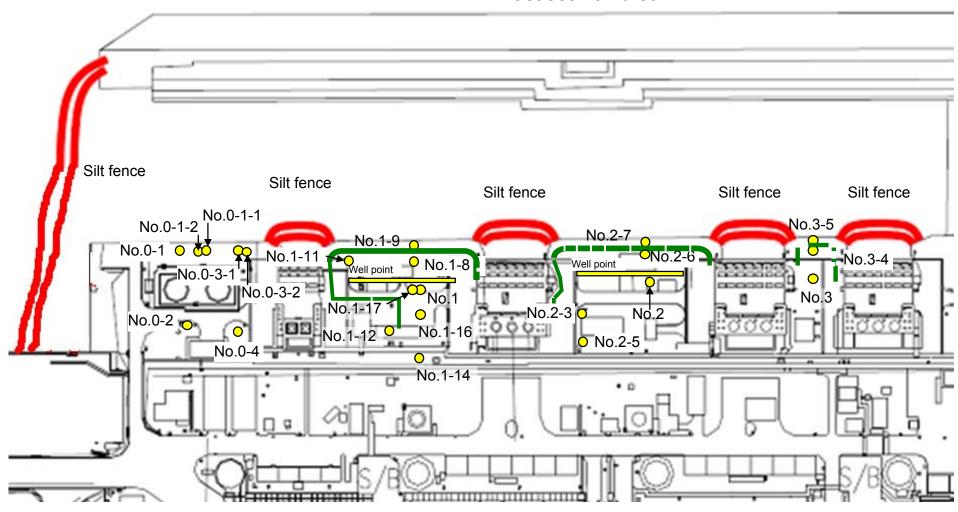
Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Underground Water Obtained at Bank Protection)

Sampling locations of underground water obtained at bank

East seawall break



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

Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (1/3) Underground Water Obtained at Bank Protection

Unit: Bg/L (exclude chloride)

		Underground water observation hole No.0-1	Underground water observation hole No.0-1-1	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
	Date of sampling		/	/		/	/	1	Dec 5, 2013	/	1 /	Dec 6, 2013	Dec 5, 2013	Dec 5, 2013
	Time of sampling								11:27 AM			11:46 AM	10:15 AM	10:56 AM
	Chloride (unit: ppm)								-			-	-	-
C	s-134 (Approx. 2 years)								ND(0.40)			ND(0.47)	6.3	0.68
Cs	s-137 (Approx.30 years)								0.47			1.1	14	1.2
The other y														
04.10. 1														
	Gross β								480			64	86	160
ŀ	H-3 (Approx. 12 years)	1/		/			/		230000			22,000	170,000	8,900
Sı	r-90 (Approx. 29 years)	/		/	/		/		-			-	-	-

		Underground water observation hole No.1-16	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.2-3	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	Dec 5, 2013	Dec 5, 2013	/	/	/	/	1	/	Dec 8, 2013	/	1	1 /
	Time of sampling	10:38 AM	11:50 AM							10:00 AM			
	Chloride (unit: ppm)	-	-							-			
Cs	s-134 (Approx. 2 years)	ND(1.6)	1.2							0.88			
Cs	s-137 (Approx.30 years)	1.4	0.55							1.4			
	Co-60 (Approx. 5 years)	0.55	0.50							ND			
The other y	Sb-125 (Approx. 3 years)	11	1.5							ND			
	Gross β	1,400,000	46							170,000			
ŀ	H-3 (Approx. 12 years)	40,000	16,000							5,000			
Sr	r-90 (Approx. 29 years)	-	-		/	/				-	V	/	/

^{*} Data announced this time is provided in a thick-frame. The other data was announced on December 6, 7 and 9.

^{* &}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 (2/3) Underground Water Obtained at Bank Protection

Unit: Bq/L (exclude chloride)

