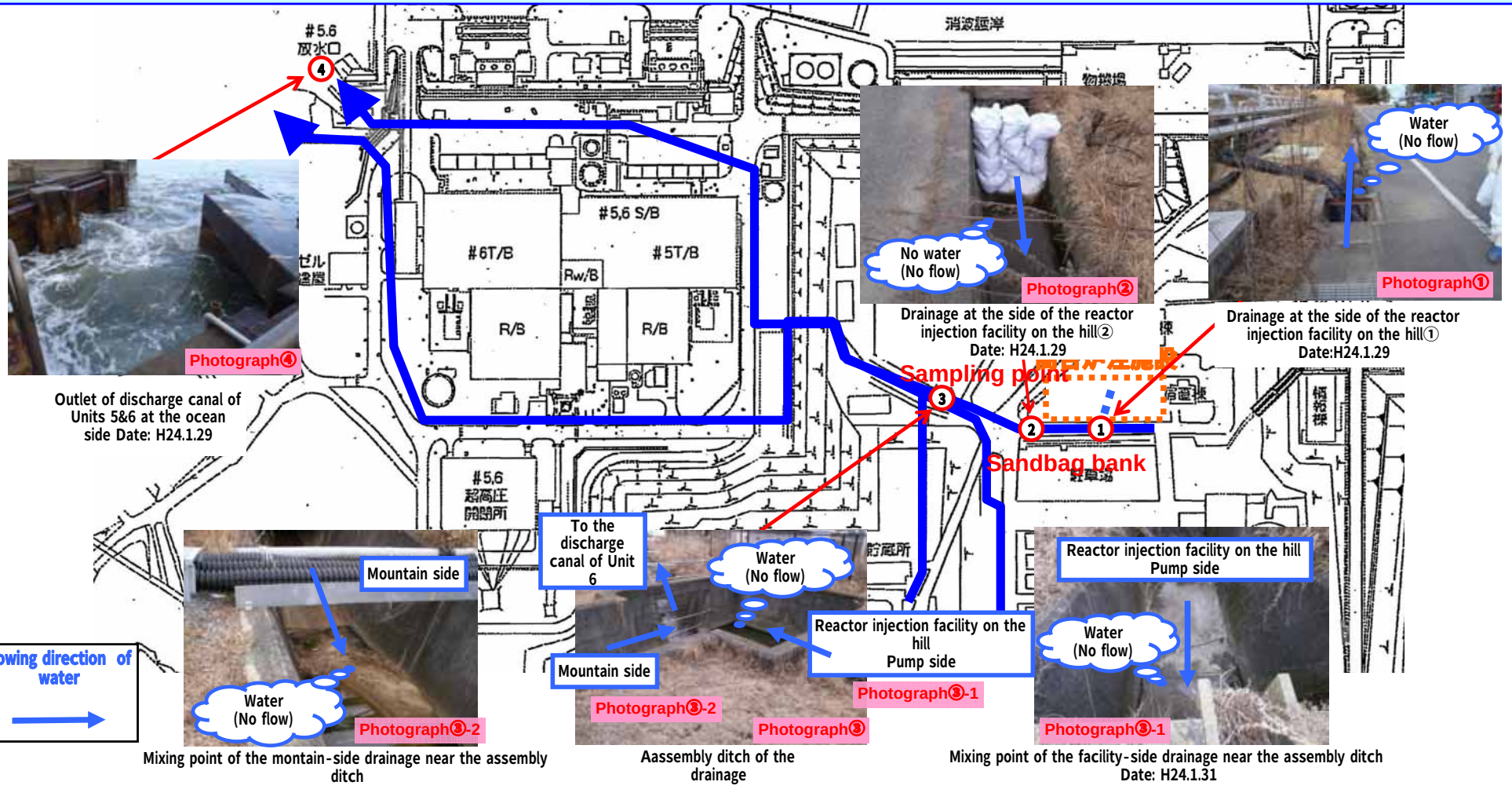
February 1, 2012
Tokyo Electric Power Company

# Water Leakage observed around the flowmeter of Emergency Reactor Injection Pump (C) on the Hill at Fukushima Daiichi Nuclear Power Station

