

~ For employers of decontamination work ~

The Revised Ionizing Radiation Ordinance for Decontamination becomes effective on 1 July 2012.

The scope of work covered by the Ordinance was extended to restoration and reconstruction work in order to protect a wider range of workers from radiation hazards.

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” (hereinafter referred to as the “Ionizing Radiation Ordinance for Decontamination”) came into effect by issuance of the Ministry of Health, Labour and Welfare to minimize radiation exposures received by workers engaged in decontamination work.(hereinafter referred to as “decontamination workers”). In response to the recent redefinition of the evacuation areas, the Ionizing Radiation Ordinance for Decontamination was revised and became effective on 1 July 2012. **The revised Ordinance specifies measures for preventing radiation hazards for workers engaged in restoration/reconstruction work by extending the scope of work covered by the Ordinance.** The scope of decontamination work has also been extended. Employers are required to take measures to protect their workers from radiation hazards in accordance with the revised Ordinance.

Please refer to the Labour Standards Bureau Notification No. 1222-6: “Guidelines on Prevention of Radioactive Hazards to Workers Engaged in Decontamination Work” for details. (22 December 2011) (partly revised on 15 June 2012) (hereinafter referred to as the “Guidelines”).<http://www.mhlw.go.jp/new-info/kobetu/roudou/gyousei/anzen/120118-1.html>

Overview of the Ionizing Radiation Ordinance for Decontamination

- The Ionizing Radiation Ordinance for Decontamination is intended to apply to employers of decontamination work and works under a designated dose rate*1 and their workers.

*1Works under a designated dose rate refers to work other than decontamination work performed in areas where the average ambient dose rate exceeds 2.5µSv/h. A separate brochure is prepared for employers who employ workers under a designated dose rate.

- Decontamination work*2 includes the following work in the special decontamination areas*3.

1. Works of decontamination, etc.	Removal of soil, fallen leaves, branches, and sludge accumulated in the channels, etc.(hereinafter referred to as “Contaminated soil, etc.”), contaminated soil, vegetation, and structures to prevent the spread of contamination and other necessary measures
2. Work for collecting waste, etc.	Collecting, transporting, and storing removed soil and contaminated wastes (limited to wastes with the concentration of cesium 134 and 137 exceeding 10,000 Bq/kg)
3. Works for handling designated contaminated soil and wastes*4	Handling contaminated soil with the concentration of cesium 134 and 137 exceeding 10,000 Bq/kg, excluding the two work tasks described above

*2 Workers less than 18 years old are not allowed to engage in decontamination work.

*3“Special contamination areas” and “intensive contamination survey areas” defined in the Act on Special Measures Concerning the Handling of Radioactive Pollution.

*4Work added to this revision

- Work under a designated dose rate refers to the work conducted in areas, such as special decontamination areas, where the average ambient dose rate exceeds 2.5µSv/h, excluding decontamination work.
- The Ionizing Radiation Ordinance for Decontamination stipulates the following:
 - 1) Basic principles of prevention against ionizing radiation hazards
 - 2) Exposure dose limit and exposure dose measurement
 - 3) Measures to implement decontamination work
 - 4) Prevention of contamination
 - 5) Special education, medical examinations, and others

Please see the following pages for more details. →

1 Basic principles for prevention of ionizing radiation hazards

Employers must be aware that the exposure dose limits presented in 2-1) should be used only as a reference, and they should make every effort to minimize the exposure dose received by decontamination workers. Before implementing works for handling designated contaminated soil and wastes, employers should take special measures such as decontamination to reduce the radiation exposure dose of the workers.

2 Exposure dose limit and exposure dose measurement

• The articles in brackets below represent relevant provisions in the Ionizing Radiation Ordinance for Decontamination

1) Exposure dose limit for decontamination workers (Articles 3 and 4)

Employers should ensure that the effective dose* of the decontamination workers would not exceed following values.

Male workers and infertile female workers	100mSv per 5 years** and 50mSv per 1 year**
Female workers (excluding the infertile women)	5mSv per 3 months
Pregnant workers	1mSv during pregnancy

*The dose that are the sum of exposure doses during radiation work at the nuclear power plant, etc., works under a designated dose rate and decontamination work should not exceed the exposure dose limit.

**The above will take effect on 1 January 2012 (starting point).

2) Methods of exposure dose measurement (Article 5)

Employers are required to measure exposure doses of decontamination workers by the prescribed methods. The methods vary depending on the ambient dose rates* of work sites and levels of cesium concentration* in the contaminated soil and the dust concentration* of work site.

*See the Guidelines on the specific methods of monitoring ambient dose rates, cesium concentration in contaminated soil, or dust concentration.

★ For workers engaged in handling designated contaminated soil and wastes, the measurement should be conducted only for workers expected to enter the areas where ambient dose rate exceeds 2.5μSv/h.

a) Measurement of external exposure doses

External doses are measured using electronic dosimeters (PAD, PD), glass badges, or luxel badges. They shall be put on the chest for male workers and infertile female workers and on the abdomen for fertile female workers.

(i) When the average ambient dose exceeds 2.5μSv/h

Each decontamination worker wears a personal dosimeter for dose measurement.

(ii) When the average ambient dose is less than 2.5μSv/h*

Other than In addition to the methods shown in (i), doses may be determined by the dose of representatives selected from male and female workers who wear personal dosimeters or from the estimates of the ambient dose rates.

