



Country Waste Profile Report for ESTONIA Reporting Year: 2004

*For guidance on reading Country Waste Profile Reports,
please refer to the following internet based document:*

<http://www-newmdb.iaea.org/help/profiles9/guide.pdf>

*For further information, please contact the Responsible Officer via e-mail:
NEWMDB@IAEA.org*

Waste Classification Schemes

Country: ESTONIA

Reporting Year: 2004

Waste Class Matrix: **IAEA Def.**

This country does use the IAEA Scheme: Yes

Description: The Agency's standard matrix

Waste Class Name	Distribution %		
	LILW-SL	LILW-LL	HLW
LILW-SL	100.0	0.0	0.0
LILW-LL	0.0	100.0	0.0
HLW	0.0	0.0	100.0

Comment **# 320: Waste Matrix**

The IAEA waste matrix is not specified in any law in Estonia and it is used to report to the NEWMDB

Definition of «unprocessed waste» and «processed waste»:

Is not defined

Groups Overview

Country: ESTONIA

Reporting Year: 2004

Reporting Group:	National			
Inventory Reporting Date:	December 2004			
Waste Matrix Used:	IAEA Def.			
Description:				
Site Name	Facility Name	Facilities Defined		
Paldiski	Pald_RWSF		storage	
	Pald_WTF	processing		
Tammiku	Tammiku			disposal

Site (Structure) : Paldiski

Country: ESTONIA

Reporting Year: 2004

Full Name: The Former Soviet Navy Nuclear Training Centre

Description:

Official Website:

License Holder(s): A.L.A.R.A. AS, National RWMO

Comment # 425: unprocessed waste

unprocessed waste is metallic scrap, concrete rubble, plastic, etc. from decontamination and dismantling activities packaged into plastic bags and stored in 17 half-height ISO containers before treatment or conditioning.

Comment # 426: processed waste

processed waste consists of 221 waste packages: 205 packages with conditioned D&D waste, and 16 packages with SRS in their shielding blocks or transport containers.
Cutted pieces of 20 control rods are stored in four specific waste packages.

Attachment #172: Site

IAEA-CN-87-32.doc

Remediation and Decommissioning of Radioactive Waste Facilities in Estonia.
Paper presented in Malta conference, November 2001

Attachment #177: Site

455 ICEM.pdf

Paper presented in ASME Conference Radioactive Waste Management and Environmental Restoration, Nagoya, Japan, 1999

Waste management facilities that are located at this site:

Facility:	Pald_RWSF
Description:	Paldiski Radioactive Waste Storage (includes SRS storage)

Storage part of facility Pald_RWSF

The following shows storage status for waste classes and SRS.

Waste Class	Actual	Planned
LILW-SL	Yes	Yes
LILW-LL	Yes	Yes
HLW	No	No

List SRS?	Yes
List UMMT?	No

Capacity:	
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Types of Storage Units

Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?
Pald_RWSF	building	1997	No	No	Yes	Yes

Site (Structure) : Paldiski

Country: ESTONIA

Reporting Year: 2004

Site (Structure) : Paldiski

Country: ESTONIA

Reporting Year: 2004

Facility:	Pald_WTF												
Description:	Paldiski Waste Treatment Facility												
Processing part of facility Pald_WTF													
The following shows processing status for waste classes and SRS.													
<table border="1"><thead><tr><th>Waste Class</th><th>Actual</th><th>Planned</th></tr></thead><tbody><tr><td>LILW-SL</td><td>No</td><td>No</td></tr><tr><td>LILW-LL</td><td>No</td><td>No</td></tr><tr><td>HLW</td><td>No</td><td>No</td></tr></tbody></table>	Waste Class	Actual	Planned	LILW-SL	No	No	LILW-LL	No	No	HLW	No	No	
Waste Class	Actual	Planned											
LILW-SL	No	No											
LILW-LL	No	No											
HLW	No	No											
Type:	Treatment, Conditioning												
Year opened:	1998												

Site (Data) : Paldiski

Stock of waste as at December 2004

Country: ESTONIA

Reporting Year: 2004

Site Name: Paldiski**Full Name:** The Former Soviet Navy Nuclear Training Centre**Inventory Reporting Date:** December 2004 **Waste Matrix Used:** IAEA Def.**Comment # 425: unprocessed waste**

