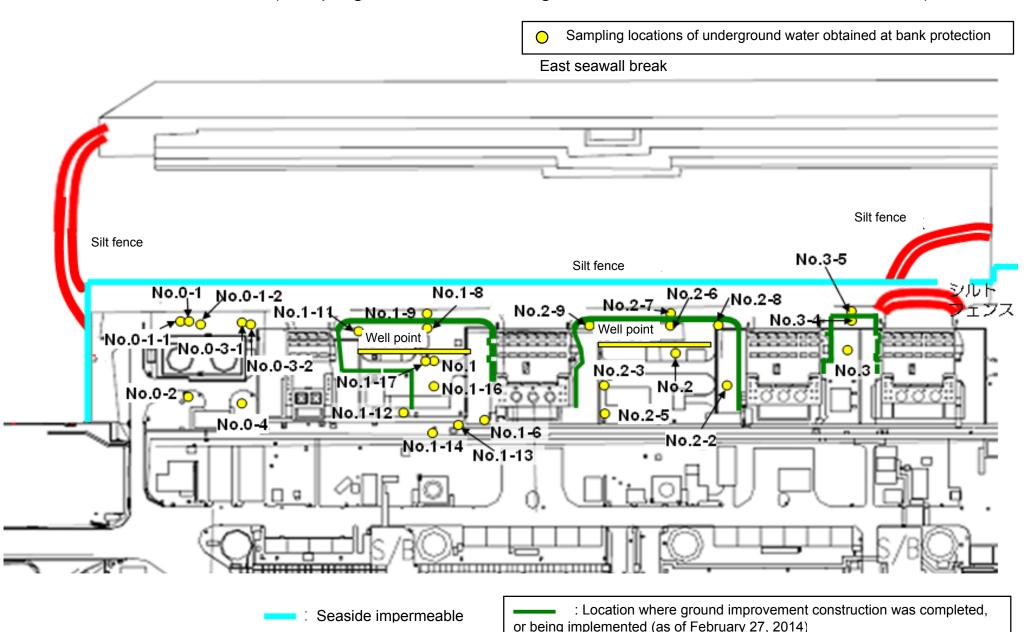
Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Underground Water Obtained at Bank Protection)



Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (1/2) Underground Water Obtained at Bank Protection

Unit: Bq/L (exclude chloride)

														6111.1. Eq.	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.0-3-2	Underground water observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-6	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
	Date of sampling	Mar 30, 2014	41,728	Mar 30, 2014	Mar 30, 2014	Mar 31, 2014	Mar 30, 2014	Mar 31, 2014	Mar 31, 2014	Mar 31, 2014	Apr 1, 2014	Mar 31, 2014	Mar 31, 2014	Mar 31, 2014	Mar 31, 2014
	Time of sampling	12:30 PM	11:39 AM	11:00 AM	11:21 AM	9:30 AM	10:19 AM	11:05 AM	10:25 AM	11:28 AM	8:17 AM	10:42 AM	9:10 AM	9:33 AM	9:30 AM
	Chloride (unit: ppm)	-	-	-	-	-	-	-	-	-	260	-	-	-	-
С	s-134 (Approx. 2 years)	10	ND(0.41)	ND(0.45)	ND(0.63)	ND(0.40)	ND(0.39)	ND(0.46)	6300	22	1.9	ND(0.43)	22	3.6	ND(1.4)
С	s-137 (Approx.30 years)	28	ND(0.48)	0.88	ND(0.52)	ND(0.44)	ND(0.54)	ND(0.52)	16000	56	5.8	0.94	59	10	ND(1.2)
	Mn-54 (Approx. 310 days)	ND	ND	ND	ND	ND	ND	ND	190	4.2	ND	ND	ND	ND	ND
The	Co-60 (Approx. 5 years)	ND	ND	ND	ND	ND	ND	ND	680	0.44	ND	ND	ND	ND	ND
other y	Sb-125 (Approx. 3 years)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.6
	Gross β	170	ND(18)	ND(18)	ND(18)	ND(17)	ND(18)	230	690,000	34,000	50	26	430	1,800	1,100,000
	H-3 (Approx. 12 years)	13,000	20,000	3,000	ND(110)	60,000	2,400	170,000	11,000	13,000*1	170	13,000	35,000	10,000	14,000
S	r-90 (Approx. 29 years)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		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.2-2	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	Underground water observation hole No.2-8	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	Mar 31, 2014	Mar 31, 2014	/	/	/	/	Apr 1, 2014	/	/	/	1	/	
	Time of sampling	10:20 AM	10:00 AM					9:52 AM				/		
	Chloride (unit: ppm)	-	-					-						
C	s-134 (Approx. 2 years)	ND(0.46)	3.5					ND(0.42)						
Cs	s-137 (Approx.30 years)	0.95	7.6	/				ND(0.53)						
	Mn-54 (Approx. 310 days)	ND	3.3				/	ND						
The	Co-60 (Approx. 5 years)	ND	ND					ND						
other y	Sb-125 (Approx. 3 years)	ND	ND	/			/	ND						
	Gross β	2,900	250,000					2,200						
ŀ	H-3 (Approx. 12 years)	6,600	93,000	/		/	/	930		/				
Sr	r-90 (Approx. 29 years)	-	-	/	/		/	-		/	/	/		/

