COMPOSITION OF THE GOVERNMENTAL COMMISSION ON MATTERS RELATED TO RADIOACTIVE WASTE DISPOSAL AT SEA

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ABBREVIATIONS

Used in Translation	Used in Original	Expansion
FA	TVS	Fuel assembly
Gosatomnadzor	Gosatomnadzor	Russian State Committee for the Supervision of Nuclear and Radiation Safety
Goskomgidromet	Goskomgidromet	USSR State Committee for Hydrometeorology
IAEA	MAGATE	International Atomic Energy Agency
IGPRAD	IGPRAD	Intergovenmental Working Group on Radioactive Waste Disposal
IMO	IMO	International Maritime Organization
KOPRON	KOPRON	Committee for Special-Purpose Underwater Work
LRW	ZhRO	Liquid radioactive waste
NS	APL	Nuclear submarine
NWH	YaBP	Nuclear warhead
PINRO	PINRO	Polar Institute of Marine Fishery and Oceanography
PS-82	PS-82	<u>Regulations for Discharge of Radioactive Waste at Sea</u>
Roskomgidromet	Roskomgidromet	Russian Committee for Hydrometeorology
RTG	RITEG	Radioisotope thermoelectric generator
RW	RAO	Radioactive waste
SFA	OTVS	Spent fuel assembly
SNF	OYaT	Spent nuclear fuel
SRW	TRO	Solid radioactive waste
VSTZ-66	VSTZ-66	<u>Provisional Sanitary Requirements for Disposal of Radioactive Wastes at Sea</u>.

APPENDICES

Table A1. Characteristics of Liquid Radioactive Waste Discharge Areas in the Northern Seas

Area	Coordinates		Geographic Name	Depth, meters	Remarks
	N. Lat.	E. Long.			
1	78°0' 78°0' 74°0' 74°0'	48°0' 52°0' 48°0' 52°0'	Barents Sea	180-300	Open sea
2	77°0' 77°0' 72°30' 72°30'	43°0' 47°0' 43°0' 47°0'	Barents Sea	200-300	Open sea
3	72°45' 72°45' 72°15' 72°15'	33°30' 36°30' 33°30' 36°30'	Barents Sea	200-300	Open sea
4	69°51' 69°51' 69°34' 69°34'	34°15' 34°51' 34°15' 34°51'	Barents Sea	100-200	Coastal
5	68°18' 68°18' 68°10' 68°10'	40°13' 40°36' 40°13' 40°36'	Barents Sea	50-100	Coastal

Table A2. Characteristics of Liquid Radioactive Waste Discharge in the Northern Seas

Year	Area 1		Area 2		Area 3		Area 4		Area 5		Total, Areas 1-5	
	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)
1960			760	0.21								
1961			930	16.5								
1962			850	4.61								
1963			1054	358.15								
1964			910	153.11								
1965			6520	963.62								
1966			3540	366.84	1220	5.97			449	1.01		
1967			144	30.17	530	2.2			2000	2.69		
1968	353	2.81			1357	0.50			1400	1.52		
1969	316	109.51	3416	51.87	1290	0.29			750	0.41		
1970	2703	65.42			4370	96.13			2257	0.56		
1971			2371	20.65	1096	3.62			1549	1.41		
1972	850	5.9	930	19.5	4101	101.33			2560	8.40		
1973	882	22.0	4057	76.6	3872	129.36			885	4.00		
1974			8645	265.7	3155	321.3			838	0.80		
1975	1947	430.0	4720	55.27	851	15.3	835	6.35	1610	8.16		
1976	1800	63.0	6229	75.9	2788	811.9			830	11.20		
1977	1500	68.32	4150	47.35	860	1.5			870	8.70		
1978	340	30.19			5170	90.25						
1979	604	12.01			7286	78.42						
1980	650	27.06	3405	22.32	3957	37.67			800	8.00		
1981			2146	268.27	2130	201.06	906	3.99	2755	21.13		
1982	1250	169.0	1745.4	11.07	1476.6	18.52			1855	9.70		
1983	685	72.41	1772.1	265.34	472	11.06			3247	22.34		
1984			5125.4	222.13	820	5.99	740	2.78	1614.8	51.38		
1985					2376.6	65.85			3980.5	21.9		
1986			900	10.59	870	29.49	1410	5.74	3410	23.73		
1987			1740	34.8	780	14.7	2211	22.38	2063	20.61		
1988	364.5	5278.51										
1989					2472	39.76	875	1.41	2752	11.10		
1990			751	0.84			1267	7.12	5913.6	59.03		
1991							263.2	3.99	2382.8	19.61		
Total	14244	6356 (235)	66811	3341 (123)	53300	2082 (77)	8507	54 (2)	46772	317 (12)	189634	12153 (450)

