<Reference>
December 20, 2013
Tokyo Electric Power Company

Reference

Nuclides Analysis Result of the Radioactive Materials in the Air at the Opening of Buildings at Fukushima Daiichi NPS <1/4>

(Data summarized on December 20)

Place of Sampling	Unit 4 Reactor Building Opening (Large Equipment Hatch)		Unit 1 Turbine Building Opening (Large Equipment Hatch)		Unit 2 Turbine Building Opening (Large Equipment Hatch)		② Density Limit Specified by the Reactor Regulation (Bq/cm^3) (Density limit in the air which radiation workers breathe in is specified in section 4 of Appendix 2)
Time of Sampling	Dec 15, 2013 1:11 PM - 2:11 PM		Dec 15, 2013 11:35 AM - 12:35 PM		Dec 15, 2013 11:35 AM - 12:35 PM		
Detected Nuclides (Half-life)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	
I-131 (Approx. 8 days)	ND	-	ND	-	ND	-	1E-03
Cs-134 (Approx. 2 years)	ND	-	ND	-	ND	-	2E-03
Cs-137 (Approx. 30 years)	ND	-	ND	-	ND	-	3E-03

* The radioactivity density is the sum of the volatile nuclides density and the particulate nuclides density.

O.OE－O is the same as O.O x 10^{-O}

Data of other nuclides is under examination.

* 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.

The detection limits are as follows.

Volatile; I-131: Approx.4E-6Bq/cm^3, Cs-134: Approx. 8E-6Bq/cm^3, Cs-137: Approx: 1E-5Bq/cm^3

Particulate; I-131: Approx. 3E-6Bq/cm^3, Cs-134: Approx. 5E-6Bq/cm^3, Cs-137: Approx. 6E-6Bq/cm^3

As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limt are detected.

Reference

Nuclides Analysis Result of the Radioactive Materials in the Air at the Opening of Buildings at Fukushima Daiichi NPS <2/4>

(Data summarized on December 20)

Place of Sampling	Unit 3 Turbine Building Opening (Large Equipment Hatch)		Unit 4 Turbine Building Opening (Large Equipment Hatch)		Unit 1 Waste Treatment Building (West Side Opening)		② Density Limit Specified by the Reactor Regulation (Bq/cm^3) (Density limit in the air which radiation workers breathe in is specified in section 4 of Appendix 2)
Time of Sampling	Dec 15, 2013 11:25 AM - 12:25 PM		Dec 15, 2013 11:25 AM - 12:25 PM		Dec 15, 2013 9:10 AM - 10:10 AM		
Detected Nuclides (Half-life)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	
I-131 (Approx. 8 days)	ND	-	ND	-	ND	-	1E-03
Cs-134 (Approx. 2 years)	ND	-	ND	-	ND	-	2E-03
Cs-137 (Approx. 30 years)	ND	-	9.1E-06	0.00	ND	-	3E-03

* The radioactivity density is the sum of the volatile nuclides density and the particulate nuclides density.

O.OE－O is the same as O.O x 10^{-O}

Data of other nuclides is under examination.

* 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.
The detection limits are as follows.
Volatile; I-131: Approx.4E-6Bq/cm^3, Cs-134: Approx. 8E-6Bq/cm^3, Cs-137: Approx: 1E-5Bq/cm^3
Particulate; I-131: Approx. 2E-6Bq/cm^3, Cs-134: Approx. 5E-6Bq/cm^3, Cs-137: Approx. 6E-6Bq/cm^3
As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limt are detected.

Reference

Nuclides Analysis Result of the Radioactive Materials in the Air at the Opening of Buildings at Fukushima Daiichi NPS <3/4>

(Data summarized on December 20)

Place of Sampling	Unit 2 Waste Treatment Building (West Side Opening)		Unit 4 Waste Treatment Building (Northwest Side Opening)		Process Main Building (East Side Opening)		② Density Limit Specified by the Reactor Regulation (Bq/cm^3) (Density limit in the air which radiation workers breathe in is specified in section 4 of Appendix 2)
Time of Sampling	Dec 15, 2013 9:10 AM - 10:10 AM		Dec 15, 2013 1:11 PM - 2:11 PM		Dec 15, 2013 9:40 AM - 10:40 AM		
Detected Nuclides (Half-life)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	
I-131 (Approx. 8 days)	ND	-	ND	-	ND	-	1E-03
Cs-134 (Approx. 2 years)	ND	-	ND	-	ND	-	2E-03
Cs-137 (Approx. 30 years)	ND	-	ND	-	ND	-	3E-03

* The radioactivity density is the sum of the volatile nuclides density and the particulate nuclides density.

O.OE－O is the same as O.O x 10^{-O}

Data of other nuclides is under examination.

* 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.
The detection limits are as follows.
Volatile; I-131: Approx.4E-6Bq/cm^3, Cs-134: Approx. 8E-6Bq/cm^3, Cs-137: Approx: 1E-5Bq/cm^3
Particulate; I-131: Approx. 2E-6Bq/cm^3, Cs-134: Approx. 5E-6Bq/cm^3, Cs-137: Approx. 6E-6Bq/cm^3
As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limt are detected.

Reference

Nuclides Analysis Result of the Radioactive Materials in the Air at the Opening of Buildings at Fukushima Daiichi NPS <4/4>

(Data summarized on December 20)

Place of Sampling	Incineration Workshop Building Opening (Southeast Side)		On-site Bunker Building Opening (Large Equipment Hatch)		Miscellaneous Solid Waste Volume Reduction Treatment Building Opening (Northeast Side)		② Density Limit Specified by the Reactor Regulation (Bq/cm^3) (Density limit in the air which radiation workers breathe in is specified in section 4 of Appendix 2)
Time of Sampling	Dec 15, 2013 9:40 AM - 10:40 AM		Dec 15, 2013 9:40 AM - 10:40 AM		Dec 15, 2013 1:11 PM - 2:11 PM		
Detected Nuclides (Half-life)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	①Density of Sample (Bq/cm^3)	Scaling Factor (①/②)	
I-131 (Approx. 8 days)	ND	-	ND	-	ND	-	1E-03
Cs-134 (Approx. 2 years)	ND	-	ND	-	ND	-	2E-03
Cs-137 (Approx. 30 years)	7.2E-06	0.00	ND	-	ND	-	3E-03

* The radioactivity density is the sum of the volatile nuclides density and the particulate nuclides density.

O.OE－O is the same as O.O x 10^{-O}

Data of other nuclides is under examination.

* 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.
The detection limits are as follows.

Volatile; I-131: Approx.4E-6Bq/cm^3, Cs-134: Approx. 8E-6Bq/cm^3, Cs-137: Approx: 1E-5Bq/cm^3

Particulate; I-131: Approx. 2E-6Bq/cm^3, Cs-134: Approx. 5E-6Bq/cm^3, Cs-137: Approx. 6E-6Bq/cm^3

As the detection limit may vary depending on the detectors and sample properties, there are cases where nuclides below the detection limt are detected.