

Japan Atomic Energy Agency, Tokai Research and Development Center, Nuclear Fuel Cycle Engineering Laboratories, Reprocessing Facility (3rd quarter of FY 2007)

Measured object	Sampling		Measurement		Measured value			*Comparative area	Remarks	Usual range of fluctuation (Note 3)
	Sampling point	Frequency	Object	Frequency	Object	Min to Max	Unit			
Seawater	Near discharge outlet: 5 points (A mixture of samples from the 5 points was measured)	Once/3 months	Total β radioactivity	Once/3 months	Total β radioactivity	ND	Bq/L		Data at Kuji-Oki and Isozaki-Oki was reported in 2nd quarter and will be reported in 4th quarter. Data at about 20 km north was reported in 2nd quarter.	ND
			³ H		³ H	ND				ND
	Kuji-Oki and Isozaki-Oki: 2 points	Once/6 months	Total β radioactivity	Once/6 months	Total β radioactivity		Bq/L			ND
			³ H		³ H					ND
	About 20 km north: 1 point*	Once/year	Total β radioactivity	Once/year	Total β radioactivity		Bq/L			ND to 0.0020
			³ H		³ H					ND
Near discharge outlet: 5 points (A mixture of samples from the 5 points was measured)	Once/year	Nuclide analysis	Once/year	⁹⁰ Sr	ND	Bq/L		ND		
				¹⁰⁶ Ru	ND			ND		
About 20 km north: 1 point*	Once/year	Nuclide analysis	Once/year	¹³⁴ Cs	ND	Bq/L		ND		
				¹³⁷ Cs	ND			ND		
				¹⁴⁴ Ce	ND			ND		
				^{239,240} Pu	ND			ND		
Sea-bottom soil	Near discharge outlet: 5 points (A mixture of samples from the 5 points was measured)	Once/6 months	Nuclide analysis	Once/6 months	⁹⁰ Sr	ND	Bq/kg dry		0.091	
					¹⁰⁶ Ru	ND			ND	
	Kuji-Oki and Isozaki-Oki: 2 points	Once/6 months	Nuclide analysis	Once/6 months	¹³⁴ Cs	ND	Bq/kg dry		ND	
					¹³⁷ Cs	ND			ND	
	About 20 km north: 1 point*	Once/6 months	Nuclide analysis	Once/6 months	¹⁴⁴ Ce	ND	Bq/kg dry		ND to 1.4	
					^{239,240} Pu	0.19 - 0.65			0.73	
								0.17 - 0.90		
Maine organism	White bait	Tokai village offshore: 1 point About 10 km beyond: 1 point*	Once/3 months	Nuclide analysis	Once/3 months	⁹⁰ Sr	ND	Bq/kg raw		ND
						¹⁰⁶ Ru	ND			ND
	Flatfish or flounder	Tokai village offshore: 1 point About 10 km beyond: 1 point*	Once/3 months	Nuclide analysis	Once/3 months	¹³⁴ Cs	ND	Bq/kg raw		ND
						¹³⁷ Cs	0.040			0.051
	Shellfish	Kuji beach offshore: 1 point About 10 km beyond: 1 point*	Once/3 months	Nuclide analysis	Once/3 months	¹⁴⁴ Ce	ND	Bq/kg raw		ND
						^{239,240} Pu	ND			ND
	Brown algae (seaweed, brown seaweed, etc.)	Kuji beach offshore: 1 point Isozaki offshore: 1 point About 10 km beyond: 1 point*	Once/3 months	Nuclide analysis	Once/3 months	⁹⁰ Sr	0.025, 0.026	Bq/kg raw		0.033
						¹⁰⁶ Ru	ND			ND
	Fishing net	Fishing net towed at Tokai village offshore	Once/3 months	Absorbed dose	Once/3 months	β radiation	ND	nGy/h		ND
						γ radiation	ND			ND
	Hull	Deck	Once/3 months	Surface dose	Once/3 months	β radiation	ND	nGy/h		ND
						γ radiation	ND			ND
	Coastal water	Kuji beach coast: 1 point	Once/6 months	Total β radioactivity	Once/6 months	Total β radioactivity	ND, 0.041	Bq/L		0.059, 0.066
						³ H	³ H			ND
		Ajigaura coast: 1 point	Once/6 months	Nuclide analysis	Once/year	⁹⁰ Sr	ND	Bq/L		ND - 0.0021
						¹⁰⁶ Ru	ND			ND
About 20 km north and south: 1 point at each*		Once/year	Nuclide analysis	Once/year	¹³⁴ Cs	ND	Bq/L		ND	
					¹³⁷ Cs	ND			ND	
				¹⁴⁴ Ce	ND			ND		
				^{239,240} Pu	ND, 0.000026			0.000029, 0.000032		
Coastal sand	Kuji beach coast: 1 point Ajigaura coast: 1 point About 20 km north and south: 1 point at each*	Once/3 months	Surface dose	Once/3 months	β radiation	62.79	min ⁻¹		64.73	
					γ radiation	33.44			nGy/h	35.41

(Note 1) ND: indicates below the determination limit.

(Note 2) *: indicates the comparative area.