Table A2 (Continued)

Year	Discharge Outside Areas 1-5		
	Volume, m^3	Activity, Ci (TBq)	Remarks
1959	600	0.00	65°44' N, 35°54' E, White Sea
1960	100	0.2	Near Gogland Island, Baltic Sea
1965	100	100	Severodvinsk, explosion at plant
1976	?	8500	Kara Sea, LRW from nuclear icebreaker *Lenin*
1982	?	1000	Andreyev Bay, reservoir leak
1989	?	2000	Ara Bay, accident aboard an NS
Total	800 +?	11600 (429)	
Areas 1-5	189634	12153 (450)	
Grand Total	190434 +?	23753 (879)	

Table A3. Characteristics of Solid Radioactive Waste Disposal Areas in the Kara Sea

Area	Coordinates		Geographic Location	Depth, meters
	N. Lat.	E. Long.		
1	72°5' 73°17'	57°30' 60°0'	Kara Sea, Novaya Zemlya Depression	380
2	74°40' 74°42'	59°53' 60°17'	Sedov Inlet, east coast of Novaya Zemlya	13-33
3	74°35'1" 74°7'	59°18' 59°12'	Oga Inlet, east coast of Novaya Zemlya	24
4	74°22'3" 74°22'0"	58°42'1" 58°41'0"	Tsivolka Inlet, east coast of Novaya Zemlya	56-135
5	72°33'4" 72°32'4"	55°34' 55°23'3"	Stepovoy Inlet, east coast of Novaya Zemlya	25-27
6	71°56'5" 71°56'0"	55°22'1" 55°19'11"	Abrosimov Inlet, east coast of Novaya Zemlya	12-20
7	75°40'9"	63°59'	Blagopoluchiye Inlet, east coast of Novaya Zemlya	13-16
8	75°58' 75°59'	66°20' 66°18'	Techeniye Inlet, east coast of Novaya Zemlya	up to 50

Table A4. Characteristics of Solid Radioactive Waste Dumping in the Northern Seas

Year	Coordinates		Volume, m^3	Activity (^{90}Sr equivalent, Ci)	Form of Disposal		
	N. Lat.	E. Long.			Containers	Ships	Unenclosed
Area 1. Kara Sea							
1967	73°17'3	59°54'	212	35.3			Main circulating pump from nuclear icebreaker *Lenin* (3 pcs.)
1967	72°21'	57°50'18"	910	359		Steamer *José Diaz*	
1968	73°06'	59°10'	150	5.6		Barge No. 3	
1969	Area 1		144.8	159.2	?	?	?
1970	73°11'	59°54'	144	5.6	?	?	?
1972	72°24'	57°55'	?	160		Lighter *Savany*	
1973	72°23'	58°0'	?	?		Tanker *TNT15*	
1974	72°11'	57°40'	?	?		TNT Goryn	
1975	72°38'	58°20'	5000	30		Lighter OMA	
1977	72°19'22"	57°46'	600	0.6		Lighter L-3	
1980	72°18'1"	57°36'4"	243	118.4		MBSN-801250	
1980	72°15'	57°35'	?	?			
1984	72°15'	57°30'	295.1	248.6	Containers (V+)		
1984			4.0	5.8			Class III furfurol-acetone resin (V+)
1984			3.0	14.8			Primary loop circulating pump
1985	72°21'	57°50'18"	5182.1	738.24	1027		SRW
1985	73°06'	59°10'	693.26	506.99	535		
1986	72°21'	57°50'18"	419.4	156.83	321		
1987	73°06'	59°10'	1302.3	628.14	847		Steam generator, primary loop circulating pump
1989	73°06'	59°10'	370.26	87.095	256		
1989	72°21'	57°50'18"	142	24.18	57		
1991	73°17'3"	59°54'	264.4 54.5	20.66 14.92	131		SRW
Total			16134	3320 (123)	3174	8	9