*See the Guidelines for details.

mSv: millisievert μSv: microsievert

b) Measurement of committed doses

Committed doses are measured by a whole body counter (WBC), bio assays, or evaluation of radioactivity concentration in the air. The committed doses should be measured according to the work type in a manner as shown in the table below

	Contaminated soil and wastes with high radioactivity concentration ($\geq 500,000$ Bq/kg)	Other than the contaminated soil and wastes with high radioactivity concentration
Work conducted in high dust concentration ($\geq 10\text{mg/m}^3$)	Measurement of committed doses once every three months	Screening*
Work other than above	Screening*	Screening**

*See the Guidelines for detailed methods of screening.

**To be implemented when suddenly exposed to high dust concentration.

Ba: Becquerel

3) Records, etc. of measured exposure doses (Article 6)

Employers are required to record measured exposure doses at the specified intervals and store them for 30 years. However, after keeping the records for five years or when decontamination workers terminate employment, the records may be transferred to the organization designated by the Minister of Health, Labor and Welfare.

When assigning temporary or contract workers to less than three month of decontamination work, the employers are required to record their exposure doses on a monthly basis.

Male workers and infertile female workers	A total of effective doses in every 3 month, 1 year, and 5 year periods (A total effective doses in every 3 month and 1 year periods when a total of effective doses in 1 year did not exceed 20mSv/y for 5 years)
Female workers (excluding the infertile women)	A total of effective doses in every 3 month, 1 year, and 5 year periods (A total of effective doses in every 3 month and 1 year periods when a total of effective doses in 1 month is unlikely to exceed 1.7 mSv)
Pregnant workers	A total of effective doses from internal exposure and equivalent doses received on the abdomen every month and throughout the period of pregnancy

Employers shall promptly notify the recorded doses to the relevant decontamination workers and issue copies of their records when such workers terminate employment.

3 Decontamination work measures to be implemented

1) Preliminary survey and work plan (Article 7 and 8)

When implementing decontamination work, employers shall conduct a survey on the following matters, record the results, and give summaries of the results to their workers.

- Conditions of decontamination work sites
- Average ambient dose rate of the decontamination work sites
- Cesium concentration in contaminated soil, removed soil, and contaminated wastes to be handled during decontamination work

★When implementing works for handling designated contaminated soil and wastes continuously at the same location, employers shall survey the matters shown above, record the results, and give their summaries to the workers prior to commencing work and once every two weeks thereafter.

In addition, employers shall devise a work plan in advance, notify the plan to the relevant workers, and conduct work according to the plan when implementing decontamination work.

★Works for handling designated contaminated soil and wastes shall be limited to the work conducted in areas where the average ambient dose rate exceeds 2.5µSv/h.

- Places and methods of decontamination related work
- Methods of measuring exposure doses of decontamination workers
- Measures to minimize exposure doses of decontamination workers
- Types and performance of machines and tools
- Emergency measures in case of industrial accidents

2) Operation leader (Article 9)

Employers shall assign competent personnel to direct decontamination related work as a leader and let him or her implement work according to the plans by overseeing following matters:

★Works for handling designated contaminated soil and wastes shall be limited to the work conducted in areas where the average ambient dose rate exceeds 2.5µSv/h.

- Procedures for decontamination related work and allocation of workers
- Inspection of machinery used for decontamination work
- Supervising the use of radiation dosimeters and protective equipment
- Prohibiting unauthorized personnel from entering the work sites

3) Submission of the work notice (Article 10)

Employers shall submit the work notice for decontamination work or works for handling designated contaminated soil and wastes to the relevant Director of the Labour Standards Inspection Offices (hereinafter referred to as “supervising director”) in advance, before implementing work in areas where the average ambient dose rate exceeds 2.5µSv/h.

*"Form 1" of the Ionizing Radiation Ordinance for Decontamination

4) Medical examinations (Article 11)

Employers shall provide their decontamination workers with consultation and treatments promptly by medical doctors if any of their workers correspond to the following cases and report the cases to the supervising director accordingly.

- Exposure to radiation exceeding the limit
- Accidentally inhaled or ingested radioactive materials (e.g., a large amount of highly radioactive contaminated soil)
- Personal body contamination levels cannot be reduced to less than the limit (40Bq/cm²), even after washing
- Wounds are contaminated by touching high concentration of cesium. etc.

4. Prevention of contamination

1) Measures to control dust dispersion (Article 12)

Employers shall take measures to control dust dispersion such as keeping contaminated soil and wastes in wet conditions, etc.

★Work involving handling designated contaminated soil and wastes are excluded.

2) Use of containers for collection of wastes, etc. (Article 13)

In principle, employers shall use containers, when conducting work involving collecting wastes, etc. The structure of these containers should meet the following requirements:

- Containers with no risk of scattering or leaking of the removed soil should be chosen as containers used for collecting and storing of wastes
- Containers without the fear to leak out of the contents and radiation levels 1 meter from the surface of the containers are not exceed 0.1mSv/h should be applied for transportation of wastes.

3) Contamination survey of persons leaving or goods to be removed (Article 14 and 15)

Employers shall establish a contamination survey station at or near the site, where decontamination work is conducted. Several employers or the contractors may establish a shared survey station for common use. At the survey station decontamination workers and their belongings shall be monitored before they leave their worksites and when workers identified as contaminated* are required to wash themselves, etc. before leaving, and contaminated goods should not be allowed to be removed from the work sites**.

