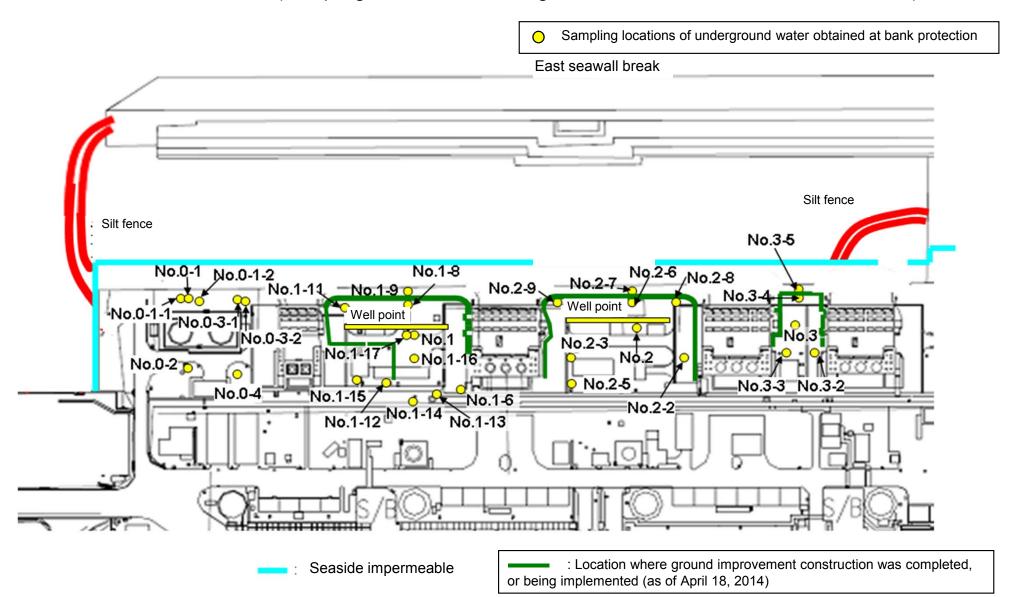
Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (Sampling Locations of Underground Water Obtained at Bank Protection)



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

Unit: Bq/L (exclude chloride)

		Underground water observation hole No.0-1	Underground water observation hole No.0-1-2	Underground water observation hole No.0-2			Underground water observation hole No.0-4			Underground wate observation hole No.1-8	underground water observation hole No.1-9 (note)					Underground wate observation hole No.1-17
	Date of sampling	/	1	1 /	,	November 20, 2014	/	November 20, 2014	November 20, 2014	,	/	November 20, 2014				
	Time of sampling				/	9:30 AM		9:38 AM	10:13 AM	/		9:59 AM	9:29 AM	9:45 AM	9:45 AM	10:19 AM
	Chloride (unit: ppm)				/	-		-	_			-	_	-	-	-
Cs	-134 (Approx. 2 years)					ND(0.45)		ND(0.40)	16,000			ND(0.40)	3.1	120	ND(1.7)	ND(0.46)
Cs	-137 (Approx.30 years)					ND(0.53)		ND(0.54)	51,000			0.92	10	350	3.3	ND(0.58)
	Mn-54 (Approx. 310 days)					ND		ND	ND			ND	ND	ND	1.8	ND
The	Co-60 (Approx. 5 years)					ND		ND	170			ND	ND	ND	ND	ND
other y	Sb-125 (Approx. 3 years)					ND		ND	ND			ND	ND	ND	9.4	ND
	Gross β					21		64	560,000			28	210	31,000	690,000	28,000
Н	-3 (Approx. 12 years)					12,000		180,000	7,100			14,000	29,000	6,100	2,300	86,000
Sr-	90 (Approx. 29 years)	/	/	/	/	_	/	_	_	/	1/	_	_	-	_	_

