21]	160	(11/21) (12/5)	1,400,000	[12/5]	<u>130</u>	[12/2]	700,000	[9/23]
	H-3 (Approx. 12 years)	7,500	[12/2]	860	[11/14]	85,000	(9/13)	440,000	[10/31]	11,000	[11/25]	43,000	(9/26)	15,000	[12/2]	460,000	[8/19]
	6r-90(Approx. 29 years)	Under analysis	•	Under analysis		Under analysis		Under analysis	[10/21]	Under analysis		Under analysis		Under analysis	•	-	

																							Unit: Bq/L
		obser	undwater vation hole No.2	observa	idwater ition hole 2-1*	observa	dwater tion hole .2-3	observa	idwater ition hole 2-5 ^{*1}	observa	idwater ition hole .2-6	observa	idwater ition hole .2-7	pumped the we (between	dwater up from Il point on Unit 2	observa	ndwater ation hole lo.3	Groun observa No.	tion hole	observa	idwater ition hole .3-4	observa	ndwater ation hole 0.3-5
	Cs-134 (Approx. 2 years)	0.50	[7/9]	0.66	[9/1]	ND		5.2	[12/4]	0.56	[10/30]	1.3	[11/21]	0.75	[12/4]	3.5	(7/25)	1.2	(7/25) (8/8)	1.8	[10/30]	-	
	Cs-137 (Approx.30 years)	1.2	(7/11) (8/1)	1.1	(8/29) (9/1)	0.49	[12/6]	12	[12/4]	0.61	[10/13]	3.1	[11/21]	2.4	[12/7]	5.9	[8/8]	2.6	[8/1]	4.3	[11/27]	-	
	Ru-106 (Approx. 370 day	vs) ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		-	
т	Mn-54 (Approx. 310 day	s) ND		ND		0.29	[12/6]	0.87	[12/4]	ND		ND		ND		ND		ND		0.54	[10/30]	-	
oth	er γ Co-60 (Approx. 5 years) ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		-	
	Sb-125 (Approx. 3 year	s) ND		ND		ND		26	[9/29]	ND		ND		ND		1.1	[9/5]	ND		ND		-	
	Gross β	1,700	[7/8]	380	[7/29]	1,500	[12/6]	46,000	[9/29]	3,200	[12/5]	18	[11/21]	190,000	[12/7]	1,400	[7/11]	180	[8/1]	ND		35*2	[11/27]
	H-3 (Approx. 12 years)	850	[6/26]	440	[8/26]	1,700	[12/6]	3,100	[11/7]	1,200	(11/24) (11/27)	1,000	(11/21) (12/4)	5,100	[12/6]	3,200	(2012/12/ 12)	460	[8/1]	170	(9/18)	ND*2	
	Sr-90(Approx. 29 years)	54	[5/31]	Under analysis	•	Under analysis		Under analysis		Under analysis	•	Under analysis	•	-		8.3	(2012/12/ 12)	Under analysis		Under analysis	•	-	

^{*1} 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.
*2 Since the water of No.3-5 obtained on Novemeber 23 and 27 was highly turbid, only chloride, Gross β and tritium were analyzed as a reference.

^{* &}quot;ND" indicates that the measurement result is below the detection limit.

^{*} Date of sampling is provided in parentheses.

^{* &}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.

The underlined part was corrected on January 10, 2014.

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

Unit: Bq/L

	,	side of Unit rge channel		nt of Unit 6 ake channel		t of shallow quay	1-4 wat	side of Unit er intake nnel	1-4 wa channel (i	side of Unit iter intake north side of awall Break)		1 Screen e Silt Fence)	intake cha 1 and Un	en the water innel of Unit it 2 (surface yer)	intake cha 1 and Ur	en the water innel of Unit nit 2 (lower yer)	1F, Unit	2 Screen Silt Fence)	intake cha	en the water innel of Unit I Unit 3		3 Screen Silt Fence)	1F, Betwee intake char 3 and	nel of Unit
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]	46	[10/11]	350	(7/15)	28	(9/16)
Cs-137(Approx.30 years)	3.3	[6/26]	5.8	[12/2]	<u>8.6</u>	[8/5]	190	[10/10]	73	[10/11]	170	[10/10]	200	[10/10]	200	[10/10]	830	[10/9]	110	[10/11]	770	(7/15)	50	(9/16)
Gross β	ND		46	(8/19)	<u>40</u>	[7/3]	1,400	[11/7]	320	[8/12]	740	[10/28]	890	[12/5]	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]	2,700	[11/7]	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

	1F, Unit 4 (Inside the			d the south e channel	1F, Port	entrance	1F, East s			side in the ort	1F, North	side in the ort		n side in the ort	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		2.7	[10/11]	3.3	[10/17]	3.9	[12/2]	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]	9.2	[12/2]	8.4	[12/2]	7.8	[10/17]	ND	ND	1.6 [10/18]	ND	ND
Gross β	360	[10/7]	ND		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		-		1		-	-	-	-	-

^{*} The highest result announced in "Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection" or the other handouts is provided.

The underlined part was corrected on January 10, 2014.

[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.

^{* &}quot;ND" indicates that the measurement result is below the detection limit.

^{*} Date of sampling is provided in parentheses.

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