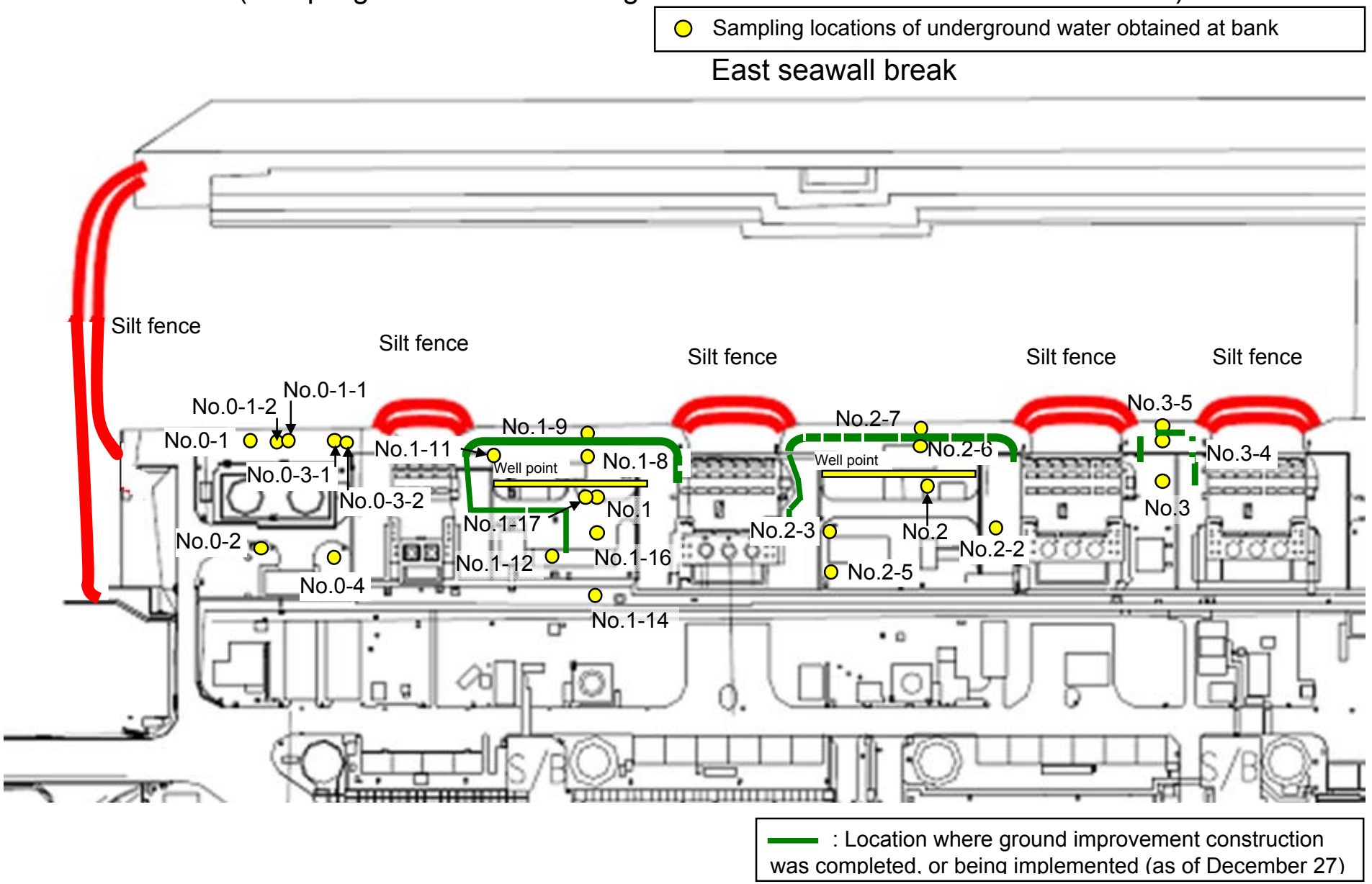
<Reference>
January 18, 2014
Tokyo Electric Power Company

# 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.0-1-1 | 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.1-8 | 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 | 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 | | | | | | | | Jan 15, 2014 | | | | |
| Time of sampling | | | | | | | | 10:18 AM | | | | |
| Chloride (unit: ppm) | | | | | | | | 580 | | | | |
| Cs-134 (Approx. 2 years) | | | | | | | | ND(0.47) | | | | |
| Cs-137 (Approx.30 years) | | | | | | | | 0.91 | | | | |
| The other γ | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Gross β | | | | | | | | 90 | | | | |
| H-3 (Approx. 12 years) | | | | | | | | 1,000 | | | | |
| Sr-90（Approx. 29 years） | | | | | | | | - | | | | |

* Data announced this time is provided in a thick-frame. The other data was announced on January 16.
* "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.

# 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.0-1-1 | 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.1-8 | 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 | | | | | | | | | | | | | | |
| The other γ | | | | | | | | | | | | | | |
| The other γ | | | | | | | | | | | | | | |
| 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 | 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 | | | | | | | | Jan 17, 2014 | | | | |
| Time of sampling | | | | | | | | 9:13 AM | | | | |
| Chloride (unit: ppm) | | | | | | | | 870 | | | | |
| Cs-134 (Approx. 2 years) | | | | | | | | 0.57 | | | | |
| Cs-137 (Approx.30 years) | | | | | | | | 0.99 | | | | |
| The other γ | | | | | | | | | | | | |
| The other γ | | | | | | | | | | | | |
| The other γ | | | | | | | | | | | | |
| The other γ | | | | | | | | | | | | |
| Gross β | | | | | | | | 150 | | | | |
| H-3 (Approx. 12 years) | | | | | | | | 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.