		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				Groundwater pumped up from the well point (between Unit 2 and 3)	observation hole			Underground water observation hole No.3-4	Underground water observation hole No.3-5
	Date of sampling	/	,	/ /	/ /	/	1	/	1		/	/	1	1 /	
	Time of sampling		/							/					
	Chloride (unit: ppm)														
С	s-134 (Approx. 2 years)														
C	s-137 (Approx.30 years)														
	Mn-54 (Approx. 310 days)														
The	Co-60 (Approx. 5 years)														
other y	Sb-125 (Approx. 3 years)														
	Gross β														
ı	H-3 (Approx. 12 years)														
Si	r-90 (Approx. 29 years)														

^{*} Data announced this time is provided in a thick-frame. The other data was announced on November 21, 2014.

(Note) As for No. 1-9, 2-5, and 3-5, γwas not measured because they are samlpled by sampler. Gross βwere measured after filtation for references.

^{* &}quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses, except "the other y".

^{* &}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 wate observation hole No.0-2			Underground wate observation hole No.0-4	Underground water observation hole No.1	Underground water observation hole No.1-6		nderground water bservation hole No.1-9 (note)		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 /	/	November 24, 2014	November 24, 2014	November 24, 2014		November 24, 2014	November 24, 2014	November 24, 2014	November 24, 2014	November 24, 2014
	Time of sampling			/			/	9:19 AM	9:47 AM	9:53 AM	/	9:35 AM	9:06 AM	9:18 AM	9:28 AM	10:09 AM
	Chloride (unit: ppm)							-	-	-		-	-	-	-	-
Cs	s-134 (Approx. 2 years)							ND(0.39)	16,000	25		ND(0.42)	2.9	94	ND(1.2)	ND(0.39)
Cs	s-137 (Approx.30 years)							0.45	50,000	73		ND(0.65)	8.0	320	1.8	ND(0.48)
	Mn-54 (Approx. 310 days)							ND	ND	ND		ND	ND	ND	1.9	ND
The	Co-60 (Approx. 5 years)							ND	200	ND		ND	ND	ND	ND	ND
other y	Ru-106 (Approx. 370 days)							5.0	ND	ND		ND	ND	ND	ND	ND
	Sb-125 (Approx. 3 years)							ND	ND	ND		ND	ND	ND	7.6	ND
	Gross β							31	550,000	21,000	/	28	160	31,000	690,000	33,000
H	H-3 (Approx. 12 years)							Under analysis	Under analysis	Under analysis	/	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis
Sr	-90 (Approx. 29 years)	/		/				-	-	- /		-	-	-	-	-

		Groundwater pumped up from the well point (between Unit 1 and 2)	observation hole	Underground water observation hole No.2-2	Underground water observation hole No.2-3		round water vation hole lo.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.3-2	Underground water observation hole No.3-3	Underground water observation hole No.3-4	Underground water observation hole No.3-5(note)
	Date of sampling		/	/	/	/	/	/	/	/	/	/	/	/	/
	Time of sampling	/													
	Chloride (unit: ppm)														
(Cs-134 (Approx. 2 years)														
C	Cs-137 (Approx.30 years)														
	Mn-54 (Approx. 310 days)					/									
The	Co-60 (Approx. 5 years)														
other y	Ru-106 (Approx. 370 days)					/ /									
	Sb-125 (Approx. 3 years)														
	Gross β														
	H-3 (Approx. 12 years)	/				/ /						/			
8	Sr-90 (Approx. 29 years)					/ /									

