

Japan Atomic Energy Agency, Tokai Research and Development Center, Nuclear Fuel Cycle Engineering Laboratories, Reprocessing Facility (2nd quarter of FY 2007)

Measured object	Sampling		Measurement		Measured value		Unit	*Comparative area	Remarks	Usual range of fluctuation (Note 3)		
	Sampling point	Frequency	Object	Frequency	Object	Min to Max					Min to Max	
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	/		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	ND				ND	ND	ND
			³ H		³ H	ND				ND		
	About 20 km north: 1 point*	Once/year	Total β radioactivity	Once/year	Total β radioactivity	ND				ND	ND	ND
			³ H		³ H	ND				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				ND	ND	ND - 0.0020
					¹³⁷ Cs	ND				ND	ND	
					¹³⁴ Cs	ND				ND	ND	
					¹³⁷ Cs	ND				ND	ND	
¹⁴⁴ Ce					ND	ND	ND					
^{238,240} Pu					ND	ND	ND					
About 20 km north: 1 point*	Once/year	Nuclide analysis	Once/year	⁹⁰ Sr	ND	ND	ND	ND				
				¹³⁷ Cs	ND	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	/	Reported in 1st quarter and will be reported in 3rd quarter.	ND - 0.13		
					¹⁰⁶ Ru	ND				ND		
	¹³⁷ Cs	ND	ND	ND								
	¹³⁷ Cs	ND	ND	ND								
	¹⁴⁴ Ce	ND	ND	ND								
	^{238,240} Pu	ND	ND	0.17 - 0.90								
	Kuji-Oki and Isozaki-Oki: 2 points	Once/6 months	Nuclide analysis	Once/6 months	⁹⁰ Sr	ND				ND	ND	ND
					¹⁰⁶ Ru	ND				ND	ND	
					¹³⁷ Cs	ND				ND	ND	
					¹³⁷ Cs	ND				ND	ND	
¹⁴⁴ Ce					ND	ND	ND					
^{238,240} Pu					ND	ND	ND					
About 20 km north: 1 point*	Once/6 months	Nuclide analysis	Once/6 months	⁹⁰ Sr	ND	ND	ND	ND				
				¹³⁷ Cs	ND	ND	ND					
Marine 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	⁹⁰ Sr	ND	Bq/kg raw	/	Object: flatfish	ND	
						¹⁰⁶ Ru	ND				ND	
						¹³⁷ Cs	0.055				0.057	0.044 - 0.14
						¹³⁷ Cs	0.056				0.057	0.044 - 0.14
						¹⁴⁴ Ce	ND				ND	ND
						^{238,240} Pu	ND				ND	ND
	Shellfish	Kuji beach offshore: 1 point About 10 km beyond: 1 point*	Once/3 months	Nuclide analysis	Once/3 months	⁹⁰ Sr	ND	Bq/kg raw	/	Object: Kuji beach offshore: abalone About 10 km beyond: clam	ND	
						¹⁰⁶ Ru	ND				ND	
						¹³⁷ Cs	ND				ND	ND
						¹³⁷ Cs	ND				ND	ND
						¹⁴⁴ Ce	ND				ND	ND
						^{238,240} Pu	0.0026				ND	ND - 0.0048
	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	0.027, 0.030	Bq/kg raw	/	Object: Kuji beach offshore: seaweed Isozaki offshore and about 10 km beyond: Eisenia	0.022 - 0.065	
						¹⁰⁶ Ru	ND				ND	
						¹³⁷ Cs	ND				ND	ND
						¹³⁷ Cs	ND, 0.049				ND	ND - 0.094
						¹⁴⁴ Ce	ND				ND	ND
						^{238,240} Pu	ND, 0.0023				0.0024	ND - 0.0089
Fishing net	Fishing net towed at Tokai village offshore	Once/3 months	Absorbed dose	Once/3 months	β radiation	ND	nGy/h	/		ND		
			Surface dose		γ radiation	ND	nGy/h	/		ND		
Hull	Deck	Once/3 months	Absorbed dose	Once/3 months	β radiation	ND	nGy/h	/		ND		
			Surface dose		γ radiation	ND	nGy/h	/		ND		
Coastal water	Kuji beach coast: 1 point	Once/6 months	Nuclide analysis	Once/6 months	Total β radioactivity	ND	Bq/L	/	Reported in 1st quarter and will be reported in 3rd quarter.	ND - 0.085		
					³ H	³ H				ND		
	Ajigaura coast: 1 point	Once/6 months	Nuclide analysis	Once/year	⁹⁰ Sr	ND				ND	ND	ND - 0.0021
					¹⁰⁶ Ru	ND				ND	ND	
	About 20 km north and south: 1 point at each*	Once/year	Nuclide analysis	Once/year	¹³⁷ Cs	ND				ND	ND	ND
					¹³⁷ Cs	ND				ND	ND	
¹⁴⁴ Ce	ND	ND	ND									
^{238,240} Pu	ND	ND	ND - 0.000075									
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	68, 75	min ⁻¹	68, 72		52 - 86		
					γ radiation	28, 43	nGy/h	31, 35		27 - 52		