Table A4 (continued)

Year	Coordinates		Volume, m^3	Activity (^{90}Sr equivalent, Ci)	Form of Disposal		
	N. Lat.	E. Long.			Containers	Ships	Unenclosed
Area 2. Sedov Inlet							
1982	74°40'	59°55'	?	100			
1982	74°40'	59°55'	2357.6	1718.2	298		91 4k-650B bundles
1982	74°42'	69°56'	218.4	63.56	182		
1982	74°41'	59°53'	276	118.32	230		
1983	74°40'	59°56'	280.5	1121.44	231		
1984	74°41'	60°17'	136.5	172.8	108		
1984	74°41'	60°17'	3.0	6.0			Furfurol-acetone resin (6 pcs.)
1984	74°41'	60°17'	10.5	52.5			Primary loop circulating pump (7 pcs.)
1984	74°41'	60°17'	150.9	57.21	59		Steam generator
Total			3433	3140 (126)	1108		104
Area 3. Oga Inlet							
1968	74°07'	53°12'	400	4		Barge *SB-5*	SRW
1976	74°35'1"	59°15'4"	560	929			
1978	74°17'	58°18'	170	15.5			SRW
1980	74°35'	59°14'	278	274.35			SRW
1980	74°35'	59°14'	500	59.21			
1981	?	?	?	349.06	containers, ?		SRW
1983	74°35'	59°13'5	540	205.32	212		
1983	74°35'1"	59°13'1"	580	190.6	260		
Total			3028	2027 (75)	472+?	1	4
Area 4. Tsivolka Inlet							
1964	74°22'3"	58°41'	640	977.37	1600	Special lighter *N. Bauman*	SRW
1965	74°22'3"	58°41'	266	448.96			SRW
1966	74°22'3"	58°41'	446	534.17			SRW
1967	74°22'3"	58°42'	240	374.97			SRW
1967	74°22'2"	58°41'5"	25.2	28.64			SRW
1967	74°22'3"	58°42'1"	72.2	77.2			SRW
1976	74°22'	58°42'	1233	12		Special lighter *Kolezhma*	
1978	74°22'	58°41'	438	230.5	?		
Total			3360	2684 (99)	1600+?	2	6

Table A4 (continued)

Year	Coordinates		Volume, m^3	Activity (^{90}Sr equivalent, Ci)	Form of Disposal		
	N. Lat.	E. Long.			Containers	Ships	Unenclosed
Area 5. Stepovoy Inlet							
1968	72°32'4"	55°33'9"	185.2	184.78			SRW from nuclear ice-breaker *Lenin*
1970	72°33'	55°29'2"	243	371.12			SRW
1972	72°33'2"	55°26'2"	242	212			SRW
1973	72°33'2"	55°23'3"	532	325.24			SRW
1975	72°33'4"	55°24'	445	187			SRW
Total			1647	1280 (47)			5
Area 6. Abrosimov Inlet							
1966	71°56'1"	55°19'5"	?	?		Barge	
1967	71°56'5"	55°21'5"	?	0.28		Barge *MNN-231500*	
1967	71°56'	55°21'	?	30		Barge *MBSN-378250*	SRW
1974	71°56'0"	55°21'0"	520	229			
1977	71°55'3"	55°22'1"	254.8	387	8		
1980	71°56'	55°21'	750	10		Lighter *L-8711*	Steam generators (5 pcs.), SRW
1981	71°56'	55°21'2"	392	5	?		
Total			1917	661 (24.5)	8+?	4	7
Area 7. Blagopoluchiye Inlet							
1972	75°40'9"	63°39'	331	234.84			SRW from *Lenin*
Total			331	235 (8)			1
Area 8. Techeniye Inlet							
1982	76°58' "	66°20' "	91.2 84.0	29.34 4.0	76 70		
1988	73°59'	66°18'	229	1811.21		Lighter No. 4	
Total			404	1845 (68)	146	1	

