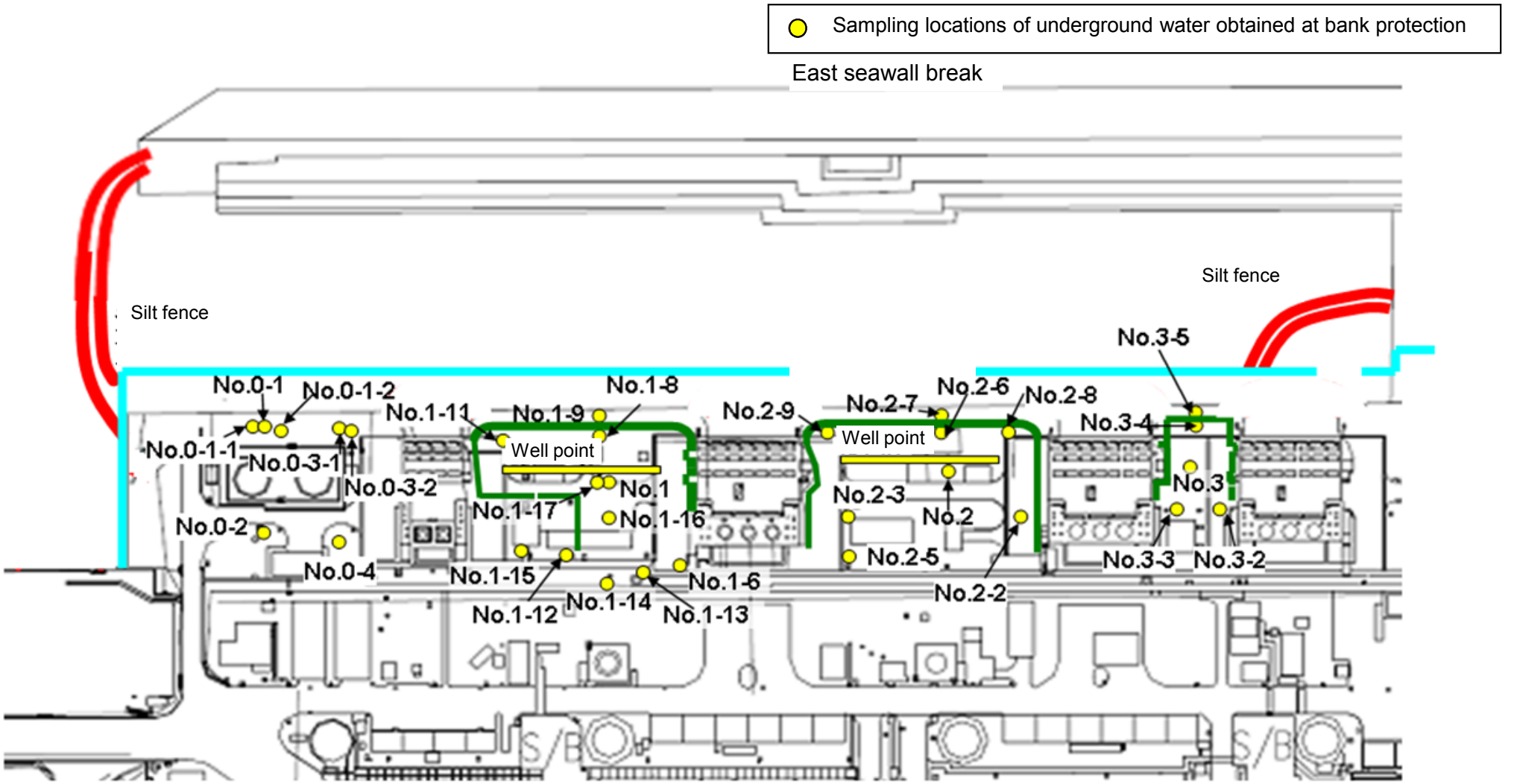
<Reference>
August 25, 2014
Tokyo Electric Power Company

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	Underground water observation hole No.1-17
Date of sampling										Aug 21, 2014					
Time of sampling										7:08 AM					
Chloride (unit: ppm)										25					
Cs-134 (Approx. 2 years)										5.5					
Cs-137 (Approx.30 years)										15					
The other γ															
The other γ															
The other γ															
The other γ															
Gross β										ND(18)					
H-3 (Approx. 12 years)										ND(100)					
Sr-90（Approx. 29 years）										-					

