

Preparedness for Future Nuclear Emergencies

-Based on Lessons Learned from TEPCO Fukushima Daiichi NPP Accident-

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1. Introduction

The Ministry of Health, Labour and Welfare (MHLW) established an expert meeting for deliberation of (a) long-term health care for emergency workers at the TEPCO Fukushima Daiichi Nuclear Power Plant and dose control system for workers exposed beyond the regular dose limits, and (b) medical and health care, radiation dose control and special education in the case of future nuclear emergencies. The meeting provided a report to the MHLW on 1 May 2015. Based on the report, the MHLW promulgated the amendment of “Ordinance on Prevention of Ionizing Radiation Hazards” and “Ministerial Guidelines for Maintenance/Improvement of the Health of Emergency Workers at Nuclear Facilities” on 31 August 2015, to be enforced on 1 April 2016.

2. Key Points of the Amendment of the Ordinance

2.1. Setting of the exceptional emergency dose limit

In consideration of the situation of emergencies and other circumstances, the MHLW may set a special dose limit (exceptional emergency dose limit) not exceeding 250 mSv in the case that the MHLW acknowledges that it is difficult to observe the dose limit of 100 mSv for completion of emergency works. In particular, if a state of nuclear emergency or a situation highly likely to lead to the state occurs, the MHLW shall immediately determine the exceptional emergency dose limit as 250 mSv. The MHLW shall lift the limit as early as possible by taking into consideration the dose of the emergency workers, and further required works to control the accident.

2.2. Limitation of exceptional emergency workers

Employers shall select exceptional emergency workers from among the nuclear disaster prevention workers specified in the Act on Special Measures Concerning Nuclear Emergency Preparedness.

2.3. Optimization of dose control during exceptional emergency works

Employers shall ensure that the dose of workers will not exceed the exceptional emergency dose limit during the exceptional emergency work. Employers shall also make efforts to minimize the dose to which exceptional emergency workers are exposed depending on the circumstances of the accident.

2.4. Monitoring and recording of dose, and reporting to the MHLW

Employers shall conduct internal and exposure measurements once within one month. Also, employers shall calculate and record the cumulative effective doses monthly, annually and in every 5 years, and preserve the records for 30 years. Employers shall periodically report the dose distribution and records of medical examination and the dose of individual emergency workers to the MHLW.

2.5. Special education

Employers shall provide exceptional emergency workers with the special education including knowledge and skills for the methods of works as well as knowledge of the risks of radiation exposure.

2.6. Medical and health care

Employers shall provide medical examinations for emergency workers at least once in a month periodically as well as when the workers are transferred from the emergency works to other works. Also, employers shall record examination results, hear opinions from physicians, notify workers of the examination results, and take aftercare measures based on the medical examination results.

3. Key Points of the Amendment of the Ministerial Guidelines

3.1. Dose control for workers exposed beyond dose limits during 5-year period including the outbreak of the accident

Employers may assign to workers whose cumulative dose exceeds 100 mSv/5years normal radiation works where additional exposure is being controlled within 5 mSv/year if the workers are essential for maintaining the safety of nuclear facilities.

3.2. Dose control for workers exposed beyond the dose limits during the subsequent 5-year periods

Employers should control cumulative dose so as not to exceed the regular dose limits (100 mSv/ 5-year period and 50 mSv/1-year period) as well as 1Sv per lifetime for the total of emergency and regular doses.