

Overview of the Report of the Expert Meeting
on Epidemiological Studies Targeting Emergency Workers
at the TEPCO Fukushima Daiichi Nuclear Power Plant

1. Purpose

The Meeting compiled the basic concept and matters to be noted in establishing plans for epidemiological studies concerning the effects of radiation on human health, targeting emergency workers.

2. Study population and methods, etc.

- (1) Around 20,000 emergency workers should be covered, with the study period lasting throughout their respective lifetimes.
- (2) There should be follow up and maintenance of the study target group and this should be done by utilizing the survey of the current health state of the targets being conducted by the MHLW in the course of managing the database for long-term health care.
- (3) Health effects to be studied (endpoints) should cover solid cancers, leukemia and non-cancerous diseases as broadly as possible, and psychological effects should also be examined.
- (4) The cumulative dose should be set as an exposure factor. Basically, dose-response relationships of various health effects are to be examined, but classification by exposure conditions should be made as well when possible.
- (5) The prospective cohort study method should be employed in principle.
- (6) When compiling study results, both the analysis results with statistically significant differences and the analysis results that show no significant difference as a result of a sufficiently capable statistical test should be clearly indicated.

3. Health effects to be examined and points to be noted in ascertaining them

- (1) Solid cancers, leukemia and non-cancerous diseases, for which effects of radiation have been suspected in previous studies, should be covered as broadly as possible. In addition to health checkups, the cancer registry system, vital statistics and other data should also be investigated.
- (2) Items to be examined and frequencies of the examinations should be determined based on those for legal health checkups or as provided for in the MHLW Ministerial guidelines,¹ while referring to those actually adopted for examinations targeting atomic bomb survivors in Hiroshima and Nagasaki. However, such items may be changed or new items may be added in—according to the progress of technologies.
- (3) Questionnaires by which psychological effects can be properly ascertained should be prepared and used.

4. Points to be noted in ascertaining cumulative doses

- (1) The primary source documents of both the external exposure and the internal

¹ Guidelines on Maintaining and Improving the Health of Emergency Workers at the TEPCO Fukushima Daiichi Nuclear Power Plant (Guidelines Public Notice No. 5, dated 11 October 2011)

exposure should be preserved in the form of original documents to the extent possible so that these data may be verified in the future. It is preferable to multi-directionally evaluate exposure doses adopted from the perspective of epidemiological studies.

- (2) A chromosomal test should be conducted with regard to workers whose effective dose exceeds 100mSv to measure their exposure dose biologically.

5. Points to be noted in ascertaining confounding factors

- (1) As the long-term epidemiological studies will continue for a long time and cover cancers and other diseases caused by various factors, it is very important to properly ascertain confounding factors.
- (2) In addition to items adopted in studies previously conducted in domestic examinations of each worker's history of exposure to toxic substances, the worker's educational background, job title, and assigned duties are characteristically important.

6. System for the studies

- (1) A controlling research institute, which controls all of the studies, should first be designated, and cooperative research institutions in respective sectors should be selected thereunder.
- (2) Consigned health check organizations, etc., such as those obtaining consent to conduct studies from study targets or those collecting biological samples, should be selected.

7. Study period, evaluation and publication of study results

- (1) As the studies will take time, research institutions should be evaluated by an international third-party panel at 5-year intervals.
- (2) Research institutions should regularly report their study results to the MHLW and publicize them in the controlling research institute's publications, and compile and publish achievements in international academic journals.