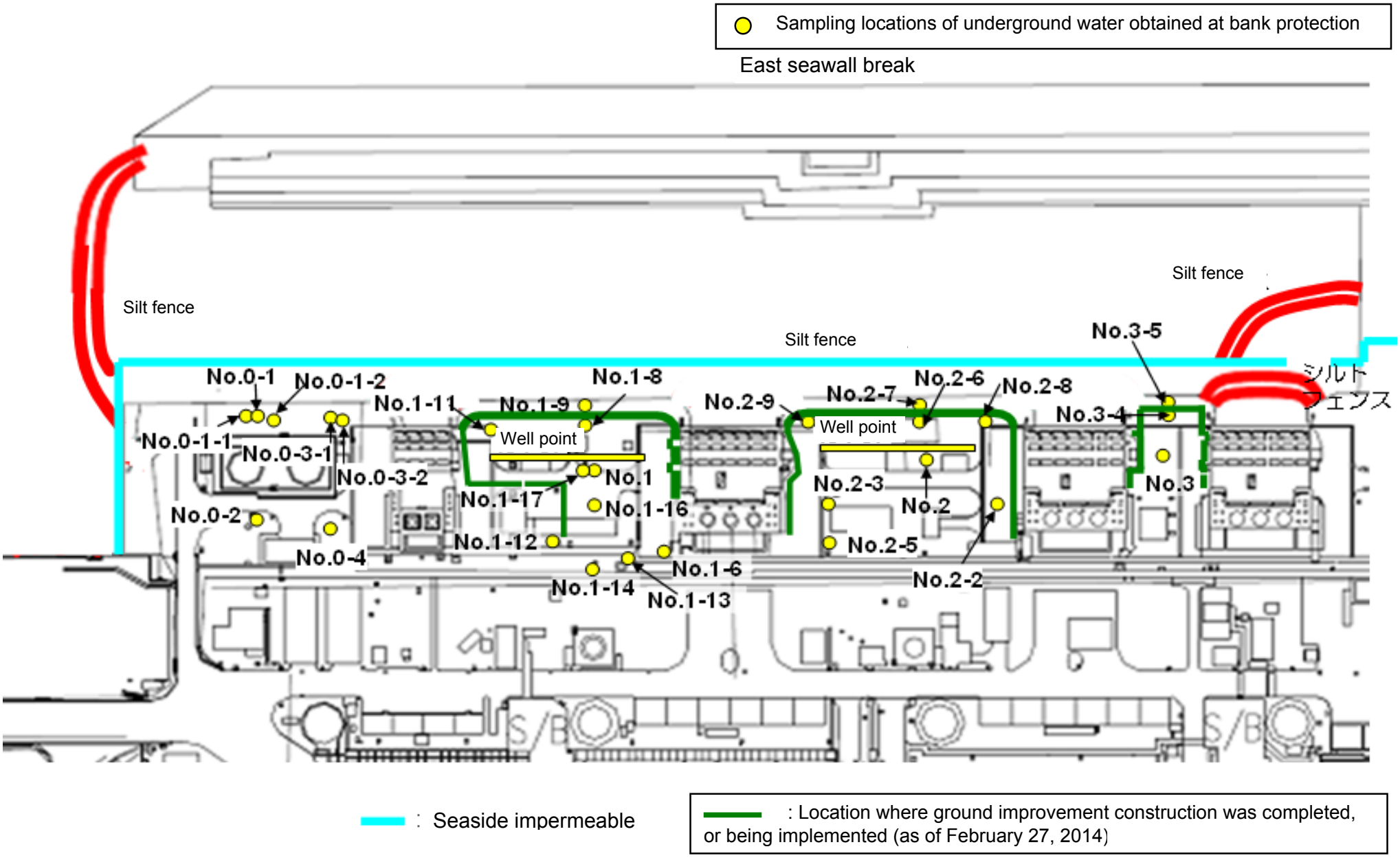
<Reference>
March 27, 2014
Tokyo Electric Power Company

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)

	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														
Time of sampling														
Chloride (unit: ppm)														
Cs-134 (Approx. 2 years)														
Cs-137 (Approx.30 years)														
The other γ														
Gross β														
H-3 (Approx. 12 years)														
Sr-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 23, 2014	Mar 23, 2014	Mar 23, 2014			Mar 23, 2014	Mar 23, 2014	Mar 23, 2014			
Time of sampling			10:12 AM	11:17 AM	9:48 AM			10:35 AM	12:10 PM	10:00 AM			
Chloride (unit: ppm)			-	-	-			820	-	-			
Cs-134 (Approx. 2 years)			ND(0.38)	12	ND(0.38)			0.55	ND(0.36)	ND(0.63)			
Cs-137 (Approx.30 years)			0.52	29	1.3			1.3	ND(0.45)	0.75			
The other γ													
Gross β			290	540	1,100			570	3,600	110,000			
H-3 (Approx. 12 years)			850	440	1,000			790	1,300	4,700			
Sr-90（Approx. 29 years）			-	-	-			-	-	-			

* Data announced this time is provided in a thick-frame. The other data was announced on March 24.
* "ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.
* "-" indicates that the measurement was out of range.
* The results obtained on in the observation hole No.2-2 and 2-8 are for a reference, since the water was highly turbid. (γ and Gross β will be measured after filtration. If filtration takes a long time, γ will not be measured.)

