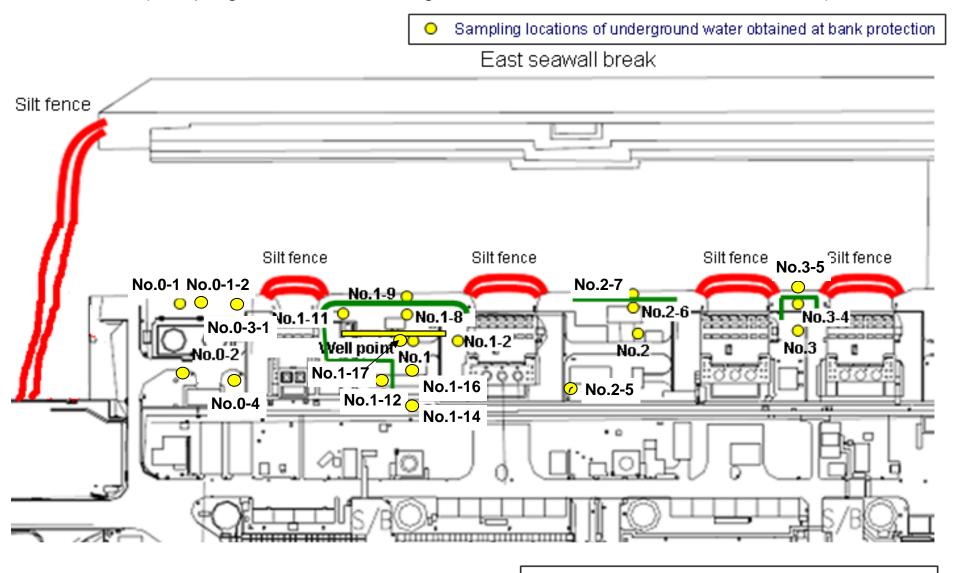
Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Underground Water Obtained at Bank Protection)



: 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	/	/		/	1	Nov 28, 2013	/	1 /	Nov 28, 2013	Nov 28, 2013	Nov 28, 2013	Nov 28, 2013	Nov 28, 2013
	Time of sampling						10:01 AM			10:40 AM	9:14 AM	9:40 AM	9:29 AM	10:19 AM
	Chloride (unit: ppm)						-			-	-	-	-	-
C	s-134 (Approx. 2 years)						ND(0.47)			0.61	8.0	0.75	ND(2.8)	ND(0.59)
Cs	s-137 (Approx.30 years)						ND(0.54)			1.4	19	2.1	1.3	ND(0.44)
	Ru-106 (Approx. 370 days)						ND			ND	ND	ND	ND	4.0
The other y	Sb-125 (Approx. 3 years)						ND			ND	ND	ND	7.7	2.0
	ΑΙΙ β						490			35	75	96	1,100,000	74
ŀ	H-3 (Approx. 12 years)						220,000			22,000	210,000	6,200	34,000	12,000
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	/		/	/	/	/	/	/
	Time of sampling								
	Chloride (unit: ppm)								
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 29.

^{* &}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)

