

## Results of Nuclide Analysis of Seawater <Coast>

Reference

( Data summarized on : June 24 )

Place of Sampling	North of Discharge Channel of 5-6u of 1F (approx. 30m north of 5-6u discharge channel)				Around South Discharge Channel of 1F ( approx. 330m south of 1-4u Discharge Channel)				Around North Discharge Channel of 2F ( Around 3,4u Discharge Channel) ( approx. 10 km from 1F )		Around Iwasawa Shore of 2F ( approx. 7 km south of 1,2u Discharge Channel) ( approx. 16 km from 1F )		Density limit by the announcement of Reactor Regulation (Bq/L) (the density limit in the water outside of surrounding monitored areas in the section 6 of the appendix 2)
Time and Date of Sample Collection	9:10 am June 23, 2011		1:50 pm June 23, 2011		8:55 am June 23, 2011		1:35 pm June 23, 2011		8:20 am June 23, 2011		7:55 am June 23, 2011		
Detected Nuclides (Half-life)	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	
I-131 (about 8 days)	ND	-	ND	-	ND	-	ND	-	ND	-	ND	-	
Cs-134 (about 2 years)	16	0.27	19	0.32	12	0.20	25	0.42	ND	-	ND	-	60
Cs-137 (about 30 years)	18	0.20	17	0.19	10	0.11	ND	-	ND	-	ND	-	90

Density by the announcement of Reactor Regulation is stated with an amount converted from Bq/cm<sup>3</sup> to Bq/L

Data of other nuclides are under evaluation.

In the case that two or more kinds of nuclides exist, sum of each scaling factor to the density limit is compared with 1.

In the case that the data is below measurable limit, "ND" is stated.

Detection limits of the three main nuclides are as follows: I-131: approx. 5Bq/L, Cs-134 : approx. 4Bq/L, Cs-137 : approx. 15Bq/L.

However, detection limits differs depending on the detectors and samples types, and therefore may be detected, under figures below.

## Results of Nuclide Analysis of Seawater <Offshore 1/3>

Reference

(Data summarized on : June 24)

Place of Sampling	15 km offshore of MinamiSouma City Upper layer		15 km offshore of MinamiSouma City Lower layer		15 km offshore of Ukedo-gawa Upper layer		15 km offshore of Ukedo-gawa Lower layer		15 km offshore of Fukushima Daiichi Upper layer		15 km offshore of Fukushima Daiichi Lower layer		Density limit by the announcement of Reactor Regulation (Bq/L) (the density limit in the water outside of surrounding monitored areas in the section 6 of the appendix 2)
	Time and Date of Sample Collection	10:20 am June 23, 2011		10:30 am June 23, 2011		Not applicable		Not applicable		Not applicable		Not applicable	
Detected Nuclides (Half-life)	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	
I-131 (about 8 days)	ND	-	ND	-	/	/	/	/	/	/	/	/	40
Cs-134 (about 2 years)	14	0.23	ND	-	/	/	/	/	/	/	/	/	60
Cs-137 (about 30 years)	ND	-	ND	-	/	/	/	/	/	/	/	/	90

Place of Sampling	15 km offshore of Fukushima Daini Upper layer		15 km offshore of Fukushima Daini Lower layer		15 km offshore of Iwasawa Shore Upper layer		15 km offshore of Iwasawa Shore Lower layer		15 km offshore of Hironomachi Upper layer		15 km offshore of Hironomachi Lower layer		Density limit by the announcement of Reactor Regulation (Bq/L) (the density limit in the water outside of surrounding monitored areas in the section 6 of the appendix 2)
	Time and Date of Sample Collection	Not applicable		Not applicable		8:45 am June 23, 2011		8:45 am June 23, 2011		9:30 am June 23, 2011		9:30 am June 23, 2011	
Detected Nuclides (Half-life)	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	Density of Sample (Bq/cm <sup>3</sup> )	Scaling Factor ( / )	
I-131 (about 8 days)	/	/	/	/	ND	-	ND	-	ND	-	ND	-	40
Cs-134 (about 2 years)	/	/	/	/	ND	-	ND	-	ND	-	ND	-	60
Cs-137 (about 30 years)	/	/	/	/	ND	-	ND	-	ND	-	ND	-	90

Density by the announcement of Reactor Regulation is stated with an amount converted from Bq/cm<sup>3</sup> to Bq/L

Data of other nuclides are under evaluation.