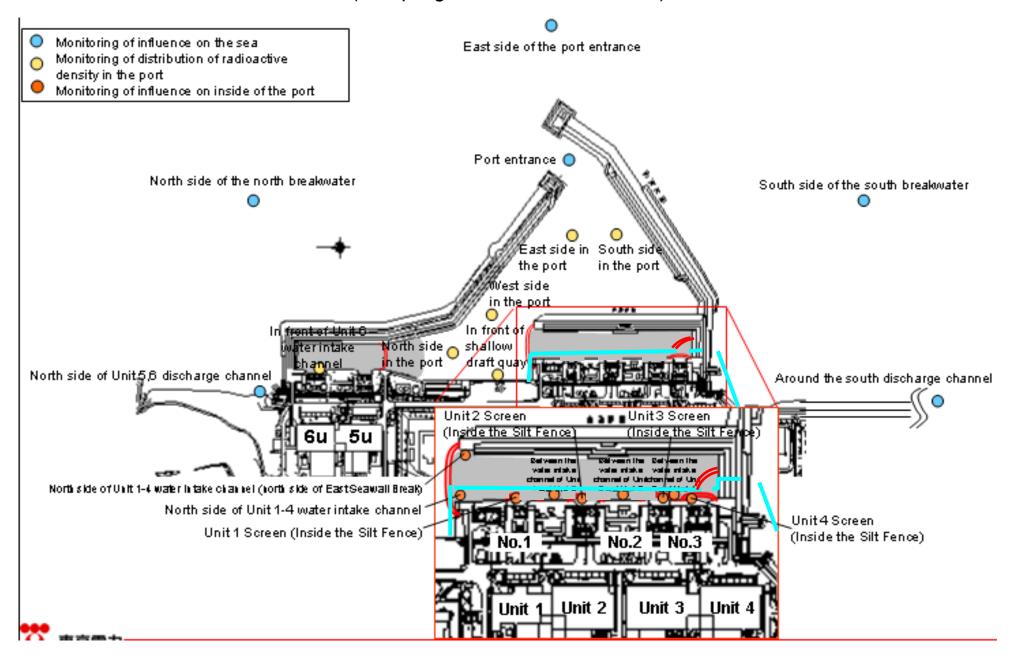
^{*} Data announced this time is provided in a thick-frame. The other data was announced on March 31, April 1, and 2.

^{* &}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.

