Sea Area Monitoring

March 18 , 2014

Nuclear Regulation Authority (NRA), Japan

Sea area within 2km radius from the NPS

Sea water radioactivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits
Total β: including K-40

Sampling point	Sampling Date	Cs-134	Cs-137	total β	H-3	Sr-90	total α	Pu-238	Pu-239+Pu-240
T-1	2014/3/3	ND(0.52)	0.96	14	ND(1.6)				
	2014/1/13	ND(0.81)	ND(0.82)	11	ND(1.7)	0.13	ND(1.6)		
	2014/1/7	1.6	2.8					ND(5.6×10^{-6})	(5.7 ± 1.6) $\times10^{-6}$
T-0-1A	2014/3/4	ND(0.92)	ND(0.59)	ND(16)	In progress				
	2014/2/26	ND(0.74)	ND(0.58)	ND(15)	ND(1.5)				
T-0-1	2014/3/4	ND(0.81)	ND(0.76)	ND(16)	In progress				
	2014/2/26	ND(0.66)	ND(0.53)	ND(15)	ND(1.5)				
M-101	2014/1/15	0.030	0.078		In progress	In progress			
	2013/11/21	0.030	0.075		0.14	0.023			
T-0-2	2014/3/4	ND(0.67)	ND(0.63)	ND(16)	In progress				
	2014/2/26	ND(0.78)	ND(0.72)	ND(15)	ND(1.5)				
M-102	2014/1/16	0.054	0.13		In progress	In progress			
	2013/11/22	0.066	0.16		0.32	0.066			
T-0-3A	2014/3/4	ND(0.58)	ND(0.53)	ND(16)	In progress				
	2014/2/26	ND(0.73)	ND(0.67)	ND(15)	ND(1.5)				
T-0-3	2014/3/4	ND(0.73)	ND(0.62)	ND(16)	In progress				
	2014/2/26	ND(0.68)	ND(0.73)	ND(15)	ND(1.5)				
T-2-1	2014/3/3	ND(0.74)	0.85	11	ND(1.6)				
	2014/1/13	ND(0.81)	ND(0.82)	15	ND(1.7)	0.023	ND(1.6)		
	2014/1/7	ND(0.96)	ND(0.64)	11				ND(5.8×10^{-6})	ND(6.0×10^{-6})

Sea area between 2-20km radius from the NPS (1)

Sea water radioacitivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits
Total β: including K-40

Sampling point	Sampling Date	Cs-134	Cs-137	total β	H-3	Sr-90	total α	Pu-238	Pu-239+Pu-240	S (S:2m below sea level / Depth(m) from sea level)
T-D1	2014/1/22	0.0060	0.017	ND(15)	ND(0.32)					S
	2014/1/7	0.0094	0.018	ND(16)	ND(0.33)	ND(0.02)	ND(1.6)	ND(7.1×10^{-6})	ND(6.9×10^{-6})	S
T-6	2014/1/28	0.033	0.089	ND(15)	ND(0.33)					S
	2014/1/14	0.029	0.089	ND(16)	ND(0.36)					S
M-103	2014/1/15	0.016	0.040		In progress	In progress				0.5m
	2013/11/21	0.062	0.15		0.038	0.22				0.5m
T-5	2014/1/21	0.0013	0.045	ND(15)	ND(0.32)					S
	2014/1/6	0.0043	0.011	ND(16)	ND(0.33)	ND(0.02)	ND(1.6)	ND(8.3×10^{-6})	ND(7.4×10^{-6})	S
T-D5	2014/1/22	0.0052	0.020	ND(15)	ND(0.32)					S
	2014/1/7	0.021	0.048	ND(16)	ND(0.33)	ND(0.02)	ND(1.6)	ND(6.7×10^{-6})	ND(6.5×10^{-6})	S
M-104	2014/1/16	0.024	0.062		In progress	In progress				0.5m
	2013/11/22	0.020	0.048		0.12	0.0054				0.5m
T-D9	2014/1/21	0.011	0.030	ND(15)	ND(0.32)					S
	2014/1/6	0.011	0.027	ND(14)	ND(0.33)	ND(0.009)	ND(1.6)	ND(8.1×10^{-6})	ND(9.2×10^{-6})	S
T-3	2014/1/21	0.060	0.13	ND(15)	ND(0.33)					S
	2014/1/7	0.065	0.15	ND(16)	ND(0.36)					S

