Enforced Plan on Environmental Monitoring

April 22, 2011

Headquarters against Nuclear Disasters

1. Background and Objectives

(1) Considering the still unstable situation of the Fukushima-Daiichi Nuclear Power Station, Evacuation Zone (EZ), Planned Evacuation Zone (PEZ), and Evacuation Preparation Zone (EPZ) have been set to cope with the radiation exposure in the emergencies. The radiation dose environments of the related areas are monitored by several organizations including local governments under the coordination by MEXT.

(2) Under the circumstances, this Enforced Plan for Environmental Monitoring (EPoEM) shall be taken to understand an entire view of the accident and to supply necessary data to verify the decision to set the PEZ and others, taking into account the following items:

[1] Collecting data on the distribution of radio active materials inside an appropriate area including the vicinity of the Fukushima-Daiichi Nuclear Power Station.
[2] Preparation for future evaluations on the changes of dose rate and accumulated amount of radioactive materials in each area i.e. EZ, PEZ and EPZ.
[3] Information supply on environmental dose rate for personal dose evaluation of local residents.

2. Operations

In the meantime, EPoEM shall be conducted to handle the current exposure in emergency with a view point after the stabilization of the accident as follows:

(1) Based on the results of environmental monitoring, the following maps will be produced that indicate distributions of dose rate and radioactivity:

[1] Dose rate map (DRM) to confirm the current distribution of radioactive materials
[2] Accumulated dose estimation map (ADEM) that indicates annual dose in various areas based on the DRM after the accident considering the annual dose limit of 20 mSv.
[3] Soil contamination map (SCM) that indicates the distribution of the accumulated amount of radioactive nuclides in the surface soil.

(2) Measurements on each observation point will be conducted on the atmospheric dose rate, the concentrations of iodine-131, cesium-134 and cesium-137 in the surface soil. Optimizing number of measuring points and appropriate utilization of cumulative dose detectors, such as glass dosimeters, should be considered to attain effective and efficient monitoring.

(3) The Aerial Radiation Surveys (ARSs) conducted by the U.S.DOE and MEXT must be utilized to grasp the dose rate distribution in the widespread area and to realize effective and efficient emergency environmental monitoring.

(4) For the EZ within 20 km distance from the power plants, a series of feasible monitoring shall be conducted including ARS, watching the plant status after the accident.

(5) For the ocean area, monitoring points shall be increased and diffusion simulation of radio-active materials shall be continued utilizing methods for the ocean current forecast. Investigation on fishery resources shall be conducted as well.

(6) Nuclear Safety Commission of Japan (NSCJ) will evaluate the monitored results generally, after the appropriate accumulation of the data. The Headquarters against Nuclear Disasters will conduct countermeasures based on the evaluation report from NSCJ considering the status changes after the accidents.

3. Structure

EPoEM shall be conducted under the close cooperation between related organizations.

(1) Monitoring shall be carried out by [1] MEXT – including cooperation with JAEA, universities, and U.S.DOE, [2] MOD, [3] Police – Prefectural Police, [4] Fukushima Prefecture, [5] electricity utilities and others.

(2) MEXT shall compile all the data collected with the activities described in the item (1).

(3) To propel the environmental monitoring in a systematic and well-planned manner, MEXT and NSCJ shall cooperate with METI and other organizations, and establish realistic procedures for the standardizations on ranges and methods for the emergency environmental monitoring.