^{*1} The highest measurement value (compared to the previous values provided in the handouts published in 'Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection')

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 (2/2) Seawater

Unit: Bq/L

Unit: Ba/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 (north side of East Seawall Break)	water intake	1F, Between the water intake channel of Unit 1 and Unit 2 (lower layer)	1F, Unit 2	1F, Between the water intake channel of Unit 2 and Unit 3	1F, Unit 3 Screen	1F, Between the water intake channel of Unit 3 and Unit 4	Screen	1F, South side of Unit 1-4 water intake channel (In front of impermeable wall)	Density Limit Specified by the Reactor Regulatio n *	WHO Guideline s for drinking- water quality
Date of Sampling	Apr 1, 2014	Apr 1, 2014	Mar 31, 2014	Mar 31, 2014	Apr 1, 2014	Apr 1, 2014	Mar 31, 2014	Mar 31, 2014	Mar 31, 2014	Mar 31, 2014	Mar 31, 2014	Mar 31, 2014		
Time of sampling	7:00 AM	6:58 AM	6:36 AM	6:58 AM	8:13 AM	8:13 AM	6:39 AM	6:43 AM	6:47 AM	6:50 AM	6:49 AM	6:52 AM		
Cs-134(Approx. 2 years)	ND(0.73)	ND(2.3)	ND(2.4)	3.7	9.9	13	14	8.8	21	5.6	25	14	60	10
Cs-137(Approx.30 years)	ND(0.46)	ND(2.5)	2.4	9.3	25	30	36	23	60	17	72	35	90	10
Gross β	13	26	20	64	440	190	330	230	220	180	160	110		
H-3 (Approx. 12 years)	ND(1.7)	ND(3.2)	2.8	ND(110)	920	350	550	480	350	300	170	150	60,000	10,000
Sr-90 (Approx. 29 years)	=	÷	-	-	-	-	-	-	-	-	-	-	30	10

	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	WHO Guideline s for drinking- water quality
Date of Sampling	Apr 1, 2014	/	/	/	/	/				/	/	/		
Time of sampling	6:06 AM											/		
Cs-134(Approx. 2 years)	ND(0.43)		/	/	/	/				/		/	60	10
Cs-137(Approx.30 years)	ND(0.62)		/	/	/	/				/		/	90	10
Gross β	12	. /										/		
H-3 (Approx. 12 years)	ND(1.7)											/	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 April 1 and 2.

^{* &}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]).

	Ba	

		Groundwater observation hole No.0-1	Groundwater observation hole No.0-1-1	Groundwater observation hole No.0-1-2	Groundwater observation hole No.0-2	Groundwater observation hole No.0-3-1	Groundwater observation hole No.0-3-2	Groundwater observation hole No.0-4	Groundwater observation hole No.1	Groundwater observation hole No.1-1	Groundwater observation hole No.1-2*	Groundwater observation hole No.1-3*	Groundwater observation hole No.1-4*	Groundwater observation hole No.1-5
	Cs-134 (Approx. 2 years)	9.8 *2 <3/9>	0.61 <3/2>	ND	0.61 (10/13)	0.44 [11/24]	0.82 <1/14>	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)	25 *2 <3/9>	1.5 <3/2>	0.51 (11/17)	2.2 <1/12>	0.86 [11/20]	2.1 <1/14>	1.4 <1/12>	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	0.64 <2/20>	ND	ND	1.0 (7/5)	62 (7/5)	ND	ND	ND
other	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	67 ^{*1} (12/11)	29 [12/29]	1,900 [5/24]	4,400 (7/8)	900,000 [7/5]	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]	74,000 [12/15] <1/19>	6,800 <2/16>	ND	76,000 <2/6>	56,000 <2/23>	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)	140 (8/8)	Under analysis	Under analysis	0.73 (9/2)	Under analysis	Under analysis	Under analysis	1,300 [8/22]	2,300 [6/28]	5,000,000 (7/5)	130,000 [8/8]	200 (7/8)	5,100 [8/22]
		Groundwater observation hole No.1-6	Groundwater observation hole No.1-8	Groundwater observation hole No.1-9	Groundwater observation hole No.1-10	Groundwater observation hole No.1-11	Groundwater observation hole No.1-12	Groundwater observation hole No.1-13	Groundwater observation hole No.1-14	Groundwater observation hole No.1-16	Groundwater observation hole No.1-17	Groundwater pumped up from the well point (between Unit 1 and 2)	Groundwater observation hole No.2	Groundwater observation hole No.2-1*
	Cs-134 (Approx. 2 years)	6,300 <3/31>	47 (11/25)	170 [9/3]	-	1.1 <1/13>	74 [10/21]	37,000 <2/13>	88 ^{*2} <2/27>		1.2 [12/5]	110 [9/23]	0.88 <2/26>	0.66 (9/1)
(Cs-137 (Approx.30 years)	16,000 <3/31>	110 (11/25)	380 [9/3]	-	2.8 <1/13>	170 [10/21]	93,000 <2/13>	230 *2 <2/27>	4.7 <2/17>	1.5 <3/10>	250 [9/23]	2.5 <2/26>	1.1 (8/29) (9/1)
	Ru-106 (Approx. 370 days)	ND	ND	ND	-	ND	5.4 (10/28)	ND	ND	9.2 (10/28)	4.1 [12/12]	25 [9/2]	ND	ND
The	Mn-54 (Approx. 310 days)	320 <2/13> <2/17>	12 <2/3>	ND	-	ND	ND	ND	ND	ND	ND	5.9 <3/3>	ND	ND
other	Co-60 (Approx. 5 years)	830 <2/20>	1.3 <2/3>	ND	-	ND	0.51 [10/24]	ND	ND	0.9 [11/7]	0.61 [11/25]	ND	ND	ND
	Sb-125 (Approx. 3 years)	ND	ND	ND	-	ND	61 (10/21)	ND	ND	11 (12/5)	2.1 [11/25]	ND	ND	ND
	Gross β	770,000 <3/27>	59,000 <2/3>	2,100*2 (11/17)	78 ^{*2} <1/27>	2,300 [12/26]	730 (10/21)	260,000 <2/12> <2/13>	1,800 <3/31>	<1/20> 3,100,000 <1/30> <2/3>	3,500 <3/24>	700,000 [9/23]	1,700 (7/8)	380 (7/29)
	H-3 (Approx. 12 years)	*2 110,000 <2/6>	12,000 <1/6> <2/3>	*2 860 [11/14]	*2 270,000 <1/27>	85,000 (9/13)	440,000 [10/31]	88,000 <2/12>	23,000 <2/13>	43,000 [9/26]	32,000 <1/20>	460,000 [8/19]	1,000 <2/23>	440 [8/26]
									Under	Under				

