

Site (Data) : Rokkasho

Stock of waste as at March 2005

Country: JAPAN

Reporting Year: 2004

Site Name: Rokkasho

Full Name: Japan Nuclear Fuel Limited ::
- Uranium Enrichment Plant
- Low-Level Radioactive Waste Disposal Center
- Vitrified Waste Storage Center
- Reprocessing Plant

Inventory Reporting Date: March 2005

Waste Matrix Used: JP

Comment **# 9749: Uranium Enrichment Plant**

- 1,050 tSWU/y

Comment **# 9750: LLW Disposal Center**

Approved for a total capacity of 80,000 m³, the Low-Level Radioactive Waste Disposal Center has now its No.1 and No.2 disposal facility.
The ultimate capacity is planned to be 600,000 m³.

A burial waste disposal at a depth with sufficient safety margin to conventional underground usage (e.g. 50-100m) is considered for 'Waste with relatively high levels of radioactivity'. JNFL is conducting a detailed survey on the geology and ground water of the premises for a basic design of the disposal facility since 2002 following the one-year preliminary study.

Comment **# 9751: Vitrified Waste Storage Center**

Japanese nuclear utilities entrust the two overseas companies, BNFL (UK) and COGEMA (France) with reprocessing of spent fuel in total about 7,100 tU. Uranium and Plutonium recovered from reprocessing of spent fuel are returned to each Japanese company as recycled nuclear fuel. At the same time, radioactive waste, a by-product of reprocessing, is also returned.

The shipment of vitrified HLW (VHLW) from France to Japan has been safely performed since 1995. The specially designed transport casks, which fulfill the IAEA regulation criteria for the Type-B package and are fully licensed by the French and Japanese Authorities, have been used to transport VHLW canisters. These returned VHLW are stored in the JNFL's Vitrified Waste Storage Center.

Comment **# 9752: Reprocessing Plant**

- 800 tU/y (Under Construction)

Construction of the first commercial reprocessing plant in Japan has almost completed and test operations have been taken place in the main reprocessing process plant. Since December 2004, test operation using depleted uranium has started.

The spent fuel storage building, which has 3,000 tU storage capacity with three wet-pools, have already been in service operation. Spent fuels from NPP sites have been received and stored since 2000.

Comment **# 9753: MOX fuel Fabrication Plant (future facility)**

(out of NEWMDB submission scope)

A license application for fuel fabrication (MOX fuel 130 tHM/y) business has submitted in 2005. The construction of the plant is scheduled to start in 2007 and completed in 2012.

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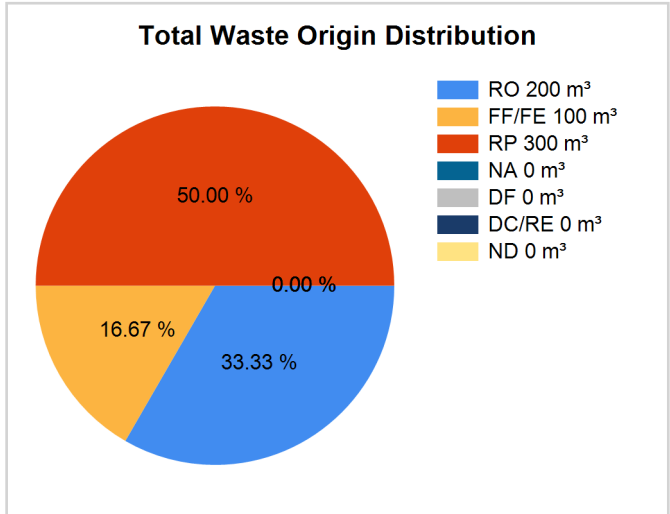
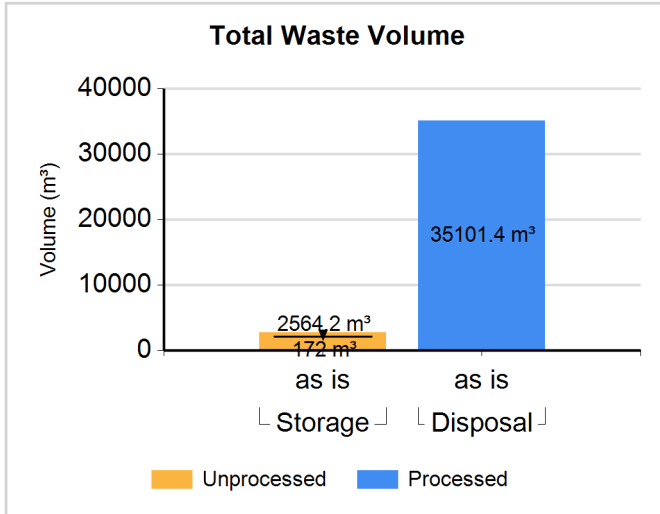
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Waste Inventory

