

XVI-2-2 Status of Occupational Radiation Exposure Management

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

In FY2007, the occupational radiation exposure dose was lower than the limit at all nuclear facilities.

Individual exposure limits of personnel engaged in radiation work: In response to the recommendation by ICRP in 1990, relevant laws were amended as follows. After FY2001, the individual radiation exposure limit is 100 millisievert per five years and 50 millisievert per year.

(The exposure limit for female personnel, which is defined in Article 9-2 of the Regulations Concerning Construction, Operation, etc. of Commercial Nuclear Power Reactors, is 5 millisievert per three months, in addition to the prescribed limit mentioned above.)

- (2) The status of radiation exposure management for FY2007 is as follows.

1. The total number of radiation workers at the commercial nuclear reactor facilities in FY2007 was about 73,000 (about 66,900 in the previous fiscal year), and the total dose was 78.18 person-sievert (67.43 person-sievert in the previous fiscal year).

The average dose per person was 1.1 millisievert (also 1.0 millisievert in the previous fiscal year).

2. Among the power reactor facilities at the research and development stage, at Japan Atomic Energy Agency, Fugen Decommissioning Engineering Center, the mean dose per radiation worker was 0.2 millisievert (0.3 millisievert in the previous fiscal year); at Japan Atomic Energy Agency, Prototype Fast Breeder Reactor Monju, the mean dose per radiation worker was 0.0 millisievert (0.0 millisievert in the previous fiscal year).

At Japan Atomic Energy Agency, Fugen Decommissioning Engineering Center, the total dose of radiation workers was 0.09 person-Sv (0.20 person-sievert in the previous fiscal year); at Japan Atomic Energy Agency, Prototype Fast Breeder Reactor Monju, the total dose of radiation workers was 0.00 person-sievert (0.00 person-sievert in the previous fiscal year).

3. The mean dose per radiation worker at the plants of the fabrication facilities was 0.2 millisievert (0.3 millisievert in the previous fiscal year) at highest.

The total exposure dose of personnel engaged in radiation work at a processing facility was a maximum of 0.10 person-sievert, compared with 0.10 person-sievert in the previous fiscal year.

4. The mean dose per radiation worker at the plants of the reprocessing facilities was 0.2 millisievert (0.1 millisievert in the previous fiscal year) at highest.

The total exposure dose of personnel engaged in radiation work at a reprocessing facility was a maximum of 1.05 person-sievert, compared with 0.21 person-sievert in 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 0.0 millisievert per person, which is the same as the previous fiscal year.

The total exposure dose of personnel engaged in radiation work at a waste burial facility or waste management facility was a maximum of 0.01 person-sievert, compared with 0.01 person-sievert in the previous fiscal year.

6. Starting on April 1, 2006, the exposure dose limit was set not to exceed 100 millisievert per five year period, and no person had exceeded the exposure limit at the end of FY2007.

(3) Occupational exposure management in nuclear facilities is managed by each plant. When a radiation worker works at more than one nuclear plant, his or her exposure records at other nuclear plants are checked to execute accurate radiation management.

The registration, recording and maintenance of occupational exposure data is managed in a unified fashion by the Occupational Exposure Central Registration Center of the Radiation Effects Association.

(4) The distribution for the exposure levels of personnel engaged in radiation work in FY2007 (including exposure status incorporating exposure history) and the distribution of exposure levels of female personnel (defined in Article 9-2 of the Rules for the Installation, Operation, etc. of Commercial Power Reactors) are shown by quarter.

The exposure dose of personnel at nuclear facilities by fiscal year from 1998 is presented in the reference documents.

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. In some cases, therefore, the sum of the "Employees" and the "Others" does not correspond with the "Total" due to this rounding error.
3. The "average dose" values were rounded to two decimal places.
4. The "maximum dose" values are the actual doses at the facility.
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 Company Co., Ltd., was calculated by dividing the value that was indicated on the film badge into proportions based on the dosimeter measurements at these two plants. (for data up to FY1999)
7. The data for plants that have "facilities in which nuclear fuel material is handled" defined in the Nuclear Reactor Regulation Law include some of the data of personnel engaged in radiation work at these facilities.