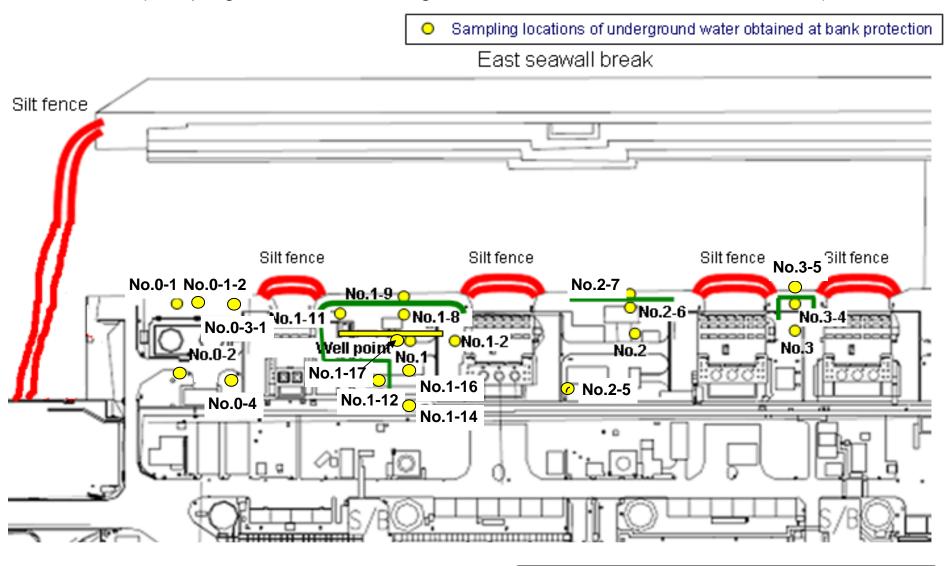
Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Underground Water Obtained at Bank Protection)



: Location where ground improvement work was completed, or being implemented (as of November 6)

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	Nov 24, 2013	Nov 24, 2013	Nov 24, 2013	Nov 24, 2013	Nov 24, 2013	Nov 25, 2013	Nov 25, 2013	Nov 26, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013
	Time of sampling	9:47 AM	10:11 AM	11:47 AM	11:02 AM	12:55 PM	10:43 AM	9:23 AM	6:57 AM	10:10 AM	9:45 AM	10:20 AM	10:00 AM	11:00 AM
	Chloride (unit: ppm)	-	-	-	-	-	-	-	360	-	-	-	-	-
C	s-134 (Approx. 2 years)	5.9	ND(0.37)	0.59	0.44	ND(0.37)	ND(0.43)	47	3.3	0.73	7.9	0.69	ND(1.6)	ND(0.52)
Cs	s-137 (Approx.30 years)	13	ND(0.44)	1.4	0.76	ND(0.48)	ND(0.45)	110	8.5	1.5	18	1.6	1.5	ND(0.49)
	Mn-54 (Approx. 310 days)	ND	ND	ND	ND	ND	ND	7.1	ND	ND	ND	ND	ND	ND
The	Co-60 (Approx. 5 years)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.56	0.61
other y	Ru-106 (Approx. 370 days)	ND	ND	ND	ND	ND	4.6	ND	ND	ND	ND	ND	ND	ND
	Sb-125 (Approx. 3 years)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.8	2.1
	ΑΙΙ β	97	ND(21)	ND(21)	ND(21)	ND(21)	570	18,000	340	25	100	140	910,000	78
ŀ	H-3 (Approx. 12 years)	26,000	64,000	260	ND(120)	15,000	230,000	6,600	460	25,000	230,000	11,000	30,000	10,000
Sı	r-90 (Approx. 29 years)	-	-	-	-	-	-	-	-	-	-	-	-	-

		Groundwater pumped up from the well point	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	Underground water observation hole No.3	Underground water observation hole No.3-4	Underground water observation hole No.3-5
	Date of sampling	Nov 25, 2013	/	/	/	/	/	/	/
	Time of sampling	10:20 AM							
	Chloride (unit: ppm)	-							
C	s-134 (Approx. 2 years)	1.4							
Cs	s-137 (Approx.30 years)	3.1							
	Ru-106 (Approx. 370 days)	5.6							
The other y									
	All β	14000							
ŀ	H-3 (Approx. 12 years)	81000							
Sr	-90 (Approx. 29 years)	-	/		/			/	/

^{*} Data announced this time is provided in a thick-frame. The other data was announced on November 25, 26 and 27.

