Reference

# Nuclides Analysis Result of the Radioactive Materials in the Seawater
# < Coast, Fukushima Daiichi Nuclear Power Station >

(Data summarized on January 9)

| Place of Sampling | North of Unit 5-6 Discharge Channel at Fukushima Daiichi NPS (Approx. 30m North of Unit 5-6 Discharge Channel) | | Around South Discharge Channel of Fukushima Daiichi NPS (Appox. 1.3km South of Unit 1-4 Discharge Channel) | | ② Density Limit Specified by the Reactor Regulation (Bq/L) (The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.) |
|---|---|---|---|---|---|
| Time of Sampling | Jan 8, 2014 7:20 AM | | Jan 8, 2014 5:40 AM | | |
| Detected Nuclides (Half-life) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | |
| I-131 (Approx. 8 days) | ND | - | ND | - | 40 |
| Cs-134 (Approx. 2 years) | 0.87 | 0.01 | ND | - | 60 |
| Cs-137 (Approx. 30 years) | 2.4 | 0.03 | ND | - | 90 |

* The density specified by the Reactor Regulation is converted from Bq/cm$^3$ to Bq/L.
* Data of other nuclides is under evaluation.
* In the case of more than 2 nuclides, the sum of scaling factors to density limits is compared to 1.
* "ND" indicates that the measurement result is below the detection limit.
  I-131: Approx. 0.77Bq/L, Cs-134: Approx. 0.72Bq/L, Cs-137: Approx. 0.62Bq/L
  As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.

# Nuclides Analysis Result of Radioactive Materials in the Seawater <1/6>

(Data summarized on January 9)

| Place of Sampling (Place No.) | Central Area of Sendai Bay (T-MG5) Upper Layer | | 3km Offshore of Oarai Shore (T-C) Upper Layer | | | | ② Density Limit Specified by the Reactor Regulation (Bq/L) (The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.) |
|---|---|---|---|---|---|---|---|
| Date of Sampling | Sep 6, 2013 | | Sep 11, 2013 | | | | |
| Detected Nuclides (Half-life) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | |
| Cs-134 (Approx. 2 years) | ND | — | ND | — | | | 60 |
| Cs-137 (Approx. 30 years) | 0.0025 | 0.00 | ND | — | | | 90 |
| Sr-90 (Approx. 29 years) | — | — | — | — | | | 30 |

* The density specified by the Reactor Regulation is converted from Bq/cm$^3$ to Bq/L.
* In the case of more than 2 nuclides, the sum of scaling factors to density limits is compared to 1.
* Nuclide analysis results of Cs-134, Cs-137 were announced on December 13 (Central Area of Sendai Bay) and September 19 (3km Offshore of Oarai Shore)
* When the measurement value is below the detection limit, "ND" is marked. The detection limits are as follows.
  Cs-134: Approx. 0.91Bq/L, Cs-137: Approx. 1.1Bq/L, Sr-90: 0.009Bq/L
  As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.
* Nuclides analysis of Sr-90 was done by Japan Chemical Analysis Center.

# Nuclides Analysis Result of Radioactive Materials in the Seawater <2/6>

(Data summarized on January 9)

| Place of Sampling (Place No.) | North of Unit 5-6 Discharge Channel at Fukushima Daiichi NPS (Approx. 30m North of Unit 5-6 Discharge Channel) (T-1) | | Around South Discharge Channel of Fukushima Daiichi NPS (Appox. 1.3km South of Unit 1-4 Discharge Channel) (T-2-1) | | | | ② Density Limit Specified by the Reactor Regulation (Bq/L) (The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.) |
|---|---|---|---|---|---|---|---|
| Date of Sampling | Sep 23, 2013 | | Sep 23, 2013 | | | | |
| Detected Nuclides (Half-life) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | |
| I-131 (Approx. 8 days) | ND | — | ND | — | | | 40 |
| Cs-134 (Approx. 2 years) | ND | — | ND | — | | | 60 |
| Cs-137 (Approx. 30 years) | ND | — | ND | — | | | 90 |
| H-3 (approx. 12yrs) | ND | — | ND | — | | | 60,000 |
| All α | ND | — | ND | — | | | — |
| All β | ND | — | ND | — | | | — |
| Sr-90 (Approx. 29 years) | 0.11 | — | 0.14 | — | | | 30 |