Est=distribution is an estimate, Proc.=Is the waste processed (Yes/No)? RO=Reactor Operations, FF/FE=Fuel Fabrication/Fuel Enrichment, RP=Reprocessing, NA=Nuclear Applications,DF=Defence, DC/RE=Decommissioning/Remediation, ND=Not Determined



Note: where volume "as dispo" is provided, volume "as is" is used in the graph instead.

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Waste Class: HLW

Waste Class Name	Location / Facility	Proc	Est.	Volume "as is" (m ³)	Volume "as dispo" (m ³)	RO %	FF/FE %	RP %	NA %	DF %	DC/RE %	ND %
HLW (solid)	Storage / VWSC	Y	N	172.000	172.000	0.00	0.00	100.00	0.00	0.00	0.00	0.00

Comment **# 9876: HLW inventory in JNFL::Rokkasho**

- 892 vitrified waste packages returned from COGEMA (France)

Waste Class: WcTRU

Waste Class Name	Location / Facility	Proc	Est.	Volume "as is" (m ³)	Volume "as dispo" (m ³)	RO %	FF/FE %	RP %	NA %	DF %	DC/RE %	ND %
WcTRU (solid)	Storage / REP	N	N	1637.600	1637.600	0.00	0.00	100.00	0.00	0.00	0.00	0.00
WcTRU (solid)	Storage / VWSC	N	N	110.400	110.400	0.00	0.00	100.00	0.00	0.00	0.00	0.00

Comment **# 9877: WcTRU inventory in JNFL::Rokkasho**

- 552 drums (200L equivalent) from acceptance inspection and maintenance at VWSC
- 8,188 drums (200L equivalent) at REP

Waste Class: UW

Waste Class Name	Location / Facility	Proc	Est.	Volume "as is" (m ³)	Volume "as dispo" (m ³)	RO %	FF/FE %	RP %	NA %	DF %	DC/RE %	ND %
UW (solid)	Storage / UEP	N	N	816.200	816.200	0.00	100.00	0.00	0.00	0.00	0.00	0.00

Comment **# 9878: UW inventory in JNFL::Rokkasho**

- 4,081 drums (200L equivalent)

Waste Class: WfPR

Waste Class Name	Location / Facility	Proc	Est.	Volume "as is" (m ³)	Volume "as dispo" (m ³)	RO %	FF/FE %	RP %	NA %	DF %	DC/RE %	ND %
WfPR (solid)	Disposal / LLWDC-1	Y	N	27179.800	27179.800	100.00	0.00	0.00	0.00	0.00	0.00	0.00
WfPR (solid)	Disposal / LLWDC-2	Y	N	7921.600	7921.600	100.00	0.00	0.00	0.00	0.00	0.00	0.00

Comment **# 9879: Waste Inventory in JNFL::LLWDC**

- 135,899 drums (200L), of 135,899 drums disposed in No.1 Disposal Facility
 - 39,608 drums (200L), of 38,512 drums disposed in No.2 Disposal Facility
- Total accepted waste: 175,507 drums, of which 174,411 drums had been placed in concrete cells (disposed) and 1,096 drums held in the temporary storage/inspection building.

The discrepancy of % of existing capacity comes from 1,096 drums held in temporary storage/inspection building, those have not been placed in the concrete cells of the disposal facility. 74.3% is formal value reported in Japan.

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Processing - Treatment method(s)

Method	Status			
	Planned	R&D program	Current practice method use over the last 5 years	Past Practice
Chemical Precipitation	N	N	Same	N
Compaction	Y	N		N
Evaporation	Y	N		N
Filtration	N	N	Same	N
Incineration	Y	N		N
Shredding	Y	N		N

Processing - Conditioning method(s)

Method	Status			
	Planned	R&D program	Current practice method use over the last 5 years	Past Practice
Cementation	Y	N		N
Vitrification	Y	N		N