

XIV-2 Status of Occupational Exposure Dose Management at Nuclear Facilities

- (1) Licensees for the construction of reactors, etc. are obligated to control the exposure dose levels of personnel engaged in radiation work not to exceed the exposure limit prescribed by the Nuclear Reactor Regulation Law.

The occupational exposure dose in FY2002 was lower than the limit at all the facilities.

Individual exposure dose limits of personnel engaged in radiation work: Following the recommendation by ICRP in 1990, the relevant laws have been amended, and as a result it is stipulated that from FY2001 onward the individual exposure dose limits of personnel engaged in radiation work is 100 mSv per five years and 50 mSv per year. (The exposure dose limit for female personnel, except for those diagnosed as infertile, those with no intention of becoming pregnant or those during pregnancy, will be 5 mSv per three months in addition to the prescribed limit mentioned above.)

- (2) The status of exposure dose management in FY2002 is as follows:

- 1) The total number of personnel engaged in radiation work at commercial reactor facilities in FY2002 was approximately 68,800, compared to approximately 67,800 during the previous fiscal year, while the total exposure dose at commercial reactor facilities was 84.03 person-Sv, compared to 78.05 person-Sv during the previous fiscal year. The average exposure dose at commercial power reactor facilities was 1.3 mSv per person, compared to 1.2 mSv per person during the previous fiscal year.
- 2) Among power reactor facilities in the research-and-development stage, at the Fugen Nuclear Power Plant the average exposure dose of personnel engaged in radiation work was 1.1 mSv per person, which was the same as in the previous fiscal year, while at the Monju Nuclear Power Plant it was 0.0 mSv per person, which was again the same as in the previous fiscal year.

The total exposure dose at the Fugen Nuclear Power Plant was 1.12 person-Sv, compared to 1.96 person-Sv during the previous fiscal year, while at the Monju Nuclear Power Plant it was 0.00 person-Sv, which was the same as in the previous fiscal year.

- 3) The average exposure dose of personnel engaged in radiation work at a fabrication facility was a maximum of 0.4 mSv per person, which was the same as the previous fiscal year.

The total exposure dose of personnel engaged in radiation work at a fabrication facility was a maximum of 0.15 person-Sv, compared to 0.14 person-Sv during the previous fiscal year.

- 4) The average exposure dose of personnel engaged in radiation work at a reprocessing facility was a maximum of 0.4 mSv per person, compared to 0.1 mSv per person during the previous fiscal year.

The total exposure dose of personnel engaged in radiation work at a reprocessing facility was a maximum of 0.78 person-Sv, compared to 0.28 person-Sv during the previous fiscal year.

- 5) The average exposure dose of personnel engaged in radiation work at a waste-burial facility or waste-management facility was a maximum of 0.1 mSv per person, which was the same as in the previous fiscal year.

The total exposure dose of personnel engaged in radiation work at a waste-burial facility or a waste-management facility was a maximum of 0.03 person-Sv, which was the same as in the previous fiscal year.

- 6) The exposure dose limit was set so as not to exceed 100 mSv in the five-year period starting April 1, 2001, and as of the end of FY2002 no personnel engaged in radiation work exceeded the exposure limit.

The total number of personnel engaged in radiation work who exceeded 20 mSv, including exposure in other establishments during the one-year period of FY2002, was seven at all nuclear facilities with a maximum of 22.2 mSv.

(3) Occupational exposure dose management is conducted for each facility. When personnel engaged in radiation work have shifted between more than one nuclear facility, their exposure record in other facilities is checked to maintain accurate exposure management.

Additionally, the Occupational Exposure Central Registration Center of the Radiation Effects Association registers and manages the occupational exposure doses and stores its records in a centralized manner.

(4) The exposure dose distribution (including the status of exposure doses with histories of radiation exposure) and the quarterly exposure dose distribution for female personnel (except for those diagnosed as infertile, those with no intention of becoming pregnant or those during pregnancy) in FY2002 have been indicated.

The annual exposure doses of personnel engaged in nuclear power reactor facilities since FY1993 have been provided in a reference document.

The following are notes for the tables:

- 1) The “total” number of personnel engaged in radiation work is the sum of all numbers recorded at each nuclear facility. Therefore, workers who have worked at more than one facility are counted more than once.
- 2) The “total exposure dose” values for “employees” and “others” were rounded to three decimal places. For some data, the sum of “employees” and “others” does not correspond with the “total,” which is an error arising from the calculation method described above.
- 3) The “average exposure dose” values were rounded to one decimal place.
- 4) The “maximum exposure dose” is based on records at the power plant concerned.
- 5) The number of personnel engaged in radiation work and exposure doses have been collected since the institution of control zones.
- 6) The exposure dose of personnel who worked at both the Tokai Power Station and the Tokai Daini Power Station of the Japan Atomic Power Co., Ltd. was calculated by dividing the value that was indicated on the film badge into proportions based on the measurements of the electronic dosimeters at these two plants (for data up to FY1999).
- 7) The data for establishments that have “facilities” defined in the Nuclear Reactor Regulation Law includes some of the data of personnel engaged in radiation work at such facilities.