* The density specified by the Reactor Regulation is converted from Bq/cm$^3$ to Bq/L.
* In the case of more than 2 nuclides, the sum of scaling factors to density limits is compared to 1.
* Nuclide analysis results of I-131, Cs-134, Cs-137 and All β were announced on September 24 (H-3: September 27, All α: October 24).
* When the measurement value is below the detection limit, "ND" is marked. The detection limits are as follows.
  I-131: Approx. 1.2Bq/L, Cs-134: Approx. 1.2Bq/L, Cs-137: Approx. 1.4Bq/L,
  H-3: Approx. 1.8Bq/L, All α: Approx. 0.13Bq/L, All β: Approx. 17Bq/L,
  As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.
* Nuclides analysis of Sr-90 was done by Japan Chemical Analysis Center.

# Nuclides Analysis Result of Radioactive Materials in the Seawater <3/6>

(Data summarized on January 9)

| Place of Sampling (Place No.) | North of Unit 5-6 Discharge Channel at Fukushima Daiichi NPS (Approx. 30m North of Unit 5-6 Discharge Channel) (T-1) | | Around South Discharge Channel of Fukushima Daiichi NPS (Appox. 1.3km South of Unit 1-4 Discharge Channel) (T-2-1) | | | | ② Density Limit Specified by the Reactor Regulation (Bq/L) (The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.) |
|---|---|---|---|---|---|---|---|
| Date of Sampling | Oct 14, 2013 | | Oct 14, 2013 | | | | |
| Detected Nuclides (Half-life) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | |
| I-131 (Approx. 8 days) | ND | － | ND | － | | | 40 |
| Cs-134 (Approx. 2 years) | ND | － | ND | － | | | 60 |
| Cs-137 (Approx. 30 years) | 1.5 | 0.02 | ND | － | | | 90 |
| H-3 (approx. 12yrs) | 2.4 | 0.00 | ND | － | | | 60,000 |
| All α | ND | － | ND | － | | | － |
| All β | ND | － | ND | － | | | － |
| Sr-90 (Approx. 29 years) | 0.83 | 0.03 | 0.069 | 0.00 | | | 30 |

* The density specified by the Reactor Regulation is converted from $Bq/cm^3$ to Bq/L.
* In the case of more than 2 nuclides, the sum of scaling factors to density limits is compared to 1.
* Nuclide analysis results of I-131, Cs-134, Cs-137 and All β were announced on October 15 (H-3: October 18).
* When the measurement value is below the detection limit, "ND" is marked. The detection limits are as follows.
  I-131: Approx. 1.1Bq/L, Cs-134: Approx. 1.0Bq/L, Cs-137: Approx. 1.1Bq/L,
  H-3: Approx. 1.8Bq/L, All α: Approx. 0.13Bq/L, All β: Approx. 17Bq/L,
  As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.
* Nuclides analysis of Sr-90 was done by Japan Chemical Analysis Center.

# Nuclides Analysis Result of Radioactive Materials in the Seawater <4/6>

(Data summarized on January 9)

| Place of Sampling (Place No.) | 15km Offshore of Fukushima Daiichi NPS (T-5) Upper Layer | | 3km Offshore of Ukedo River (T-D1) Upper Layer | | 3km Offshore of Fukushima Daiichi NPS (T-D5) Upper Layer | | ② Density Limit Specified by the Reactor Regulation (Bq/L) (The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.) |
|---|---|---|---|---|---|---|---|
| Date of Sampling | Oct 18, 2013 | | Oct 18, 2013 | | Oct 18, 2013 | | |
| Detected Nuclides (Half-life) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | |
| Cs-134 (Approx. 2 years) | 0.0021 | 0.00 | 0.1 | 0.00 | 0.13 | 0.00 | 60 |
| Cs-137 (Approx. 30 years) | 0.0051 | 0.00 | 0.22 | 0.00 | 0.3 | 0.00 | 90 |
| H-3 (approx. 12yrs) | ND | — | ND | — | 0.44 | 0.00 | 60,000 |
| All α | — | — | — | — | — | — | — |
| All β | ND | — | ND | — | ND | — | — |
| Sr-90 (Approx. 29 years) | — | — | — | — | — | — | 30 |