^{* &}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 (2/4) Underground Water Obtained at Bank Protection

Unit: Bq/L (exclude chloride)

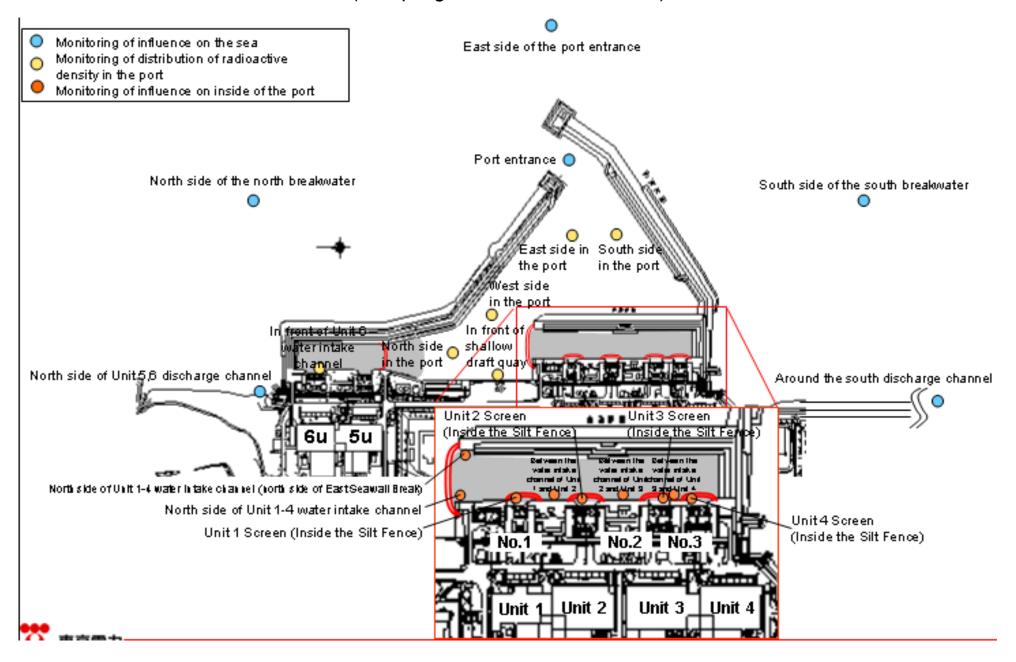
		Underground water observation hole No.0-1	Underground water observation hole No.0-1-2	Underground water observation hole No.0-2	Underground water observation hole No.0-3-1	Underground water observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-8	Underground 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	Nov 28, 2013	/	Nov 28, 2013	Nov 28, 2013	Nov 28, 2013	Nov 28, 2013	Nov 28, 2013	Nov 28, 2013
	Time of sampling						10:01 AM		6:47 AM	10:40 AM	9:14 AM	9:40 AM	9:29 AM	10:19 AM
	Chloride (unit: ppm)						-		370	-	-	-	-	-
C	s-134 (Approx. 2 years)						ND(0.47)		26	0.61	8.0	0.75	ND(2.8)	ND(0.59)
Cs	s-137 (Approx.30 years)						ND(0.54)		63	1.4	19	2.1	1.3	ND(0.44)
							ND		ND	ND	ND	ND	ND	4.0
The other y							ND		ND	ND	ND	ND	7.7	2.0
	ΑΙΙ β						490		230	35	75	96	1,100,000	74
ŀ	H-3 (Approx. 12 years)						Under analysis		Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis
Sr	r-90 (Approx. 29 years)		/	/	/		-		-	-	-	-	-	-

		Groundwater pumped up from the well point	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	Underground water observation hole No.3	Underground water observation hole No.3-4	Underground water observation hole No.3-5
	Date of sampling	/		/	/	/	/	/	/
	Time of sampling								
	Chloride (unit: ppm)								
Cs	s-134 (Approx. 2 years)								
Cs	-137 (Approx.30 years)								
The other y									
	ΑΙΙ β								
H	H-3 (Approx. 12 years)								
Sr	-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 (Inside the Silt Fence)	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	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 26, 2013	Nov 25, 2013	Nov 25, 2013	Nov 26, 2013	Nov 26, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013		
Time of sampling	6:35 AM	6:45 AM	6:21 AM	6:41 AM	6:49 AM	6:29 AM	6:52 AM	6:52 AM	6:32 AM	6:35 AM	6:39 AM	6:43 AM		
Cs-134(Approx. 2 years)	ND(1.2)	ND(1.8)	3.3	21	9.1	20	20	14	27	9.4	17	10	60	10
Cs-137(Approx.30 years)	ND(1.2)	2.7	7.2	47	20	55	43	34	56	17	38	23	90	10
All β	ND(16)	26	25	440	90	180	310	170	160	170	74	130		
H-3 (Approx. 12 years)	4.8	19	20	990	120	370	850	390	370	400	140	320	60,000	10,000
Sr-90 (Approx. 29 years)	-	-	-	-	-	-	-	-	-	-	-	-	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	Northeast side of the port entrance	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	Nov 25, 2013	Nov 25, 2013		/			/	/		/	/	/		
Time of sampling	6:41 AM	5:50 AM		/						/				
Cs-134(Approx. 2 years)	18	ND(1.2)											60	10
Cs-137(Approx.30 years)	41	ND(1.5)		/	/							/	90	10
All β	110	ND(17)								/				
H-3 (Approx. 12 years)	170	1.9									/		60,000	10,000
Sr-90 (Approx. 29 years)	-	-	/	/	/	/	/	/		/	/	/	30	10

^{*} Data announced this time is provided in a thick-frame. The other data was announced on November 26 and 27.