*Contamination level exceeding 40Bq/cm² (= 13,000cpm)

**When transporting articles to another work site, they can be transported with containers as specified in 2) above.

4) Protective equipment (Article 16 and 17)

Employers shall ensure that workers wear protective equipment suitable for the conditions of the soil and dust at their work sites.

	Contaminated soil and wastes with high radioactivity concentration (>500,000 Bq/kg)	Other than contaminated soil and wastes with high radioactivity concentration (≤ 500,000 Bq/kg)
Work conducted under conditions of high dust concentration (over 10mg/m ³)	Whole-body chemical protective clothing worn on top of long-sleeve clothes (e.g., Tyvex suits), rubber gloves worn on top of cotton gloves, gum boots, masks with dust collection efficiency of 95% or greater	Long-sleeve clothes, cotton gloves, gumboots, masks with dust collection efficiency of 80% or greater
Work other than above	Long-sleeve clothes, rubber gloves worn on top of cotton gloves, gum boots, masks with dust collection efficiency of 80% or greater	Long-sleeve clothes, cotton gloves, gum boots, mask with dust collection efficiency of 80% or greater

*Surgical masks and nonwoven masks may be acceptable when handling plants and leaf soil.

5) Prohibition of smoking, etc. (Article 18)

In principle, employers should not allow decontamination workers to smoke, eat, or drink at work sites. The employers should establish rest areas in cars or areas that are separated from outside air so that workers, who need to smoke, eat, or drink would do so only in the rest areas. Alternatively, if workers had no choice but to smoke, eat, or drink at their work sites, they should do so in the upwind location after waiting at least for 20 minutes after the operations.

5. Special education, medical examination, and others

1) Special education regarding decontamination work (Article 19)

Employers shall provide decontamination workers with the following special education program that constitutes four hours of lectures and one hour and 30 minutes of practical training.

★The special education on works for handling designated contaminated soil and wastes requires lectures for 3 hours 30 minutes and practical training for one hour. See the Guidelines on education courses for more details.

- Knowledge about the effects of ionizing radiation on organisms and methods for controlling exposure doses (lecture)
- Knowledge about the methods and procedures of decontamination related work (lecture)
- Knowledge about directions and structure of machineries used for decontamination related work (lecture)
- Relevant laws and regulations (lecture)
- Procedures for decontamination related work and how to handle machineries used for work (practical training)

Reference textbooks and movies for the special education are available on the MHLW website. Anyone with the risk of exposure to radiation is strongly encouraged to take advantage of the following resources:

- Special textbooks for decontamination workers: <http://www.mhlw.go.jp/new-info/kobetu/roudou/gyousei/anzen/120118-4.html>
- Special education movies for decontamination workers: http://www.mhlw.go.jp/bunya/roudoukijun/josen_gyoumu/120214-1.html

2) Medical examinations (Article 20 – 25)

Employers shall provide their workers who regularly engage in decontamination work with medical examinations regarding the following items, at the time of employment and reallocation, and periodically once every six months thereafter.

*Some examination items may be omitted when radiation exposure doses in the previous year did not exceed 5 mSv and are not likely to exceed 5 mSv in the year medical examinations will be conducted.

- Investigation and evaluation of radiation exposure history
- Examinations of leukocyte count and classifications
- Examinations of red blood cell count and hemoglobin contents or hematocrit values
- Examinations of eyes for cataract
- Skin examinations

★Workers regularly engaged in works for handling designated contaminated soil and wastes shall receive the above medical examinations if the average ambient dose rate of their work sites exceeds 2.5μSv/h.

Based on the results of the medical examinations, “ionizing radiation medical examination card for decontamination”* shall be created and stored for 30 years. However, these cards may be transferred to the organization designated by the Minister of Health, Labour and Welfare, after being kept for 5 years or decontamination workers terminate employment.

* “Form 2” of the Ionizing Radiation Ordinance for Decontamination

Opinions and observations of medical doctors should be sought about the results of medical examinations, and the results should be notified to the workers pursuant to the Article 66-4 of the Industrial Safety and Health Act.

When the medical examination is implemented, the “ionizing radiation medical examination report for decontamination” shall be promptly submitted to the supervising Director of Labour Standards Inspection Office.

**“Form 3” of the Ionizing Radiation Ordinance for Decontamination

3) Others (Article 26 – 29)

Employers should issue a copy of the record of radiation exposure doses and “ionizing radiation medical examination card for decontamination” when decontamination workers terminate employment.

In addition to the aforementioned actions, employers should transfer any other documents concerning workers to the organization designated by the Minister of Health, Labour and Welfare.

Ordinance on Prevention of Ionizing Radiation Hazards at Work to Decontaminate Soil and Wastes Contaminated by Radioactive Materials Resulting from the Great East Japan Earthquake and Related Work (Ordinance of the Ministry of Health, Labour and Welfare No. 152, 2011)(Excerpt)

Chapter 1 General Provisions

(Basic principles for prevention of ionizing radiation hazards pertaining to work to decontaminate soil, etc. contaminated by radioactive materials discharged by the accident)

Article 1 Employers shall endeavor to minimize exposure of ionizing radiation to the workers engaged in decontamination, workers under the designated dose rate, or workers in other special decontamination areas, etc.

(Definition)

Article 2 "Employers" in this Ordinance shall mean employers who provide decontamination works or works under a designated dose rate.