* The density specified by the Reactor Regulation is converted from Bq/cm$^3$ to Bq/L.
* In the case of more than 2 nuclides, the sum of scaling factors to density limits is compared to 1.
* Nuclide analysis results of Cs-134, Cs-137 were announced as follows; T-5: November 29, T-D1 and T-D5: November 21
* When the measurement value is below the detection limit, "ND" is marked. The detection limits are as follows.
  H-3: Approx. 0.34Bq/L, All β: Approx. 18Bq/L
  As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.

# Nuclides Analysis Result of Radioactive Materials in the Seawater <5/6>

(Data summarized on January 9)

| Place of Sampling (Place No.) | 3km Offshore of Fukushima Daini NPS (T-D9) Upper Layer | | | | | | ② Density Limit Specified by the Reactor Regulation (Bq/L) (The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.) |
|---|---|---|---|---|---|---|---|
| Date of Sampling | Oct 18, 2013 | | | | | | |
| Detected Nuclides (Half-life) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | |
| Cs-134 (Approx. 2 years) | 0.0690 | 0.00 | | | | | 60 |
| Cs-137 (Approx. 30 years) | 0.15 | 0.00 | | | | | 90 |
| H-3 (approx. 12yrs) | ND | — | | | | | 60,000 |
| All α | — | — | | | | | — |
| All β | ND | — | | | | | — |
| Sr-90 (Approx. 29 years) | — | — | | | | | 30 |

* The density specified by the Reactor Regulation is converted from Bq/cm$^3$ to Bq/L.
* In the case of more than 2 nuclides, the sum of scaling factors to density limits is compared to 1.
* Nuclide analysis results of Cs-134, Cs-137 were announced on November 21.
* When the measurement value is below the detection limit, "ND" is marked. The detection limits are as follows.
  H-3: Approx. 0.34Bq/L, All β: Approx. 18Bq/L
  As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.

