

Fukushima Daiichi Result of Nuclide Analysis on Water Leakage from Evaporative Concentration Apparatus (December 4, 2012) <1/4>

Reference 1

(Data summarized on January 16)

Place of Sampling	Evaporative Concentration Apparatus Leakage Water				
Time of Sampling	10:23 Dec 05 2011				
Detected Nuclides (Half-life)	Radioactivity density ( Bq/L)	Radioactivity density ( Bq/L)	Radioactivity density ( Bq/L)	Radioactivity density ( Bq/L)	
I-131 (about 8 days)	ND				
Cs-134 (about 2 years)	12,000				
Cs-137 (about 30 years)	15,000				
Sr-89 (about 51 days)	49,000,000				
Sr-90 (about 29 years)	110,000,000				
all $\beta$	250,000,000				

\* "ND" means the sampled data is below measurable limit. The detection limit is as follow:

I-131: approx. 94,000Bq/L

Please note that this nuclide is sometimes detected even when it is below the limit, contingent on the detector or sample.

\* Analyses of Sr-89 and Sr-90 were conducted by Japan Chemical Analysis Center.

Fukushima Daiichi Result of Nuclide Analysis on Water Leakage from Evaporative Concentration Apparatus (December 4, 2012) <2/4>

Reference 2

(Data summarized on January 16)

Place of Sampling	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)
	10:35 Dec 05 2011		08:20 Dec 10 2011		08:20 Dec 17 2011		08:10 Dec 24 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 ( / )	
I-131 (about 8 days)	ND	-	ND	-	ND	-	ND	-	40
Cs-134 (about 2 years)	4.8	0.08	1.7	0.03	1.3	0.02	1.2	0.02	60
Cs-137 (about 30 years)	6.2	0.07	2.3	0.03	1.8	0.02	2.5	0.03	90
Sr-89 (about 51 days)	140	0.47	2.5	0.01	-	-	-	-	300
Sr-90 (about 29 years)	400	13	9.6	0.32	-	-	-	-	30
all $\beta$	780	-	32	-	28	-	35	-	-

\* 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.

\* Results of I-131, Cs-134 and Cs-137 sampled on December 10, 17 and 24 were announced on December 11, 18 and 25. Result of all  $\beta$  sampled on December 10 was announced on December 17.

\* "ND" means the sampled data is below measurable limit. The detection limit is as follow:

I-131: approx. 26Bq/L

Please note that this nuclide is sometimes detected even when it is below the limit, contingent on the detector or sample.

\* Analyses of Sr-89 and Sr-90 were conducted by Japan Chemical Analysis Center.

\* "-" means N/A.

Fukushima Daiichi Result of Nuclide Analysis on Water Leakage from Evaporative Concentration Apparatus (December 4, 2012) <3/4>

Reference 3

(Data summarized on January 16)

Place of Sampling	North of Discharge Channel of 5-6u of 1F (approx. 30m north of 5-6u discharge channel)		15 km offshore of Fukushima Daiichi Upper Layer		15 km offshore of Fukushima Daini Upper 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 of Sampling	08:45 Dec 10 2011	09:00 Dec 10 2011	08:10 Dec 10 2011	Density of Sample (Bq/L)	Scaling Factor ( / )			
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 ( / )	
I-131 (about 8 days)	ND	-	ND	-	ND	-			40
Cs-134 (about 2 years)	3.5	0.06	ND	-	ND	-			60
Cs-137 (about 30 years)	4.1	0.05	ND	-	ND	-			90
Sr-89 (about 51 days)	1.2	0.00	ND	-	ND	-			300
Sr-90 (about 29 years)	3.9	0.13	0.063	0.00	0.016	0.00			30
all $\beta$	25	-	ND	-	ND	-			-

\* 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.

\* Results of I-131, Cs-134 and Cs-137 were announced on December 11 and 12. Result of all  $\beta$  was announced on December 17.

\* "ND" means the sampled data is below measurable limit. The detection limits are as follows:

I-131: approx. 0.83Bq/L Cs-134: approx. 0.97Bq/L Cs-137: approx. 1.0Bq/L Sr-89: approx. 0.03Bq/L all  $\beta$ : approx. 21Bq/L

Please note that these nuclides are sometimes detected even when they are below the limits, contingent on the detector or samples.

\* Analyses of Sr-89 and Sr-90 were conducted by Japan Chemical Analysis Center.

Fukushima Daiichi Result of Nuclide Analysis on Water Leakage from Evaporative Concentration Apparatus (December 4, 2012) <4/4>

Reference 4

(Data summarized on January 16)

Place of Sampling	3km offshore of Ukedogawa Upper layer		3km offshore of Fukushima Daiichi Upper layer		3km offshore of Fukushima Daini Upper layer		8km offshore of Fukushima Daiichi Upper 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 of Sampling	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)	10:40 Dec 10 2011	ND	-	ND	-	ND	-	ND	-	40
Cs-134 (about 2 years)	11:00 Dec 10 2011	ND	-	ND	-	ND	-	ND	-	60
Cs-137 (about 30 years)	11:45 Dec 10 2011	ND	-	ND	-	ND	-	ND	-	90
Sr-89 (about 51 days)	11:15 Dec 10 2011	ND	-	0.050	0.00	ND	-	ND	-	300
Sr-90 (about 29 years)		0.077	0.00	0.13	0.00	0.13	0.00	0.038	0.00	30
all $\beta$		ND	-	ND	-	ND	-	ND	-	-

\* 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.

\* Results of I-131, Cs-134 and Cs-137 sampled on December 10 were announced on December 12. Result of all  $\beta$  sampled on December 10 was announced on December 17.

\* "ND" means the sampled data is below measurable limit. The detection limits are as follows:

I-131: approx. 0.59Bq/L Cs-134: approx. 0.85Bq/L Cs-137: approx. 1.0Bq/L Sr-89: approx. 0.04Bq/L all  $\beta$ : approx. 21Bq/L

Please note that these nuclides are sometimes detected even when they are below the limits, contingent on the detector or samples.

\* Analyses of Sr-89 and Sr-90 were conducted by Japan Chemical Analysis Center.