																									Unit: Bq/L
		Ground observat No.	tion hole	observa	dwater tion hole .2-3	Ground observat No.	ion hole	observa	dwater ition hole .2-6	observa	ndwater ation hole 0.2-7		dwater tion hole 2-8	Ground observati No.2	ion hole	pumped the we	ell point en Unit 2	observa	ndwater ation hole lo.3	observa	ndwater ation hole b.3-1*	observa	ndwater ation hole i.3-4	observa	dwater tion hole .3-5
C	s-134 (Approx. 2 years)	15	<2/12>	2.2	<2/26>	25	<2/12>	17	<3/11>	3.5	<2/23>	-		-		1.2	<3/9>	3.5	(7/25)	1.2	(7/25) (8/8)	1.9	<1/8>	64	<1/15>
С	s-137 (Approx.30 years)	38	<2/12>	5.5	<2/26>	62	<2/12>	50	<3/11>	9.0	<2/23>	-		0.58 *2	<2/11>	3.1	<3/9>	5.9	[8/8]	2.6	[8/1]	5.4	<4/2>	170	<1/15>
	Ru-106 (Approx. 370 days)	ND		ND		ND		ND		ND		ı		6.5	<2/11>	ND		ND		ND		ND		1	
The	Mn-54 (Approx. 310 days)	ND		0.29	[12/6]	0.94	<1/8>	ND		ND		1		ī		ND		ND		ND		0.54	[10/30]	1	
other y	Co-60 (Approx. 5 years)	ND		ND		ND		ND		ND		1		1		ND		ND		ND		ND		i	
	Sb-125 (Approx. 3 years)	ND		ND		30	<2/12>	ND		ND				-		ND		1.6	<1/1>	ND		ND		-	
	Gross β	570	<3/26>	1,500	[12/6]	150,000	<2/12>	3,200	[12/5]	730	<3/30>	4,100*2	<3/30>	1,700*2	<2/7>	240,000	[12/12]	1,400	(7/11)	180	[8/1]	18	<3/12>	300	<4/2>
	H-3 (Approx. 12 years)	660	<1/8>	1,700	[12/6]	6,300	[12/4]	1,200	[11/24] [11/27]	1,100	<1/17>	*2 1400	<3/30>	*2 13,000	<2/7>	5,100	[12/6]	3,200	(2012/12/ 12)	460	[8/1]	170	(9/18)	170	<1/8>
	6r-90(Approx. 29 years)	Under analysis		Under analysis		Under analysis		Under analysis		Under analysis		=		-		-		8.3	(2012/12/ 12)	4.4	[7/23]	ND		-	

