

(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 FY2007 was equivalent to roughly 57,200 200-liter drums. The amount of cumulative stored waste increased by only 20,900 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 FY2007, the amount of waste in solid waste storage at commercial power reactor facilities was equivalent to roughly 602,700 200-liter drums, which is 68.5% of the total storage capacity of approximately 879,600 200-liter drums.

The steam generator storage buildings, etc. are those that exclusively store solid radioactive waste produced by the replacement of steam generators and reactor vessel top covers at pressurized water reactor power stations. In FY2007, storage containers for 567 m³ of waste were produced by the replacement of reactor vessel top covers at Kansai Electric Power Co., Inc., Takahama Power Station Unit 4, Ohi Power Station Unit 4, and Japan Atomic Power Company, Tsuruga Power Station Unit 2.

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 bunker, 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 reduction in the station is the sum of reduction by the incineration of combustible waste, drum packing by compression, etc.; the reduction outside the station is reduction by carrying out to the low-level radioactive waste burial center or clearance treatment at Japan Atomic Power Company, Tokai Power Station.

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) Power Reactor Facilities at the Research and Development Stage

The production of low-level radioactive solid waste at Japan Atomic Energy Agency, Fugen Decommissioning Engineering Center in FY2007 was equivalent to roughly 500 200-liter drums. The amount of cumulative storage was decreased by 300 drums due to volume-reducing efforts such as incineration. Accordingly, the amount in storage at the end of FY2007 was equivalent to roughly 18,900 200-liter 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 production of low-level radioactive solid waste at Japan Atomic Energy Agency, Prototype Fast Breeder Reactor Monju in FY2007 was equivalent to roughly 200 200-liter drums. Accordingly, the amount in storage at the end of FY2007 was equivalent to roughly 3,600 200-liter drums compared to the approximate 23,000-drum capacity of the storage facility.

(3) Fabrication Facilities

In FY2007, 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 3,600 200-liter drums. The amount of cumulative storage was increased by only 1,700 drums due to volume-reducing efforts such as incineration. Accordingly, the amount of low-level radioactive solid waste stored at the end of FY2007 was equivalent to roughly 44,100 200-liter drums compared with the approximate 59,370-drum total capacity of the storage facilities.

(4) Reprocessing Facilities

The production of low-level radioactive solid waste at Japan Atomic Energy Agency, Reprocessing Facility in FY2007 was equivalent to roughly 300 200-liter drums. Accordingly, the amount of low-level radioactive solid waste stored at the end of FY2007 was equivalent to roughly 75,200 200-liter 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 147 200-liter drums, and the amount of vitrified waste canisters (120-liter containers) was 6 containers. Accordingly, the amount of high-level radioactive solid waste stored at the end of FY2007 was equivalent to roughly 6,500 200-liter drums compared with the approximate 10,320-drum capacity of the storage facility. The amount of vitrified waste canisters (120-liter containers) stored is 247 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 FY2007 was equivalent to roughly 4,500 200-liter drums. Accordingly, the amount of low-level radioactive solid waste stored at the end of FY2007 was equivalent to roughly 20,600 200-liter drums compared with the approximate 74,750-drum capacity of the storage facility. The amount of generated sheared coated debris, etc. was equivalent to roughly 96 1,000-liter drums. Accordingly, the amount of sheared coated debris, etc. in storage at the end of FY2007 was equivalent to roughly 157 drums compared to the approximate 2,000-drum capacity of the storage facility. The production of vitrified waste (container with a height of about 1,340 mm and an outer diameter of about 430 mm) was 57 containers. In consequence, the storage of vitrified waste at the end of FY2007 was 57 containers against the storage capacity of 3,195 containers.

(5) Waste Burial Facilities, Waste Management Facilities

At Japan Nuclear Fuel Limited, Enrichment and Burial Plant (waste burial facility), about 139,000 drums of homogeneous solidified waste were buried against the capacity of the No.1 waste burial facility (equivalent to about 200,000 200-liter drums) and about 62,000 drums of filled solidified waste were buried against the capacity of the No. 2 waste burial facility (equivalent to about 200,000 200-liter drums) by the end of FY2007. 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 FY2007 was equivalent to roughly 120 200-liter drums. Accordingly, the amount of low-level radioactive solid waste stored at the end of FY2007 was equivalent to roughly 800 200-liter drums compared with the approximate 1,200-drum capacity of the storage facility. At the end of FY2007, 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 FY2007, low-level radioactive waste equivalent to roughly 28,200 200-liter drums, which includes approximately 600 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 FY1998 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 are 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.