Press Release
(This is provisional translation. Please refer to the official version in Japanese)

Evaluation of Environmental Radiation Monitoring Results

March 27, 2011 18:45
Nuclear Safety Commission

The Nuclear Safety Commission evaluates the Environmental Radiation Monitoring Result published by MEXT (Ministry of Education, Culture, Sports, Science and Technology). The evaluation results based on the information published between March 26, 2011, 16:00 and March 27, 16:00 are described as below:

1. Spatial radiation dose rate

- Observation of spatial radiation dose rate at a distance of 20km or more from Fukushima Daiichi 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.

- Some areas that exceed 100μSv/h (Note 1) may reach the indoor sheltering index (10mSv to 50mSv) (Note 2). The area is still limited; for the time being, there are no needs to change the indoor sheltering area.
  We need to further watch the variation of dose rate carefully, considering other factors such as weather and wind direction.

2. Radioactivity in the air

- With regard to the measuring results of dust samplings collected in March 26, maximum I-131 radioactivity is 13Bq/m^3(1.3×10^{-5}Bq/cm^3); maximum Cs-137 radioactivity is 4.8Bq/m^3(4.8×10^{-6}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 immediately.

- No information update is available on the dust sampling measuring result at the equidistance with same interval from Fukushima Daiichi Nuclear Power Plant. Our opinion on this issue released yesterday is as follows:

According to the measured results, relatively higher values were obtained in the south of the Fukushima Daiichi Nuclear Power Plant. We still need to watch the sampling result carefully since it is important to qualitatively figure out the effect to the peripheral areas.

We still need to watch the sampling result carefully.

3. Aviation monitoring

- No information update is available on the measuring result from aviation monitoring. Our opinion on this issue released yesterday is as follows:

To figure out the proliferation of emitted radioactive material, we have requested the radioactive material sampling at the low altitude and low-speed.

4. Environmental samples

- Monitoring results have been obtained on the land water (pond water or rain water), soil and fallout and sea water. Weed and land water showed a relatively higher values; we further need continued measurement on the drinking water (tap water) and foods.

- It is considered that the concentration of radioactive materials emitted in the sea water will be considerably thinned since it is proliferated along with the tidal current before actually ingested by marine life such as fish and seaweed. Since the I-131 has a relatively shorter half-life period, 8 days, it is assumed that its activity will be substantially decreased before people take such marine foods.

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) Spatial radiation dose rate

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

2) Drinking water (tap water)

- Be aware of the information related with the requirement announced by the MHLW (Ministry of Health, Labor and Welfare).

- In the prefectures of Fukushima, Ibaraki, Tochigi, Gunma, Saitama and Tokyo, readings of drinking water (tap water) measurement are 42Bq/kg for I-131 and 6.0Bq/kg for Cs-137 at maximum. Both are lower than the index concerning the limited ingestion of food and drink (Note 4) 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.

(Note 1) In Namie-cho, about 30km northwest of the Fukushima Daiichi Nuclear Power Plant (location 32, measuring result in March 27, 11:55 was 45μSv/h; location 33, measuring result in March 27, 12:15 was 20μSv/h)

(Note 2) "Disaster Prevention Countermeasure on 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: 5×10^{-6}Bq/cm^3 for I-131 and 3×10^{-5}Bq/cm^3 for Cs-137.

(Note 4) "Disaster Prevention Countermeasure on Nuclear Facilities" (Adopted in June 30, 1980, Nuclear Safety Commission), Index concerning the limited ingestion of food and drinking water are 300Bq/kg for I-131 and 200Bq/kg for Cs-137.

(Reference)

Sampling results of the seawater collected near the Fukushima Daiichi Nuclear Plant

Analyzing the sea water sampled on March 26 from Fukushima Diichi Nuclear Power Plant, we detected radioactivity, 74Bq/cm^3 for I-131 (1850 times the reference value 0.04Bq/cm^3).
(Analysis result of sample collected on Mach 25: 50Bq/cm^3 for I-131 (1251 times the reference value)).