## <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) | | 7.6 〔12/15〕 | ND | 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) | | 17 〔12/15〕〔12/29〕 | 0.58 〔12/7〕 | 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 | 0.40 <1/5> <1/16> | 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*2 〔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〕 | 4,700 <1/12> | ND | 73,000 <1/14> | 46,000 <1/12> | 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) | | Under analysis | Under analysis | Under analysis | Under analysis | Under analysis | Under analysis | Under analysis | 1,200 〔6/7〕 | Under analysis | Under analysis | Under analysis | Under analysis | Under analysis |

Unit: Bq/L

| | | Groundwater observation hole No.1-8 | Groundwater observation hole No.1-9 | Groundwater observation hole No.1-11 | Groundwater observation hole No.1-12 | 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) |
|---|---|---|---|---|---|---|---|---|---|
| Cs-134 (Approx. 2 years) | | 47 〔11/25〕 | 170 〔9/3〕 | 1.1 <1/13> | 74 〔10/21〕 | 1.2 〔11/14〕 | 3.1*2 〔12/13〕 | 1.2 〔12/5〕 | 110 〔9/23〕 |
| Cs-137 (Approx.30 years) | | 110 〔11/25〕 | 380 〔9/3〕 | 2.8 <1/13> | 170 〔10/21〕 | 2.3 〔11/21〕 | 3.4 〔10/10〕 | 0.66 〔12/12〕 | 250 〔9/23〕 |
| The other γ | Ru-106 (Approx. 370 days) | ND | ND | ND | 5.4 〔10/28〕 | ND | 9.2 〔10/28〕 | 4.1 〔12/12〕 | 25 〔9/2〕 |
| | Mn-54 (Approx. 310 days) | 9.7 〔12/16〕 | ND | ND | ND | ND | ND | ND | 0.83 〔12/30〕 |
| | Co-60 (Approx. 5 years) | 0.63 〔12/23〕 | ND | ND | 0.51 〔10/24〕 | ND | 0.9 〔11/7〕 | 0.61 〔11/25〕 | ND |
| | Sb-125 (Approx. 3 years) | ND | ND | ND | 61 〔10/21〕 | ND | 11 〔12/5〕 | 2.1 〔11/25〕 | ND |
| Gross β | | 39,000 <1/6> | 2,100 〔11/17〕 | 2,300 〔12/26〕 | 730 〔10/21〕 | 410 <1/16> | 2,700,000 <1/16> | 130 〔12/2〕〔12/23〕 | 700,000 〔9/23〕 |
| H-3 (Approx. 12 years) | | 12,000 <1/6> | 860 〔11/14〕 | 85,000 〔9/13〕 | 440,000 〔10/31〕 | 11,000 〔11/25〕 | 43,000 〔9/26〕 | 30,000 <1/9> | 460,000 〔8/19〕 |
| Sr-90(Approx. 29 years) | | Under analysis | Under analysis | Under analysis | Under analysis 〔10/21〕 | Under analysis | Under analysis | Under analysis | - |

Unit: Bq/L

| | | Groundwater observation hole No.2 | Groundwater observation hole No.2-1* | Groundwater observation hole No.2-2 | Groundwater observation hole No.2-3 | Groundwater observation hole No.2-5*1 | Groundwater observation hole No.2-6 | Groundwater observation hole No.2-7 | 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) | | 0.50 〔7/9〕 | 0.66 〔9/1〕 | 13 <1/15> | 0.84 <1/5> | 13 <1/8> | 0.56 〔10/30〕 | 1.5 <1/12> | 1.1 〔12/12〕 | 3.5 〔7/25〕 | 1.2 〔7/25〕〔8/8〕 | 1.9 <1/8> | 64 <1/15> |
| Cs-137 (Approx.30 years) | | 1.2 〔7/11〕〔8/1〕 | 1.1 〔8/29〕〔9/1〕 | 31 <1/15> | 2.6 <1/5> | 30 <1/8> | 0.61 〔10/13〕 | 3.6 <1/12> | 2.4 〔12/7〕 | 5.9 〔8/8〕 | 2.6 〔8/1〕 | 4.3 〔11/27〕 | 170 <1/15> |
| The other γ | Ru-106 (Approx. 370 days) | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - |
| | Mn-54 (Approx. 310 days) | ND | ND | 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 | ND | ND | - |
| | Sb-125 (Approx. 3 years) | ND | ND | ND | ND | 26 〔9/29〕 | ND | ND | ND | 1.6 <1/1> | ND | ND | - |
| Gross β | | 1,700 〔7/8〕 | 380 〔7/29〕 | 530 〔12/29〕 | 1,500 〔12/6〕 | 46,000 〔9/29〕 | 3,200 〔12/5〕 | 270 〔12/20〕 | 240,000 〔12/12〕 | 1,400 〔7/11〕 | 180 〔8/1〕 | ND | 43 〔12/18〕 |
| H-3 (Approx. 12 years) | | 870 〔12/8〕 | 440 〔8/26〕 | 660 <1/8> | 1,700 〔12/6〕 | 6,300 〔12/4〕 | 1,200 〔11/24〕〔11/27〕 | 1,000 〔11/21〕〔12/4〕 | 5,100 〔12/6〕 | 3,200 〔2012/12/12〕 | 460 〔8/1〕 | 170 〔9/18〕 | 170 <1/8> |
| Sr-90(Approx. 29 years) | | 54 〔5/31〕 | Under analysis | Under analysis | Under analysis | Under analysis | Under analysis | Under analysis | - | 8.3 〔2012/12/12〕 | Under analysis | Under analysis | - |

● Since some samples are still under analysis, the highest dose of the Strontium-90 is among those previously announced.
*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 Analysis result of pumped water.

* "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.