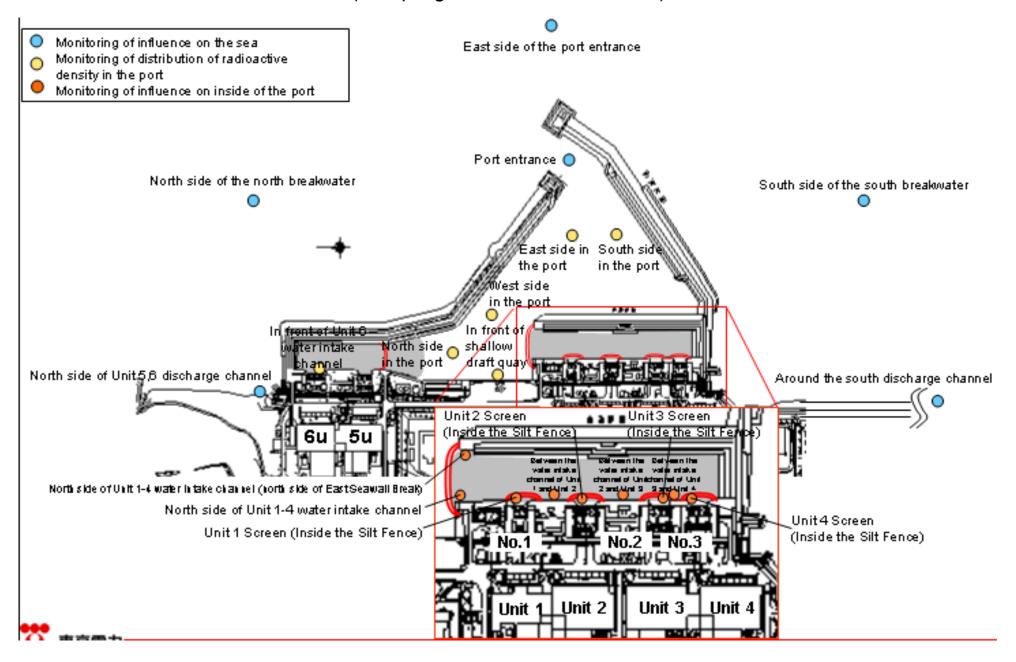
		Underground water observation hole No.0-1	Underground water observation hole No.0-1-2	Underground water observation hole No.0-2	Underground water observation hole No.0-3-1	Underground water observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-8	Underground 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	/	/	/	/	/	Dec 2, 2013	Dec 2, 2013	/	Dec 2, 2013	Dec 2, 2013	Dec 2, 2013	Dec 2, 2013	Dec 2, 2013
	Time of sampling						10:52 AM	9:26 AM		9:50 AM	9:40 AM	9:58 AM	10:09 AM	10:34 AM
	Chloride (unit: ppm)						-	-		-	-	-	-	-
C	s-134 (Approx. 2 years)						ND(0.4 1)	38		0.92	6.3	0.60	ND(1.9)	ND(0.51)
Cs	s-137 (Approx.30 years)						ND(0.49)	88		2.2	17	1.4	1.4	ND(0.48)
	Mn-54 (Approx. 310 days)						ND	7.1		ND	ND	ND	ND	ND
The	Co-60 (Approx. 5 years)						ND	ND		ND	ND	ND	0.62	0.4
other y	Ru-106 (Approx. 370 days)						3.5	ND		ND	ND	ND	ND	ND
	Sb-125 (Approx. 3 years)						ND	ND		ND	ND	ND	7.7	1.6
	ΑΙΙ β						470	17,000		46	85	110	1,300,000	130
ŀ	H-3 (Approx. 12 years)						Under analysis	Under analysis	/	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis
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	Dec 2, 2013	/	/	/	/	/	/	/
	Time of sampling	3:20 PM							
	Chloride (unit: ppm)	-							
С	s-134 (Approx. 2 years)	0.86							
Cs	s-137 (Approx.30 years)	2.7							
	Ru-106 (Approx. 370 days)	7.3							
The other y									
	ΑΙΙ β	20,000							
I	H-3 (Approx. 12 years)	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 (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	by the	drinking- water
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- water
Date of Sampling	/	/	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 25, 2013	Nov 27, 2013	Nov 27, 2013	Nov 27, 2013	Nov 27, 2013	Nov 27, 2013		
Time of sampling			9:27 AM	9:35 AM	9:39 AM	9:43 AM	9:31 AM	9:23 AM	9:28 AM	9:15 AM	9:01 AM	9:08 AM		
Cs-134(Approx. 2 years)	/		ND(1.0)	ND(1.2)	1.6	ND(1.3)	ND(1.2)	ND(0.54)	ND(0.77)	ND(0.63)	ND(0.69)	ND(0.45)	60	10
Cs-137(Approx.30 years)			ND(0.90)	ND(1.2)	4.5	ND(1.4)	ND(1.2)	ND(0.70)	ND(0.71)	ND(0.78)	ND(0.58)	ND(0.59)	90	10
All β			ND(17)	ND(17)	17	ND(17)	ND(17)	ND(16)	ND(16)	ND(16)	ND(16)	ND(16)		
H-3 (Approx. 12 years)	/		ND(1.8)	2.1	21	3.3	2.0	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.8)	ND(1.8)	60,000	10,000
Sr-90 (Approx. 29 years)	/	V	Under analysis	-	-	-	-	-	-	-	-	-	30	10

^{*} Data announced this time is provided in a thick-frame. The other data was announced on November 26 and 29.

