

Result of Pu measurement in the soil in Fukushima Daiichi Nuclear Power Plant

1. Result of the measurement

(Unit: Bq/kg·dry soil)

Sampling spot	Time of sampling	Pu-238	Pu-239,Pu-240
①site field	13:30, March 21 st	$(5.4 \pm 0.62) \times 10^{-1}$	$(2.7 \pm 0.42) \times 10^{-1}$
②1km away from Unit 1/2 exhaust stack	7:00, March 22 nd	N.D.	$(2.6 \pm 0.58) \times 10^{-1}$
③ 0.75km away from Unit 1/2 exhaust stack	7:10, March 22 nd	N.D.	1.2 ± 0.12
④0.5km away from Unit 1/2 exhaust stack	7:18, March 22 nd	N.D.	1.2 ± 0.11
⑤solid waste storage	7:45, March 22 nd	$(1.8 \pm 0.33) \times 10^{-1}$	$(1.9 \pm 0.34) \times 10^{-1}$
ordinary domestic soil [※]		N.D.~ 1.5×10^{-1}	N.D.~4.5

※ :MEXT environmental radiation database; 1978–2008

2. Analysis

Density of detected Pu-238, Pu-239 and Pu-240 are within the same level of the fallout observed in Japan after the atmospheric nuclear test in the past. Activity ratio of Pu-238 detected in site field and solid waste storage against Pu-239 and Pu-240 are 2.0 and 0.94 respectively. They exceed activity ratio of 0.026 which resulted from the atmospheric nuclear test in the past, thus those PUs are considered to come from the recent incident.