

Basic Policy for Emergency Response on Decontamination Work

August 26, 2011

Nuclear Emergency Response Headquarters

1. Purposes of this policy

1) To eliminate anxieties about radioactive contamination resulting from the accident at TEPCO's Fukushima Dai-ichi Nuclear Power Station as early as possible, the national government intends to take responsibility for eliminating radioactive contamination by working with prefectural and municipal governments and local residents.

2) Currently, lawmakers are deliberating the bill "Bill on Special Measures on Environmental Contamination due to Radioactive Materials Emitted from Nuclear Power Station Accident Caused by the Tohoku district - off the Pacific Ocean Earthquake on March 11, 2011" in the Diet. If this bill is passed in the Diet, the government will systematically and drastically push ahead with decontamination work in line with the framework as set forth in said legislation.

On the other hand, since it is necessary to carefully designate applicable locations or develop technical standards before putting said legislation into practice, it will take a certain period of time for the government to begin drastic decontamination work based on said legislation.

3) Nonetheless, decontamination is an urgent task that should be addressed immediately. Before a new framework for decontamination work becomes operational in accordance with said legislation, the Nuclear Emergency Response Headquarters will clearly describe the basic principles of emergency decontamination services and intends to eliminate radioactive contamination in collaboration with prefectural and municipal governments and local residents.

4) The basic principles described herein are consistent with the purposes of said legislation bill and will be replaced with the new framework when the new legislation is passed in the Diet and comes into effect.

2. Interim targets for decontamination work

- 1) In line with the 2007 basic recommendations of the International Commission on Radiological Protection (ICRP) and “Basic Policy”¹ suggested by the Nuclear Safety Commission, the government aims at quickly phasing out locations with emergency exposure situations² (i.e., additional exposure dose³ is 20 mSv a year or more, according to the current practices).
- 2) As a long-term target, the government aims at reducing the additional exposure dose to 1 mSv a year in areas with existing exposure situations⁴ (areas where the additional exposure dose is 20 mSv a year or less, according to the current practices).
- 3) As a specific target for decontamination work, the government aims to reduce the estimated annual exposure dose for the general public by approximately 50% at radiation-contaminated areas within two years at the latest.

According to the estimate of Nuclear Emergency Response Headquarters, annual exposure dose is expected to decrease by about 40% in two years from the current level because of physical attenuation of radioactive materials as well as natural attenuation due to wind and weather (i.e. weathering effect).

With decontamination work reducing the exposure dose by approximately 10% at least, the government will attain the aforementioned 50% reduction target and aims to further reduce the exposure dose.

- 4) In addition, as radiation will pose larger negative impacts on children than adults, it is important to restore a safe environment where children are able to live their lives without worry. In this context, by thoroughly conducting decontamination work in places that children frequent, such

¹ Nuclear Safety Commission, “Basic Policy of the Nuclear Safety Commission of Japan on Radiation Protection for Termination of Evacuation and Reconstruction,” July 19, 2011

² “Emergency exposure situation” means that emergency action is necessary to avoid or mitigate undesirable impacts at the time of a nuclear accident or radiological emergency.

³ “Additional exposure dose” means the exposure dose excluding natural exposure dose and medical-purpose exposure dose.

⁴ The term “existing exposure situation” means that radiation exposure already exists, including long-term radiation exposure after an emergency, at the time that making management-related decisions becomes necessary.

as schools or parks, in the next two years, the government aims at reducing the estimated annual exposure dose for children by approximately 60% in two years at the latest.⁵

According to the estimate of Nuclear Emergency Response Headquarters, annual exposure dose for children is estimated to decrease by about 40% in two years from the current level due to physical attenuation of radioactive materials as well as natural attenuation due to wind and weather (i.e., weathering effect).

With decontamination work reducing the exposure dose by approximately 20% at least, the government will attain the aforementioned 60% reduction target and aims to further reduce the exposure dose.

- 5) The government has set the aforementioned interim targets based on the limited information available because it recognizes the necessity to conduct decontamination work immediately. From now on, it will closely look into these targets and reexamine them at regular intervals through detailed monitoring, data accumulation, actual surveys on exposure doses for children, and decontamination model projects.

3. How to proceed with decontamination work

(1) Basic concept

- (a) The national government takes responsibility for proceeding with decontamination work.
- (b) To create an appropriate environment for safer and more efficient decontamination work, the national government will provide further assistance, including implementing fiscal policies, enhancing and operating efficient decontamination/measuring equipment, fostering human resources and sending experts.

In addition, the national government will, through model projects in local areas including locations with particularly high radiation dose, continuously provide support, such as technical information, necessary for decontamination work (“Decontamination technology catalogue”), including effective decontamination methods, costs or matters for

⁵ This is calculated for the location that would have a current air dose rate of 3.8 micro Sv/h (accumulative exposure dose of 20 mSv a year). If decontamination work is already done beforehand, target achievement will be evaluated through comparison with the pre-decontamination level.

consideration.