Sea area between 2-20km radius from the NPS (2)

Sampling point	Sampling Date	Cs-134	Cs-137	S/B

S:2m below sea level
B:2-3m above sea bottom

Sea water radioacitivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits

T-S1	2014/1/16	0.0094	0.022	S
		0.0072	0.017	B
T-14	2014/1/29	0.0085	0.021	S
		0.015	0.039	B
	2014/1/22	0.0052	0.015	S
		0.0049	0.013	B
T-S2	2014/1/16	0.0072	0.018	S
		0.0060	0.018	B
T-D1	2014/1/22	0.0060	0.017	S
		0.0083	0.019	B
T-6	2014/1/28	0.033	0.081	S
	2014/1/21	0.069	0.17	S
	2014/1/14	0.029	0.089	S
T-S8	2014/1/10	0.0061	0.016	S
		0.0077	0.022	B
T-3	2014/1/28	0.066	0.15	S
	2014/1/21	0.060	0.13	S
	2014/1/14	0.071	0.16	S
T-S7	2014/1/19	0.025	0.062	S
		0.027	0.066	B
T-S5	2014/1/19	0.020	0.049	S
		0.027	0.065	B

T-S3	2014/1/23	0.0051	0.015	S
		0.0032	0.0097	B
T-S4	2014/1/23	0.0058	0.014	S
		0.0037	0.011	B
T-D5	2014/1/22	0.0052	0.020	S
		0.020	0.043	B
T-B3	2014/1/11	0.0037	0.0095	S
		0.0028	0.0098	B
T-5	2014/1/28	0.0061	0.017	S
		0.035	0.087	B
	2014/1/21	0.0013	0.0045	S
		0.0067	0.015	B
	2014/1/17	0.0073	0.019	S
		0.011	0.024	B
T-B4	2014/1/11	0.0025	0.0072	S
		0.0030	0.0075	B
T-D9	2014/1/21	0.011	0.030	S
		0.0086	0.021	B
T-11	2014/1/28	0.016	0.041	S
		0.010	0.027	B
	2014/1/21	0.0080	0.020	S
		0.0059	0.015	B
	2014/1/17	0.0059	0.015	S
		0.0081	0.020	B

Sea area between 20-100km radius from the NPS(1)

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/B Depth(m) from sea level

S:2m below sea level B:2-3m above sea bottom

Sea water radioactivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits

T-MA	2014/1/10	0.037	0.089		S
		0.0067	0.019		B
T-13-1	2014/1/10	0.013	0.030		S
		0.015	0.036		B
T-7	2014/1/8	0.0026	0.0063		S
		0.0039	0.013		B
T-4	2014/1/28	0.049	0.12		S
	2014/1/21	0.035	0.094		S
	2014/1/14	0.039	0.089		S
T-12	2014/1/18	0.053	0.14		S
		0.0096	0.024		B
T-17-1	2014/1/18	0.015	0.038		S
		0.0089	0.024		B

