

Comparison of current and revised provisions on methods, criteria, and classifications of works for decontaminating soil specified by the Minister of Health, Labour and Welfare pursuant to the provision of Paragraph 6, Article 2 and other Articles and Paragraphs of the Ordinance on Prevention of Ionizing Radiation Hazards at Works to Decontaminate Soil and Wastes Contaminated by Radioactive Materials Resulting from the Great East Japan Earthquake and Related Works.

○Methods, criteria, and classifications for works for decontaminating soil specified by the Minister of Health, Labour and Welfare pursuant to the provision of Paragraph 6, Article 2 and other Articles and Paragraphs of the Ordinance on Prevention of Ionizing Radiation Hazards at Works to Decontaminate Soil and Wastes Contaminated by Radioactive Materials Resulting from the Great East Japan Earthquake and Related Works (MHLW Ordinance No. 468, 2011).

(Revised parts are underlined)

Revised Provisions	Current Provisions
<p>Methods, criteria, and classifications for works for decontaminating soil specified by the Minister of Health, Labour and Welfare pursuant to the provision of <u>Paragraph 7, Article 2 and other Articles</u> and Paragraphs of the Ordinance on Prevention of Ionizing Radiation Hazards at Works to Decontaminate Soil and Wastes Contaminated by Radioactive Materials Resulting from the Great East Japan Earthquake and Related Works.</p> <p>(Methods for determining the radioactivity concentration in removed soil and wastes)</p> <p>Article 1. The methods specified by the Minister of Health, Labour and Welfare pursuant to the provision of <u>Item 2 (a), Paragraph 7, Article 2</u> of the Ordinance on Prevention of Ionizing Radiation Hazards at Works to Decontaminate Soil and Wastes Contaminated by Radioactive Materials Resulting from the Great East Japan Earthquake and Related Works (hereafter referred to as “Ordinance for Decontamination”) shall be established in the following items:</p> <p>(1) Samples (removed soil, defined in Item 2(a), Paragraph 7, Article 2 of the Ordinance for Decontamination, are expected to contain the highest levels of radioactivity concentration. This condition also applies to the following item.) shall be analyzed and measured for the radioactivity concentration by the method prescribed in Item 2, Paragraph 1, Article 9 of the Standards on Working Environment Measurement (<u>Ministry of Labour Notification No. 46, 1976</u>).</p> <p>(2) (Omitted)</p>	<p>Methods, criteria, and classifications for works for decontaminating soil specified by the Minister of Health, Labour and Welfare pursuant to the provision of <u>Paragraph 6, Article 2 and other Articles</u> and Paragraphs of the Ordinance on Prevention of Ionizing Radiation Hazards at Works to Decontaminate Soil and Wastes Contaminated by Radioactive Materials Resulting from the Great East Japan Earthquake and Related Works.</p> <p>(Methods for determining the radioactivity concentration in removed soil and wastes)</p> <p>Article 1. The methods specified by the Minister of Health, Labour and Welfare pursuant to the provision of <u>Paragraph 6, Article 2</u> of the Ordinance on Prevention of Ionizing Radiation Hazards at Works to Decontaminate Soil and Wastes Contaminated by Radioactive Materials Resulting from the Great East Japan Earthquake and Related Works (hereafter referred to as “Ordinance for Decontamination”) shall be established in the following items:</p> <p>(1) Samples (removed soil expected to contain the highest level of radioactivity concentration. This condition also applies to the following item.) shall be analyzed and measured by the method prescribed in Item 2, Paragraph 1, Article 9 of the Standards on Working Environment Measurement (<u>Ministry of Labour Ordinance No. 46, 1976</u>).</p> <p>(2) (omitted)</p>

2. The provision of the preceding paragraph shall apply to the method specified by the Minister of Health, Labour and Welfare pursuant to Item 2 (b), Paragraph 7, Article 2 of the Ordinance for Decontamination.

3. The provision in Paragraph 1 shall apply to the method specified by the Minister of Health, Labour and Welfare pursuant to Item 3, Paragraph 7, Article 2 of the Ordinance for Decontamination. In this case, the term “Item 2 (a), Paragraph 7, Article 2” shall be replaced with “Item 3, Paragraph 7, Article 2” in the Paragraph 1 and the following text is added to the end of the Paragraph 1. However, when radioactivity concentration of contaminated soil and wastes defined in the Item 3, Paragraph 7, Article 2 of the Ordinance for Decontamination is measured in places where the average ambient dose rate is 2.5 μSv/h or below specified in the Paragraph 8 of the Article where the location is limited to forests as defined in Item 1, Paragraph 2 of the Forest Act (Law No. 249, 1951), agricultural lands (as defined in Paragraph 1, Article 2 of the Agricultural Land Act (Law No. 229, 1952)). In addition, considering the features and other conditions of the place, the radioactivity concentration of the place is recognized to be proportional to the ambient dose rate of the place. The radioactivity concentration of the contaminated soil and wastes may be estimated by the reasonable method based on the measurements of the ambient dose rate and other data.”

4. 5. (Omitted)

6. The provision of the Paragraph 1 replaced by the provision in Paragraph 3 shall apply to the method for investigating patters specified by the Minister of Health, Labour and Welfare, and listed in Item 3, Paragraph 1, Article 7 pursuant to Paragraph 2, Article 7 of the Ordinance for Decontamination.

(Methods for determining average ambient dose rates)

Article 2. The methods other than those prescribed in each item of Paragraph 2, Article 8 of the Ordinance for Decontamination specified by Minister of Health, Labour and Welfare, shall be established as shown in the following

2. The provision of the preceding paragraph shall apply to the method specified by the Minister of Health, Labour and Welfare pursuant to Paragraph 7, Article 2 of the Ordinance for Decontamination.