In the case that two or more kinds of nuclides exist, sum of each scaling factor to the density limit is compared with 1.

In the case that the data is below measurable limit (approximately 6Bq/L for I-131), "ND" is stated.

Detection limits of the three main nuclides are as follows: I-131: approx. 5Bq/L, Cs-134: 13Bq/L, Cs-137: 15Bq/L

However, detection limits differs depending on the detectors and samples types, and therefore may be detected, under figures below.

## Results of Nuclide Analysis of Seawater <Offshore 2/3>

Reference

(Data summarized on : June 24)

Place of Sampling	3km offshore of Haramachi district Upper layer		3km offshore of Haramachi district Lower layer		3km offshore of Odaka district Upper layer		3km offshore of Odaka district Lower layer		3km offshore of Iwasawa coast Upper layer		3km offshore of Iwasawa coast Lower layer		Density limit by the announcement of Reactor Regulation (Bq/L) (the density limit in the water outside of surrounding monitored areas in the section 6 of the appendix 2)
	Time and Date of Sample Collection	9:50 am June 23, 2011	9:50 am June 23, 2011	9:35 am June 23, 2011	9:35 am June 23, 2011	7:45 am June 23, 2011	7:45 am June 23, 2011						
Detected Nuclides (Half-life)	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	
I-131 (about 8 days)	ND	-	ND	-	ND	-	ND	-	ND	-	ND	-	40
Cs-134 (about 2 years)	ND	-	ND	-	ND	-	ND	-	ND	-	ND	-	60
Cs-137 (about 30 years)	ND	-	ND	-	ND	-	ND	-	ND	-	ND	-	90

Place of Sampling	8km offshore of Odaka district Upper layer		8km offshore of Odaka district Lower layer		8km offshore of Iwasawa coast Upper layer		8km offshore of Iwasawa coast Lower layer		/		/		Density limit by the announcement of Reactor Regulation (Bq/L) (the density limit in the water outside of surrounding monitored areas in the section 6 of the appendix 2)
	Time and Date of Sample Collection	9:15 am June 23, 2011	9:15 am June 23, 2011	8:10 am June 23, 2011	8:10 am June 23, 2011	/		/					
Detected Nuclides (Half-life)	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	Density of Sample ( Bq/cm3)	Scaling Factor ( / )	
I-131 (about 8 days)	ND	-	ND	-	ND	-	ND	-	/	/	/	/	40
Cs-134 (about 2 years)	ND	-	ND	-	ND	-	ND	-	/	/	/	/	60
Cs-137 (about 30 years)	ND	-	ND	-	ND	-	ND	-	/	/	/	/	90

Density by the announcement of Reactor Regulation is stated with an amount converted from Bq/cm3 to Bq/L

Data of other nuclides are under evaluation.

In the case that two or more kinds of nuclides exist, sum of each scaling factor to the density limit is compared with 1.

In the case that the data is below measurable limit (approximately 6Bq/L for I-131), "ND" is stated.

Detection limits of the three main nuclides are as follows: I-131: approx. 5Bq/L, Cs-134: 13Bq/L, Cs-137: 15Bq/L

However, detection limits differs depending on the detectors and samples types, and therefore may be detected, under figures below.

## Results of Nuclide Analysis of Seawater <Offshore 3/3 >

Reference

( Data summarized on : June 24 )

Place of Sampling	North Iwaki Offshore 3km Upper Layer		North Iwaki Offshore 3km Lower Layer		Natsui-gawa Offshore 3km Upper Layer		Natsui-gawa Offshore 3km Lower Layer		Onahama Port Offshore 3km Upper Layer		Onahama Port Offshore 3km Lower Layer		Density limit by the announcement of Reactor Regulation (Bq/L) (the density limit in the water outside of surrounding monitored areas in the section 6 of the appendix 2)
	Time and Date of Sample Collection	6:30 am June 23, 2011	6:30 am June 23, 2011	6:10 am June 23, 2011	6:10 am June 23, 2011	6:00 am June 23, 2011	6:00 am June 23, 2011						
Detected Nuclides (Half-life)	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	
I-131 (about 8 days)	ND	-	ND	-	ND	-	ND	-	ND	-	ND	-	40
Cs-134 (about 2 years)	ND	-	ND	-	ND	-	16	0.27	5.6	0.09	ND	-	60
Cs-137 (about 30 years)	ND	-	ND	-	ND	-	ND	-	ND	-	ND	-	90

