

## (2) Status of Solid Radioactive Waste Management

### 1. Commercial Nuclear Power Reactor Facilities

The amount of solid low-level radioactive waste generated at commercial nuclear power reactor facilities in FY2006 was equivalent to 59,400 200-liter drums. The amount of cumulative stored waste increased by only 14,200 drums, mainly due to the amount of waste transported to the Low-Level Radioactive Waste Burial Center and the volume-reducing effects of measures such as incineration. Accordingly, at the end of FY2006, the amount of waste in solid waste storage at commercial power reactor facilities was roughly equivalent to 581,700 200-liter drums, which is 66.1% of the total storage capacity of approximately 879,600 200-liter drums.

A steam generator is a storage facility exclusively for the radioactive solid waste generated by the replacement process of steam generators and the upper lids of the reactor in the pressurized water reactor (PWR) power plants. In FY2006, a total of 130 m<sup>3</sup> of storage containers was generated as a result of the replacement of structures within the reactor at Unit 3 of Kansai Electric Power Co., Inc.'s Ohi Power Station.

Spent control rods, channel boxes, spent resin and a part of waste generated by the replacement of the shroud are stored in the spent fuel pool, storage tanker, tank, etc.

In a solid storage facility, radioactive solid waste is packed in drums and stored.

The amount of radioactive solid waste in drums is expressed as the equivalent number of 200-liter drums. Other types of radioactive solid waste are oversized equipment, etc., which do not fit in drum cans. The amount generated and amount of accumulated storage of waste of this kind is indicated by the equivalent number of 200-liter drums.

The "in-plant reduction" amount is the sum of the amount of incinerated combustible waste, the amount of volume reduction by the compressed packaging of waste in the drums. The "reduction outside plant" amount is the amount of waste transported to the Low-Level Radioactive Waste Burial Center.

The amount of radioactive solid waste stored in steam generator storage facilities is shown by the number of stored steam generators and the volume of the storage containers.

### 2. Commercial Power Reactor Facilities in a Research and Development Stage

The amount of low-level radioactive solid waste generated at the Fugen Nuclear Power Plant in FY2006 was equivalent to roughly 600 200-liter drums. The amount of cumulative storage was decreased by 200 drums due to volume-reducing efforts such as incineration. Accordingly, the amount in storage at the end of FY2006 was equivalent to roughly 19,300 200-litre drums compared to the approximate 21,500-drum capacity of the storage facility. Ion-exchange resins and filter sludge are stored in tanks, while spent control rods and neutron detectors are stored in spent fuel pools.

The amount of low-level radioactive solid waste generated at the Monju facility in FY2006 was equivalent to roughly 300 200-liter drums. Accordingly, the amount in storage at the end of FY2006 was equivalent to roughly 3,400 200-litre drums compared to the approximate 23,000-drum capacity of the storage facility.

### 3. Fabrication Facilities

In FY2006, the amount of low-level radioactive solid waste generated at a total of six fabrication facilities, which are operated by five companies, was equivalent to roughly 3,200 200-liter drums. The amount of cumulative storage was increased by only 600 drums due to volume-reducing efforts such as incineration. Accordingly, the amount of low-level radioactive solid waste stored at the end of FY2006 was equivalent to roughly 42,400 200-litre drums compared with the approximate 53,560-drum total capacity of the storage facilities.

#### 4. Reprocessing Facilities

The amount of low level radioactive solid waste generated at the Japan Atomic Energy Agency, Tokai Research and Development Center, Nuclear Fuel Cycle Engineering Laboratories (reprocessing facility) in FY2006 was equivalent to roughly 300 200-liter drums. Accordingly, the amount of low-level radioactive solid waste stored at the end of FY2006 was equivalent to roughly 75,000 200-litre drums compared with the approximate 92,140-drum capacity of the storage facility. The amount of high-level radioactive solid waste generated was equivalent to 116 200-liter drums, and the amount of vitrified waste canisters (120-liter containers) was 23 containers. Accordingly, the amount of high-level radioactive solid waste stored at the end of FY2006 was equivalent to roughly 6,400 200-litre drums compared with the approximate 10,320-drum capacity of the storage facility. The amount of vitrified waste canisters (120-litre containers) stored is 241 compared to the 420-capacity of the storage facility.

The amount of low-level radioactive solid waste generated at the reprocessing plant (reprocessing facilities) of the JNFL in FY2006 was equivalent to roughly 6,100 200-liter drums. Accordingly, the amount of low-level radioactive solid waste stored at the end of FY2006 was equivalent to roughly 16,100 200-liter drums compared with the approximate 74,750-drum capacity of the storage facility. The amount of generated sheared and covering pieces was equivalent to roughly 61 1000-liter drums. Accordingly, the amount in storage at the end of FY2006 was equivalent to roughly 61 drums compared to the approximate 2,000-drum capacity of the storage facility. Vitrified waste has not been generated at the JNFL Reprocessing Center.

#### 5. Waste Burial and Waste Management Facilities

At the end of FY2006, in the JNFL Enrichment and Burial Plant (waste burial facility), solidified waste equivalent to roughly 137,000 drums was buried at the No.1 waste burial facility (capacity: approx. 200,000 200-liter drums) and injected grout equivalent to roughly 56,000 drums was buried at the No. 2 waste burial facility (capacity: approx. 200,000 200-liter drums). No low-level radioactive solid waste was generated in association with burial activities.

Roughly 1,670 tons of solid waste associated with the dismantling of JPDR is already buried at the waste burial facility of the Japan Atomic Energy Agency.

The amount of low-level radioactive solid waste generated in association with the relevant business at the waste management facility of the JNFL Reprocessing Plant in FY2006 was equivalent to roughly 40 200-liter drums. Accordingly, the amount of low-level radioactive solid waste stored at the end of FY2006 was equivalent to roughly 700 200-liter drums compared with the approximate 1,200-drum capacity of the storage facility. At the end of FY2006, roughly 1,300 containers of high-level radioactive solid waste (returned vitrified waste) was received and managed in the management storage facility which has a capacity of roughly 1,440 containers.

At the end of FY2006, low-level radioactive waste equivalent to roughly 27,600 200-liter drums, which includes approximately 500 drums of low-level radioactive solid waste generated in association with the activities of the research institute, is being managed at the waste management facility of the Japan Atomic Energy Agency, which has a capacity equivalent to 42,800 drums.

The status of solid waste management in each fiscal year since FY1997 is shown in reference document 5; the amount of waste by fiscal year transported to the low-level radioactive waste burial center is shown in reference document 6. Trends in the burial amount of radioactive waste at the waste burial facilities of the JNFL Enrichment and Burial Plant is shown in reference document 7. The management status of high-level radioactive waste (returned vitrified waste) by fiscal year at the management facility of the JNFL Reprocessing Plant is shown in reference document 8.