(N/A)

3. 4. (Omitted)

(N/A)

(Methods for determining average ambient dose rates)

Article 2. The methods other than those prescribed in each item of Paragraph 2, Article 5 of the Ordinance for Decontamination specified by Minister of Health, Labour and Welfare, shall be established as in the following items.

items.

1. The points where radioactivity concentrations are measured shall be as follows:
  - (a) The points in the right column are based on the shape of the area described in the left column of the table below in the areas where decontamination related works (works for handling designated contaminated soil and wastes pursuant to the provision of Paragraph 1, Article 7 of the Ordinance for Decontamination are excluded) are performed. When the work area exceeds 1,000 m<sup>2</sup>, the area for measurement shall be divided into partitions of less than 1,000 m<sup>2</sup>.

1. Square or rectangle shapes	One meter above the corners of a square or a rectangle and the cross point of their diagonal lines.
2. Other shapes	One meter above four points approximately evenly divided by the circumference of the area and the cross point of the diagonal lines of the square made by connecting the four points.

- (b) One meter above the point of the three points where the highest ambient dose rate of the workplaces for decontamination related works (limited to the works for handling designated contaminated soil and wastes) or works under a designated dose rate are expected.
2. The average ambient dose rate pursuant to Paragraph 8, Article 2 of the Ordinance for Decontamination shall be the average of the ambient dose rates measured at all the measuring points specified in the preceding item.
3. Notwithstanding the provision of the preceding item, when the ambient dose rates in workplaces are expected to be significantly different, such as the case involving certain workplaces with high concentration of radioactive materials discharged by the accident, the average ambient dose rate pursuant to Paragraph 8, Article 2 of the Ordinance for Decontamination shall be determined by the following equation.

1. The points where radioactivity concentrations are measured shall be established according to the points in the right column based on the shape of the area described in the left column of the following table in the areas where decontamination related works are performed pursuant to the provision of Paragraph 1, Article 5 of the Ordinance for Decontamination (when the work area exceeds 1,000 m<sup>2</sup>, the area for measurement shall be divided into partitions of less than 1,000 m<sup>2</sup>).

1. Square or rectangle shapes	One meter above the corners of a square or a rectangle and the cross point of their diagonal lines.
2. Other shapes	One meter above four points approximately evenly divided by the circumference of the area and the cross point of the diagonal lines of the square made by connecting the four points.

2. The average ambient dose rate pursuant to Paragraph 2, Article 5 of the Ordinance for Decontamination shall be the average of the ambient dose rates measured at all the measuring points specified in the preceding item.
3. Notwithstanding the provision of the preceding item, when the ambient dose rates in workplaces are expected to be significantly different, such as the case involving certain workplaces with high concentration of radioactive materials discharged by the accident, the average ambient dose rate pursuant to Paragraph 2, Article 5 of the Ordinance for Decontamination shall be determined by the following equation.

(Table omitted)

4. (omitted)

(Method for measuring the doses due to external exposure)

Article 5. One of the following methods specified by the Minister of Health, Labour and Welfare pursuant to Paragraph 6, Article 5 of the Ordinance for Decontamination shall be selected:

1. The external exposure dose of a decontamination worker (except for workers engaged in works for handling designated contaminated soil and wastes defined in Item 3, Provision 7, Article 2 of the Ordinance for Decontamination in workplaces where the average ambient dose rate is 2.5  $\mu$ Sv/h or below. The same shall apply in the subsequent provision) whose dose is expected to be the average of all workers at the same working site is measured pursuant to the provision of Paragraph 1, Article 5 of the Ordinance for Decontamination, and the measured value is considered to be the external exposure dose of all workers at the site.
2. The average ambient dose rate determined pursuant to Article 2 is multiplied by the work hours per day of each decontamination worker, and the value obtained is considered to be the external exposure dose of the workers at the site.

(Methods for the calculation of doses for decontamination works)

Article 7.(Omitted)

(Methods for the calculation of doses for works under a designated dose rate )

Article 9. One of the following methods specified by the Minister of Health, Labour and Welfare pursuant to Paragraph 2, Article 25-5 of the Ordinance for Decontamination, shall be selected:

1. The 1 cm dose equivalent due to external exposure is determined to be the effective dose due to the external exposure. However, when the external radiation dose was measured with a radiation survey meter attached to the body part prescribed in the provision of Paragraph 3,

(Table omitted)

4. (omitted)

(Methods for measuring doses due to external exposure)

Article 5. One of the following methods specified by the Minister of Health, Labour and Welfare pursuant to Paragraph 6, Article 5 of the Ordinance for Decontamination shall be selected:

1. The external exposure dose of a decontamination worker whose dose is expected to be the average of all workers at the same working site is measured pursuant to the provision of Paragraph 1, Article 5 of the Ordinance for Decontamination and the measured value is considered to be the external exposure dose of all workers at the site.
2. The average ambient dose rate determined pursuant to Article 2 is multiplied by the work hours per day of each decontamination worker, and the value obtained is considered to be the external exposure dose of the workers at the site.

(Methods for dose calculation)

Article 7. (Omitted)

(N/A)

Article 25-4 of the Ordinance for Decontamination, the value calculated by the appropriate method using the 1 cm dose equivalent of the body part is determined to be the effective dose.

2. Equivalent dose shall be determined from the calculation of the 1cm dose equivalent on the abdomen.