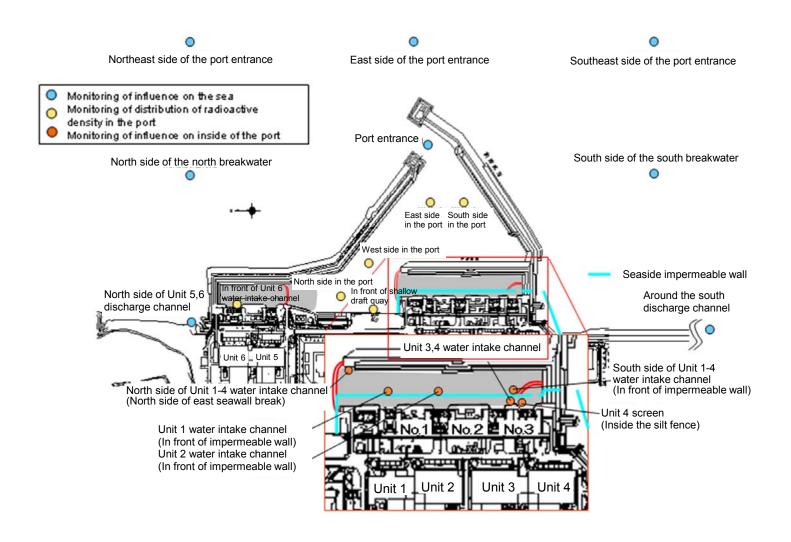
^{* &}quot;ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses, except "the other y".

(Note) As for No. 1-9, 2-5, and 3-5, γ was not measured because they are samlpled by sampler. Gross β were measured after filtation for references.

^{* &}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 (3/3) Seawater

Unit: Bg/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)	1F, In front of Unit 1 water intake channel (in front of impermeable wall)	1F, In front of Unit 2 water intake channel (in front of impermeable wall)	1F, In front of Unit 3 & 4 water intake channel	1F, Unit 4 Screen	1F, South side of Unit 1-4 water intake channel (in front of impermeable wall)	1F, Around the south discharge channel	Density Limit Specified by the Reactor Regulation *	WHO Guidelines for drinking- water quality
Date of Sampling	November 24, 2014	November 24, 2014	November 24, 2014	November 24, 2014	November 24, 2014	November 24, 2014	November 24, 2014	November 24, 2014	November 24, 2014	November 24, 2014		
Time of sampling	6:25 AM	6:50 AM	6:45 AM	7:20 AM	6:57 AM	7:05 AM	7:13 AM	7:10 AM	7:16 AM	5:40 AM		
Cs-134(Approx. 2 years)	ND(0.71)	ND(3.1)	ND(2.0)	4.6	7.1	8.1	6.8	6.8	4.9	ND(0.85)	60	10
Cs-137(Approx.30 years)	ND(0.76)	ND(2.5)	3.7	23	22	25	25	26	16	ND(0.72)	90	10
Gross β	14	ND(18)	ND(18)	160	130	170 * 1	120	120	110	13		
H-3 (Approx. 12 years)	Under analysis	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)	_	1	_	_	1	_	_	_	_	_	30	10

Unit: Bq/L

	1F, Port entrance	1F, East side in the port	1F, West side in the port	1F, North side in the port	1F, South side in the port	1F, North side of the north breakwater	1F, Port entrance (north-east side)	1F, Port entrance (east side)	1F, Port entrance (south-east side)	1F, South side of the south breakwater	Density Limit Specified by the Reactor Regulation *	WHO Guidelines for drinking- water quality
Date of Sampling			/	/	/	/	1 /	/	/			
Time of sampling				/	/							
Cs-134(Approx. 2 years)	/										60	10
Cs-137(Approx.30 years)									/		90	10
Gross β					/	/						
H-3 (Approx. 12 years)				/							60,000	10,000
Sr-90 (Approx. 29 years)	/	/	/	/	/	/	/	/	/	/	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.

^{*}Sampling at "Center in the port at 1F" has been ceased due to the end of influence assessment for the capture of C discharge channel.

^{*} 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 Bg/cm³ to Bg/L]).