Table A4 (continued)

Year	Coordinates		Volume, m^3	Activity (^{90}Sr equivalent, Ci)	Form of Disposal		
	N. Lat.	E. Long.			Containers	Ships	Unenclosed
Outside Areas 1-8							
1978	69°34'1"	47°56'3"*	1100	40		Lighter *Nikel*	Cruise missiles (7 pcs.), steam generators (5 pcs.), PR-50's (2 pcs.), warheads (4 pcs.)
Total			1100	40 (1.5)		1	18
Grand Total			31534	15502 (574)	6508	17	154

*—20 miles northwest of Kolguyev Island, possible coordinates 69°34'0" N, 47°56'2" E.

Table A5. Characteristics of Liquid Radioactive Waste Discharge and Solid Radioactive Waste Dumping Areas in the Far Eastern Seas

Area	Coordinates		Geographic Location	Depth, meters	Remarks
	N. Lat.	E. Long.			
1	42°0' 42°0' 41°0' 41°0'	133°10' 134°30' 133°10' 134°30'	Sea of Japan	3250-3700	Liquid RW
2	41°10' 41°10' 39°30' 39°30'	131°10' 134°30' 131°10' 134°30'	Sea of Japan	2900-3300	Liquid RW
3	53°0' 53°0' 51°20' 51°20'	148°10' 146°40' 148°10' 146°40'	Pacific Ocean (east coast of Kamchatka)	?	Liquid RW
4	50°0' 50°0' 48°0' 48°0'	162°45' 161°35' 162°40' 161°35'	Pacific Ocean (east coast of Kamchatka)	?	Liquid RW
5	42°26' 42°26' 42°17' 42°17'	131°37' 132°20' 131°37' 132°20'	Sea of Japan	1100-1500	Liquid RW
6	41°55' 41°55' 41°45' 41°45'	131°47' 132°13' 131°47' 132°13'	Sea of Japan	1900-3300	Liquid and solid RW
7	52°28' 52°28' 52°40' 52°40'	159°02' 159°12' 159°02' 159°12'	Pacific Ocean (east coast of Kamchatka)	1400-1500	Liquid RW
8	52°28' 52°28' 52°34' 52°34'	159°06' 159°11' 159°02' 159°11'	Pacific Ocean (east coast of Kamchatka)	2000-2570	Liquid RW
9	41°36' 41°36' 41°46' 41°46'	133°22' 134°42' 133°22' 134°42'	Sea of Japan	3250-3700	Liquid and solid RW
10	40°10' 41°10' 40°10' 41°10'	131°15' 131°15' 131°35' 131°35'	Sea of Japan	2900-3300	Liquid and solid RW

Table A6. Characteristics of Liquid Radioactive Waste Discharge in the Far Eastern Seas

Year	Area 1		Area 2		Area 3		Area 4	
	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)
Total*	16250	1.5 (0.1)	3156	0.9 (0.03)	1513	0.1 (0.004	4803	0.2 (0.007

*—For Areas 1-4, only summary data are presented, without year-by-year breakdown.

