

**Overview of Report from the Expert Meeting on Radiological Protection for Decontamination and Related Works**

1. Workers subject to the radiation exposure dose management and the management methods for radiation exposure dose measurement

(1) Employers who assign (a) works of decontamination, etc. and (b) works of collecting, transporting, storing, or disposing contaminated wastes or removed soil (whose radioactivity concentration of cesium exceeds 10,000 Bq/kg) (hereinafter referred to as “decontamination related works”) in decontamination areas (exceeding 0.23  $\mu\text{Sv/h}$ ) shall measure doses of workers by the following methods:

(i) Areas where ambient dose rate exceeds 2.5  $\mu\text{Sv/h}$  in the workplace

External exposure; measure with personal dosimeters

Internal exposure; measure according to the type of work and the concentration of radioactive materials in soil

	Soil with high radioactivity concentration (> 500,000 Bq/kg)	Other than soil with high radioactivity concentration
Work under high dust concentration (> 10mg/m <sup>3</sup> )	Measure internal exposure once every three months	Screening
Other than the above	Screening	Screening*

\* Limited to the case concerning sudden generation of highly concentrated dust.

(ii) Work areas where ambient dose rate ranges from over 0.23  $\mu\text{Sv/h}$  to 2.5 $\mu\text{Sv/h}$

Although it is desirable to measure external exposure of each worker with a personal dosimeter, doses measured only for a representative worker is accepted.

(2) Employers except for those managing decontamination related works shall assign workers to decontamination related works only in areas where the dose rate ranges from over 0.23  $\mu\text{Sv/h}$  to 2.5  $\mu\text{Sv/h}$  in the workplace and within several tens of times (days) per year (which is substantially below 1 mSv/y).

It is recommended that the same rule would be applied to self-employed workers, residents, or volunteer workers.

(3) The exposure dose limit of workers shall be 100 mSv in 5 years and 50 mSv in a year.

(For fertile women who may become pregnant, the dose limit shall be 5mSv in three months.

For pregnant women, the effective dose from internal exposure shall be 1 mSv, and the

equivalent dose limit on the surface of her abdomen shall be 2 mSv.)

- (4) The dose measurement results shall be recorded and kept for 30 years (it can be transferred to a designated institution after storing the record for five years) after informing the workers.

2. Actions to reduce radiation exposure

- (1) Conduct surveys on the workplace before conducting decontamination related works.
- (2) Develop work plans before conducting decontamination related works.
- (3) Before conducting decontamination related works, assign the leader and have him/her direct the work.
- (4) Submit a "decontamination work notification" to the competent Labour Standards Inspection Office, before conducting decontamination related works in areas where ambient dose rate exceeds 2.5  $\mu\text{Sv/h}$ .

3. Actions to prevent the spread of contamination and protect against internal exposure

- (1) In order to prevent spread of contamination employers of decontamination related works shall take actions to control dust generation by maintaining soil in a wet condition before conducting activities that may generate the high concentration of dust.  
In addition, the employers shall use dedicated containers when collecting and/or transporting removed soil and take necessary measures for preventing dispersion and/or release of the soil from the containers when storing it.
- (2) In order to prevent the spread of contamination from workers, employers of decontamination related works shall establish a contamination inspection station near the workplace and check the contamination levels of workers at the time when they exit. If anybody contamination is observed in workers, they should be directed to wash themselves or remove the contaminated gear. It should be noted that items are basically not allowed to be taken out from the site if contamination is detected.
- (3) To prevent body and/or internal contamination in workers, employers of decontamination related works shall make effective respiratory protective equipment and protective clothing available for workers

(Dust masks)

	Soil with high radioactivity concentration ( > 500,000 Bq/kg)	Other than soil with high radioactivity concentration
Work under high dust concentration (> 10 mg/m <sup>3</sup> )	Dust collection efficiency: > 95%	Dust collection efficiency: > 80%
Other than the above	Dust collection efficiency: > 80%	Dust collection efficiency: > 80%*

\*A Surgical mask is acceptable for works that do not generate mineral dust.

(Protective clothing, etc.)

	Soil with high radioactivity concentration (> 500,000 Bq/kg)	Other than soil with high radioactivity concentration
Work under high dust concentration (> 10mg/m <sup>3</sup> )	Along sleeve shirt with chemical protective suits on top, rubber gloves, and rubber boots	Along sleeve shirt, cotton gloves, and rubber boots
Other than the above	Along sleeve shirt, cotton gloves, and rubber boots	Along sleeve shirt, cotton gloves, and rubber boots

- (4) No smoking, eating, or drinking shall be allowed by workers in the workplace with the risk of inhaling or ingesting contaminated soil or other contaminants.

#### 4. Education for workers

- (1) Employers of decontamination related works shall provide education to operation leaders.
- (2) Employers of decontamination related works shall provide workers special education in each following area:
  - a. Soil decontamination related works
  - b. Works for collecting, transporting, or disposing removed soil
  - c. Works for treating wastes
- (3) When assigning workers to activities such as soil decontamination and treatment of wastes in areas where the dose rate ranges from over 0.23 μSv/h to 2.5 μSv/h, it is recommended that employers of decontamination related works shall provide workers with necessary education with the curriculum that covers topics such as the impact of ionizing radiation to ecosystem and the exposure dose control methods.

It is recommended that these educational programs shall be applied in the same manner to

self-employed workers or voluntary workers.

- (4) It is recommended that the director of decontamination related works order the work after making sure that the necessary number of trained operation leaders and workers who conduct the work have been employed.

5. Actions for health care

- (1) Employers of decontamination related works shall provide full-time workers engaged in decontamination works with medical examinations by a medical doctor at the time of employment or transfer and once every 6 months thereafter on a regular basis. (A worker shall be able to be exempted from the test items except for items concerning exposure history if a medical doctor determines unnecessary or if his or her exposure dose is within the annual exposure dose of 5 mSv.)
- (2) Employers of decontamination related works shall prepare medical examination cards based on the medical examination results and keep them for 30 years (the records can be transferred to a designated institution after being stored for five years).