

Regarding the Preventive Measures against the Cause of Incompatibility of Environmental Monitoring when Opening the Airlock at Fukushima Daiichi Nuclear Power Station Unit 2 (Summary)

1 . Results of Environmental Monitoring

a . Air Dose Rate

Significant monitoring value variations during the period of monitoring were not confirmed. On the other hand, at some spots, significant variation in the monitoring results conducted outside of the site was reported.

Spot C 【Yamada, Futaba Town】

7:00pm, June 19 ~ 1:00am, June 20 · · 27.5 μ Sv/h

8:51am, June 20 · · · 45 μ Sv/h

b . Dust Concentration

There was no huge difference in each of the results of the 4 measurements of the dust concentration conducted at 6 spots including at the west gate of the power station.

2 . Verification of Appropriateness of Environmental Monitoring

Since the value of spot C turned out different, we verified the appropriateness of the environmental monitoring results conducted at that time.

It turns out that there were discrepancies between the measuring spots of spot C and thus a re-examination was conducted at the spot. As a result, the air dose rate data at the measured point was indicated as 45 ~ 63 μ Sv/h and was mostly within the range of 50 ± 5 μ Sv/h in accordance with the measured data of day 2.

On the other hand, it was also confirmed that different measurement methods had been employed. On day 1, since the monitoring was conducted at night, we conducted measurements by opening the window of the car while remaining inside and stretching our arm outside with instruments in hand. This was done to reduce the risk of animal encounters etc. The measurements for Day 2 were conducted outside of the car.

When we conducted the re-examination by stretching our arm out of the car with instruments in hand, the measured value was 36 μ Sv/h. In addition, after pulling our outstretched hand back inside the car, it was confirmed that the measured value had gradually decreased. It is conceivable that a “ shelter effect ” had a larger impact as instruments came within closer proximity to

the car.

Secondly, we conducted a comparison of the measured results between 4 spots out of 5 spots measured this time and measured the results during the time when the airlock of the reactor building Unit 1 was opened. As summarized in the below chart, there was no significant difference in the results. Besides spot c, the effect of the measurer and the measuring method as well as any impact to the collected data were minor.

Chart Comparison of Monitoring Results when the Reactor Building Unit 1's Airlock was Opened (Unit : $\mu\text{Sv/h}$)

	Spot B	Spot C	Spot D	Spot E
Monitoring when Opening the airlock of Unit 1	6.9 no variation	30 ~ 32	10.1 ~ 10.5	31 ~ 32
Monitoring when Opening the airlock of Unit 2	8.0 ~ 8.4	27.5 no variation	8.8 ~ 9.7	28 ~ 29.5
Monitoring after Opening the airlock of Unit 2	6.8	45	11.8	28.0
		36 (re-measurement)		

As explained above, although there were some investigation spot discrepancies and undermined trust of the measured results due to the difference in measurement methods during the night monitoring, we think that the measurement itself was conducted properly and that the credibility of the collected data need not be called into question.

3 . Causes and Measures

During this time of monitoring, the Difference in the perception between measurements of measurement spots and the Measurement methods were not unified. These 2 are the direct causes of the difference between the measured results.

(1) Investigation Spot Discrepancy

Spot C was not specified clearly compared with the other spots. Also, since an employee at headquarters forgot to send a detailed map containing the data

of the manual procedures to the measurer of day 2, differences arose between the measurers concerning the measurement spots which resulted in a measurement discrepancy of 100m.

As a countermeasure, as clearly as possible, we will specify the monitoring points to the measurer and deliver information at one time by utilizing a mailing list, so that every worker can share information with each other at all times.

(2) Measurement Method Differences

The cause of the difference in the measurement methods can be attributed to the lack of proper communication between the concerned workers despite the measurement method being different from the “Radioactivity Measurement Method Series” * developed by the Ministry of Education, Culture, Sports, Science and Technology.

Hereafter, we will not adopt a measurement method applied to a particular circumstance, but will follow the “Radioactivity Measurement Method Series” developed by the Ministry of Education, Culture, Sports, Science and Technology during the process of environmental monitoring.

END

* Radioactivity Measurement Method Series

Standard radioactivity measurement methods, which was developed by Ministry of Education, Culture, Sports, Science and Technology.