	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.3-2	Underground water observation hole No.3-3	Underground water observation hole No.3-4	Underground water observation hole No.3-5
Date of sampling		Aug 20, 2014	Aug 20, 2014	Aug 20, 2014		Aug 21, 2014	Aug 22, 2014	Aug 20, 2014	Aug 20, 2014	Aug 20, 2014	Aug 20, 2014	Aug 20, 2014	Aug 20, 2014	Aug 20, 2014
Time of sampling		9:14 AM	10:54 AM	8:50 AM		10:45 AM	9:34 AM	10:00 AM	10:00 AM	9:10 AM	10:22 AM	10:48 AM	9:37 AM	9:47 AM
Chloride (unit: ppm)		-	-	-		-	900	-	-	-	-	-	-	1,000
Cs-134 (Approx. 2 years)		ND(0.34)	6.3	ND(0.43)		0.57	0.45	ND(0.33)	ND(0.53)	1.1	18	80	4.6	ND(12)
Cs-137 (Approx.30 years)		0.60	22	ND(0.52)		0.81	1.4	ND(0.46)	1.2	4.1	62	230	15	21
The other γ														
The other γ														
The other γ														
The other γ														
Gross β		190	380	830		2,300	990	5,100	100,000	ND(17)	3,100	5,100	25	40
H-3 (Approx. 12 years)		700	350	780		910	730	1,400	7,500	ND(110)	2,800	2,500	ND(110)	ND(110)
Sr-90（Approx. 29 years）		-	-	-		-	-	-	-	-	-	-	-	-

* Data announced this time is provided in a thick-frame. The other data was announced on August 21, 22, and 23.
* "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 in the observation hole No.2-2 are for a reference, since the water was highly turbid. (Undiluted liquid was measured since filtration takes a long time.)

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	Underground water observation hole No.1-17
Date of sampling	Aug 24, 2014	41,875	Aug 24, 2014	Aug 24, 2014		Aug 24, 2014				Aug 24, 2014					
Time of sampling	11:10 AM	10:26 AM	9:50 AM	10:10 AM		9:14 AM				7:16 AM					
Chloride (unit: ppm)	-	-	-	-		-				24					
Cs-134 (Approx. 2 years)	26	ND(0.42)	ND(0.45)	ND(0.47)		ND(0.39)				1.5					
Cs-137 (Approx.30 years)	68	ND(0.54)	ND(0.58)	ND(0.55)		ND(0.54)				4.6					
The other γ															
The other γ															
The other γ															
The other γ															
Gross β	210	ND(17)	ND(17)	ND(17)		ND(17)				18					
H-3 (Approx. 12 years)	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)	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.3-2	Underground water observation hole No.3-3	Underground water observation hole No.3-4	Underground water observation hole No.3-5
Date of sampling		Aug 24, 2014	Aug 24, 2014	Aug 24, 2014			Aug 24, 2014	Aug 24, 2014	Aug 24, 2014					
Time of sampling		9:40 AM	11:01 AM	9:22 AM			9:59 AM	10:13 AM	10:00 AM					
Chloride (unit: ppm)		-	-	-			1,000	-	-					
Cs-134 (Approx. 2 years)		ND(0.36)	6.8	ND(0.36)			0.64	ND(0.44)	ND(0.93)					
Cs-137 (Approx.30 years)		0.55	22	1.00			1.7	ND(0.54)	ND(1.0)					
The other γ														
The other γ														
The other γ														
The other γ														
Gross β		190	400	800			1,000	4,800	120,000					
H-3 (Approx. 12 years)		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 in the observation hole No.2-2 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.)