2 "Special decontamination areas, etc." in this Ordinance shall mean special decontamination areas stipulated in Paragraph 1 of Article 25 of the Act on Special Measures Concerning the Handling of Environmental Pollution Contaminated by Radioactive Materials Discharged by the Nuclear Power Station Accident Associated with the Tohoku District Off the Pacific Ocean Earthquake That Occurred on 11 March 2011 (Act No. 110 of 2011), or intensive contamination survey areas stipulated in Paragraph 1 of Article 32 of the Act.

3 "Workers engaged in decontamination work" in this Ordinance shall mean workers who provide decontamination work.

4 "Workers under a designated dose rate" in this Ordinance shall mean workers engaged in work under a designated dose rate.

5 "Ionizing radiation" in this Ordinance shall mean the ionizing radiation in Paragraph 1 of Article 2 of the Ordinance on Prevention of Ionizing Radiation Hazards (Ordinance of the Ministry of Labour No. 41 of 1972, hereinafter referred to as "Ordinance on Ionizing Radiation").

6 "Radioactive materials discharged by the accident" in this Ordinance shall mean radioactive materials discharged by the nuclear power plant due to the accident caused by the Tohoku District Off the Pacific Ocean Earthquake on 11 March 2011 (Limited to the radioactive materials described in Paragraph 2 of Article 2 of the Ordinance on Ionizing Radiation).

7 "Decontamination work" in this Ordinance shall refer to the operations described in the following items:

(i) Removal of soil, fallen leaves, branches, and sludge accumulated in the channels, etc., (hereinafter referred to as "contaminated soil, etc.") the soil, vegetation and structures in the special decontamination areas, etc. contaminated by radioactive materials discharged by the accident, and work concerning prevention of the propagation of contamination or efforts to minimize the harmful impact of the contamination (hereinafter referred to as "Decontamination work, etc.").

(ii) Collection, transportation, or storage of those contaminated by radioactive materials discharged by the accident listed in (a) or (b) in the special decontamination areas, etc. (hereinafter referred to as "work for collecting wastes, etc."):

(a) Soil generated by the work described in the preceding item or the following item (Limited to the soil that contains the accident discharged radioactive materials, exceeding 10,000 (Bq/Kg) of cesium 134 and cesium 137, measured with the methods specified by the Minister of Health, Labour and Welfare, hereinafter referred to as "removed soil").

(b) Wastes contaminated by the radioactive materials discharged by the accident (Limited to the accident discharged radioactive materials contained in wastes that exceeds 10,000 (Bq/Kg) of cesium 134 and cesium 137 measured with the methods specified by the Minister of Health, Labour and Welfare, hereinafter referred to as "contaminated waste").

(iii) Work other than those listed in the preceding two items and work involving handling of designated contaminated soil and wastes. (Contaminated soil and wastes are limited to those contaminated with the accident discharged radioactive materials, exceeding 10,000 (Bq/Kg) of cesium 134 and cesium 137, measured with the methods specified by the Minister of Health, Labour and Welfare. The same shall apply hereinafter.) (Hereinafter referred to as "work involving handling designated contaminated soil and wastes.")

8 "Work under the designated dose rate" shall mean work other than decontamination work provided by employers at the locations where average ambient dose rate obtained by the Minister of Health, Labour and Welfare (hereinafter simply referred to as "average ambient dose rate") exceeds 2.5 µSv/h with the accident discharged radioactive materials in the special decontamination areas, etc.

9 "Decontamination related work" in this Ordinance shall mean work pertaining to decontamination work in the special decontamination areas, etc.

10 "Works under a designated dose rate" in this Ordinance shall mean work pertaining to works under a designated dose rate in the special decontamination areas, etc.

Chapter 2 Prevention of Ionizing Radiation Hazards in Decontamination Work

Section 1 Exposure dose limit and measurement

(Exposure dose limit for workers engaged in decontamination work)

Article 3 Employers shall ensure that the effective dose received by workers engaged in decontamination work do not exceed 100 mSv per five years and 50 mSv per year.

2 Regardless of the provisions in the preceding paragraph, employers shall ensure that the effective dose received by female workers engaged in decontamination work will not exceed 5 mSv per three months. This excludes infertile female workers and those described in the next paragraph.

Article 4 Employers shall ensure the dose received by female workers engaged in decontamination work do not exceed the dose specified in the items in the following categories, starting from the time they are diagnosed as pregnant until delivery (hereinafter referred to as "Pregnancy"):

(i) Effective dose due to internal exposure: 1 mSv

(ii) Equivalent dose received on abdomen surface: 2 mSv

(Dose measurement)

Article 5 Employers shall measure the external exposure dose received by workers while they are engaged in decontamination work (excluding workers engaged in handling designated contaminated soil and wastes only at the locations where the average ambient dose rate is 2.5 µSv/h or less. The same shall apply for Paragraph 6 and Paragraph 8 of the next Article and Paragraph 2 of Article 27).

2 In addition to dose measurement pursuant to the provisions of the preceding paragraph, employers shall measure the committed dose received by decontamination workers engaged in decontamination work in the special decontamination areas, etc. (Limited to the locations above 2.5 µSv/h. The same shall apply to Paragraph 8 and Article 10) or provide examinations for internal exposure according to the following specifications:

(i) Workers engaged in decontamination at the locations where dust concentration exceeds 10 mg/m³ and handle contaminated soil, removed soil, or contaminated wastes, etc. (Limited to those containing the accident discharged radioactive materials that exceeds 500,000 (Bq/Kg) of cesium 134 and cesium 137 determined by the methods specified by the Minister of Health, Labour and Welfare. These will be referred to as "highly contaminated soil and wastes with radioactivity" in the next item) shall be measured for the committed dose once every three months, and every month for female workers who are likely to receive effective dose of 1.7 mSv or more (excluding infertile female workers), and once per month for pregnant workers.

