Fukushima Daiichi Nuclear Power Plant　Nuclide analysys results of gamma rays in the soil

1. Result of measure　Nuclide analysys results of gamma rays in the soil in the power plant are as follows. We analyzed all of the samples in which Pu was analyzed:

2. Evaluation　Nuclide analysys results of gamma rays in the soil measured in 2009 in Fukushima Prefecture are as follows.
Compared with this result, highly concentrated radioactive materials were detected.
＜Result of the analysis of the soil by Fukushima Prefecture in 2009＞
Cs-137：ND～21Bq/kg･Dry soil,　Others：ND

(Unit: Bq/kg･Dry soil)

Place of sampling		[Fixed point ①] *1 Ground (West-northwest approx. 500m) *2	[Fixed point ②] *1 Wild birds' forest (West approx. 500m)*2	[Fixed point ③] *1 Near the industrial waste disposal facility (South-southwest approx.　500m)*2
Date of sampling		23-Jan	23-Jan	23-Jan
Analyst		Japan Chemical Analysis Center*3	Japan Chemical Analysis Center*3	Japan Chemical Analysis Center*3
Date of measure		25-Jan	25-Jan	25-Jan
Nuclides	I-131(about 8 days)	ND	ND	ND
	I-132(about 2 hours)	ND	ND	ND
	Cs-134(about 2 years)	2.2E+05	1.9E+03	2.3E+05
	Cs-136(about 13 days)	ND	ND	ND
	Cs-137(about 30 years)	2.8E+05	2.4E+03	2.9E+05
	Sb-125(about 3 years)	ND	ND	ND
	Te-129m(about 34 days)	ND	ND	ND
	Te-132(about 78 hours)	ND	ND	ND
	Ba-140(about 13 days)	ND	ND	ND
	Nb-95(about 35 days)	ND	ND	ND
	Ru-106(about 370 days)	ND	ND	ND
	Mo-99(about 66 hours)	ND	ND	ND
	Tc-99m(about 6 hours)	ND	ND	ND
	La-140(about 40 hours)	ND	ND	ND
	Be-7(about 53 days)	ND	ND	ND
	Ag-110m(about 250 days)	1.3E+03	ND	ND

*1 “①Ground”, “③Near the industrial waste disposal facility”: Collected at adjoining sites in order to avoid overlap with the past samplings.
“②Wild birds' forest”: Collected vertically at each site (collection continued at one site unless no more sample was able to be collected)

*2 Distance from the stacks of the Unit 1 and 2

*3 Half-life correctrion for the period until the collection of the samples was not made in the analysis result by Japan Chemical Analysis Center.

Result of Pu nuclide analysis in the soil Fukushima Daiichi Nuclear Power Station

1. Result analysis

（Unit：Bq/kg･dry soil）

Place of sampling () shows distance from stuck of Unit 1/2	Date Analysis institute	Pu-238	Pu-239,Pu-240
①Ground (WNW approx. 500m)	January 23 Japan Chemical Analysis Center	（2.6±0.53）×10^{-2}	（2.5±0.52）×10^{-2}
②Yachounomori (W approx. 500m)		N.D. [<1.4×10^{-2}]	N.D. [<1.3×10^{-2}]
③Around industrial waste treatment facility (SSW approx. 500m)		（3.5±0.70）×10^{-2}	（3.8±0.70）×10^{-2}
Domestic soil※		N.D.～1.5×10^{-1}	N.D.～4.5

[ ]shows lower detection limit

※：Source: Ministry of Education, Culture, Sports, Science and Technology ”Environmental radiation data base” from 1978 to 2008

※：Place of sampling for “①Ground” and ”③Around industrial waste treatment facility” has slightly changed to avoid duplication with past sampling and as for “②Yachounomori”, it was taken at the same point in depth direction (sampling point will be changed if sampling was not feasible).

2. Evaluation

Radioactive density of the Pu-238, Pu-239 and Pu-240 detected on January 23 was within the same level as that of fallout of past nuclear test in the atmosphere. However it is considerable the result may be derived from the nuclear accident this time.

Though there are some samples where Pu-238, Pu-239 and Pu-240 were detected after March 21, there is no significant change in the figures.

End