

VI-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 so as not to exceed the exposure limit prescribed by the Nuclear Reactor Regulation Law.

This document has been compiled from the FY1980 "Report on Radiation Management, Etc.," as submitted by licensees for the construction of commercial reactor facilities in accordance with the Nuclear Reactor Regulation Law, and the "Report on Exposure Dose, Etc., of Radiation Workers," etc., in accordance with an administrative notification.

The annual exposure records of personnel engaged in commercial reactor facilities since FY1971 are provided in the appendix for reference purposes.

- (2) The following are notes for the tables:

- 1) The "total" number of personnel engaged in radiation work is the sum of all the 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" have been rounded to the nearest whole number. For certain data the sum of "employees" and "others" does not correspond to the "total," which is an error due to the above-described calculation method.
- 3) The "average dose" values were rounded to two decimal places.
- 4) Reactors have been included in the "unit number of reactors" only after reaching the first critical state.
- 5) The exposure dose of personnel who have worked at both the Tokai Power Station and the Tokai Daini Power Station of the Japan Atomic Power Co., Ltd. has been calculated at these two plants through the process of double counting.

- (3) According to these reports, the records of occupational exposure at commercial reactor facilities in FY1980 were lower than the exposure limit (3 rems per 3 months) prescribed by a notification based on the Nuclear Reactor Regulation Law at all the nuclear plants.

The comparison between exposure records in FY1980 and periods of periodical inspections of the plants, etc., is shown in Table 1. Except for the gas-cooled reactor (GCR) facility at the Tokai Power Station, where the exposure records were averaged out during the course of the year, most of the radiation exposure took place in association with out-of-service work such as periodical inspections, etc., at boiling-water reactor (BWR) facilities and pressurized-water reactor (PWR) facilities.

Among the works carried out during periodical inspections in FY1980, the major ones with relatively high records of radiation exposure are the work associated with countermeasures against stress-corrosion cracks (SCCs); work associated with in-service inspections (ISIs); work associated with control-rod drive mechanism, pump and valve inspection work, etc.; for BWRs and inspection and maintenance work associated with steam generators; work to cut elbow splitters at the entrances of primary coolant pumps; and pump, piping and valve inspection work, etc., for PWRs.

The annual total exposure doses from FY1971 to FY1980 are shown according to the types of reactors in Table 2, which indicates a conspicuous increase following the works associated with countermeasures against SCCs at BWRs since FY1978. The total exposure dose in FY1980 increased by 1,201 rems (71 rems for BWRs, 1,083 rems for PWRs and 47 rems for GCR), compared to the previous fiscal year. The addition of the first periodical inspection of the Fukushima Daiichi Nuclear Power Station Unit 6, the addition of the first periodical inspection, the renovation of steam generators and works to cut elbow splitters at the entrance of primary coolant pumps, etc., of the Ohi Nuclear Power Station Unit 2 are considered as being among the causes for the increase.

(4) Regarding occupational radiation exposure, the Occupational Exposure Central Registration Center of the Radiation Effects Association has registered and managed data of occupational exposure doses, etc., in a centralized manner since November 1977, and has promoted the Radiation Work Passport System, thereby advancing the management of occupational radiation exposure.

As of the end of March 1981 there was the enrollment of 127,245 people with the issuance of 77,418 copies of the *Radiation Work Passport*.