^{* &}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)	1F, Between the water intake channel of Unit 1 and Unit 2 (surface layer)	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	s for drinking- water
Date of Sampling			/	Nov 28, 2013	/	/	Nov 28, 2013	Nov 28, 2013	/		/			
Time of sampling				6:38 AM		/	6:43 AM	6:43 AM		/				
Cs-134(Approx. 2 years)			/	19		/	18	16					60	10
Cs-137(Approx.30 years)) /			50			43	36					90	10
ΑΙΙ β				370			420	220						
H-3 (Approx. 12 years)				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	/		/	/	/		/	Nov 27, 2013	Nov 27, 2013	Nov 27, 2013	Nov 27, 2013	Nov 27, 2013		
Time of sampling				/	/			9:23 AM	9:28 AM	9:15 AM	9:01 AM	9:08 AM		
Cs-134(Approx. 2 years)				/				ND(0.54)	ND(0.77)	ND(0.63)	ND(0.69)	ND(0.45)	60	10
Cs-137(Approx.30 years)				/	/	/	/	ND(0.70)	ND(0.71)	ND(0.78)	ND(0.58)	ND(0.59)	90	10
All β								ND(16)	ND(16)	ND(16)	ND(16)	ND(16)		
H-3 (Approx. 12 years)				/			/	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	60,000	10,000
Sr-90 (Approx. 29 years)	/	/	/	/	V	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)

Unit: Bg/

Linit: Da/I

			dwater tion hole .0-1	observa	ndwater ation hole 0-1-2	observa	ndwater ation hole 5.0-2	observa	ndwater ation hole .0-3-1	observa	ndwater ation hole .0-4		dwater tion hole 5.1	observa	dwater tion hole 1-1*	Ground observat No.	ion hole	Ground observat No.	ion hole	observa	dwater tion hole 1-4*	Groun observa No.		observa	dwater tion hole .1-8
С	s-134 (Approx. 2 years)	6.3	[11/10]	ND		0.61	[10/13]	0.44	[11/24]	ND		13	[8/29]	1.9	[7/8]	11,000	[7/9]	10	[9/2]	1.5	[7/8]	310	[8/5]	47	[11/25]
C	s-137 (Approx.30 years)	14	[11/10]	0.51	[11/17]	1.6	[10/13]	0.86	[11/20]	0.48	[11/10]	31	[8/29]	3.6	[7/8]	22,000	[7/9]	24	[9/2]	3.6	[7/8]	650	[8/5]	110	[11/25]
	Ru-106 (Approx. 370 days)	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		ND	
The	Mn-54 (Approx. 310 days)	ND		ND		ND		ND		ND		ND		1.0	[7/5]	62	[7/5]	ND		ND		ND		7.1	[11/25]
other y	Co-60 (Approx. 5 years)	ND		ND		ND		ND		ND		0.50	[7/19]	ND		3.1	[7/8]	ND		ND		ND		0.58	[11/18]
	Sb-125 (Approx. 3 years)	ND		ND		ND		ND		ND		1.7	[7/11]	ND		250	(7/15)	1.4	(7/12) (8/26)	ND		12	[8/8]	ND	
	ΑΙΙ β	300	[8/22]	21	[11/10]	87	[10/13]	ND		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]	18,000	[11/25]
ŀ	H-3 (Approx. 12 years)	45,000	[8/29]	48,000	[11/17]	130	[11/17]	ND		19,000	[11/10]	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)	4,900	[11/18]
S	r-90(Approx. 29 years)	Under analysis		Under analysis		Under analysis		Under analysis		1,200	[6/7]	Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		Under analysis	

