§7. Future Scope of Safety Management on Radiological Protection of Human and Environment in Japan

Iimoto, T. (Univ. Tokyo)

The purpose of this study is to discuss the optimization of safety management for the protection of people and the environment in use of radioactive materials. In particular, large-scale plasma experiment facility and radiation facility would be main targets of this study. As one of international trends. International Atomic Energy Agency (IAEA) is revising safety standards, etc. related to the protection of people and the environment. The revision refers the 2007 basic recommendation of International Commission on Radiological Protection (ICRP) as well as the new Basic Safety Standards (BSS) of IAEA published in 2014.

In 2015 to be the first year of this study, we focused on such international trends as well as Japanese domestic movement concerning environmental radiation protection or environmental impact assessment from the viewpoint of regulation. This is an investigation research.

ICRP made one step forward from the standing point of that "The Commission believes that the standards of environmental control needed to protect man to the degree currently thought desirable will ensure that other species are not put at risk. (Publication 60)" The commission provided a chapter on the environment protection in the 2007 Basic Recommendation, and showed a developing framework. The commission mentioned "even though such needed have not arisen from any new or specific concerns about the effects of radiation on the environment" in the recommendation. However, they mentioned "(364) The Commission therefore believes that the development of a clear framework is required in order to assess the relationships between exposure and dose, and between dose and effects. and the consequences of such effects, for nonhuman species, in a common scientific basis." and "(370) The Commission does not therefore propose to set any form of 'dose limits' with respect to environmental protection." For the reference and plants, DCRLs: animals Derived Consideration Reference Levels were presented in the Publication 108 and 124 of ICRP. DCRLs were defined based on the radiation effects which

had been observed for the species corresponding to the reference animals and plants. The levels were to be used as criteria for comparison with estimated dose rate in the recommendations.

On the other hand, IAEA has been developing documents "Radiation Protection of the Public and Protection of the Environment (draft)", "Prospective Radiological Environmental Impact Assessment and Protection of Public for Facilities and Activities (draft)", and "Regulatory Control of Radioactive Discharges to the Environment (draft)".

In the Basic Environment Law in Japan, the description of Article 13 "measures related to the prevention of pollution of the atmosphere, pollution of water quality and pollution of the soil by radioactive materials are due to the stipulated in the Atomic Energy Basic Law and other relevant laws" was deleted by the Supplementary Provisions of the Nuclear Regulatory Commission Establishment Act (June 2012). Response to this, "radioactive material in general environments" was added in the attached table of the Law within the range of items in the environmental impact assessment. In addition, the description of that "situation of pollution of the environment by radioactive materials shall be checked by the amount of radiation" was added in the "Environment Impact Assessment Items Selection Guideline". Impact assessment of nonhuman species is not requested at this time. As an operation related to the environmental impact assessment under the Law, an operation with a risk of considerable diffusion and outflow of radioactive materials in accordance with the change of the shape of the land as well as an operation handling radioactive materials are Examples assumed. of application of environmental impact assessment are summarized "Environmental Impact \mathbf{as} Assessment Technical Guide". Accumulation of experience from now on should be shared with stakeholders for the effective and optimized assessment.

The implications of environmental impact assessment between of the ICRP/IAEA, etc. and of the Environmental Basic Law in Japan are different. It must be paid attention to assess and discuss the environmental impact.