M-C1	2013/11/7	0.0025	0.0066		1m
		0.0015	0.0045		51m
T-B1	2014/1/15	0.0060	0.016		S
		0.0050	0.015		B
M-D1	2013/11/8	0.0014	0.0030		1m
		ND(0.00065)	0.0021		50m
		0.00079	0.0026		118m
T-B2	2014/1/15	0.0085	0.019		S
		0.0020	0.0061		B
M-E1	2013/11/9	0.00062	0.0030		1m
		0.00073	0.0026		50m
		0.0010	0.0035		125m
M-F1	2013/11/9	0.0041	0.010		1m
		ND(0.00080)	0.0021		130m
M-G1	2013/11/15	0.00066	0.0028		1m
		ND(0.00077)	0.0027		123m
M-G0	2013/11/19	ND(0.00081)	0.0021		1m
		ND(0.00065)	0.0023		50m
		0.0016	0.0037		100m

Sea area between 20-100km radius from the NPS(2)

Sampling point	Sampling Date	Cs-134	Cs-137	Total β*	Sr-90	S/B Depth(m) from sea level

S:2m below sea level B:2-3m above sea bottom

Sea water radioactivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits
Total β: excluding K-40

M-C3	2014/1/19	In progress	In progress	0.021	In progress	In progress	1m
	2013/11/7	ND(0.00067)	0.0017	0.023	0.10	0.0011	1m
		ND(0.00068)	0.0015				50m
		ND(0.00058)	0.0021				123m
	2013/8/23	ND(0.00071)	0.0017		0.12	0.0010	1m
	2013/5/28	ND(0.00071)	0.0028		0.091	0.0010	1m
T-22	2014/1/10	0.0043	0.014				S
		0.0082	0.024				B
M-D3	2014/1/22	In progress	In progress	0.021	In progress	In progress	1m
	2013/11/8	ND(0.00066)	0.0020	0.031	0.10	0.0010	1m
		ND(0.00068)	0.0021				100m
		ND(0.00062)	0.0020				208m
	2013/8/23	ND(0.00095)	0.0016		0.11	0.0011	1m
	2013/5/28	ND(0.00092)	0.0018		0.094	0.00083	1m
M-F3	2014/1/22	In progress	In progress	0.027	In progress	In progress	1m
	2013/11/20	ND(0.00078)	0.0019	0.036	0.074	0.0011	1m
		0.00054	0.0024				100m
		0.00064	0.0018				224m
	2013/8/21	ND(0.00079)	0.0022		0.11	0.0011	1m
	2013/5/23	0.00096	0.0036		0.10	0.0011	1m
T-18	2014/1/8	0.0063	0.017				S
		0.0072	0.018				B
T-20	2014/1/18	0.013	0.031				S
		0.014	0.033				B
T-M10	2014/1/8	0.0039	0.0099				S
		0.0044	0.013				B

M-E3	2014/1/22	In progress	In progress	0.030	In progress	In progress	1m
	2013/11/24	0.00054	0.0024	0.028	0.075	0.0010	1m
		ND(0.00062)	0.0020				100m
		ND(0.00076)	0.0014				224m
	2013/8/23	ND(0.00077)	0.0020		0.21	0.0011	1m
	2013/5/27	ND(0.00054)	0.0015		0.089	0.0011	1m
M-E5	2014/1/24	In progress	In progress	0.031	In progress	In progress	1m
	2013/11/14	ND(0.00062)	0.0023	0.024	0.066	0.0013	1m
		ND(0.00066)	0.0021				100m
		ND(0.00063)	0.00093				518m
	2013/8/22	ND(0.00075)	0.0019		0.099	0.00099	1m
	2013/5/26	ND(0.00058)	0.0016		0.091	0.0011	1m
M-G3	2014/1/16	In progress	In progress	0.021	In progress	In progress	1m
	2013/11/20	ND(0.00060)	0.0023	0.029	0.080	0.0010	1m
		ND(0.00086)	0.0026				100m
		0.00083	0.0026				199m
	2013/8/16	ND(0.00056)	0.0020		0.080	0.0012	1m
	2014/5/23	ND(0.00097)	0.0020		0.086	0.00090	1m
M-G4	2014/1/17	In progress	In progress	0.023	In progress	In progress	1m
	2013/11/23	ND(0.00070)	0.0019	0.033	0.074	0.0012	1m
		ND(0.00065)	0.0019				100m
		ND(0.00074)	0.00082				640m
	2013/8/17	0.00044	0.0018		0.070	0.00092	1m
	2013/5/22	ND(0.00066)	0.0020		0.070	0.0011	1m
M-H3	2014/1/16	In progress	In progress	0.025	In progress	In progress	1m
	2013/11/20	0.0012	0.0029	0.025	0.097	0.0012	1m
		ND(0.00090)	0.0034				100m
		ND(0.00063)	0.0027				210m
	2013/8/16	ND(0.00085)	0.0025		0.13	0.0013	1m
	2013/5/21	ND(0.00086)	0.0023		0.087	0.00092	1m
M-H1	2013/11/15	0.0013	0.0045				1m
		0.0012	0.0035				123m

