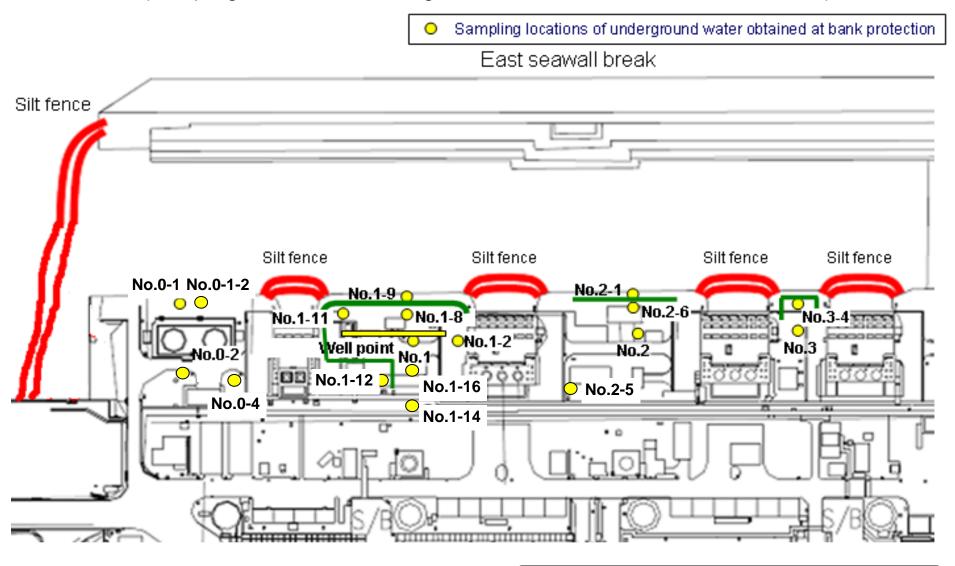
Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Underground Water Obtained at Bank Protection)



: 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)

		1	1	1	1	1	1	1	1	1	1	1		L (exclude cilionae)
		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	1	1	Nov 21, 2013	,	1	Nov 21, 2013	Nov 21, 2013	Nov 21, 2013	Nov 21, 2013	,
	Time of sampling						10:50 AM			11:10 AM	9:46 AM	10:25 AM	10:15 AM	
	Chloride (unit: ppm)						-			-	-	-	-	
С	Cs-134 (Approx. 2 years)						0.47			0.49	8.0	0.78	ND(1.2)	
С	s-137 (Approx.30 years)						1.2			1.7	17	2.3	1.8	
	Co-60 (Approx. 5 years)						ND			ND	ND	ND	0.63	
The other y	Ru-106 (Approx. 370 days)						2.8			ND	ND	ND	ND	
	Sb-125 (Approx. 3 years)						ND			ND	ND	ND	7.0	
	ΑΙΙ β						430			ND(17)	89	160	750,000	
	H-3 (Approx. 12 years)						220,000		1/	18,000	280,000	4,700	25,000	
S	r-90 (Approx. 29 years)	V					-		/	-	-	-	-	V

		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								
Cs	-134 (Approx. 2 years)								
Cs	-137 (Approx.30 years)								
The other y									
	ΑΙΙ β								
Н	-3 (Approx. 12 years)								
Sr-	90 (Approx. 29 years)								

^{*} Data announced this time is provided in a thick-frame. The other data was announced on November 22.

^{* &}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)

