

Evaluation of Environment Radiation Monitoring Results

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Nuclear Safety Commission

Nuclear Safety Commission (NSC) evaluates the Environmental Monitoring Results ^(※), 20km or more far from Fukushima Dai-ichi Nuclear Power Plant (NPP), published by Ministry of Education, Culture, Sports, Science and Technology (MEXT). The evaluation results based on the information published between at 10:00 on April 17, 2011 and at 10:00 on April 19 are described as below:

※ refer to http://www.mext.go.jp/english/radioactivity_level/detail/1303962.htm

1. Ambient radiation dose around Fukushima Dai-ichi NPP

- Observation of ambient radiation dose rate at 20km or more far from Fukushima dai-ichi NPP found a relatively higher dose rate locally at several measuring points. It however does not reach the level that affects people's health.
- A part of area where the integrated dose was high value, and annual cumulative dose after the onset of the accident would potentially reach 20 mSv was set to be "Deliberate Evacuation Area".

We need to further watch a variation of dose rate carefully, considering other factors such as weather and wind direction.

2. Dust sampling in the air around Fukushima Dai-ichi NPP

- With regard to the measuring result of the dust sample collected at 20 km or more far from Fukushima dai-ichi NPP on April 16 and 17, the maximum I-131 radioactivity was 13.6Bq/m³ (1.36×10^{-5} Bq/cm³); maximum Cs-137 radioactivity was 2.54Bq/m³ (2.54×10^{-6} Bq/cm³).
- For I-131, the maximum radioactivity exceeded the concentration limit (Note 1). Considering that the half-life period of I-131 is such a short period as about 8 days, this concentration does not affect people's health in the current condition.
- The concentration of Cs-137 was lower than the limit (Note 1).

We need to further watch a variation of dust sampling data carefully, considering other factors such as weather and wind direction.

3. Airborne monitoring

- No additional information was published for the airborne monitoring result. Our opinion delivered on April 17 on this matter was as follows:
 - *We obtained measuring result from the airborne monitoring.*

4. Environmental sample around Fukushima Dai-ichi NPP

- Monitoring results was obtained on the land water (pond or rain), soil, fallout and sea water. Weed and land water showed relatively higher values; we further need continued measurement on the drinking water (tap water) and foods.
- According to the result collected on April 17, the maximum radioactive concentration of I-131 and Cs-137 in the seawater was as follows: on the surface layer, 68.4Bq/L ($6.84 \times 10^{-2} \text{Bq/cm}^3$) for I-131 and 83.3Bq/L ($8.33 \times 10^{-2} \text{Bq/cm}^3$) for Cs-137, and in the low layer (depth: 22 to 162m), not detected for both I-131 and Cs-137. Both I-131 and Cs-137 in the dust above the sea was not detected..
- It is considered that the concentration of radioactive materials emitted into the seawater will be diluted since it is diffused along with the tidal current before actually ingested by marine life such as fish and seaweed.
- For the sea products, be aware of the information announced by the Ministry of Health, Labor and Welfare (MHLW) regarding relevant intervention.

We also need to continue environmental monitoring by related organizations under the arrangement by MEXT, considering various elements such as weather change.

5. Environmental radioactivity level survey by prefecture

1) Ambient radiation dose rate

Some prefectures showed a higher value compared with the average values obtained before the accident, however, it does not affect people's health.

2) Drinking water (tap water)

- Be aware of the information related announced by the MHLW regarding relevant intervention.
- In the prefectures of Fukushima, Tochigi and others, readings of drinking water (tap water) monitoring were 1.1Bq/kg for radioactive iodine and 0.63Bq/kg for radioactive cesium at maximum as far as the data on radioactivity level in drinking water by prefecture published by MEXT was evaluated. Both were lower than the indices to limit ingestion of food and drink (Note2).

We consider that further monitoring is needed on a continuous basis.

(Note)

(Note 1) Limits of the radioactivity in the air outside the peripheral monitoring area boundary as specified by the law are $5 \times 10^{-6} \text{Bq/cm}^3$ for I-131 and $3 \times 10^{-5} \text{Bq/cm}^3$ for Cs-137.

(Note 2) Indices to limit ingestion of drinking water shown on "Regulatory Guide of Emergency Preparedness for Nuclear Facilities" are 300Bq/kg for I-131 and 200Bq/kg for Cs-137.