Sea area along and off the coast of Miyagi Prefecture

S:2m below sea level
M:between 2m below sea level and 2-3m above sea bottom
B:2-3m above sea bottom

y (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/M/B Depth(m) from sea level
T-MG1	2014/1/24	0.0024	0.0064		S
		0.0026	0.0070		M
		0.0019	0.0065		B
T-MG4	2014/1/21	0.0043	0.0094		S
		0.0035	0.011		M
		0.0038	0.0098		B
T-MG5	2014/1/21	0.0031	0.0071		S
		0.0027	0.0077		M
		0.0026	0.0062		B
	2014/1/7	ND(0.0015)	0.0043	ND(0.02)	S
T-MG6	2014/1/21	0.0019	0.0052		S
		0.0023	0.0062		M
		0.0024	0.0068		B
M-B1	2013/11/5	0.0031	0.0085		1m
		0.00097	0.0034		34m
M-B3	2013/11/5	0.0016	0.0032		1m
		ND(0.00051)	0.0020		50m
		ND(0.00067)	0.0019		104m

T-MG0	2014/1/24	ND(0.0022)	0.0033		S
		ND(0.0022)	0.0019		M
		ND(0.0022)	0.0023		B
M-A1	2013/11/4	ND(0.00059)	0.0019		1m
		ND(0.00072)	0.0017		101m
		ND(0.00059)	0.0020		190m
M-A3	2013/11/4	ND(0.00058)	0.0017		1m
		ND(0.00076)	0.0022		100m
		ND(0.00058)	0.00089		475m
T-MG2	2014/1/24	ND(0.0022)	0.0025		S
		ND(0.0022)	0.0024		M
		ND(0.0022)	0.0029		B
M-B5	2013/11/6	ND(0.00071)	0.0019		1m
		ND(0.00072)	0.0020		100m
		ND(0.00056)	0.0017		350m
M-MI4	2013/11/6	ND(0.00067)	0.0022		1m
		ND(0.00068)	0.0018		100m
		ND(0.00058)	0.0025		150m
T-MG3	2014/1/24	ND(0.0022)	0.0028		S
		ND(0.0022)	0.0033		M
		ND(0.0022)	0.0023		B

Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/B S:2m below sea level B:2-3m above sea bottom Depth(m) from sea level

Sea water radioactivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits

T-Z	2014/2/18	ND(1.2)	ND(1.3)		S
		ND(1.2)	ND(1.3)		B
T-A	2014/2/18	ND(1.2)	ND(1.3)		S
		ND(1.2)	ND(1.3)		B
T-B	2014/2/20	ND(1.2)	ND(1.3)		S
		ND(1.2)	ND(1.3)		B
M-J1	2013/11/18	0.00085	0.0029		1m
		ND(0.00087)	0.0026		39m
T-C	2014/2/20	ND(1.2)	ND(1.3)		S
		ND(1.2)	ND(1.3)		B
	2014/1/22	ND(1.2)	ND(1.3)	ND(0.02)	S
M-K1	2013/11/18	0.0040	0.010		1m
		0.0043	0.010		23m
T-D	2014/2/19	ND(1.2)	ND(1.3)		S
		ND(1.2)	ND(1.3)		B
M-M1	2013/11/22	ND(0.00060)	0.0024		1m
		0.00095	0.0023		102m