- (c) The national government will take responsibility for treating radiation-contaminated soil arising from decontamination work.
- (d) When pushing ahead with the aforementioned projects, the national government will work and cooperate with the international community and mobilize expertise from both at home and abroad.

(2) Appropriate local actions in line with radiation dose levels

(a) Areas under evacuation directives

1) If you live in an area designated with an evacuation directive (Deliberate Evacuation Area) because the cumulative dosage might exceed 20 mSv within a year of the nuclear accident, decontamination work will require high-level technologies and considerable attention to the safety of decontamination workers. For this reason, until local residents return home after lifting the evacuation directive, the national government will take the initiative in decontamination work in collaboration with prefectural and municipal governments.

2) In locations designated as Restricted Areas, local governments have been relocated, and access to such locations is prohibited. For this reason, until local residents return home after lifting the evacuation directive, the national government will take the initiative in decontamination work in collaboration with prefectural and municipal governments.

On the other hand, municipalities in these areas are permitted to develop their own decontamination plans and conduct decontamination work on their own if they wish to do so, as long as they are able to ensure the safety of workers and efficacy of the decontamination work. In this case, the national government will provide all-out fiscal support or provide experts to aid those efforts.

3) In locations where the additional exposure dose significantly exceeds 20 mSv a year, the national government will work on decontamination model projects to present effective and efficient decontamination techniques and

safety programs for decontamination workers in high-level exposure areas.

(b) Other areas where the additional exposure dose ranges from 1 to 20 mSv a year

1) If the additional exposure dose stands at 20 mSv a year or less, it is contaminated with radioactive materials, but the municipality is still able to work, and local residents are able to live there. In this case, systematic decontamination work on a community-wide basis would be the most effective solution because the community grasps the local situation and residents' needs.

2) Municipalities will develop their decontamination plans suitable to their contamination status or residents' needs in accordance with the "Guidelines for Municipality's Decontamination Work." The national government will assist in ensuring the smooth operation of such decontamination efforts.

If a municipality develops its decontamination plan including decontamination work at a public facility managed by another entity, it is desirable that the municipality will work with such other entity in managing the public facility.

[Important points in decontamination plans]

1. Setting appropriate targets
2. Deciding on appropriate policies and methods for each decontamination project
3. Responsible organization
4. Setting aside temporary storage space

3) If radioactive dose stands at a relatively higher level from 1 mSv to 20 mSv a year, multi-phase decontamination work will be necessary for improving contaminated conditions.

On the other hand, if the radioactive dose stands at a relatively low level, multi-phase decontamination work is basically unnecessary due to physical attenuation of radioactive materials as well as natural attenuation due to

wind and weather (i.e., weathering effect). However, it is important to eliminate contamination at locations that locally show high radiation dosage, such as side ditches or rain water gutters.

The national government will provide all-out support when municipalities develop or conduct their decontamination plans. To be more specific, the national government will provide support suitable to individual municipality's needs. These support services will include sending experts, providing fiscal support, giving local residents information on monitoring results or important considerations in decontamination work, and providing measuring equipment.

4) If a prefectural or the national government manages a public facility, it will work closely with the relevant municipality to conduct decontamination work on the public facility in accordance with the decontamination plan developed by the relevant municipality.

(c) Locations where the additional exposure dose is generally 1 mSv or less

1) If the radiation dosage is generally 1 mSv a year or less, multi-phase decontamination work is basically unnecessary on a municipality basis because of physical attenuation of radioactive materials as well as natural attenuation due to wind and weather (i.e., weathering effect).

2) On the other hand, since side ditches, rain water gutters or some other locations locally tend to show a higher radiation dosage, the national government will work with prefectural governments and municipalities to provide necessary support so that local residents or other stakeholders will be able to safely, effectively and efficiently conduct decontamination work.

4. Treating soil, etc. arising from decontamination work

1) For smoother and quicker decontamination work, it is absolutely necessary to treat soil arising from decontamination work as well as local rice straw, farmyard compost or debris.

- 2) In relation to such treatment of soil, etc., the national government will take responsibility for allocating repository sites that require long-term management services as well as providing safety at these repository sites. It will develop and disclose a roadmap for constructing repository sites as soon as possible.
- 3) However, since such a drastic solution will require a certain period of time for securing and developing repository sites of a certain size, and simply waiting for the establishment of repository sites might prevent quick decontamination services.
- 4) For this reason, it would be more realistic that municipalities or local communities have designated temporary repository sites for soil resulting from decontamination work. The national government will provide fiscal and technical assistance for these municipal projects.

5. Prefecture's cooperation

- 1) When municipalities develop and conduct their decontamination plans, prefectural government should act as a cross-sectional coordinator as necessary.
- 2) In addition, prefectural governments should work with the national government to provide information, such as monitoring results or important considerations for residents' daily lives, and to provide an appropriate environment, such as providing measuring equipment, so that local residents will be able to efficiently and effectively conduct decontamination work.