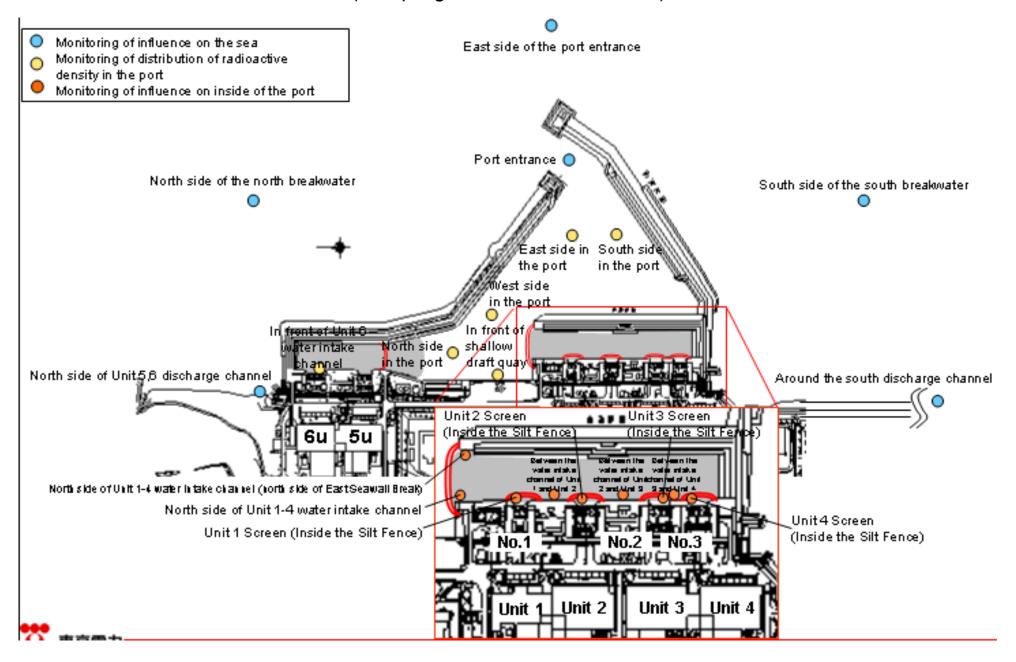
		Underground water observation hole No.0-1	Underground water observation hole No.0-1-1	Underground water observation hole No.0-1-2	Underground water observation hole No.0-2	Underground water observation hole No.0-3-1	Underground water observation hole No.0-3-2	Underground water observation hole No.0-4	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
	Date of sampling		/	1 /	/	/	/	1 /	Dec 9, 2013	Dec 9, 2013	/	Dec 9, 2013	Dec 9, 2013	Dec 9, 2013
	Time of sampling								10:22 AM	9:30 AM		10:15 AM	9:27 AM	9:52 AM
	Chloride (unit: ppm)								-	-		-	-	-
Cs	s-134 (Approx. 2 years)								0.66	39		0.42	6.2	ND(0.46)
Cs	s-137 (Approx.30 years)								1.10	91		1.2	14	1.4
	Mn-54 (Approx. 310 days)								ND	8.7		ND	ND	ND
The other y	Co-60 (Approx. 5 years)								ND	0.57		ND	ND	ND
	Gross β								540	29,000		49	82	160
H	H-3 (Approx. 12 years)								Under analysis	Under analysis		Under analysis	Under analysis	Under analysis
Sr	-90 (Approx. 29 years)				/				Under analysis	Under analysis		Under analysis	Under analysis	Under analysis

		Underground water observation hole No.1-16	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.2-3	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	Dec 9, 2013	Dec 9, 2013	Dec 9, 2013	/	/	1 /	1 /	/	/	/	1	1 /
	Time of sampling	9:45 AM	10:40 AM	9:45 AM									
	Chloride (unit: ppm)	-	-	-									
C	s-134 (Approx. 2 years)	ND(1.9)	ND(0.49)	0.54									
Cs	s-137 (Approx.30 years)	1.5	ND(0.49)	1.1									
	Co-60 (Approx. 5 years)	ND	0.52	ND									
The other y	Ru-106 (Approx. 370 days)	ND	3.4	8.6									
	Sb-125 (Approx. 3 years)	7.5	1.7	ND									
	Gross β	1,500,000	55	26,000									
H	H-3 (Approx. 12 years)	Under analysis	Under analysis	Under analysis									
Sr	r-90 (Approx. 29 years)	Under analysis	Under analysis	-	/								