<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*	Groundwater observation hole No.1-6
Cs-134 (Approx. 2 years)		29 <5/25>	ND	0.61 <3/2>	0.61 〔10/13〕	0.64 <4/6>	0.82 <1/14>	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〕	12,000 <8/12>
Cs-137 (Approx.30 years)		78 <5/25>	ND	1.5 <3/2>	2.2 <1/12>	1.1 <4/6>	2.1 <1/14>	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〕	34,000 <8/12>
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	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	320 <2/13> <2/17>
	Co-60 (Approx. 5 years)	ND	ND	ND	ND	ND	ND	ND	0.50 〔7/19〕	ND	3.1 〔7/8〕	ND	ND	ND	830 <2/20>
	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	67*1 〔12/11〕	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〕	1,400,000 <8/12>
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〕	*2 110,000 <2/6>
Sr-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〕	590,000 <2/13>

Unit: Bq/L

		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.1-15	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*	Groundwater observation hole No.2-2
Cs-134 (Approx. 2 years)		47 〔11/25〕	170 〔9/3〕	-	1.1 <1/13>	74 〔10/21〕	37,000 <2/13>	88 *2 <2/27>	ND *1	30 <7/28>	1.4 <7/7>	110 〔9/23〕	0.88 <2/26>	0.66 〔9/1〕	15 <2/12>
Cs-137 (Approx.30 years)		110 〔11/25〕	380 〔9/3〕	-	3.4 <4/28>	170 〔10/21〕	93,000 <2/13>	230 *2 <2/27>	0.88 <7/10>	86 <7/28>	2.8 <4/28>	250 〔9/23〕	2.5 <2/26>	1.1 〔8/29〕 〔9/1〕	38 <2/12>
The other γ	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
	Mn-54 (Approx. 310 days)	12 <2/3>	ND	-	ND	ND	ND	1.8 <8/18>	ND	4.7 <8/21>	ND	8.5 <4/28>	ND	ND	ND
	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 *2 〔11/17〕	78 *2 <1/27>	2,300 〔12/26〕	1,100 <5/5>	260,000 <2/12> <2/13>	22,000 <8/14>	110 <7/10>	3,100,000 <1/20> <1/30> <2/3>	350,000 <8/21>	1,900,000 〔9/23〕	1,700 〔7/8〕	380 〔7/29〕	600 <4/16>
H-3 (Approx. 12 years)		33,000 <6/2>	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>	74,000 <7/10>	43,000 〔9/26〕	32,000 <1/20>	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〕	—	22 <1/9>	290 〔10/21〕	160,000 <2/12>	770 <3/10>	Under analysis	2,700,000 <2/13>	620 <3/10>	—	54 〔5/31〕	5.9 〔7/25〕	320 〔12/25〕

Unit: Bq/L

		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.3-2	Groundwater observation hole No.3-3	Groundwater observation hole No.3-4	Groundwater observation hole No.3-5
Cs-134 (Approx. 2 years)		2.2 <2/26>	41 <5/7>	17 <3/11>	3.5 <2/23>	1.3 <7/20>	ND	2.0 <4/23>	3.5 〔7/25〕	1.2 〔7/25〕 〔8/8〕	22 <8/6>	180 <7/2>	5.1 <7/23>	100 <7/30>
Cs-137 (Approx.30 years)		5.5 <2/26>	110 <5/7>	50 <3/11>	9.0 <2/23>	3.4 *2 <7/20>	0.58 <2/11>	4.7 <4/23>	5.9 〔8/8〕	2.6 〔8/1〕	63 <8/6>	500 <7/2>	15 <8/20>	310 <7/30>
The other γ	Ru-106 (Approx. 370 days)	ND	ND	ND	ND	ND *2	6.5 <2/11>	ND	ND	ND	ND	ND	ND	-
	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〕	-
	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〕	1,300 <6/20>	5,800 *2 <7/23>	1,700 <2/7>	240,000 〔12/12〕	1,400 〔7/11〕	180 *2 〔8/1〕	3,100 <8/20>	8900 <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 *2 <4/6> <8/6>	13,000 <2/7> <2/11>	8,800 <8/13>	3,200 〔2012 12/12〕	460 〔8/1〕	3,700 <7/9>	8,000 <5/7>	170 〔9/18〕	170 <1/8>
Sr-90(Approx. 29 years)		1,200 〔12/6〕	Under analysis	Under analysis	ND(1.4) 〔11/21〕	3,900 <3/30>	1,200 <2/11>	-	8.3 〔2012 12/12〕	4.4 〔7/23〕	Under analysis	-	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.