(ii) Workers engaged in decontamination work described in (a) or (b) shall be provided with examinations for internal exposure with the methods specified by the Minister of Health, Labour and Welfare.

(a) Work involving handling highly contaminated soil and wastes with radioactivity at the locations where the dust concentration is 10 mg/m³ or less.

(b) Work involving handling of contaminated soil and wastes, removed soil, or contaminated wastes other than highly contaminated soil and wastes with radioactivity at the locations where the dust concentration exceeds 10 mg/m³.

3 When the committed dose exceeds the standards specified by the Minister of Health, Labour and Welfare in the results of examinations received by workers engaged in decontamination work in accordance with the provisions of item (ii) in the preceding paragraph, employers shall measure the committed dose of workers engaged in decontamination work with the method specified in item (i) of the same paragraph.

4 The measurement of the external exposure dose pursuant to the provision of Paragraph 1 shall be conducted by the 1 cm dose equivalent rate.

5 The measurement of the external exposure dose pursuant to the provision of Paragraph 1 shall be conducted with radiation monitors on the chest for male workers and infertile female workers and on the abdomen for fertile female workers.

6 Regardless of the provisions in the two preceding paragraphs, employers may measure the external exposure dose specified in Paragraph 1 received by workers engaged in decontamination work in the special decontamination areas etc. during decontamination work (Limited to the locations of 2.5 µSv/h or less) with the methods specified by the Minister of Health, Labour and Welfare.

7 The internal exposure dose pursuant to the provisions of Paragraph 2 shall be measured with the methods specified by the Minister of Health, Labour and Welfare.

8 Workers engaged in decontamination work shall wear radiation monitors in the special decontamination areas, etc. where decontamination work is implemented. (Measuring and recording of dose monitoring results, etc.)

Article 6 When workers engaged in decontamination are likely to receive external exposure dose exceeding 1 mSv by 1 cm dose equivalent rate per day, the measurement results of the external exposure dose pursuant to the provisions of Paragraph 1 in the preceding Article shall be measured every day.

2 Based on the results of the measurement or calculation under the provisions of paragraph 5 to paragraph 7 in the preceding Article, employers shall calculate and record the dose received by workers engaged in decontamination work described in the following list of items with the methods specified by the Minister of Health, Labour and Welfare without delay and store the records for thirty years. However, this shall not apply when such records are transferred to the organization specified by the Minister of Health, Labour and Welfare, after being stored for five years or after termination or reallocation of decontamination workers from current responsibilities.

(i) A total effective dose for three months, one year, and five year periods for each male worker and infertile female worker (a total effective dose for three months and one year periods for workers whose effective dose has never exceeded 20 mSv per year for five years).

(ii) A total effective dose for one month, three months and one year periods for each female worker (excluding those who are diagnosed as infertile) (a total effective dose for three months and one year periods for workers whose effective dose is not likely to exceed 1.7 mSv per month).

(iii) A total effective dose due to internal exposure and equivalent dose received on the abdomen surface for every month and during the period of pregnancy for pregnant female workers.

3 Based on the records under the provisions of the preceding paragraph employers shall notify the dose results listed in each item without delay to the workers engaged in decontamination work.

Section 2 Measures for Implementation of Decontamination Work

(Preliminary survey)

Article 7 When conducting decontamination work employers shall (excluding Work for Handling Designated Contaminated Soil and Wastes) conduct a preliminary survey in advance regarding the matters listed in the following items at the sites where decontamination related work have been implemented excluding decontamination pertaining to work for handling designated contaminated soil and wastes (hereinafter referred to as "work on designated contaminated soil and wastes"). The same shall apply in this Paragraph and Paragraph 3. The records of the results of the survey on the following matters shall be stored:

(i) Conditions of the decontamination work sites

(ii) Average ambient dose rates of the decontamination related work sites

(iii) Concentrations of cesium 134 and cesium 137 determined by the methods specified by the Minister of Health, Labour and Welfare of the accident discharged radioactive materials contained in contaminated soil and wastes, removed soil, or contaminated wastes collected during decontamination related work.

2 When implementing work involving handling designated contaminated soil and wastes, employers shall conduct a preliminary survey and store the records of the matters listed in the items in the preceding paragraph for the sites where the work on designated contaminated soil and wastes are implemented prior to commencing work and every two weeks thereafter.

3 When employers have their workers engaged in decontamination related work employers shall specify the completion date of the survey described in Paragraph 1, and the summary of the methods and the results to the workers in advance.

4 When they have their workers engaged in work on designated contaminated soil and wastes, employers shall specify the completion date of the survey described in Paragraph 2 and the summary of the methods and the results to the workers prior to commencing work and every two weeks thereafter.

Article 8 When employers intend to implement decontamination work (excluding the work for handling designated contaminated soil and wastes conducted in the location where the average ambient dose rates are 2.5 µSv/h or less. The same shall apply in this Article, next Article, and Paragraph 1 of Article 20), they shall have work plan for the decontamination work ready (excluding the work involving handling designated contaminated soil and wastes conducted in the location where the average ambient dose rates are 2.5 µSv/h or less. The same shall apply in this Article and the next Article), and work shall be conducted in accordance with the devised work plan.

2 The work plan in the preceding paragraph shall address the following matters:

(i) Conditions of the sites and methods of the decontamination related work.