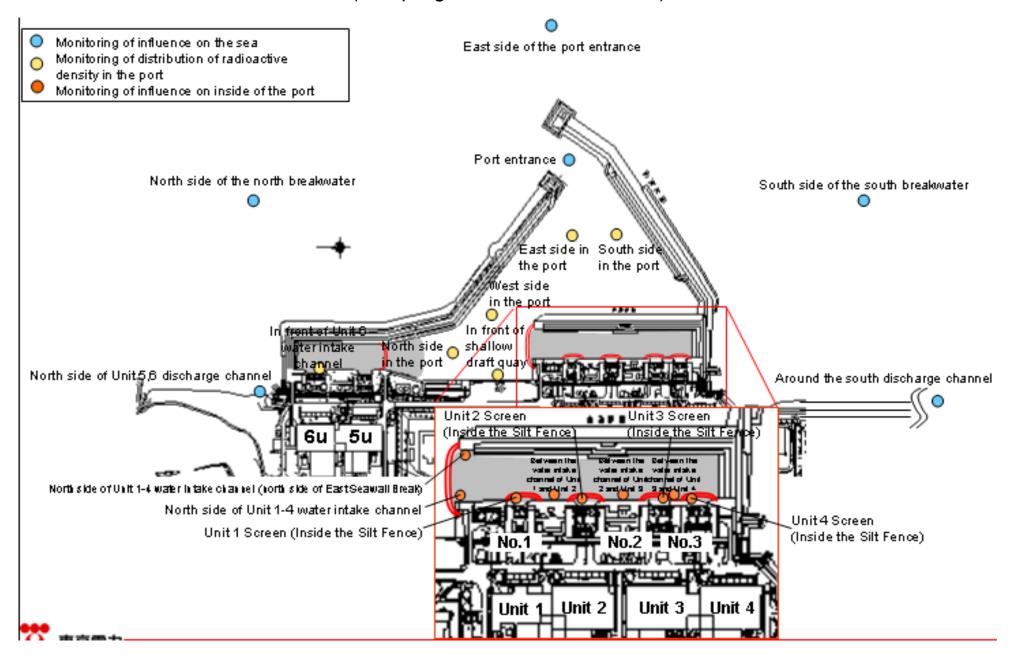
		Underground water observation hole No.0-1	Underground water observation hole No.0-1-2	Underground water observation hole No.0-2	Underground water observation hole No.0-3-1	Underground water observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-8	Underground 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	/	/	/		/	Nov 25, 2013	Nov 25, 2013	/	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013
	Time of sampling						10:43 AM	9:23 AM		10:10 AM	9:45 AM	10:20 AM	10:00 AM	11:00 AM
	Chloride (unit: ppm)						-	-		-	-	-	-	-
C	s-134 (Approx. 2 years)						ND(0.43)	47		0.73	7.9	0.69	ND(1.6)	ND(0.52)
Cs	s-137 (Approx.30 years)						ND(0.45)	110		1.5	18	1.6	1.5	ND(0.49)
	Mn-54 (Approx. 310 days)						ND	7.1		ND	ND	ND	ND	ND
The	Co-60 (Approx. 5 years)						ND	ND		ND	ND	ND	0.56	0.61
other y	Ru-106 (Approx. 370 days)						4.6	ND		ND	ND	ND	ND	ND
	Sb-125 (Approx. 3 years)						ND	ND		ND	ND	ND	6.8	2.1
	ΑΙΙ β						570	18,000		25	100	140	910,000	78
H	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	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									
	ΑΙΙ β	14000							
ŀ	H-3 (Approx. 12 years)	Under analysis							
Sı	r-90 (Approx. 29 years)	-	/	/	V	/	/	/	/

^{* &}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 channel of Unit	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		/		/	/	/	/				/			
Time of sampling														
Cs-134(Approx. 2 years)		/			/								60	10
Cs-137(Approx.30 years)		/			/								90	10
ΑΙΙ β														
H-3 (Approx. 12 years)									/				60,000	10,000
Sr-90 (Approx. 29 years)	/	/	/	/	/	/	/	/	/	/	/	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	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 18, 2013	Nov 18, 2013	Nov 18, 2013	Nov 18, 2013	Nov 18, 2013	Nov 20, 2013	Nov 20, 2013	Nov 20, 2013	Nov 20, 2013	Nov 20, 2013		
Time of sampling			9:48 AM	9:56 AM	10:00 AM	10:03 AM	9:52 AM	9:04 AM	9:08 AM	8:56 AM	8:44 AM	8:50 AM		
Cs-134(Approx. 2 years)	/		ND(1.3)	1.5	2.4	ND(1.3)	ND(1.1)	ND(0.67)	ND(0.70)	ND(0.66)	ND(0.80)	ND(0.61)	60	10
Cs-137(Approx.30 years)			2.8	4.1	4.1	2.9	1.2	ND(0.68)	ND(0.70)	ND(0.50)	ND(0.81)	ND(0.84)	90	10
ΑΙΙ β			ND(16)	18	ND(16)	22	ND(16)	ND(16)	ND(16)	ND(16)	ND(16)	ND(16)		
H-3 (Approx. 12 years)	/		5.9	17	18	14	4.0	ND(2.1)	ND(2.1)	ND(2.1)	ND(2.1)	ND(2.1)	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 November 19 and 22.