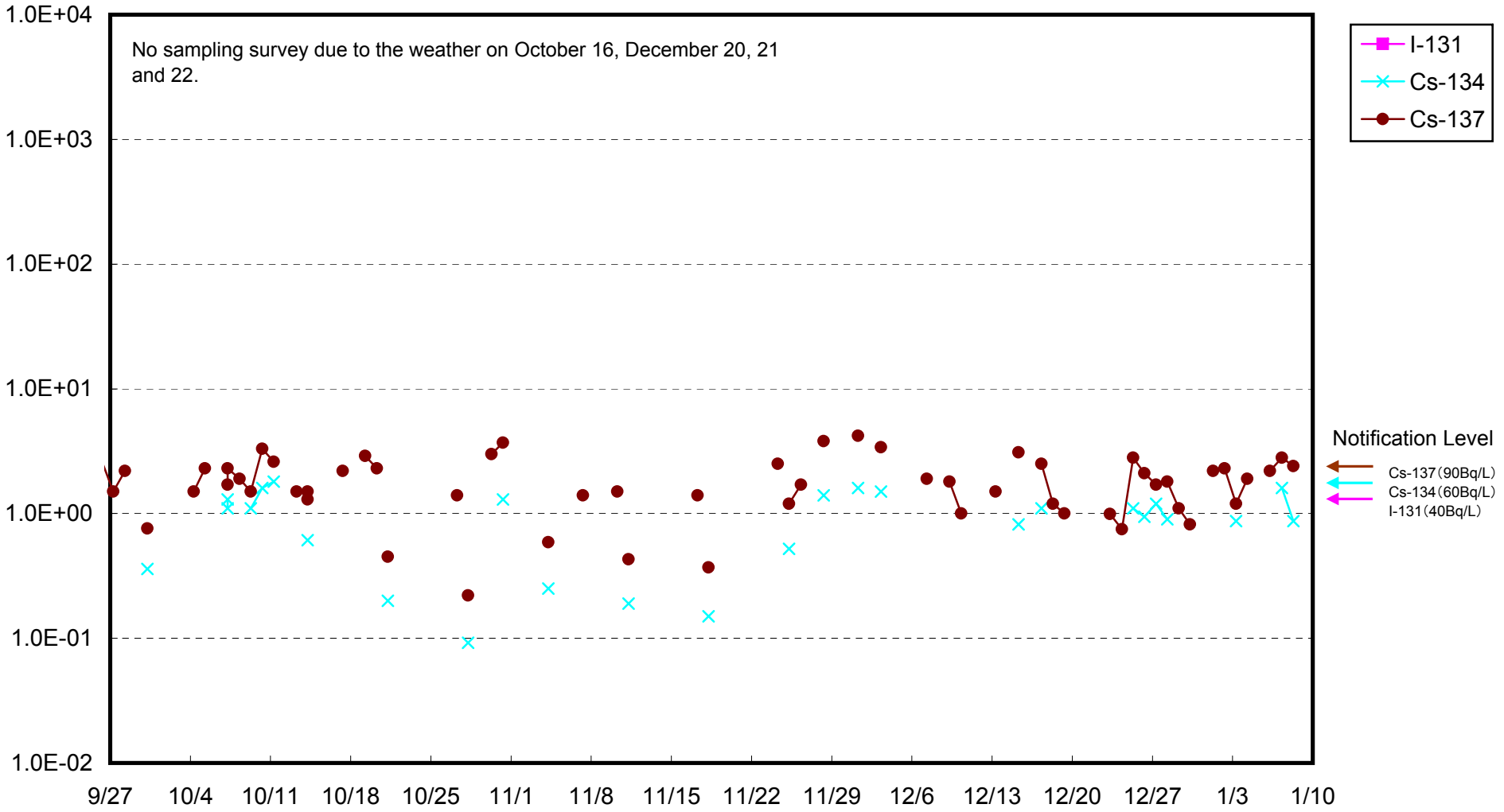
# Nuclides Analysis Result of Radioactive Materials in the Seawater <6/6>

(Data summarized on January 9)

| Place of Sampling (Place No.) | Around the North Discharge Channel of 2F (T-3) (Around Unit 3-4 Discharge Channel) (Approx. 10km from 1F) | | South side of the Ukedo Port (T-6) (Approx. 5.5km north of Unit 5-6 Discharge Channel) | | | | ② Density Limit Specified by the Reactor Regulation (Bq/L) (The density limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2.) |
|---|---|---|---|---|---|---|---|
| Date of Sampling | Oct 15, 2013 | | Oct 15, 2013 | | | | |
| Detected Nuclides (Half-life) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | |
| Cs-134 (Approx. 2 years) | 0.073 | 0.00 | 0.047 | 0.00 | | | 60 |
| Cs-137 (Approx. 30 years) | 0.15 | 0.00 | 0.11 | 0.00 | | | 90 |
| H-3 (approx. 12yrs) | ND | — | 0.84 | 0.00 | | | 60,000 |
| All β | — | — | — | — | | | — |
| Sr-90 (Approx 29 years) | ND | — | ND | — | | | 30 |

* The density specified by the Reactor Regulation is converted from Bq/cm$^3$ to Bq/L.
* In the case of more than 2 nuclides, the sum of scaling factors to density limits is compared to 1.
* Nuclide analysis results of Cs-134 and Cs-137 were announced on November 22.
* When the measurement value is below the detection limit, "ND" is marked. The detection limits are as follows.
  H-3: Approx. 0.34Bq/L, All β: Approx. 17Bq/L,
  As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limit are detected.

Radioactivity Density of the Seawater at 1F Units 5-6 North Discharge Channel (Bq/L)



Radioactivity Density of the Seawater at 1F South Discharge Channel (Bq/L)