(Note 3) The usual range of fluctuation is that in the past 10 years from FY 1997 to FY 2006.

(Note 4) The usual range of fluctuation is that in the past 3 years from FY 2004 to FY 2006.

(Note 4)

Measured object	Sampling		Measurement		Measured value			*Comparative area	Remarks	Usual range of fluctuation (Note 3)	
	Sampling point	Frequency	Object	Frequency	Object	Min to Max	Unit	Min to Max		Min to Max (Note 4)	
Air radiation	Dose rate	Inside environmental monitoring area: 9 points	Continuously	γ radiation	Continuously	Monitoring post	36 - 47	nGy/h	/	Eight monitoring posts	33 - 46 (42±9)
		Outside environmental monitoring area: 3 points				Monitoring station	32 - 37			33	Four monitoring stations
	Cumulative dose (TLD)	Inside environmental monitoring area: 15 points Outside environmental monitoring area: 25 points	Continuously	γ radiation	Once/3 months	γ radiation	50 - 110	μGy/91 days	50 - 100	From September 26 to December 26	40 - 120 (80±40)
Air	Air-borne dust	Inside environmental monitoring area: 3 points Outside environmental monitoring area: 4 points	Continuously	Nuclide analysis	Once/week	Total α radioactivity	0.027 - 0.046	mBq/m ³	0.030 - 0.039		ND - 0.088
					Once/3 months	Total β radioactivity	ND - 0.74		ND		ND - 0.93
						⁹⁰ Sr	ND		ND		ND
						¹³⁷ Cs	ND		ND		ND
						^{239,240} Pu	ND	ND	ND	ND	
	Iodine	Inside environmental monitoring area: 1 point Outside environmental monitoring area: 3 points	Continuously	¹³¹ I	Once/week	¹³¹ I	ND	mBq/m ³	ND		ND
	Gaseous beta radioactivity concentration	Inside environmental monitoring area: 1 point Outside environmental monitoring area: 3 points	Continuously	⁸⁵ Kr	Continuously	⁸⁵ Kr	ND	kBq/m ³	ND		ND
	³ H in water	Outside environmental monitoring area: 2 points	Continuously	³ H	Once/month	³ H	ND	Bq/L	ND		ND - 6.9
	Rain water	Inside environmental monitoring area: 1 point	Continuously	³ H	Once/month	³ H	ND	Bq/L	/		ND - 4.8
	Settled dust	Inside environmental monitoring area: 1 point	Continuously	Total β radioactivity	Once/month	Total β radioactivity	7.3 - 12	Bq/m ²	/		ND - 65
	Drinking water	Inside environmental monitoring area: 1 point Outside environmental monitoring area: 3 points	Once/3 months	³ H	Once/3 months	Total β radioactivity	0.052 - 0.072	Bq/L	0.058		ND - 0.090
³ H						ND	ND		ND		
	Leaf vegetable	Outside environmental monitoring area: 3 points	Once/3 months	Nuclide analysis	Once/3 months	¹³¹ I	ND	Bq/kg raw	ND	Object: spinach, cabbage	ND
Once/year					⁹⁰ Sr	ND, 0.11	0.058		ND - 0.21		
					¹³⁷ Cs	ND	ND		ND		
					^{239,240} Pu	ND	ND	ND	ND	ND	
	Polished rice	Outside environmental monitoring area: 3 points	Once/year	¹⁴ C	Once/year	¹⁴ C	0.23	Bq/g carbon	0.22		0.23 - 0.27
					⁹⁰ Sr	ND	Bq/kg raw	ND	ND		
	Milk	Outside environmental monitoring area: 2 points	Once/3 months	¹³¹ I	Once/3 months	¹³¹ I	ND	Bq/L raw	ND		ND
					⁹⁰ Sr	ND	0.021		ND - 0.034		
	Surface soil	Inside environmental monitoring area: 2 points Outside environmental monitoring area: 3 points	Once/year	Nuclide analysis	Once/year	⁹⁰ Sr	ND - 3.8	Bq/kg dry	0.43		ND - 6.1
Once/year					¹³⁷ Cs	4.5 - 15	18		2.8 - 36		
					^{239,240} Pu	0.11 - 0.60	0.74		0.058 - 1.2		
	River water	Shinkawa: 3 points Kuji river upstream: 1 point*	Once/6 months	Total β radioactivity	Once/6 months	Total β radioactivity	ND	Bq/L	0.060		ND - 0.21
					³ H	ND	ND		ND		
	River-bottom soil	Shinkawa: 3 points Kuji river upstream: 1 point*	Once/6 months	Total β radioactivity	Once/6 months	Total β radioactivity	500 - 570	Bq/kg dry	730		450 - 720

(Note 1) ND: indicates below the determination limit.

(Note 2) *: indicates the comparative area.

(Note 3) The usual range of fluctuation of air radiation is that in the past 3 years from FY 2004 to FY 2006; the usual range of fluctuation of other measured objects is that in the past 10 years from FY 1997 to FY 2006. As for cumulative dose, however

(Note 4) As for the usual range of fluctuation of air radiation, the top values indicate the min to max, and bottom values in parentheses indicate the average ±3σ. Values of other measured objects indicate min to max.