The area within 20km from Fukushima Daiichi Nuclear Power Plant is assigned an evacuation zone where no fishery is conducted, thus there is no affects on the neighboring residents.

Seawater is not directly used for drinking. Moreover in terms of the effect on the sea products, it is assumed that the radiation density will be considerably decreased before people take marine foods considering that the density of radioactive material emitted in the sea water will be substantially thinned since it is proliferated along with the tidal current and I-131 has a relatively shorter half-life period, 8 days.

It is important to continuously watch the data of seawater monitoring because it is useful for prompt estimation of the pollution and understanding of transition.

The materials released yesterday (second paragraph in the Reference 2: March 26) is to be corrected as follows:

Some press reported: "Drinking 500ml of the water will cause an exposure of 1mSv". It is though appropriate that the effect of I-131 ingestion is evaluated as an equivalent dose for thyroid gland. Additionally, since this equivalent dose is a value to be considered when a stable iodine tablet is taken, it is not appropriate to compare it with the annual dose of 1mSv for the ordinary people.

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Stagnant water on the underground floor of the turbine building at Fukushima Daiich Plant Unit 2 (Suggestion)

March 28, 2011
Nuclear Safety Commission

The Nuclear Safety Commission's opinion on the elevated radiation levels in the water, 100,000 times more than water ordinary found in the reactor water, which were discovered on the underground floor of the turbine building at Fukushima Daiich Plant Unit 2, is as follows:

Those high radiation levels, several tens of the radiation levels in the water at Unit 1 and 3, are supposed to be caused by the water, which had contacted with molten fuels for a time, directly released out of the containment through an unidentified pathway. In addition, the radiation levels of the water from the other units, is supposed to be affected by the water condensed from the steam released from respective containments and/or be diluted by released water.

Extremely high radiation levels in the air have been limited to the areas inside buildings and have not been detected outside buildings.

At Unit 2, for the time being, water has been injected into the reactor core from outside and, instead, will continue to be injected into the core by using temporarily installed pumps to realize stable water injection.

Although water would continue to be released from the containment, the present measures to cool the reactor core, while releasing steam, will be sustainable.

Keeping in mind the high radiation levels on the underground floor of the turbine building, the operator should speed up the removal of the tainted stagnant water and be very careful about radiation protection of workers for continued recovery works.

The NSC's biggest concern is to prevent the tainted water from leaking into underground soils/water and seawater. For this purpose, the NSC is determined to request not only to take all measures to prevent the leaks but also to do underground water samplings, let alone more precise seawater samplings.

福島第一発電所２号機タービン建屋地下１階の滞留水について（助言）

平成 23 年 3 月 28 日
原子力安全委員会

福島第一発電所２号機タービン建屋地下１階において通常の原子炉水の約１０万倍の放射能濃度の水が存在していることについて、原子力安全委員会は次のように考えます。

この濃度は１号機や３号機に比べ数十倍であり、一時溶融した燃料と接触した格納容器内の水がなんらかの経路で直接流出してきたものと推定されます。
なお、他号機の流出水は格納容器から蒸気として出てきたものが凝縮したものの影響や放水による希釈の影響を受けたものと推定しております。

空間線量率が非常に高いのは建屋の中だけであり、屋外では極端に異常な数値は計測されていません。
現在、２号機の炉心への注水は屋外から実施しており、これは仮設のポンプに切り替えるなどして今後もより安定な形で継続できます。
したがって、格納容器内の水の漏えいが今後も継続されるとしても、炉心に注水し蒸気を放出して冷却するという現在実施している冷却方法は、継続可能と考えます。
ただし、タービン建屋地下１階の空間線量率が高いことから、今後の作業を継続するためにも、事業者は、滞留水の処理を速やかに実施するとともに、作業者の放射線管理に十分な配慮が必要です。
原子力安全委員会の最大の懸念は、この水の地下や海中への漏えいであり、その防止に万全を期すことはもちろん、安全確認のため地下水のサンプリングの実施や海水のサンプリングの強化を求めます。