**< Water Leakage observed around the drainage of Emergency Reactor Injection Facility on the Hill>**

□At around 9:50 am on January 29, 2012, water leakage was observed around the flowmeter of Emergency Reactor Injection Pump (C) on the Hill, which was in stand-by. At the same time, inflow of the leakage into the drainage was detected.
□As a result of the sampling surveys at each point of the drainage, we evaluated from the following facts that "The leakage did not flow into the ocean".
・The water collected at the drainage showed ND for cesium and approximately the same level of all-beta radioactivity as the sea water.
・There is another drainage connecting with the upper stream of the sampling point of the drainage, however, there is no water flowing in the drainage, which means the water with $1.0\times10^{2}$ [Bq/cm$^3$] all-beta radioactivity may not have diluted to $5.3\times10^{-2}$ [Bq/cm$^3$].
・The water at the sampling point is accumulatd and not flowing further.
・The inclination from the sampling point to the drainage at the side of the reactor injection facility on the hill is almost horizontal.
・There is approx.10m$^3$ water accumulated in the drainage at the side of the reactor injection facility on the hill.
□We evaluated from the following amount of all-beta radioactivity that "There is no leakage out of the sandbag bank in the drainage".
・Amount of all-beta radioactivity in the leakage from the reactor injection facility on the hill to the drainage: Approx. $5.0\times10^{7}$[Bq]
・Amount of all-beta radioactivity in the drainage at the side of the reactor injection facility on the hill (Before the sandbag bank): Approx.$1.2\times10^{8}$[Bq]
※The accumulated water shows approx. double amount of all-beta radioactivity when compared with the leakage, however, we estimate that there is influence of the err in the total amount of the water in the drainage and the fallouts in the drainage.



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# Result of Nuclide Analysis regarding the Water Leakage observed around the flowmeter of Emergency Reactor Injection Pump (C) on the Hill at Fukushima Daiichi Nuclear Power Station

(Data summarized on February 1)

| Place of Sampling | Running water on the reactor injection facility | | Mixing point of leaking water in the drainage (Accumulated water at the upper stream of sandbag bank) | | Lower drainage (Accumulated water approx. 50m apart from sandbag bank) | | North of Discharge Channel of 5-6u of 1F (approx. 30m north of 5-6u discharge channel) | | | | ② 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 | 11:35 Jan 28 2012 | | 07:40 Jan 31 2012 | | 13:15 Jan 29 2012 | | 08:40 Jan 29 2012 | | 14:50 Jan 29 2012 | | |
| Detected Nuclides (Half-life) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | ①Density of Sample (Bq/L) | Scaling Factor (①/②) | |
| I-131 (about 8 days) | ND | | ND | | ND | | ND | - | ND | - | 40 |
| Cs-134 (about 2 years) | 43 | | 3,900 | | ND | | 1.9 | 0.03 | 2.4 | 0.04 | 60 |
| Cs-137 (about 30 years) | 54 | | 5,600 | | ND | | 3.0 | 0.03 | 3.1 | 0.03 | 90 |
| 全β | 100,000 | | 21,000 | | 53 | | — | - | 27 | - | - |

* Density by the announcement of Reactor Regulation is stated with an amount converted from Bq/cm3 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.

In the case the measurement is under the detection threshold, "ND" is marked.

Detection limit of the leakage is as follows. I-131: approx. 13Bq/L

Detection limits at the mixing point of leaking water in the drainag are as follows. I-131: approx. 58Bq/L，Cs-134: 64Bq/L，Cs-137: approx. 65Bq/L

Detection limits at the lower drainag are as follows.I-131: approx. 8.9Bq/L，Cs-134: 24Bq/L，Cs-137: approx. 29Bq/L

Detection limit at North of Discharge Channel of 5-6u of 1F is as follows. I-131: approx. 0.80Bq/L

* The analysis at North of Discharge Channel of 5-6u of 1F at 8:40 am on January 29 was implemented as r-ray nuclide analysis. (No result of all-β radioactivity analysis)
* "-" in the Radioactivity density section shows N/A.