^{*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')

<Reference> The Highest Dose Until the Previous Measurement (Groundwater Obtained at Bank Protection)

u	Init:	Bo	1/

Unit: Bq/L

																													Unit: Bq/L
		observa	ndwater ation hole o.0-1	observa	dwater tion hole)-1-1	observa	ndwater ation hole 0-1-2	observa	ndwater ation hole .0-2	observa	ndwater ation hole .0-3-1	observa	ndwater ation hole 0-3-2	observa	ndwater ation hole a.0-4	Groun observa No		observa	ndwater ation hole .1-1*		dwater tion hole 1-2*	Ground observati No.	tion hole	observa	ndwater ation hole .1-4*		dwater tion hole 1-5 [*]	Ground observat No.	ion hole
С	s-134 (Approx. 2 years)	29	<5/25>	ND		0.61	<3/2>	0.61	[10/13]	0.64	<4/6>	1.3	<9/25>	0.70	<6/29>	13	[8/29]	1.9	[7/8]	11,000	[7/9]	10	[9/2]	1.5	[7/8]	310	[8/5]	67,000	<10/17>
C	s-137 (Approx.30 years)	78	<5/25>	ND		1.5	<3/2>	2.2	<1/12>	1.1	<4/6>	5.1	<9/25>	1.6	<6/29>	31	[8/29]	3.6	[7/8]	22,000	[7/9]	24	[9/2]	3.6	[7/8]	650	[8/5]	200,000	<10/16>
	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		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		700	<10/13>
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		3,600	<10/13>
	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]	34	<5/19>
	Gross β	300	[8/29] <5/18>	21	[12/7]	24	<6/22>	87	[10/13]	ND		74	<10/9>	44	<6/22>	1,900	[5/24]	4,400	[7/8]	9,300,000	[7/8]	160,000	[8/12] [8/15]	380	[8/19]	56,000	[8/5]	7,800,000	<10/13>
ŀ	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]	110,000 *2	⟨2/6⟩
S	r-90(Approx. 29 years)	140	[8/8]	7.9	[12/7]	2.6	[11/10]	0.73	[9/2]	1.5	[11/20]	2.3	[12/6]	ND(0.83)	[10/27]	1,300	[8/22]	2,300	[6/28]	5,000,000	[7/5]	130,000	[8/8]	200	[7/8]	5,100	[8/22]	1,100,000	<8/4>

		observa	dwater tion hole .1-8	observa	ndwater ation hole o.1-9	Ground observat No.1	ion hole	Ground observat No.1	ion hole	observa	ndwater ation hole .1-12	observa	ndwater ution hole 1-13	observa	ndwater ation hole .1-14	observa	dwater tion hole 1-15	Ground observati No.1	on hole	Groun observa No.		the we (between	ndwater d up from ell point en Unit 1 d 2)	observ	ndwater ation hole lo.2	observa	ndwater ation hole .2-1	observa	ndwater ation hole 0.2-2
C	S-134 (Approx. 2 years)	47	[11/25]	170	[9/3]	-		1.1	<1/13>	74	[10/21]	37,000	<2/13>	130	<10/18>	ND		30	<7/28>	1.4	<7/7>	920	<11/13>	0.88	<2/26>	0.66	[9/1]	15	<2/12>
С	s-137 (Approx.30 years)	110	[11/25]	380	[9/3]	-		3.4	<4/28>	170	[10/21]	93,000	<2/13>	390	<10/20>	0.88	<7/10>	86	<7/28>	3.0	<9/29>	3,000	<11/13>	2.5	<2/26>	1.1	[8/29] [9/1]	38	<2/12>
	Ru-106 (Approx. 370 days)	ND		ND		-		ND		5.4	[10/28]	ND		ND		ND		9.2	[10/28]	5.5	<4/21> <5/1>	25	[9/2]	ND		ND		ND	
The	Mn-54 (Approx. 310 days)	12	<2/3>	ND		-		ND		ND		ND		2.1	<9/8>	ND		11	<8/25>	ND		110	<11/13>	ND		ND		ND	
other \	Co-60 (Approx. 5 years)	1.3	<2/3>	ND		-		ND		0.51	[10/24]	ND		0.44	<5/29>	ND		0.9	[11/7]	0.61	[11/25]	0.61	<6/9>	ND		ND		ND	
	Sb-125 (Approx. 3 years)	ND		ND		-		ND		61	[10/21]	ND		ND		ND		24	<6/16>	2.1	[11/25]	ND		ND		ND		ND	
	Gross β	59,000	⟨2/3⟩	2,100	[11/17]	78*2	<1/27>	2,300	[12/26]	1,100	<5/5>	260,000	<2/12> <2/13>	31,000	<11/20>	110	<7/10>	3,100,000	<1/20> <1/30> <2/3>	1,200,000	<10/9>	3,200,000	<11/13>	1,700	[7/8]	380	[7/29]	600	<4/16>
	H-3 (Approx. 12 years)	41,000	<11/17>	* 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>	74,000	⟨7/10⟩	43,000	[9/26]	160,000	<10/13> <10/16> <11/3>	460,000	[8/19]	1,000	<2/23>	440	[8/26]	660	<1/8>
	Sr-90(Approx. 29 years)	35,000	<2/17>	300	[10/3]	-		170	<8/4>	290	[10/21]	160,000	<2/12>	13,000	<8/4>	Under		2,700,000	<2/13>	490,000	<9/1>	-		54	[5/31]	5.9	[7/25]	320	[12/25]