Since some samples are still under analysis, the highest dose of the Strontium-90 is among those previously announced.

^{*1} Analysis result of pumped water.
*2 The results are for a reference, since the water was highly turbid. (γ and Gross β were measured after filtration.)

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

^{*} Date of sampling is provided in parentheses. (): 2013, < >: 2014
* "*" 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 5,6 arge channel		ont of Unit 6 take channel		nt of shallow ft quay	water int (north s	ide of Unit 1-4 ake channel ide of East all Break)	intake cha	en the water nnel of Unit 1 (surface layer)	intake cha			2 Screen Silt Fence)	intake cha	en the water nnel of Unit 2 Unit 3		3 Screen e Silt Fence)	intake char	en the water nnel of Unit 3 Unit 4		4 Screen e Silt Fence)	4 water int (In front of	side of Unit 1- take channel impermeable vall)
Cs-134(Approx. 2 years)	1.8	[6/21]	2.8	[12/2]	5.3	[8/5]	32	(10/11)	87	[10/10]	93	(10/10)	370	[10/9]	52	[12/21]	350	(7/15)	28	(9/16)	62	(9/16)	14	<3/31>
Cs-137(Approx.30 years)	4.5	<3/17>	5.8	[12/2]	8.6	(8/5)	73	(10/11)	200	[10/10]	200	(10/10)	830	[10/9]	110	[10/11] [12/21]	770	(7/15)	53	(12/16)	140	(9/16)	35	<3/31>
Gross β	17	<1/6>	46	(8/19)	40	[7/3]	320	[8/12]	1,200	[12/8]	450	(7/16)	1,700	(10/9)	480	[10/7]	1,000	(7/15)	390	(8/12)	360	[10/7]	380	<3/10>
H-3 (Approx. 12 years)	8.6	[6/26]	24	(8/19)	340	(6/26)	510	[9/2]	2,800	[12/8]	1,600	(9/1)	2,100	[10/28]	1,200	(10/7)	410	[9/2]	650	(8/12)	400	[8/12] [10/7]	290	<3/17>
Sr-90 (Approx. 29 years)	5.8	*1 (6/26)	-		7.4	(6/26)	220	(8/19)	480	[10/14]	480	(8/22)	290	[10/20]	430	(10/14)	340	[10/14]	120	(9/23)	190	[9/23]	130	[9/23]

Unit: Bq/L

		nd the south ge channel	1F, Por	t entrance	1F, East s	ide in the port	1F, West s	ide in the port	1F, North s	side in the port	1F, South	side in the por		e of the north kwater	Northeast side of the port entrance		of the south kwater	Southeast side of the north breakwater	South side of the south breakwater
Cs-134(Approx. 2 years)	ND		3.3	[12/24]	3.3	(10/17)	4.4	[12/24]	5.0	[12/2]	3.5	(10/17)	ND		ND	ND		ND	ND
Cs-137(Approx.30 years)	3.0	(7/15)	7.3	[10/11]	9.0	(10/17)	10	[12/24]	8.4	[12/2]	7.8	[10/17]	ND		ND	1.6	[10/18]	ND	ND
Gross β	15	<1/13>	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)	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)	0.36	*1 (6/26)	49	(8/19)	-		1		1		-		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.

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. Since some samples are still under analysis, the highest dose of the Strontium-90 is among those previously announced.

[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

^{*1} Since reanalysis is ongoing, the figures are just for a reference.

 $^{^{\}star}$ "ND" indicates that the measurement result is below the detection limit.

^{*} Date of sampling is provided in parentheses. (): 2013, <>: 2014

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