

## Evaluation of Environment Radiation Monitoring Results

Original released at 16:45 April 7, 2011  
Nuclear Safety Commission

NSC (Nuclear Safety Commission) evaluates the Environmental Monitoring Results<sup>※)</sup>, 20km or more far from Fukushima Dai-ichi Nuclear Power Plant, published by MEXT (Ministry of Education, Culture, Sports, Science and Technology). The evaluation results based on the information published between at 10:00 on April 6, 2011 and at 10:00 on April 7 are described as below:

*※[http://www.mext.go.jp/english/radioactivity\\_level/detail/1303962.htm](http://www.mext.go.jp/english/radioactivity_level/detail/1303962.htm)*

1. Ambient radiation dose rate around Fukushima Dai-ichi NPP
  - Observation of ambient radiation dose rate at 20 km or more far from Fukushima dai-ichi Nuclear Power Plant found a relatively higher dose rate locally at several measuring points. It however does not reach the level that affects people's health.
  - Though some area that exceeded 100  $\mu\text{Sv/h}$  (Note 1) may reach the indoor sheltering index (10 mSv to 50 mSv) (Note 2), the area is still limited. We are preparing the technical data necessary to study further actions to be taken.

We need to further watch the 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 Nuclear Power Plant on April 5, the maximum I-131 radioactivity was  $6.99 \text{ Bq/m}^3$  ( $6.99 \times 10^{-6} \text{ Bq/cm}^3$ ); maximum Cs-137 radioactivity was  $1.43 \text{ Bq/m}^3$  ( $1.43 \times 10^{-6} \text{ Bq/cm}^3$ ).
  - For I-131, the value exceeds the concentration limit (Note 3). 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 is lower than the limit (Note 3).

We, however, need to further watch the variation of dose concentration in the air 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 yesterday on this matter was as follows:

• *We obtained measuring result from the aviation monitoring.*

### 4. Environmental sample around Fukushima Dai-ichi NPP

- Monitoring results have been obtained on the land water (pond water or rain water), 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 in April 5, the maximum radioactive concentration of I-131 and Cs-137 in the seawater was as follows: on the surface layer, 66.1 Bq/L ( $6.61 \times 10^{-2}$  Bq/cm<sup>3</sup>) for I-131 and 38.5 Bq/L ( $3.85 \times 10^{-2}$  Bq/cm<sup>3</sup>) for Cs-137, and in the low layer (depth: 21 to 160m), 15.0 Bq/L ( $1.50 \times 10^{-2}$  Bq/cm<sup>3</sup>) for I-131 and 11.3 Bq/L ( $1.13 \times 10^{-2}$  Bq/cm<sup>3</sup>) for Cs-137. The maximum radioactive concentration for I-131 and Cs-137 in the dust above the sea was 4.03 Bq/m<sup>3</sup> ( $4.03 \times 10^{-6}$  Bq/cm<sup>3</sup>) and 1.08 Bq/m<sup>3</sup> ( $1.08 \times 10^{-6}$  Bq/cm<sup>3</sup>) respectively.
- 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 result, be aware of the information announced by the MHLW (Ministry of Health, Labor and Welfare) regarding relevant intervention.

We also need to continue environmental monitoring, in view of various elements such as change of weather.

### 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 will not affect people's health.

#### 2) Drinking water (tap water)

- Be aware of the information related announced by the MHLW (Ministry of Health, Labor and Welfare). regarding relevant intervention.

- In the prefectures of Fukushima (Note 4), Ibaraki, Tochigi and others, readings of drinking water (tap water) measurement are 7.3 Bq/kg for I-131 and 4.5 Bq/kg for radioactive cesium at maximum. Both are lower than the index concerning the limited ingestion of food and drink (Note 5) as far as the data on “Environmental radiation level survey result (drinking water (tap water))” prepared by MEXT is evaluated.

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

- (Note 1) Namie-machi about 30 km northwest of the Fukushima Dai-ichi Nuclear Power Plant (Location 32: 25.8  $\mu\text{Sv/h}$  at 11:58 on April 6, 630.0  $\mu\text{Sv}$  (25.1  $\mu\text{Sv/h}$ ) as the integrated value from 10:56 on April 5 to 12:00 on April 6).  
Iitate-mura about 30 km northwest of the Fukushima Dai-ichi Nuclear Power Plant (Location 33: 13.2  $\mu\text{Sv/h}$  at 12:17 on April 6, 356.0  $\mu\text{Sv}$  (14.2  $\mu\text{Sv/h}$ ) as the integrated value from 11:20 on April 5 to 12:21 on April 6)
- (Note 2) “Disaster prevention measures at nuclear facilities” (Adopted in June 30, 1980, Nuclear Safety Commission)  
(<http://www.nsc.go.jp/shinsashishin/pdf/history/59-15.pdf>)
- (Note 3) Limit of the radioactivity in the air outside the peripheral monitoring area boundary as specified by the law is:  $5 \times 10^{-6}$  Bq/cm<sup>3</sup> for I-131 and  $3 \times 10^{-5}$  Bq/cm<sup>3</sup> for Cs-137.
- (Note 4) For “Drinking water (tap water) Environment Radioactivity Measuring Result (Interim Value)” published by Fukushima prefecture, see page 27.
- (Note 5) “Disaster prevention measures at nuclear facilities” (Adopted in June 30, 1980, Nuclear Safety Commission), Index concerning the limited ingestion of food and drink (drinking water) are 300 Bq/kg for I-131 and 200 Bq/kg for Cs-137.