

Measurement Results of Radiation Monitoring Action Plan for Supporting Restoration of the Former Emergency Evacuation Preparation Areas (Minami Soma city, Tamura city, Kawauchi village, Hirono town and Naraha town)

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1. Outline

On September 30, 2011, the designation of emergency evacuation preparation areas was removed for five municipalities (Minami Soma city, Tamura city, Kawauchi village, Hirono town, and Naraha town). In the context of the restoration plan for these municipalities, further enhancement of radiation monitoring is required. In response, MEXT, Team in Charge of Assisting the Lives of Disaster Victims, Cabinet Office, Local Nuclear Emergency Response Headquarters, the Ministry of the Environment, etc. have been conducting the following types of monitoring since September as part of the measures to support the restoration of these areas in coordination with the related municipalities and Fukushima prefecture:

- (1) A vehicle-borne survey focusing on living areas, and wide-area monitoring using unmanned helicopters.
- (2) Monitoring in response to requests from respective municipalities
 - (i) Monitoring of underground water, such as well-water for drinking, etc. (New)
 - (ii) Monitoring of rivers and water resources (New)

In this time, the measurement results for partial monitoring that was conducted in September and October has been compiled. Therefore, we would like to make this announcement.

2. Outline of announced measurement result in this time

2.1 A vehicle-borne survey focusing on living areas, and wide-area monitoring using unmanned helicopters.

1) Outline of measurement

Measurement of air dose rates through a vehicle-borne survey and unmanned helicopter mainly targeting living areas, such as community roads and *satoyama* (village-vicinity mountains), etc. from the viewpoint of complementing the measurement results in July,

2) Measuring object

(1) Wide-area monitoring through a vehicle-borne survey

Hirono town: Measurement of areas as settlements and community roads away from the major points.

More detailed measurement of the areas where the measurement was carried

out in the previous survey, in response to requests from Hirono town

Naraha town: Measurement mainly in living areas, such as community roads

(2) Wide-area monitoring using unmanned helicopters

Measurement mainly at *satoyama*, etc., where municipalities have requested monitoring

Tamura city: 4 locations, Hirono town: 2 locations

3) Measurement results

As a result of the monitoring through a vehicle-borne survey, we obtained the result where measurements at both the heights of 1m and 50cm were less than 1.0 μ Sv/h in most areas. However, areas where relatively high air dose rates were confirmed were at roads where both sides were forests with no houses, etc. nearby for both Hirono town and Naraha town, and the highest air dose rate value that was measured at the height of 1m was 2.0 μ Sv/h at Hirono town and 1.8 μ Sv/h at Naraha town.

As a result of the monitoring using unmanned helicopters, at most locations where measurements were conducted the air dose rates were less than 1 μ Sv/h, and the results of the air dose rates at the height of 1m were 0.2–1.4 μ Sv/h in Tamura city, and 0.3–1.0 μ Sv/h in Hirono town.

Highest and lowest value of air dose rate for monitoring at each municipality

(unit: μ Sv/h)

	Measured height	Tamura city	Hirono town	Naraha town
Vehicle-borne survey	1m height		0.1–2.0	0.2–1.8
	50cm height		0.1–2.1	0.2–2.0
Unmanned helicopter	1m height	0.2–1.4	0.3–1.0	
	50cm height	0.2–1.4	0.3–1.0	

Measurement in Minami soma city using unmanned helicopters is scheduled to be conducted in November.

A radiation distribution map that compiles both the results of (1) the radiation distribution map that compiled the current measurement results, and (2) the measurement results for “Readings of Radiation Monitoring under the Action Plan toward the Removal of the Designation of Emergency Evacuation Preparation Areas” that was conducted in July (announced in August 9 and August 16) has been created. However, in the map where the previous action plan was also compiled, the measurement results for the current action plan have been given in cases where measurement was conducted in the same area.

In creating the radiation distribution map that includes both the previous and current measurement results, with regard to the reduction in the air dose rate due to the difference in the measurement date, based on the estimation for the reduction of radioactive cesium that forms the majority of the contribution to the current air

dose rate, this corresponds to roughly 4%, which is smaller than the margin of error given by the measuring equipment. Therefore, we have not conducted any reduction correction of the measurement value, and have given the measurement result (air dose rate) that was actually measured on that day.

2.2 Monitoring of rivers and water resources (newly introduced)

1) Outline

Measurement of the radioactivity concentration in the water and bottom sediments in the rivers and water resources within the restricted area, which is being used as the water source for tap water in the former emergency evacuation preparation areas (Minami soma city, Kawauchi village, Hirono town, Naraha town) and the rivers and water resources upstream.

2) Locations

Minami Soma city: Mano River; Ochiai Bridge, Majima Bridge

Niida River; Takanokura dam reservoir, Kidouchi Bridge, Sakekawa Bridge

Ota River; Yokogawa dam reservoir, Ishiwatato Bridge, JR railroad bridge,
Masuda Bridge

Kawauchi village: Kido River; Nishiyama Bridge

Hirono Town: Asami River; Boda Bridge

Naraha town (inside restricted area): Kido River; Kido dam, Nagatoro Bridge, Kidogawa Bridge

Others (Iitate village): Mano River; Mano dam

Niida River; Ganbe dam reservoir, Kusano, Komiya

3) Results

The radioactivity concentration in the water and bottom sediments in the rivers and water resources where measurements were conducted are given as follows:

<Water quality>

Radioactive iodine (I-131): Not detected (Detection limit: 1Bq/L)

Radioactive cesium: Cs-134 Not detected - 10Bq/L (Detection limit: 1Bq/L)

Cs-137 Not detected - 12Bq/L (Detection limit: 1Bq/L)

"Emergency Preparedness for Nuclear Facilities (The Nuclear Safety Commission of Japan)," The index of drinking water based on the indicator about the restriction of food intake

Radioactive iodine (I-131): 300 Bq/kg or above

Radioactive cesium (Cs-134, Cs-137 total): 200 Bq/kg or above

<Bottom sediment quality>

Radioactive iodine (I-131): Not detected (Detection limit: 30Bq/kg (dry mud))

Radioactive cesium: Cs-134 47–27,000 Bq/kg (dry mud)
Cs-137 64–33,000 Bq/kg (dry mud)

In addition, to confirm the surrounding environment in the vicinity of the location where the water and bottom sediments were collected, the radioactivity concentration and air dose rates in the soil at the riverbed, etc. were conducted, and the results are as given below:

<Soil>

Radioactive iodine (I-131): Not detected (Detection limit: 30Bq/kg (dry))

Radioactive cesium: Cs-134 210–9,700 Bq/kg (dry)
Cs-137 230–11,000 Bq/kg (dry)

<Air dose rate>

0.19 - 10.11 μ Sv/h