Year	Area 5		Area 6		Area 7		Area 9		Area 10		Total, Areas 1-10	
	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)	Volume, m^3	Activity, Ci (TBq)
1966	?	0.12			800	0.09						
1967	?	0.16			900	0.02						
1968	?	3.10			900	0.05						
1969	?	0.89			1200	0.20						
1970	?	1.8			?	0.24						
1971	?	1.5			?	1.18						
1972	?	32.35			2100	0.17						
1973	2930	23.4			3700	5.09						
1974	900	28			?	0.05	2835	22.212				
1975					856	0.09	2028	3.45				
1976							3630	13.057				
1977					1517	0.95	2210	0.376				
1978					2334	5.29	4124	19.966				
1979									3140	411.03		
1980					2335	0.29			3545	52.051		
1981					3530	2.79			929	3.998		
1982					2960	149.88			2840	13.57		
1983					1730	28.54			3553.6	20.387		
1984					526	19.14	1500	3.27	3600	34.55		
1985					305	12.81	2997.5	190.49				
1986	259	0.15	824	318.15	2550	26.44	3698.74	10250.37				
1987			4248	170.6	780	31.90	2710	217.4				
1988	1808	18.7			1230	42.9	720	10.45				
1989					1660	10.86	1807	88.9				
1990	133	0.7			890	1.3	902	8.44				
1991	900	5.3			580	9.98	2034	4.178				
1992	906	1.3			906	1.3	1774	7.6				
Total	7836+?	117 (4)	5072	489 (18)	34289+?	352 (13)	32970	10840 (401)	17608	536 (19)	123497	12337 (456)

Table A7. Characteristics of Solid Radioactive Waste Dumping in the Far Eastern Seas

Year	Coordinates		Volume, m^3	Activity, Ci	Form of Disposal		
	N. Lat.	E. Long.			Containers	Ships	Unenclosed
				Area 6			
1968	No data		136	21	136	—	—
1969	No data		1145	209	1145	—	—
1970	No data		693	22	693	—	—
1971	No data		481	111	481	—	—
1973	No data		241	122	241	—	—
1973	No data		550	58	—	Fire control tower *Litiy*	—
1973	No data		70	3	—	Floating fire control tower	—
1986	41°50'	131°30'	59	72	52	—	—
1986	41°50'	131°30'	40	4	40	—	—
1986	41°50'	132°0'	371	11	—	Medium fishing trawler/refrigerator ship *Indra*	—
1986	41°51'	132°0'	180	115	—	Fishing seiner *Kapitan Aron*	—
1987	41°50'	132°0'	21	43	—	—	Part of a crane
1987	41°50'	132°0'	200	17	—	Barge	—
1987	41°50'	132°0'	95	14	44	—	—
1987	41°50'	132°0'	16	1	—	—	Metal
1987	41°50'	132°0'	37	34	37	—	—
1987	41°50'	132°0'	48	5	32	—	—
1988	41°50'	132°0'	26	6.9	14	—	—
Total			4409	869 (32)	2915	5	2

				Area 8			
1969	No data		61	133	61	—	—
1970	No data		20	14	20	—	—
1970	52°28'	159°6'	16	14	16	—	—
1970	52°28'	159°11'	4	6	4	—	—
1970	52°34'	159°2'	4	5.1	4	—	—
1970	52°34'	159°11'	16	16	18	—	—
1970	No data		16	63	16	—	—
1971	No data		20	9	20	—	—
1971	No data		5	70	5	—	—

Table A7 (continued)

Year	Coordinates		Volume, m^3	Activity, Ci	Form of Disposal		
	N. Lat.	E. Long.			Containers	Ships	Unenclosed
Area 8 (continued)							
1972	No data		300	3.8	—	Heavy trawler *Sungay*	—
1972	No data		14	3.2	14	—	—
1973	No data		60	26	60	—	—
1974	No data		56	4.8	56	—	—
1975	No data		64	47	64	—	—
1976	No data		27	17	27	—	—
1977	No data		25	41	25	—	—
1978	No data		50	36	50	—	—
1980	54°34'	159°2'	94	27	94	—	—
1981	52°28'	159°11'	48	27	48	—	—
1982	54°34'	159°11'	95	242	95	—	—
1983	52°28'	159°2'	60	44	60	—	—
1985	52°30'	159°4'	82	1537	51	—	—
1986	52°31'	159°9'	47	11	41	—	—
1986	52°30'	159°8'	15	8	15	—	—
1986	52°31'	159°8'	8	39	—	—	Primary loop circulating pump (50 pcs.)
1986	52°31'	159°8'	105	45	105	—	—
1987	52°31'	159°8'	50	41	50	—	—
1987	52°32'	159°8'	51	40	50	—	—
1988	52°30'	159°8'	2.7	8	—	—	GTsN-146 main circulating pump
1988	52°30'	159°9'	70	59	—	—	Steam generator (10 pcs.)
1988	52°30'	159°9'	97	37	97	—	—
1989	52°30'	159°9'	46	13	46	—	—
1989	52°30'	159°9'	7	70	—	—	Submarine core plate
1989	52°30'	159°9'	3.7	0.85	—	—	Primary loop circulating pump (1 pc.)
1989	52°30'	159°9'	30	17	30	—	—
1989	52°30'	159°9'	14	3.5	—	—	Hydrovacuum decontamination cylinders
1989	52°30'	159°9'	56	8.4	56	—	—