^{* &}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	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	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	/	Nov 25, 2013	Nov 25, 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		6:49 AM	6:29 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		9.1	20			27	9.4	17	10	60	10
Cs-137(Approx.30 years)	ND(1.2)	2.7	7.2		20	55			56	17	38	23	90	10
All β	ND(16)	26	25		90	180			160	170	74	130		
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)	-	-	-	/	-	-	/	/	-	-	-	-	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 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	/	/	/	/	1		
Time of sampling	6:41 AM	5:50 AM	9:27 AM	9:35 AM	9:39 AM	9:43 AM	9:31 AM	/	/	/				
Cs-134(Approx. 2 years)	18	ND(1.2)	ND(1.0)	ND(1.2)	1.6	ND(1.3)	ND(1.2)		/				60	10
Cs-137(Approx.30 years)	41	ND(1.5)	ND(0.90)	ND(1.2)	4.5	ND(1.4)	ND(1.2)		/				90	10
All β	110	ND(17)	ND(17)	ND(17)	17	ND(17)	ND(17)							
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)	-	-	Under analysis	-	-	-	-	/	/	/	/	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:	Bq/
-------	-----

Unit: Bq/L

			idwater ition 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*	observa	dwater tion hole 1-5*	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]	43	[10/28]
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]	96	[11/18]
	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		5.2	[11/18]
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]	14,000	[11/18]
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] Ru-106 (Approx. 370 days) ND ND 5.4 [10/28] [11/22] [9/2] ND 9.2 [10/28]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] 0.41 [11/22] ND Sb-125 (Approx. 3 years) ND ND [10/21] ND [11/18] ND 61 8.6 ND All β 2.100 [11/17] 72 [10/3] 730 [10/21] 160 [11/21 880.000 [10/14] 44 [11/22] 700.000 [9/23] H-3 (Approx. 12 years) 860 [11/14] 85,000 [9/13] 440,000 [10/31] 3,600 43,000 [9/26] [11/22] 460,000 [8/19] 9,800 [11/18 Under Under Under Under Under Under [10/21] Sr-90(Approx. 29 years) analysis analysis analvsis analysis analysis analvsis

Groundwater Groundwater Groundwater Groundwater Groundwater Groundwater Groundwater Groundwater Groundwater observation hole No.2 No.2-1* No.2-5*1 No.2-6 No.2-7 No.3 No.3-1* No.3-4 No.3-5 [7/25] 0.50 [7/9] 0.66 (11/7) 0.56 [10/30] 1.3 (11/21) [7/25] 1.2 [10/30] Cs-134 (Approx. 2 years) [9/1] 3.9 3.5 1.8 [8/8] [7/11][8/29] Cs-137 (Approx.30 years) [9/29] [10/13] [11/21] 5.9 [8/1] [10/30] 1.2 1.1 10 0.61 3.1 [8/8] 2.6 3.8 Ru-106 (Approx. 370 days ND ND ND ND ND ND ND ND Mn-54 (Approx. 310 days) ND ND [9/29] ND ND ND ND 0.54 [10/30] 0.77 other 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 All β 1,700 [7/8] 380 [7/29] 46,000 [9/29] 2,300 [11/24] 18 [11/21]1,400 [7/11] 180 [8/1] ND 22^{*2} [11/23] [10/13] [10/17] [2012/12/ (11/6) H-3 (Approx. 12 years) 850 [6/26] 440 [8/26] 3,100 [11/7] 1,100 1,000 [11/21] 3,200 460 [8/1] 170 (9/18) ND^{*2} [11/10] 12) [11/13] [11/20] Under Under Under Under Under [2012/12/ Under

analysis

analysis

analysis

analysis

analysis

[5/31]

analysis

Sr-90(Approx. 29 years)

^{*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 rge channel		ent of Unit 6 ake channel		t of shallow quay	1F, North : 1-4 wate cha	er intake	1-4 wa channel (r	side of Unit ter intake north side of wall Break)		: 1 Screen e 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 innel of Unit nit 2 (lower yer)	1F, Unit	2 Screen e Silt Fence)	intake cha	en the water nnel of Unit Unit 3	1F, Unit	3 Screen Silt Fence)	1F, Betwee intake char 3 and	
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)
All 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		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.