^{* &}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 (3/3) 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 9, 2013	Dec 9, 2013	Dec 9, 2013		Dec 9, 2013	Dec 9, 2013	/		Dec 9, 2013	Dec 9, 2013	Dec 9, 2013	Dec 9, 2013		
Time of sampling	6:50 AM	6:46 AM	6:37 AM		7:10 AM	6:45 AM			6:50 AM	6:56 AM	6:59 AM	7:01 AM		
Cs-134(Approx. 2 years)	ND(1.3)	ND(2.1)	2.8	/	8.4	28			31	23	13	18	60	10
Cs-137(Approx.30 years)	1.8	4.0	5.3	/	20	67	/		71	52	35	41	90	10
Gross β	ND(15)	22	19		65	690			600	310	120	210		
H-3 (Approx. 12 years)	Under analysis	Under analysis	Under analysis	/	Under analysis	Under analysis			Under analysis	Under analysis	Under analysis	Under analysis	60,000	10,000
Sr-90 (Approx. 29 years)	-	-	-	/	-	-	V	V	-	-	-	-	30	10

Unit: 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	of the nort	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 *	s for drinking-
Date of Sampling	Dec 9, 2013	Dec 9, 2013	Dec 9, 2013	Dec 9, 2013	Dec 9, 2013	Dec 9, 2013	Dec 9, 2013	/	/	/	/	1		
Time of sampling	7:04 AM	5:50 AM	8:49 AM	8:59 AM	9:04 AM	9:07 AM	8:54 AM			/				
Cs-134(Approx. 2 years)	13	ND(1.4)	ND(1.0)	ND(1.4)	2.2	2.4	ND(0.92)		/				60	10
Cs-137(Approx.30 years)	33	ND(1.3)	ND(0.90)	1.8	5.4	5.2	ND(1.3)			/			90	10
Gross β	130	ND(15)	ND(16)	ND(16)	22	ND(16)	ND(16)							
H-3 (Approx. 12 years)	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis			/			60,000	10,000
Sr-90 (Approx. 29 years)	-	-	-	-	-	-	-	/	/	/	/	V	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: Bq/	L
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		Ground observat No.	tion hole	Groun observa No.0	tion hole	observa	dwater tion hole 0-1-2	observa	ndwater ation hole 0.0-2	observa	ndwater ation hole .0-3-1		dwater tion hole 0-3-2	Groun observa No.	tion hole	Groun observat No	tion hole	Ground observat No.1	ion hole	observa	dwater tion hole 1-2*	Ground observati No.	tion hole	observa	idwater ition hole 1-4*		dwater tion hole 1-5*
С	s-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]
C	s-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]
1	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]
S	r-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	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 observat No.1	ion hole	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)
	Sr-90(Approx. 29 years)	Under analysis	•	Under analysis		Under analysis		Under analysis	[10/21]	Under analysis		Under analysis	•	Under analysis	•	-	

																							Unit: Bq/L
		observa	ndwater ation hole o.2	observa	idwater ition hole 2-1*	observa	dwater tion hole .2-3		idwater ition hole 2-5 ^{*1}	observa	dwater tion hole .2-6	observa	idwater ition hole .2-7	pumped the we (between	dwater I up from ell point en Unit 2 d 3)	observa	ndwater ation hole lo.3		dwater tion hole 3-1*	observa	idwater ition hole .3-4	observa	ndwater ation hole 0.3-5
C	s-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]	0.88	[12/8]	3.5	[7/25]	1.2	(7/25) (8/8)	1.8	[10/30]	-	
С	s-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 days)	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		-	
The	Mn-54 (Approx. 310 days)	ND		ND		0.29	[12/6]	0.87	[12/4]	ND		ND		ND		ND		ND		0.54	[10/30]	-	
other y	Co-60 (Approx. 5 years)	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		-	
	Sb-125 (Approx. 3 years)	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]	22	[12/8]	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]	6,300	[12/4]	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 November 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 5,6 arge channel		ont of Unit 6 ake channel	,	it of shallow t quay		ide of Unit 1-4 ake channel	water inta (north si	de of Unit 1-4 ake channel de of East all Break)		t 1 Screen e Silt Fence)	intake char and Unit	en the water inel of Unit 1 2 (surface yer)	intake cha	een the water nnel of Unit 1 (lower layer)		2 Screen e Silt Fence)	intake char	en the water nnel 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]	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]	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]	2,700	[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

		t 4 Screen e Silt Fence)		d the south e channel	1F, Port	t entrance	1F, East sid	de in the port	1F, West si	de in the port	1F, North si	de in the port	1F, South si	de 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		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		ē		·		-	÷	÷	÷	-

^{*} 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.

 $^{^{\}star}$ "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.