(ii) Measurement methods of the exposure dose received by decontamination workers (excluding workers engaged in work involving handling designated contaminated soil and wastes in the location where the average ambient dose rate is 2.5 µSv/h or less. The same shall apply in this Article, next Article, Articles 20 to 23 and Paragraph 2 of Article 28).

(iii) Measures to minimize the exposure dose to decontamination workers.

(iv) Type and performance of the machineries, tools, and other gears to be used for decontamination related work ("Machinery" in item (ii) of the next Article, Paragraph 1 of Article 19).

(v) Emergency measures in case of industrial accidents.

3 When the work plan in Paragraph 1 has been devised, employers shall inform relevant workers concerning the matters described in the provisions of the preceding paragraph. (Operation leader)

Article 9 Employers shall appoint an operation leader for the decontamination related work from workers who have the competence and leadership in directing decontamination related work. The employers shall have the appointed leader lead the decontamination related work in accordance with the work plan described in Paragraph 1 of the preceding Article and have him/her implement all of the following matters:

(i) Define the procedures of the decontamination related work and allocate responsibilities to workers who will engage in decontamination work.

(ii) Inspect machineries to be used for the decontamination related work and eliminate defects.

(iii) Supervise the usage of radiation monitors and protective gears.

(iv) Keep the unauthorized personnel off the decontamination related work areas

(Work notice)

Article 10 Employers (limited to primary contractors specified in Paragraph 1, Article 15 of the Industrial Safety and Health Act (hereinafter referred to as "The law") shall, when intending to implement decontamination work, etc., or work involving handling designated contaminated soil and wastes within the special decontamination areas etc., submit the work notice in Form 1 to the Director of the Labour Standards Inspection Office which has jurisdiction over the site of the workplace (hereinafter referred to as the "Director of the concerned Labour Standards Office"). (Medical examinations, etc.)

Article 11 Employers shall ensure that their decontamination workers who fall under any of the following items promptly receive medical examinations or treatments by medical doctors.

(i) When the worker has received effective dose exceeding the limit specified in Paragraph 1 of Article 3.

(ii) When the worker has mistakenly inhaled or ingested radioactive materials discharged by the accident.

(iii) When the worker is not able to reduce their levels of contamination to 40 Bq/cm² or less by washing themselves.

(iv) When the wound has been contaminated.

2 Employers shall report to the Director of the Labour Standards Office when any of their decontamination workers fall under the items in the previous paragraph.

Section 3 Prevention of Contamination

(Measures to control dust dispersion)

Article 12 When employers have their decontamination workers (excluding workers engaged in work involving handling designated contaminated soil and wastes) implement each item specified in Paragraph 2, Article 5 (excluding work on designated contaminated soil and wastes, the same shall apply hereinafter in this Article) they shall take measures to control dust dispersion. For example, keeping contaminated soil and wastes, removed soil, or other wastes in wet conditions helps control dust dispersion.

(Usage of containers for collecting wastes, etc.)

Article 13 When employers conduct work for collecting wastes, etc., they shall use containers to prevent propagation of contamination. However, this rule shall not apply to the case in which storing wastes in the containers is especially difficult, or necessary measures have already been taken for prevention of removed soil or contaminated wastes from scattering and leaking.

2 Employers shall use the aforementioned containers that have the structures with the following specifications appropriate for respective category of work for collecting wastes, etc.:

(i) The containers with no fear of scattering or leaking of removed soil or contaminated wastes shall be used for work pertaining to collection or storage of removed soil or contaminated wastes.

(ii) The containers with no fear risk of scattering or leaking of removed soil or contaminated wastes, and with the capability of 1 cm dose equivalent rate at 1 m from the surface of the container of the package, which does not exceed 0.1 mSv, shall be used for work pertaining to collection or storage of removed soil or contaminated wastes. However, exceptions are approved in cases in which measures for shielding of radiation are necessary when transporting containers with special carriers. The necessary measures to shield block radiation shall be taken when the maximum 1 cm dose equivalent rate at 1 m from front, rear, and both sides of the vehicle (from the vertical plane connected to outer rim of the vehicle if it is an open type vehicle) does not exceed 0.1 mSv.

3 Employers shall indicate the containers for removed soil or contaminated wastes used in Paragraph 1 with labels.

4 When storing removed soil or contaminated wastes employers shall use the aforementioned containers in Paragraph 1 or take the following measures in addition to the measures in the proviso in the same paragraph:

(i) Indicate the containers in which removed soil or contaminated wastes are stored with labels.

(ii) Prevent unauthorized personnel from entering the site by blocking the site with enclosures.

(iii) Contamination screening of workers leaving the site for the day.

Article 14 Employers shall establish a radiation contamination screening station at or near the site, where decontamination work is implemented and inspect the levels of contamination in decontamination workers' bodies, clothing, shoes, protective equipment, and other equipment (hereinafter in this article referred to as "Equipment") that came in contact with their bodies before they leave their work sites for the day.

2 Employers shall not allow the decontamination workers to leave their work site when the levels of contamination in their bodies or the Equipment exceed 40 Bq/cm², when assessed in accordance with the provision in the preceding paragraph, until the following measures are taken at the contamination screening station:

(i) If workers' bodies are contaminated, they need to reduce their levels of contamination to 40 Bq/cm² or less.

(ii) If the equipment attached to the workers are contaminated, the workers need to take off or remove the contaminated equipment.