^{* &}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	Dec 2, 2013	Dec 2, 2013	Dec 2, 2013	/	Dec 2, 2013	Dec 2, 2013	/		Dec 2, 2013	Dec 2, 2013	Dec 2, 2013	Dec 2, 2013		
Time of sampling	6:40 AM	6:50 AM	9:55 AM		7:09 AM	6:45 AM			6:49 AM	6:51 AM	6:56 AM	6:54 AM		
Cs-134(Approx. 2 years)	ND(1.2)	2.8	2.4		16	28			28	19	42	18	60	10
Cs-137(Approx.30 years)	ND(1.4)	5.8	8.3		36	61	/		65	44	100	43	90	10
All β	ND(17)	33	32		100	320			330	160	150	150		
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		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 2, 2013	Dec 2, 2013	Dec 2, 2013	Dec 2, 2013	Dec 2, 2013	Dec 2, 2013	Dec 2, 2013	/	/	/	/	1		
Time of sampling	7:04 AM	5:50 AM	7:32 AM	7:46 AM	7:50 AM	7:53 AM	7:40 AM	/	/	/				
Cs-134(Approx. 2 years)	38	ND(0.98)	ND(1.0)	2.0	3.9	5.0	ND(1.3)	/	/				60	10
Cs-137(Approx.30 years)	92	ND(1.2)	1.5	5.0	9.2	8.4	2.6	/	/				90	10
All β	130	ND(18)	ND(17)	22	28	21	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)	-	-	-	-	-	-	-	/	/	/	/	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/

		Groun observa No.		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	ndwater ution hole .1-8
С	s-134 (Approx. 2 years)	6.5	[12/1]	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	-137 (Approx.30 years)	16	[12/1]	0.51	[11/17]	1.6	[10/13]	0.86	[11/20]	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]	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]	64,000	[11/24]	260	[11/24]	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)	6,600	[11/25]
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	

		observa	dwater tion hole 1-9	observa	dwater tion hole 1-11	observa	dwater tion hole 1-12	observa	dwater tion hole 1-14	observa	dwater tion hole 1-16	observa	dwater tion hole 1-17	Ground pumped the we	
Cs	s-134 (Approx. 2 years)	170	[9/3]	0.94	[10/31]	74	[10/21]	1.2	[11/14]	1.6	[11/14]	ND		110	[9/23]
Cs	Cs-137 (Approx.30 years) Ru-106 (Approx. 370 days)		[9/3]	2.0	(10/10) (11/11)	170	[10/21]	2.3	[11/21]	3.4	[10/10]	ND		250	[9/23]
	Ru-106 (Approx. 370 days)			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)	ND		ND		ND		ND		ND		ND		ND	
other y	Co-60 (Approx. 5 years)	ND		ND		0.51	[10/24]	ND		0.9	[11/7]	0.61	[11/25]	ND	
	Sb-125 (Approx. 3 years)	ND		ND		61	[10/21]	ND		8.6	[11/18]	2.1	[11/25]	ND	
	All β	2,100	[11/17]	72	[10/3]	730	[10/21]	160	[11/21]	1,100,000	[11/28]	78	[11/25]	700,000	[9/23]
H	H-3 (Approx. 12 years)	860	[11/14]	85,000	(9/13)	440,000	[10/31]	11,000	[11/25]	43,000	(9/26)	10,000	[11/25]	460,000	(8/19)
S	r-90(Approx. 29 years)	Under analysis		Under analysis		Under analysis	[10/21]	Under analysis		Under analysis		Under analysis		-	

																			Unit: Bq/L
		observa	idwater ition hole o.2	observa	dwater tion hole 2-1*		dwater tion hole 2-5 ^{*1}	observa	dwater tion hole .2-6	observa	ndwater ation hole 0.2-7	observ	ndwater ation hole lo.3	Ground observat No.3	tion hole	observa	dwater tion hole 3-4	observa	dwater tion hole .3-5
Cs	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	-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]	4.3	[11/27]	-	
	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]	2,700	[12/1]	18	[11/21]	1,400	[7/11]	180	[8/1]	ND		35*2	[11/27]
F	H-3 (Approx. 12 years)	850	[6/26]	440	[8/26]	3,100	[11/7]	1,200	[11/24] [11/27]	1,000	[11/21]	3,200	(2012/12/ 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.

* "ND" indicates that the measurement result is below the detection limit.

* Date of sampling is provided in parentheses.

* "*" 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 t 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 nnel of Unit Unit 3	1F, Unit	3 Screen Silt Fence)	intake cha	en the water nnel of Unit Unit 4
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]	-		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)	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		-		-		-	-	-	-	-

^{*} 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.