

§4. Safety Strategy on Radiological Environmental Assessment for Radiation Facilities

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The purpose of this study is to list up discussion items for optimization of safety strategy on radiological environmental assessment for radiation facilities including ^3H users.

Revision task on WS-G-2.3 Safety Series “REGULATORY CONTROL OF RADIOACTIVE DISCHARGES TO THE ENVIRONMENT (2000)” of IAEA is one of the most important international movements on the related discussion. After the publication of WS-G-2.3, several international documents have been open to public, ideas and description in these documents would be the basis of future safety strategy. For example, ICRP Publication 101 “Assessing Dose of the Representative Person for the Purpose of Radiation Protection of the Public and the Optimization of Radiological Protection (2006)”, ICRP Publication 103 “The 2007 Recommendations of the International Commission on Radiological Protection (2007)”, and IAEA International Basic Safety Standards (BSS) “Radiation Protection and Safety of Radiation Source (2014), etc. would be the core documents. In BY of 2014 as the 3rd and final year of this research, latest movement and discussion items of IAEA on regulation on discharge of radioactive materials from facilities have been investigated, especially focusing on the activities of WASSC for radioactive wastes management. Based on the related international discussion, several important standards relating to our study were determined in the new BSS as follows.

Principle 1: Responsibility for safety; The prime responsibility for safety must rest with the person or organization responsible for facilities and activities that give rise to radiation risks.

Principle 2: Role of government; An effective legal and governmental framework for safety, including an independent regulatory body, must be established and sustained.

Principle 5: Optimization of protection; Protection must be optimized to provide the highest level of safety that can reasonably be achieved.

Principle 7: Protection of present and future generations; People and the environment, present and future, must be protected against radiation risks.

The latest meeting of IAEA-WASSC held in November of 2014 suggested the draft documents; DS432 “A general framework for prospective radiological environmental impact assessment and protection of the public”, DS427 “Radiation Protection of the Public and Protection of the Environment”, and DS442 “Regulatory Control of Radioactive Discharges to the Environment”. These documents will be discussed under the umbrella of the safety standards introduced above. Important points in the new BSS to be discussed are follows, for example.

In a global and long term perspective, protection of people and the environment against radiation risks associated with the operation of facilities and the conduct of activities — and in particular, protection against such risks that may transcend national borders and may persist for long periods of time — is important for achieving equitable and sustainable development. The system of protection and safety required by these Standards generally provides for appropriate protection of the environment from harmful effects of radiation. Prospective environmental assessment is important to identify impacts on the environment, to define the appropriate criteria for protection of the environment, to assess the impacts and to compare the expected results of the available options for protection. The assessment of impacts on the environment needs to be viewed in an integrated manner with other features of the system of protection and safety to establish the requirements applicable to a particular source. Such an integrated perspective also has to take into account the need to prevent unauthorized acts with potential consequences for and via the environment, including, for example, the illicit dumping of radioactive material and the abandonment of radiation sources. Consideration also needs to be given to the potential for buildup and accumulation of long lived radionuclides released to the environment.

Three examples of discussion points in Japan indicated in this study were (1) problem on approval of discharges on diffusion of radioactive materials over the national border line, (2) confusion between environment protection and environment preservation, and (3) definition, scope and purpose of environmental assessment. These three are still complicated in Japan responding to the relating international movement and discussion.