Unit: Bq/L Groundwater Groundwater Groundwater Groundwater Groundwater Groundwater Groundwater pumped up from observation hole observation hole observation hole observation hole observation hole observation hole the well point No.1-9 No.1-11 No.1-12 No.1-14 No.1-16 No.1-17 (notch tank) [9/23] Cs-134 (Approx. 2 years) 170 [9/3] 0.94 [10/31] 74 [10/21] 1.2 [11/14] 1.6 [11/14] ND [11/22] 110 [10/10] Cs-137 (Approx.30 years) 380 [9/3] 2.0 170 [10/21] 2.3 [11/21] 3.4 [10/10] ND [11/22] 250 [9/23] (11/11)ND Ru-106 (Approx. 370 days) ND 5.4 [10/28] ND 9.2 [10/28] [11/22] [9/2] 4.0 25 Mn-54 (Approx. 310 days) ND ND ND ND ND ND ND The other y Co-60 (Approx. 5 years) ND 0.51 [10/24] ND 0.9 [11/7] 0.61 [11/25] [10/21] [11/18] Sb-125 (Approx. 3 years) ND ND ND 8.6 [11/25] ND 61 2.1 All β 2.100 [11/17] 72 [10/3] 730 [10/21] 160 [11/21 910.000 [11/25] 78 [11/25] 700.000 [9/23] H-3 (Approx. 12 years) [11/14] [9/13] 440,000 860 85,000 [10/31] 4,700 [11/21 43,000 [9/26] 9,800 [11/22] 460,000 [8/19] Under Under Under Under Under Under Sr-90(Approx. 29 years) [10/21] analysis analysis analysis analvsis analysis

																			Unit: Bq/L
		observa	ndwater ation hole o.2	observa	dwater tion hole 2-1*	observa	idwater ition hole 2-5 ^{*1}	observa	dwater tion hole .2-6	observa	ndwater ation hole o.2-7	observa	ndwater ation hole o.3		dwater tion hole 3-1*	observa	dwater tion hole .3-4	observa	ndwater ation hole 0.3-5
C	s-134 (Approx. 2 years)	0.50	[7/9]	0.66	[9/1]	3.9	[11/7]	0.56	[10/30]	1.3	[11/21]	3.5	[7/25]	1.2	(7/25) (8/8)	1.8	[10/30]	-	
Cs	s-137 (Approx.30 years)	1.2	(7/11) (8/1)	1.1	(8/29) (9/1)	10	[9/29]	0.61	[10/13]	3.1	[11/21]	5.9	[8/8]	2.6	[8/1]	3.8	[10/30]	-	
	Ru-106 (Approx. 370 days)	ND		ND		ND		ND		ND		ND		ND		ND		-	
The	Mn-54 (Approx. 310 days)	ND		ND		0.77	(9/29)	ND		ND		ND		ND		0.54	[10/30]	-	
other y	Co-60 (Approx. 5 years)	ND		ND		ND		ND		ND		ND		ND		ND		-	
	Sb-125 (Approx. 3 years)	ND		ND		26	(9/29)	ND		ND		1.1	(9/5)	ND		ND		-	
	ΑΙΙ β	1,700	[7/8]	380	[7/29]	46,000	[9/29]	2,500	[11/27]	18	[11/21]	1,400	[7/11]	180	[8/1]	ND		22 ^{*2}	[11/23]
ŀ	H-3 (Approx. 12 years)	850	(6/26)	440	[8/26]	3,100	[11/7]	1,200	[11/24]	1,000	[11/21]	3,200	(H24. 12/12)	460	(8/1)	170	[9/18]	ND ^{*2}	
	r-90(Approx. 29 years)	54	[5/31]	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 was highly turbid, only chloride, all 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.

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

Unit: Bq/L

	,	side of Unit arge channel		ont of Unit 6 ake channel		t of shallow quay	1-4 wat	side of Unit er intake nnel	1-4 wa channel (r	side of Unit ter intake north side of wall Break)		1 Screen Silt Fence)	intake cha 1 and Un	en the water annel of Unit it 2 (surface yer)	intake cha 1 and Ur	en the water nnel of Unit it 2 (lower /er)	1F, Unit	2 Screen e Silt Fence)	intake cha	en the water nnel of Unit Unit 3		3 Screen Silt Fence)	1F, Betwee intake char 3 and	nnel of Unit
Cs-134(Approx. 2 years)	1.8	[6/21]	2.4	(8/19)	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]	4.7	(8/19)	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]	770	(7/15)	50	(9/16)
ΑΙΙ β	ND		46	(8/19)	<u>40</u>	[7/3]	1,400	[11/7]	320	[8/12]	740	[10/28]	740	[8/15] [10/13] [10/31]	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]	1		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 (Inside the			d the south e channel	1F, Port	entrance	1F, East	side in the ort	1F, West	side in the ort		n side in the port		n side 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]	2.6	(8/19)	2.5	(10/17)	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]	6.5	[8/19]	5.8	[10/17]	7.8	[10/17]	ND	ND	1.6 [10/18]	ND	ND
ΑΙΙ 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]	ND		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		-		-		-	-	-	-	-

^{*} 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.

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.