Detailed Analysis Results in the Port of Fukushima Daiichi NPS, around Discharge Channel and Bank Protection (2/2)
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.0-3-2	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														
Time of sampling														
Chloride (unit: ppm)														
Cs-134 (Approx. 2 years)														
Cs-137 (Approx.30 years)														
The other γ														
Gross β														
H-3 (Approx. 12 years)														
Sr-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 26, 2014	Mar 26, 2014	Mar 26, 2014			Mar 26, 2014	Mar 26, 2014	Mar 26, 2014	Mar 26, 2014	Mar 26, 2014	Mar 26, 2014
Time of sampling			9:31 AM	10:44 AM	9:02 AM			9:53 AM	11:44 AM	10:05 AM	10:20 AM	10:45 AM	10:45 AM
Chloride (unit: ppm)			-	-	-			910	-	-	-	-	3200
Cs-134 (Approx. 2 years)			ND(0.36)	12	ND(0.42)			0.81	-	ND(0.53)	ND(0.56)	1.9	14
Cs-137 (Approx.30 years)			0.79	33	ND(0.55)			1.3	-	0.79	1.7	4.9	37
The other γ Sb-125 (Approx. 3 years)			ND	ND	ND			ND	-	ND	1.2	ND	ND
Gross β			340	570[*1]	1,000			620[*1]	3,200	100,000	ND(18)	ND(18)	22
H-3 (Approx. 12 years)			Under analysis	Under analysis	Under analysis			Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis
Sr-90（Approx. 29 years）			-	-	-			-	-	-	-	-	-

* "ND" indicates that the measurement result is below the detection limit, and the detection limit of each nuclide is provided in parentheses.
* "-" indicates that the measurement was out of range.
* The results obtained on in the observation hole No.2-2 and 2-8 are for a reference, since the water was highly turbid. (γ and Gross β will be measured after filtration. If filtration takes a long time, γ will not be measured.)
*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)

Unit: Bq/L

		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〕
The other γ	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
	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
	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〕 〔7/9〕	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〕

Unit: Bq/L

		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)		5,600 <3/24>	47 〔11/25〕	170 〔9/3〕	-	1.1 <1/13>	74 〔10/21〕	37,000 <2/13>	88 *2 <2/27>	3.1 *1 〔12/13〕	1.2 〔12/5〕	110 〔9/23〕	0.88 <2/26>	0.66 〔9/1〕
Cs-137 (Approx.30 years)		14,000 <3/24>	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〕
The other γ	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
	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
	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		760,000 <2/17>	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>	1,100 <3/20>	3,100,000 <1/20> <1/30> <2/3>	3,500 <3/24>	700,000 〔9/23〕	1,700 〔7/8〕	380 〔7/29〕
H-3 (Approx. 12 years)		110,000 *2 <2/6>	12,000 <1/6> <2/3>	860 *2 〔11/14〕	270,000 *2 <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〕
Sr-90(Approx. 29 years)		-	1,300 〔9/16〕	170 〔9/3〕	-	17 〔9/13〕	Under analysis	Under analysis	Under analysis	Under analysis	Under analysis	-	54 〔5/31〕	5.9 〔7/25〕

Unit: Bq/L

		Groundwater observation hole No.2-2	Groundwater observation hole No.2-3	Groundwater observation hole No.2-5	Groundwater observation hole No.2-6	Groundwater observation hole No.2-7	Groundwater observation hole No.2-8	Groundwater observation hole No.2-9	Groundwater pumped up from the well point (between Unit 2 and 3)	Groundwater observation hole No.3	Groundwater observation hole No.3-1*	Groundwater observation hole No.3-4	Groundwater observation hole No.3-5
Cs-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>
Cs-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〕	5.2 <3/13>	170 <1/15>
The other γ	Ru-106 (Approx. 370 days)	ND	ND	ND	ND	ND	-	6.5 *2 <2/11>	ND	ND	ND	ND	-
	Mn-54 (Approx. 310 days)	ND	0.29 〔12/6〕	0.94 <1/8>	ND	ND	-	-	ND	ND	ND	0.54 〔10/30〕	-
	Co-60 (Approx. 5 years)	ND	ND	ND	ND	ND	-	-	ND	ND	ND	ND	-
	Sb-125 (Approx. 3 years)	ND	ND	30 <2/12>	ND	ND	-	-	ND	1.6 <1/1>	ND	ND	-
Gross β		560 <3/12>	1,500 〔12/6〕	150,000 <2/12>	3,200 〔12/5〕	570 <3/12> <3/23>	3,600 *2 <3/23>	1,700 *2 <2/7>	240,000 〔12/12〕	1,400 〔7/11〕	180 〔8/1〕	18 <3/12>	69 <1/29>
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>	1300 *2 <3/9>	13,000 *2 <2/7>	5,100 〔12/6〕	3,200 〔2012/12/12〕	460 〔8/1〕	170 〔9/18〕	170 <1/8>
Sr-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.)

* "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.