																											Unit: Bq/L
		observa	ndwater ation hole 0.2-3	observa	dwater tion hole .2-5	Ground observat No.		observa	ndwater ation hole 0.2-7	observa	idwater ition hole .2-8	observa	ndwater ition hole i.2-9	pumped the we (between	dwater I up from ell point en Unit 2 d 3)	observa	idwater ition hole o.3	observ	ndwater ation hole 5.3-1	observa	ndwater ation hole 0.3-2	observa	ndwater ation hole 0.3-3	observa	ndwater ation hole 0.3-4	observa	dwater tion hole .3-5
C	s-134 (Approx. 2 years)	2.2	<2/26>	41	<5/7>	17	<3/11>	3.5	<2/23>	1.3	<7/20>	ND		2.2	<9/7>	3.5	[7/25]	1.2	[7/25] [8/8]	23	<8/27>	180	<7/2>	5.1	<7/23>	100	<7/30>
С	s-137 (Approx.30 years)	5.5	<2/26>	110	<5/7>	50	<3/11>	9.0	<2/23>	3.4	<7/20>	0.58 * 2	<2/11>	5.7	<9/7>	5.9	[8/8]	2.6	[8/1]	68	<9/3>	500	<7/2>	16	<8/27>	310	<7/30>
	Ru-106 (Approx. 370 days)	ND		ND		ND		ND		ND		6.5*2	<2/11>	ND		ND		ND		ND		ND		ND		-	
The	Mn-54 (Approx. 310 days)	0.29	[12/6]	0.95	<6/4>	ND		ND		ND		ND		ND		ND		ND		ND		ND		0.54	[10/30]	-	
other \	Co-60 (Approx. 5 years)	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		-	
	Sb-125 (Approx. 3 years)	ND		74	<5/7>	ND		ND		ND		ND		ND		1.6	<1/1>	ND		ND		ND		ND		-	
	Gross β	1,500	[12/6] <1/8>	150,000	<2/12>	3,200	[12/5] <11/6>	1,300	<6/20>	5,800	<7/23>	1,700	<2/7>	240,000	[12/12]	1,400	[7/11]	180	[8/1]	3,100	<8/20> <8/28>	8,900	<7/2>	46	⟨8/13⟩	510	<7/16>
	H-3 (Approx. 12 years)	1,700	[12/6]	7,900	<4/9>	1,900	<8/10>	1,100	<1/19>	1,700	<4/6> <8/6> <8/13>	*2 13,000	<2/7><2/11>	13,000	<10/19> <10/26> <10/29>	3,200	[2014 12/12]	460	[8/1]	3,700	<7/9>	8,000	<5/7>	170	[9/18]	170	<1/8>
,	6r-90(Approx. 29 years)	1,200	[12/6]	34,000	<5/7>	Under analysis		ND(1.4)	[11/21]	3,900	<3/30>	1,200 * 2	<2/11>	-		8.3	(2014 12/12)	4.4	[7/23]	2000	<4/18>	3,600	<4/30>	ND		200	<5/28>

[•] 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 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.

