

XVI-2 Status of Radioactive Waste Management and Dose Management of Radiation Workers involved in Nuclear Facilities

XVI-2-1 Status of Radioactive Waste Management

(1) Release of Gaseous and Liquid Waste

(1) Commercial Nuclear Power Reactor Facilities

The release of gaseous and liquid radioactive waste is controlled at every nuclear power plant not to exceed the prescribed dose limit for the public in the area (i.e., 50 microsievert/year) in accordance with the "Guideline concerning the target dose level of the local residents of light water nuclear power reactor facilities." The annual emission control target levels are determined in the safety provisions based on the values evaluated at the time of the safety assessment which takes place prior to the establishment of the facilities, and the emission is controlled not to exceed the target levels.

In FY2007, the emissions were lower than the target emission levels at all nuclear power plants. The results of the evaluation, which was performed in accordance with the "Guideline concerning the target dose level of the local residents of light water nuclear power reactor facilities" show that the equivalent dose of public exposure was less than 1 microsievert per year.

(2) Power Reactor Facilities at the Research and Development Stage

The release of gaseous and liquid radioactive waste is controlled not to exceed the annual emission control levels, which were determined in the safety provisions based on the emission level used at the time of assessment for reactor construction licensing or lower. In FY2007, the release was under the target release control values at Fugen Decommissioning Engineering Center and Prototype Fast Breeder Reactor Monju of Japan Atomic Energy Agency. The results of the evaluation, which was performed in accordance with the "Guideline concerning the target dose level of the local residents of light water nuclear power reactor facilities" show that the equivalent dose of public exposure was less than 1 microsievert per year.

(3) Fabrication Facilities

The release of gaseous and liquid waste of fabrication facilities is controlled so that the three-month average concentrations do not exceed the target concentration control limit levels, which were determined in the safety provisions not to exceed the limit levels stipulated therein. In each quarter of FY2007, the amount of released waste satisfied the target concentration control levels.

(4) Reprocessing Facilities

The release of gaseous and liquid radioactive waste is controlled not to exceed the annual emission control levels, which were determined in the safety provisions based on the emission level used at the time of assessment for business licensing of the facilities (approval of construction). In FY2007, the release was under the target release control values at Japan Atomic Energy Agency, Tokai Research and Development Center, Nuclear Fuel Cycle Engineering Laboratories, Reprocessing Facility (hereinafter referred to as Japan Atomic Energy Agency, Reprocessing Facility) and Japan Nuclear Fuel Limited, Reprocessing Plant (reprocessing facility). As a result of evaluation by the evaluation method used at the assessment for business licensing (construction approval), the effective dose of the public was lower than 1 microsievert for one year at Japan Atomic Energy Agency, Reprocessing Facility, and was about 1.3 microsievert for one year at Japan Nuclear Fuel Limited, Reprocessing Plant (reprocessing facility).

(5) Waste Burial Facilities, Waste Management Facilities

The release of gaseous and liquid waste of waste burial facilities and waste management facilities is controlled so that the three-month average concentrations do not exceed the target concentration control limit levels, which were determined in the safety provisions.

In each quarter of FY2007, the amount of released waste satisfied the target concentration control levels.

For reference purposes, the amount of released gaseous and liquid radioactive waste from nuclear power reactor facilities in a commercial and research and development stage on an annual basis since FY1998, is shown in reference documents 1 to 4.

The radioactivity of released gaseous and liquid radioactive waste was measured in accordance with the "Guideline for Measurement of Released Radioactive Materials from Light Water Nuclear Power Reactor Facilities." Concentrations of released radioactivity that are below the detection limit are indicated as N.D. in the tables.