Table A7 (continued)

Year	Coordinates		Volume, m^3	Activity, Ci	Form of Disposal		
	N. Lat.	E. Long.			Containers	Ships	Unenclosed
Area 8 (continued)							
1990	52°30'	159°9'	72	13	72	—	—
1990	52°30'	159°9'	600	138	—	Barge	—
1990	52°30'	159°9'	55	29	50	—	—
1991	52°30'	159°9'	41	13	41	—	—
1992	52°30'	159°9'	46	12	41	—	—
Total			2553	2992 (111)	1502	2	62+

Area 9							
1974	41°40'	133°30'	14	6	14	—	—
1974	41°45'	134° 41'	32	17	32	—	—
1974	41°44'	134° 02'	28	2	28	—	—
1974	41°36'	133°22'	132	33	—	Seiner No. 100	—
1975	41°41'	133°40'	40	36	40	—	—
1975	41°40'	134° 01'	4	22	4	—	—
1975	41°40'	134° 01'	40	296	40	—	—
1975	41°49'	134° 10'	18	28	18	—	—
1975	41°40'	133°30'	22	8.4	22	—	—
1975	41°40'	133°30'	20	26	20	—	—
1975	41°36'	132°22'	130	16	—	Seiner No. 5	—
1975	41°36'	132°22'	63	4	63	—	—
1975	41°36'	132°22'	230	20	—	Seiner No. 6	—
1975	41°36'	132°22'	204	19	—	Seiner No. 4	—
1975	41°41'	134°41'	196	26	—	Seiner No. 2	—
1975	41°41'	134°41'	154	16	—	Seiner No. 3	—
1975	41°41'	134°41'	36	3.6	36	—	—
1976	41°41'	133°30'	40	16	40	—	—
1977	41°42'	133°30'	46	164	46	—	—
1977	41°41'	133°22'	62	3	38	—	—
1977	41°37'	133°42'	174	6	—	Fishing ship	—
1977	41°37'	133°42'	160	6	—	Fishing ship	—
1978	41°40'	133°40'	29	11	29	—	—
1978	41°40'	133°40'	13	18	13	—	—
1978	41°40'	133°40'	23	3.4	23	—	—
1978	41°43'	133°35'	28	2.5	28	—	—
1978	41°41'	133°31'	39	68	39	—	—
1978	41°40'	133°31'	36	7.5	36	—	—
1978	41°38'	133°41'	33	5	33	—	—
1978	41°37'	133°42'	235	15	—	Fishing ship	—
1978	41°37'	133°42'	178	11	—	Fishing ship	—
1978	41°44'	133°26'	29	2	27	—	—

Table A7 (continued)