M-I0	2013/11/11	ND(0.00064)	0.0033		1m
		ND(0.00062)	0.0034		63m
M-I1	2013/11/11	0.0012	0.0036		1m
		ND(0.00071)	0.003		50m
		0.0011	0.004		89m
M-I3	2013/11/19	0.0018	0.0053		1m
		0.00080	0.0027		100m
		ND(0.00067)	0.0029		170m
M-IB2	2013/11/18	ND(0.00070)	0.0024		1m
		0.00079	0.0026		104m
M-J3	2013/11/21	0.00063	0.003		1m
		ND(0.00068)	0.0026		100m
		ND(0.00060)	0.00089		558m
M-IB4	2013/11/18	ND(0.00061)	0.0024		1m
		0.0012	0.0032		110m
T-E	2014/2/19	ND(1.2)	ND(1.3)		S
		ND(1.2)	ND(1.3)		B
M-L1	2013/11/22	0.00085	0.0028		1m
		ND(0.00070)	0.0032		36m
M-L3	2013/11/22	ND(0.00084)	0.0024		1m
		0.00082	0.0029		100m
		0.00061	0.0029		155m

Open sea off the coast of Eastern Japan

Sea water radioactivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits

Sampling point	Sampling Date	Cs-134	Cs-137	Depth(m) from sea level
M-10	2013/10/19	ND(0.00080)	0.0026	1m
		ND(0.00079)	0.0029	100m
		ND(0.00056)	0.0018	200m
		ND(0.00064)	0.0012	300m
		ND(0.00071)	0.00080	500m
M-14	2013/10/28	ND(0.00078)	0.0025	1m
		ND(0.00069)	0.0018	100m
		ND(0.00058)	0.0016	200m
		ND(0.00058)	0.0016	300m
		ND(0.00065)	0.00091	500m
M-19	2013/10/30	ND(0.00082)	0.0018	1m
		ND(0.00069)	0.0025	100m
		ND(0.00058)	0.0021	200m
		ND(0.00069)	0.0015	300m
		ND(0.00066)	0.00093	500m
M-20	2013/10/30	ND(0.00060)	0.0017	1m
		ND(0.00071)	0.0022	100m
		0.0014	0.0050	200m
		ND(0.00089)	0.0038	300m
		ND(0.00060)	0.0014	500m
M-25	2013/10/31	ND(0.00080)	0.0014	1m
		ND(0.00065)	0.0019	100m
		0.00084	0.0034	200m
		0.0025	0.0068	300m
		ND(0.00057)	0.0022	500m
M-11	2013/10/19	ND(0.00064)	0.0022	1m
		0.0020	0.0061	100m
		0.00071	0.0029	200m
		ND(0.00077)	0.0025	300m
		ND(0.00054)	0.0013	500m
M-15	2013/10/29	ND(0.00069)	0.0019	1m
		0.00091	0.0018	100m
		ND(0.00070)	0.0019	200m
		ND(0.00050)	0.0018	300m
		ND(0.00057)	0.00065	500m
M-21	2013/10/29	ND(0.00083)	0.0017	1m
		ND(0.00060)	0.0015	100m
		0.00097	0.0039	200m
		0.00078	0.0028	300m
		ND(0.00072)	0.0011	500m
M-26	2013/10/31	ND(0.00085)	0.0024	1m
		ND(0.00068)	0.0026	100m
		0.0012	0.0038	200m
		0.0022	0.0061	300m
		ND(0.00081)	0.0034	500m
M-27	2013/11/1	ND(0.00068)	0.0021	1m
		ND(0.00060)	0.0016	100m
		0.00083	0.0029	200m
		0.0015	0.0047	300m
		0.0011	0.0038	500m