3 Workers engaged in decontamination work shall wash their bodies, take off or remove the Equipment as instructed by the employers pursuant to the provisions of the preceding paragraph. (Contamination screening of items to be removed)

Article 15 Employers shall survey contamination of the items to be taken out from the site where decontamination work is conducted at the contamination screening station established in accordance with the requirements in Paragraph 1 of the preceding Article. This shall not apply when the containers in the main Paragraph 1 of Article 13 are used or measures in the proviso in the same paragraph are taken to transport them to the other sites where decontamination work is conducted.

2 Employers and workers shall not remove the items if they are determined to be contaminated above 40 Bq/cm² during surveying in the preceding paragraph. This shall not apply when the containers in the main Paragraph 1 of Article 13 are used, or measures in the proviso in the same paragraph are taken to transport them to the decontamination facilities, storage facilities, disposal facilities, or other sites where decontamination work is conducted. (Protective equipment)

Article 16 Before decontamination workers start their work specified in the items in Paragraph 2 of Article 5, employers shall prepare effective respiratory protective equipment such as dust masks, protective clothing effective against contamination, gloves, or footwear and ensure the appropriate use of these protection by the decontamination workers when they conduct decontamination work, according to the classification of the decontamination work specified by the Minister of Health, Labour and Welfare.

2 Workers engaged in decontamination work shall use the protective Equipment in the preceding paragraph when implementing work in the same paragraph. (Decontamination of protective equipment)

Article 17 Employers shall ensure workers engaged in decontamination work do not use protective equipment when the levels of contamination specified in the preceding paragraph is determined to exceed 40 Bq/cm² unless such equipment is decontaminated in advance by washing, etc. to the levels of 40 Bq/cm² or less. (Prohibition of smoking, etc.)

Article 18 Employers shall prohibit workers from smoking, eating, or drinking at the sites where they are likely to inhale or ingest radioactive materials discharged by the accident and inform their workers about the risk associated with such activities in advance.

2 Workers shall not smoke, eat, or drink at the sites described in the preceding paragraph.

Section 4 Special Education

(Special education regarding decontamination work)

Article 19 Employers shall provide special education to the workers regarding the following topics:

(i) Effects of ionizing radiation on organisms, and the methods for controlling exposure doses.

(ii) Methods and procedures of the decontamination and other related work.

(iii) How machineries and other tools used for decontamination and other related work is structured and how to use them. (Limited to the knowledge about the name and usage of the machineries used for workers engaged in handling designated contaminated soil and wastes).

(iv) Relevant laws and regulations

(v) Methods and procedures concerning decontamination and other related work including how to use machineries and other tools.

(Limited to the procedures for work involving handling designated contaminated soil and wastes.)

2 Necessary matters for implementing the special education program shall be provided by the Minister of Health, Labour and Welfare, in addition to the matters specified in Article 37, Article 38, and the preceding paragraph of Ordinance on Industrial Safety and Health (Ordinance of the Ministry of Health, Labour and Welfare No. 32 of 2009).

Section 5 Medical Examinations

(Medical examinations)

Article 20 Employers shall provide workers who are regularly engaged in decontamination work with medical examinations by medical doctors when they assign workers to decontamination work, regarding the matters listed in the following items at the time of employment and periodically once every six months thereafter and at the time of reallocation:

(i) Investigation and evaluation of the exposure history (If the workers had the exposure history, confirm the location, nature of work, duration, and other details concerning radiation exposure, in addition to existence of subjective symptoms)

(ii) Examinations of leukocyte count and classifications

(iii) Examinations of red blood cell count and hemoglobin contents or hematocrit values

(iv) Examinations of eyes for cataract

(v) Skin examinations

2 Regardless of the provisions of the preceding paragraph, the requirements described in (ii) through (v) in the preceding paragraph can be exempted if medical doctors determine those examinations are unnecessary for the workers whose effective doses did not exceed 5 mSv in the year before the medical examinations (limited to periodical examinations. The same shall apply to the present item), and their effective doses are not likely to exceed 5 mSv in the year the medical examinations will be conducted. (Recording the results of medical examinations)

Article 21 Based on the results of the medical examinations described in Paragraph 1 of the preceding Article, the employers shall create medical examination cards and preserve them for thirty years. (This includes medical examinations provided to the workers engaged in decontamination work in cases of proviso in Paragraph 5, Article 66 of the Law. Hereinafter referred to as "ionizing radiation medical examinations.") However, this shall not apply when such records are transferred to the organization designated by the Minister of Health, Labour and Welfare, after being kept for five years from the time of termination of decontamination workers.

(Seeking advice from medical doctors about the results of the medical examinations)

Article 22 Based on the results of ionizing radiation medical examinations pursuant to the provisions of Article 66-4 of the Law, the employers shall seek advice from the medical doctors in accordance with the prescriptions of the following items:

(i) Within three months from the day the ionizing radiation medical examinations are conducted from the day the written proofs of the ionizing radiation medical examination results are submitted by the workers engaged in decontamination work in cases of the proviso in Paragraph 5 of Article 66 of the Law).

(ii) Opinions and observations of the medical doctors shall be recorded in the ionizing radiation medical examination cards.

(Notification of the medical examination results) The employers shall inform their workers engaged in the decontamination and other related work about the results of their medical examinations described in the item (1) of paragraph 1 without delay.

