

Primary Containment Vessel of Unit 2 of Fukushima Daiichi Nuclear Power Station Sampling Result of the Gas Control System

January 16, 2012
Tokyo Electric Power Company

[Sampling time & date] January 13, 2012 (Fri) 10:52 – 11:02 (particulate filter)
11:04 – 11:34 (charcoal filter)

[Measurement result]

	Nuclides	Density of sample (Bq/cm ³)	Detection limits (Bq/cm ³)	Half-life
particulate filter	I-131	Below measurable limit	2.7×10^{-6}	About 8 days
	Cs-134	1.0×10^{-5}	6.6×10^{-6}	About 2 years
	Cs-137	1.4×10^{-5}	7.1×10^{-6}	About 30 years

	Nuclides	Density of sample (Bq/cm ³)	Detection limits (Bq/cm ³)	Half-life
charcoal filter	I-131	Below measurable limit	1.8×10^{-6}	About 8 days
	Cs-134	9.1×10^{-6}	3.6×10^{-6}	About 2 years
	Cs-137	1.1×10^{-5}	4.2×10^{-6}	About 30 years
	Kr-85	6.0×10^1	7.3×10^{-1}	About 11 years
	Xe-131m	Below measurable limit	9.8×10^{-2}	About 12 days
	Xe-133	1.2×10^{-2}	1.0×10^{-2}	About 5 days
	Xe-135	2.4×10^{-2}	3.2×10^{-3}	About 9 hours

We calculated the capture rate of rare gases to the charcoal filter from the sampling and measurement results by gas vial container, and evaluated the radioactive material densities and detection limits of rare gases (Kr-85, Xe-131m, Xe-133 and Xe-135).

(Reference) Values before evaluation by the capture rate of rare gases

Nuclides	Density of sample (Bq/cm ³)	Detection limits (Bq/cm ³)
Kr-85	3.0×10^{-2}	3.7×10^{-4}
Xe-131m	Below measurable limit	5.0×10^{-5}
Xe-133	6.0×10^{-6}	5.2×10^{-6}
Xe-135	1.2×10^{-5}	1.6×10^{-6}

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[Sampling place] Outlet of gas control system of Primary Containment Vessel of Unit 2

[Sampling time & date] January 13, 2012 (Fri) 11:13

[Measurement result]

Nuclides		Density of sample (Bq/cm ³)	Detection limits (Bq/cm ³)	Half-life
Gas vial container	I-131	Below measurable limit	1.3×10^{-1}	About 8 days
	Cs-134	7.6×10^{-1}	3.1×10^{-1}	About 2 years
	Cs-137	1.2×10^0	3.7×10^{-1}	About 30 years
	Kr-85	6.0×10^1	2.9×10^1	About 11 years
	Xe-131m	Below measurable limit	3.1×10^0	About 12 days
	Xe-133	Below measurable limit	2.3×10^{-1}	About 5 days
	Xe-135	Below measurable limit	1.1×10^{-1}	About 9 hours