⁽Note) As for No. 1-9, 2-5, and 3-5, since September 17, γ was not measured because they are samlpled by sampler. Gross β were measured after filtation for reference.

<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	4 water in (north s	side of Unit 1- take channel ide of East all Break)	water into	ont of Unit 1 ake channel impermeable vall)	water inta (in front of i	nt of Unit 2 ake channel impermeable rall)	intake char	en the water inel of Unit 3 Unit 4		4 screen e silt fense)	4 water int (in front of	side of Unit 1- cake channel impermeable vall)		nd sounth e channel	1F, Por	t entrance
Cs-134(Approx. 2 years)	1.8	[6/21]	2.8	[12/2]	5.3	[8/5]	32	[10/11]	12	<6/23>	12	<9/8>	50	<9/22>	62	[9/16]	24	<11/3>	1.8	<6/9>	3.3	[12/24]
Cs-137(Approx.30 years)	4.5	<3/17>	5.8	[12/2]	8.6	[8/5]	73	[10/11]	33	<5/12>	40	<9/8>	150	<9/22>	140	[9/16] <9/22>	64	<11/3>	4.9	<6/9>	7.3	[10/11]
Gross β	17	<1/6>	46	[8/19]	40	[7/3]	320	[8/12]	140	<5/5> <7/14> <8/18> <9/1> <11/17>	160	<8/18>	660	<6/9>	680	<9/22>	380	⟨3/10⟩	16	<6/9><8/4>	69	[8/19]
H-3 (Approx. 12 years)	8.7	<5/1 2 >	24	[8/19]	340	[6/26]	600	[8/18]	460	<8/18>	350	<8/18>	2,500	<6/23>	2,200	<7/21>	810	<8/4> <11/3>	5.6	<5/19>	68	[8/19]
Sr-90(Approx. 29 years)	4.7	[6/26]	_		7.2	[6/26]	220	[8/19]	_		-		660	<6/9>	470	<8/4>	-		0.29	[6/26]	49	[8/19]

Unit: Bq/L

		east side he port		/est side ne port		orth side ne port		outh side he port	1F, Cente	er in the port	1F, Nor of the north			neast side t entrance		ast side ort entrance		ast side t entrance		outh side h breakwater
Cs-134(Approx. 2 years)	3.3 [10/17] 4.4 [12/24]		5.0	[12/2]	3.5	[10/17]	3.6	<11/10>	ND		ND		ND		ND		ND			
Cs-137(Approx.30 years)	9.0	[10/17]	10.0	[12/24]	8.4	[12/2]	7.8	[10/17]	15	<11/10>	ND		0.7	<10/8>	1.6	[10/18]	ND		ND	
Gross β	74	[8/19]	60	[7/4]	69	[8/19]	79	[8/19]	58	<10/7>	ND		ND		ND		ND		ND	
H-3 (Approx. 12 years)	67	[8/19]	59	[8/19]	52	[8/19]	60	[8/19]	110	<11/10>	4.7	[8/14]	1.8	<10/1>	6.4	[10/8]	1.8	<5/29>	2.8	<4/23>
Sr-90(Approx. 29 years)	-		1		ı		ı		ı		_		-		-		-		_	

^{*} 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.

[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.

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

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

 $^{^{\}star}$ Date of sampling is provided in parentheses. []: 2013, < >: 2014

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