Place of Sampling	Ena Offshore 3km Upper Layer		Ena Offshore 3km Lower Layer		Numanouchi Offshore 3km Upper Layer		Numanouchi Offshore 3km Lower Layer		Toyoma Offshore 3km Upper Layer		Toyoma Offshore 3km Lower Layer		Density limit by the announcement of Reactor Regulation (Bq/L) (the density limit in the water outside of surrounding monitored areas in the section 6 of the appendix 2)
	Time and Date of Sample Collection	6:15 am June 23, 2011	6:15 am June 23, 2011	6:00 am June 23, 2011	6:00 am June 23, 2011	5:50 am June 23, 2011	5:50 am June 23, 2011						
Detected Nuclides (Half-life)	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	Density of Sample ( Bq/cm3 )	Scaling Factor ( / )	
I-131 (about 8 days)	ND	-	ND	-	ND	-	ND	-	ND	-	ND	-	40
Cs-134 (about 2 years)	ND	-	ND	-	ND	-	ND	-	ND	-	13	0.22	60
Cs-137 (about 30 years)	ND	-	ND	-	ND	-	ND	-	ND	-	ND	-	90

Density by the announcement of Reactor Regulation is stated with an amount converted from Bq/cm3 to Bq/L

Data of other nuclides are under evaluation.

In the case that two or more kinds of nuclides exist, sum of each scaling factor to the density limit is compared with 1.

In the case that the data is below measurable limit (aproximately 6Bq/L for I-131), "ND" is stated.

Detection limits of the three main nuclides are as follows: I-131: approx. 5Bq/L、Cs-134: 14Bq/L、Cs-137: 15Bq/L

However, detection limits differs depending on the detectors and samples types, and therefore may be detected, under figures below.

# Results of Nuclide Analysis of Seawater <Coast>

Reference

( Data summarized on : June 24 )

Place of Sampling	North of Discharge Channel of 5-6u of 1F (approx. 30m north of 5-6u discharge channel)		Around South Discharge Channel of 1F ( approx. 330m south of 1-4u Discharge Channel)		Density limit by the announcement of Reactor Regulation (Bq/L) (the density limit in the water outside of surrounding monitored areas in the section 6 of the appendix 2)
	Time and Date of Sample Collection	10:20 am June 13, 2011		9:25 am June 13, 2011	
Detected Nuclides (Half-life)	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	
I-131 (about 8 days)	ND	-	ND	-	40
Cs-134 (about 2 years)	21	0.35	24	0.40	60
Cs-137 (about 30 years)	30	0.33	25	0.28	90
H-3 ( about 12 years )	ND	-	ND	-	60000

Density by the announcement of Reactor Regulation is stated with an amount converted from Bq/cm<sup>3</sup> to Bq/L

In the case that two or more kinds of nuclides exist, sum of each scaling factor to the density limit is compared with 1.

I-131, Cs-134 and Cs-137 were released on June 14th.

( Analysis )

H-3 was not detected.

## Results of Nuclide Analysis of Seawater <Offshore >

Reference

( Data summarized on : June 24 )

Place of Sampling	15 km offshore of Fukushima Daiichi Upper layer		15 km offshore of Fukushima Daiichi Lower layer		Density limit by the announcement of Reactor Regulation (Bq/L) (the density limit in the water outside of surrounding monitored areas in the section 6 of the appendix 2)
Time and Date of Sample Collection	9:20 am June 14, 2011		8:50 am June 14, 2011		
Detected Nuclides (Half-life)	Density of Sample (Bq/L)	Scaling Factor ( / )	Density of Sample (Bq/L)	Scaling Factor ( / )	
I-131 (about 8 days)	ND	-	ND	-	40
Cs-134 (about 2 years)	ND	-	ND	-	60
Cs-137 (about 30 years)	ND	-	ND	-	90
H-3 ( about 12 years )	ND	-	ND	-	60000

Density by the announcement of Reactor Regulation is stated with an amount converted from Bq/cm<sup>3</sup> to Bq/L

In the case that two or more kinds of nuclides exist, sum of each scaling factor to the density limit is compared with 1.

I-131, Cs-134 and Cs-137 were released on June 15th.

( Analysis )

H-3 was not detected.