(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	γ radiation	Continuously	γ radiation	Monitoring post	35 - 45	nGy/h	/	Eight monitoring posts	33 - 46 (42±9)	
		Outside environmental monitoring area: 3 points				Monitoring station	32 - 36			32 - 33	Four monitoring stations	31 - 37 (33±5)
	Cumulative dose (TLD)	Inside environmental monitoring area: 15 points Outside environmental monitoring area: 25 points	γ radiation	Continuously	γ radiation	Once/3 months	60 - 110	μGy/91 days	50 - 100	From June 26 to September 26	40 - 120 (80±40)	
Air	Air-borne dust	Inside environmental monitoring area: 3 points Outside environmental monitoring area: 4 points	Continuously	Once/week	Total α radioactivity	Once/week	Total α radioactivity	ND - 0.026	mBq/m ³	/		ND - 0.088
					Total β radioactivity	Once/week	Total β radioactivity	ND				ND
					Nuclide analysis	Once/3 months	⁹⁰ Sr	ND				ND
							¹³⁷ Cs	ND				ND
							^{239,240} Pu	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	7.8 - 10	Bq/m ²	/		ND - 65		
Drinking water	Inside environmental monitoring area: 1 point Outside environmental monitoring area: 3 points	Once/3 months	Total β radioactivity	Once/3 months	Total β radioactivity	0.060 - 0.069	Bq/L	/			ND - 0.090	
			³ H		³ H	ND					ND	ND
Leaf vegetable	Outside environmental monitoring area: 3 points	Once/3 months	Nuclide analysis	Once/year	¹³¹ I	ND	Bq/kg raw	/		Object: cabbage	ND	
					⁹⁰ Sr						Will be reported in 3rd quarter.	ND - 0.21
					¹³⁷ Cs						Will be reported in 3rd quarter.	ND
Polished rice	Outside environmental monitoring area: 3 points	Once/year	¹⁴ C	Once/year	¹⁴ C		Bq/g - carbon	/		Will be reported in 3rd quarter.	0.23 - 0.27	
			⁹⁰ Sr		⁹⁰ Sr						ND	
Milk	Outside environmental monitoring area: 2 points	Once/3 months	¹³¹ I	Once/year	¹³¹ I	ND	Bq/L raw	/		Will be reported in 3rd quarter.	ND - 0.034	
			⁹⁰ Sr		⁹⁰ Sr						ND - 6.1	
Surface soil	Inside environmental monitoring area: 2 points Outside environmental monitoring area: 3 points	Once/year	Nuclide analysis	Once/year	⁹⁰ Sr		Bq/kg dry	/		Will be reported in 3rd quarter.	2.8 - 36	
					¹³⁷ Cs						0.058 - 1.2	
					^{238,240} Pu							
River water	Shinkawa: 3 points Kuji river upstream: 1 point*	Once/6 months	Total β radioactivity	Once/6 months	Total β radioactivity		Bq/L	/	Reported in 1st quarter and will be reported in 3rd quarter.		ND - 0.21	
			³ H		³ H						ND	
River-bottom soil	Shinkawa: 3 points Kuji river upstream: 1 point*	Once/6 months	Total β radioactivity	Once/6 months	Total β radioactivity		Bq/kg dry	/	Reported in 1st quarter and will be reported in 3rd quarter.		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, howe

(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.