Article 23 Employers shall notify their workers engaged in the decontamination and other related work about the results of their ionizing radiation medical examinations without delay. (Reporting the results of medical examinations)

Article 24 Employers shall (limited to periodical examinations) submit the report of ionizing radiation medical examination results (Form No. 3) to the Director of the Labor Standards Office without delay. (Measures based on the medical examinations, etc.)

Article 25 Based on the results of the ionizing radiation medical examinations, the employers shall take needed measures to protect the health of their workers who have or may have developed a radiation related disorder. For example, employers may need to transfer the workers to the alternative positions or locations, or change hours or work procedures until complete remission.

Chapter 3 Prevention of Ionizing Radiation Hazards while working under the designated dose rate (omitted)

Chapter 4 Miscellaneous Provisions

(Providing radiation measurement instruments)

Article 26 Employers shall provide radiation measurement instruments to the workers necessary to fulfill the duties specified herein. However, this provision shall not apply if arrangements have already been made to make radiation measurement instruments available anytime. (Transferring records and other information)

Article 27 Employers, who make and store the records described in Paragraph 2 of Article 6, Paragraph 2 of Article 25-5 or Article 25-9, shall transfer such records to the organization designated by the Minister of Health, Labour and Welfare when closing their businesses.

2 Employers, who created and kept the records described in Paragraph 2 of Article 6, Paragraph 2 of Article 25-5 or Article 25-9, shall transfer copies of records to workers engaged in decontamination work or workers under the designated dose rate when closing their businesses or when the workers terminated their employment.

Article 28 Employers, who issue ionizing radiation medical examination cards for individuals and store them, shall transfer ionizing radiation medical examination cards to the organization designated by the Minister of Health, Labour and Welfare, when closing their businesses.

2 Employers, who issue ionizing radiation medical examination cards for individual workers and store, shall issue copies of the ionizing radiation medical examination cards to workers engaged in decontamination work when workers terminated their employment or when the employers close their businesses. (Adjustment)

Article 29 The exposure doses received or will be received by the following workers engaged in radiation work (as specified in Paragraph 3, Article 2 of the Ionizing Radiation Ordinance) and emergency work (as specified in Paragraph 1, Article 7 of the Ordinance), or the exposure doses received while entering the radiation control areas (as specified in Paragraph 1, Article 3 of the Ordinance) temporarily as radiation workers, emergency workers, or temporary workers will be considered as the exposure doses received during decontamination work or work under the designated dose rate in the special decontamination areas, etc.

• Decontamination workers

• Workers under the designated dose rate who used to be radiation workers as specified in Paragraph 1, Article 4 of the Ordinance

• Radiation workers as specified in Paragraph 1, Article 4 of the Ordinance

• Emergency radiation workers as specified in Paragraph 1 and Paragraph 3, Article 62 of the Ordinance (including the case in which Article 62 of the Ordinance is applied) (hereinafter referred to as "emergency radiation workers" in this article)

• Temporary workers who temporarily enter the radiation control area as specified in Paragraph 1, Article 8 of the Ordinance (including the case in which Article 62 of the Ordinance is applied) (hereinafter referred to as "temporary workers" in this article)

• Temporary workers

When following workers among workers engaged in decontamination or workers under the designated dose rate engage in radiation work described in Paragraph 3 of Article 2 of the Ordinance on Ionizing Radiation, in emergency work described in Paragraph 1 of Article 7 of the Ordinance on Ionizing Radiation or entering controlled areas temporarily described in Paragraph 1 of Article 3 of the Ordinance on Ionizing Radiation as radiation service workers, emergency service workers, or workers who temporarily enter, the dose received or will be received is regarded as dose received due to decontamination work or work under the designated dose rate in the special decontamination areas. Radiation service workers described in Paragraph 1 of Article 4 of the Ordinance on Ionizing Radiation, radiation service workers engaged in emergency work described in Paragraph 1 of Article 7 of the Ordinance on Ionizing Radiation, workers engaged in emergency work described in Paragraph 3, (including the cases with applied mutatis mutandis pursuant to the provisions of Article 62 of the Ordinance on Ionizing Radiation) (hereafter in this paragraph, these workers are referred to as "emergency workers") those who were emergency workers, workers who temporarily enter the controlled zone described in Paragraph 1 of Article 8 of the Ordinance on Ionizing Radiation, (including the cases with applied mutatis mutandis pursuant to the provisions of Article 62 of the Ordinance on Ionizing Radiation) (herein this paragraph, these workers are referred to as "workers who temporarily enter") or those who used to be workers who temporarily enter.

2 The exposure doses received or will be received by the following workers engaged in work under a designated dose rate are considered as the exposure doses received during contamination work in the special decontamination areas, etc.

• Decontamination workers who used to be workers under a designated dose rate

• Workers engaged in works under a designated dose rate

When workers who work or used to work under a designated dose rate become engaged in decontamination work, the doses received or will be received will be considered as the doses received during decontamination work under a designated dose rate in the special decontamination areas.

3 The exposure doses received or will be received by the following workers engaged in decontamination work are considered as the exposure doses received during work under a designated dose rate in the special decontamination areas, etc.

• Workers under a designated dose rate who used to be decontamination workers

• Workers engaged in decontamination work

Doses received or will be received by workers engaged in decontamination work or workers who used to be engaged in decontamination work under a designated dose rate are considered as doses received under a designated dose rate in the special decontamination areas.

Supplementary Provisions

(Effective Date)

Article 1 This Ordinance shall take effect on 1 July 2012.

Form 1-3 (omitted)

Please contact your Prefectural Labour Bureau or Labour Standards Inspection Office, should you have further questions.