Year	Coordinates		Volume, m³	Activity, Ci	Form of Disposal		
	N. Lat.	E. Long.			Containers	Ships	Unenclosed
Area 9 (continued)							
1978	41°44'	133°26'	321	5	321	—	—
1984	41°41'	134°2'	34	236	34	—	—
1984	41°39'	133°30'	29	8.5	29	—	—
1985	41°38'	133°30'	36	8.3	31	—	—
1985	41°39'	133°30'	60	9.7	60	—	—
1985	41°40'	133°23'	201	14	—	Experimental vessel *Ungur*	—
1985	41°37'	134°0'	80	21.5	80	—	—
1985	41°41'	134°1'	50	90	50	—	—
1985	41°38'	133°25'	58	3.3	58	—	—
1986	41°40'	134°10'	38	70	37	—	—
1986	41°40'	134°18'	31	15	31	—	—
1986	41°46'	134°10'	20	5	18	—	—
1987	41°40'	134°20'	31	26	34	—	—
1987	41°46'	134°30'	41	85	28	—	—
1987	41°36'	133°22'	474	13.5	—	Fishing ship *Never*	—
1987	41°36'	134°30'	42	8	28	—	—
1988	41°36'	134°30'	208	8	—	Fishing ship *Trebovatelnyy*	—
1988	41°46'	134°30'	50	10	34	—	—
1988	41°40'	134°30'	1665	17	—	*TNT-14*	—
1988	41°40'	134°18'	362	36	—	*SRTM-8*	—
1988	41°42'	134°30'	56	62	56	—	—
1988	41°40'	134°18'	110	8.2	—	*SRTM-427*	—
1989	41°40'	134°0'	35	14	35	—	—
1989	41°40'	134°0'	360	373	—	Barge	—
1990	41°40'	134°0'	114	103	—	Fishing ship *Tavezhnyy*	—
1991	41°40'	134°0'	18	1.4	14	—	—
1991	41°40'	134°0'	15	6.5	—	—	Steam generator (5 pcs.)
1991	41°40'	134°0'	—	—		—	Primary loop circulating pumps (21 pcs.)
1991	41°40'	133°30'	124	39.5	—	Fishing ship *Otvazhnyy*	—
1992	41°40'	133°30'	2640	14.5	—	*TNT-11*	—
1992	41°40'	133°30'	55	0.8	41	—	—
Total			9846	2230 (82)	1689	18	26

Table A7 (continued)

Year	Co-ordinates		Volume m^3	Activity Ci	Form of Disposal		
	N. Lat	E. Long			Containers	Ships	Unenclosed
				Area 10			
1978	40°10'	131°15'	31	46	-	-	Submarine reactor tank (2 pcs.)
1979	41°30'	131°35'	60	125	-	-	Tank of reservoir for spent process channels (2 pcs.)
1979	40°10'	131°15'	162	9.2	-	Fishing ship	-
1979	41°23'	131°25'	50	4.2	42	-	-
1979	40°10'	131°15'	800	20.7	21	-	-
1980	41°05'	131°30'	68	72.7	68	-	-
1980	41°25'	131°20'	65	0.95	53	-	-
1980	40°10'	131°15'	200	2.2	-	Fishing ship Tedzhem	-
1980	40°10'	131°15'	240	3	-	Fishing ship Tauz	-
1980	41°29'	131°18'	34	0.2	34	-	-
1980	40°10'	131°18'	284	3.6	-	RS-309	-
1981	40°10'	131°18'	165	2.5	-	Fishing ship Tekeli	-
1981	41°20'	131°26'	183	144.5	188	-	-
1981	41°00'	131°26'	74	0.5	48	-	-
1981	40°10'	131°15'	472	7.3	-	Fishing ship Tagil	-

Table A7 (continued)

Year	Co-ordinates		Volume m^3	Activity Ci	Form of Disposal		
	N. Lat	E. Long			Containers	Ships	Unenclosed
Area 10							
1981	40°10'	131°15'	217	2.8	-	RS-300	-
1982	41°20'	131°26'	40	38.4	40	-	-
1982	41°05'	131°30'	36	23.4	36	-	-
1982	40°10'	131°15'	255	7.1	-	Fishing ship Troitsk	-
1982	41°29'	131°26'	31	0.12	31	-	-
1982	41°25'	131°21'	42	0.35	38	-	-
1982	40°10'	131°15'	450	11	-	Fishing ship Kosmonavt Yegorov	-
1983	41°20'	131°26'	107	92.3	83	-	Reactor lid (8 pcs.)
1983	41°25'	131°25'	47	2.35	47	-	-
1983	41°25'	131°25'	405	10.6	-	Medium Fishing trawler/ refrige-rator ship	-
1983	40°30'	131°25'	436	12.4	-	Fishing vessel Izvolta	-
1984	20°20'	131°20'	118	77	119	-	-
Total			5072	721(27)	848	11	12
Total Areas 6-10			21842	6112(22.5)	6642	38	100+
