

## Sampling result of the gases in the Gas Management System at PCV, Unit 2, Fukushima Daiichi Nuclear Power Station

November 15, 2011

Tokyo Electric Power Company

【Place】 Entrance of the Gas Management System at PCV, Unit 2

【Date】 13:42pm on Monday, November 14, 2011

【Result】

Nuclide		Radioactive density (Bq/cm <sup>3</sup> )	Detection limit (Bq/cm <sup>3</sup> )	Half life period (approx.)
Gas vial container	I-131	Below detection limit	$1.1 \times 10^{-1}$	8 days
	Cs-134	$5.2 \times 10^{-1}$	$3.0 \times 10^{-1}$	2 years
	Cs-137	$7.1 \times 10^{-1}$	$3.4 \times 10^{-1}$	30 years
	Kr-85	Below detection limit	$2.6 \times 10^1$	11 years
	Xe-131m	Below detection limit	$3.2 \times 10^0$	12 days
	Xe-133	Below detection limit	$2.5 \times 10^{-1}$	5 days
	Xe-135	Below detection limit	$9.2 \times 10^{-2}$	9 hours

All the Xes, which are short half life periods, fall below the detection limit.  
This does not exceed the recriticality criterion, or 1Bq/cm<sup>3</sup> (Xe-135)

# Sampling result of the gases in the Gas Management System at PCV, Unit 2, Fukushima Daiichi Nuclear Power Station

November 15, 2011

Tokyo Electric Power Company

【Place】 Exit of the Gas Management System at PCV, Unit 2

【Date】 12:26 pm on Monday, November 14, 2011

【Result】

Nuclide		Radioactive density (Bq/cm <sup>3</sup> )	Detection limit (Bq/cm <sup>3</sup> )	Half life period (approx.)
Gas vial container	I-131	Below detection limit	$1.2 \times 10^{-1}$	8 days
	Cs-134	$7.9 \times 10^{-1}$	$3.0 \times 10^{-1}$	2 years
	Cs-137	$8.0 \times 10^{-1}$	$3.4 \times 10^{-1}$	30 years
	Kr-85	$6.2 \times 10^1$	$2.6 \times 10^1$	11 years
	Xe-131m	Below detection limit	$3.3 \times 10^0$	12 days
	Xe-133	Below detection limit	$2.0 \times 10^{-1}$	5 days
	Xe-135	Below detection limit	$9.0 \times 10^{-2}$	9 hours

These are references because the exit side shows higher values than the entrance side.

## Sampling result of the gases in the Gas Management System at PCV, Unit 2, Fukushima Daiichi Nuclear Power Station

【Date】 11:45 ~ 11:55 am on Mon, November 14, 2011 (particle filter) November 15, 2011  
 11:56 ~ 12:26 am on Mon, November 14, 2011 (charcoal filter) Tokyo Electric Power Company

【Result】

	Nuclide	Radioactive density ( Bq/cm <sup>3</sup> )	Detection limit ( Bq/cm <sup>3</sup> )	Half life period (approx.)
Particle filter	I-131	Below detection limit	$3.1 \times 10^{-6}$	8 days
	Cs-134	$1.4 \times 10^{-5}$	$7.7 \times 10^{-6}$	2 years
	Cs-137	$2.5 \times 10^{-5}$	$8.3 \times 10^{-6}$	30 years

	Nuclide	Radioactive density ( Bq/cm <sup>3</sup> )	Detection limit ( Bq/cm <sup>3</sup> )	Half life period (approx.)
Charcoal filter	I-131	Below detection limit	$2.9 \times 10^{-6}$	8 days
	Cs-134	$4.7 \times 10^{-6}$	$3.4 \times 10^{-6}$	2 years
	Cs-137	$6.5 \times 10^{-6}$	$3.8 \times 10^{-6}$	30 years
	Kr-85	$6.2 \times 10^1$	$1.8 \times 10^{-1}$	11 years
	Xe-131m	$3.5 \times 10^{-2}$	$2.9 \times 10^{-2}$	12 days
	Xe-133	Below detection limit	$3.3 \times 10^{-3}$	5 days
	Xe-135	$4.6 \times 10^{-3}$	$9.4 \times 10^{-4}$	9 hours

The radioactive density and detection limit of rare gases ( Kr-85, Xe-131m, Xe-133, Xe-135 ) are evaluated by the result collected at the gas vial container of charcoal filter's rare gas capture ratio.

( Reference ) The following are the values before evaluating by the rare gas capture ratio

<u>Nuclide</u>	<u>Radioactive density ( Bq/cm<sup>3</sup> )</u>	<u>Detection limit ( Bq/cm<sup>3</sup> )</u>
Kr-85	$1.8 \times 10^{-1}$	$5.2 \times 10^{-4}$
Xe-131m	$1.0 \times 10^{-4}$	$8.5 \times 10^{-5}$
Xe-133	Below detection limit	$9.7 \times 10^{-6}$
Xe-135	$1.4 \times 10^{-5}$	$2.7 \times 10^{-6}$