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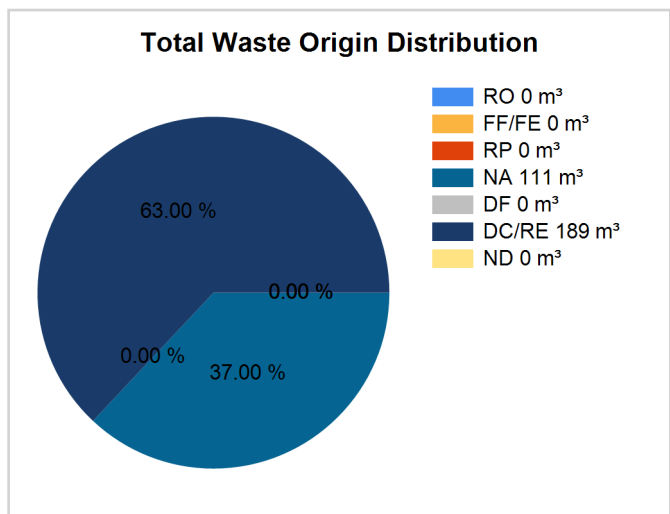
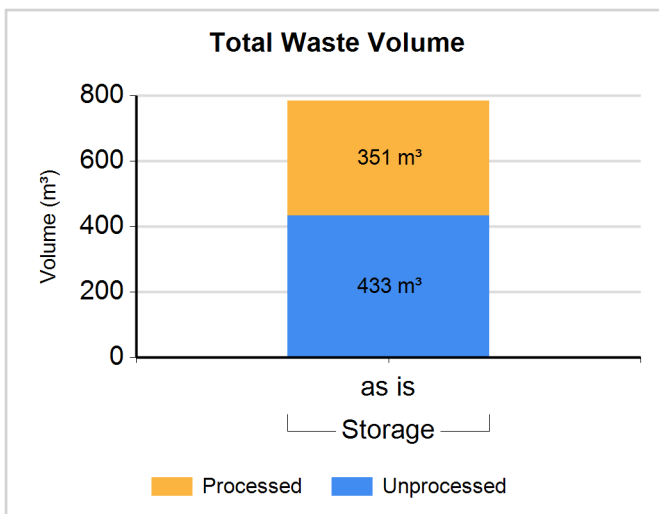
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Waste Inventory

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.

Site (Data) : Paldiski

Stock of waste as at December 2004

Country: ESTONIA

Reporting Year: 2004

Waste Class: LILW-SL

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 %
LILW-SL	Storage	N	N	432.000	432.000	0.00	0.00	0.00	0.00	0.00	100.00	0.00
LILW-SL	Storage	Y	N	351.000	351.000	0.00	0.00	0.00	11.00	0.00	89.00	0.00

Waste Class: LILW-LL

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 %
LILW-LL	Storage	N	N	1.000	1.000	0.00	0.00	0.00	100.00	0.00	0.00	0.00

Comment # 7570: Dep U

1 m3 of Dep U from shielding in NA facilities

Processing - Treatment method(s)

Method	Status			
	Planned	R&D program	Current practice method use over the last 5 years	Past Practice
Size Reduction	N	N	Increase	N

Processing - Conditioning method(s)

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

Site (Data) : Paldiski

Stock of waste as at December 2004

Country: ESTONIA

Reporting Year: 2004

Spent Sources <=30 years in Storage

Nuclide	Number of Sources/Total Activity of Sources (GBq)			c o n d	u n c o n d	c a t	Total Activity for all Groups (GBq)	Decay Date
	Group I less than or equal 4GBq	Group II more than 4GBq but less than or equal 4E+4GBq	Group III more than 4E+4GBq					
	num/activity	num/activity	num/activity					
Co-60	39			N	Y	Y	2.290E+001	2003.12
	2.290E+001							
Co-60		23		N	Y	Y	8.450E+004	2003.12
		8.450E+004						
Cs-137		461		N	Y	Y	7.770E+005	2003.12
		7.770E+005						
Cs-137	289			N	Y	Y	1.080E+002	2003.12
	1.080E+002							
Kr-85		5		N	Y	Y	2.700E+001	2003.12
		2.700E+001						
Pm-147	2			N	Y	Y	1.300E-003	2003.12
	1.300E-003							
Sr-90	96			N	Y	Y	7.320E+001	2003.12
	7.320E+001							
Sr-90		37		N	Y	Y	7.430E+005	2003.12
		7.430E+005						

Site (Data) : Paldiski

Stock of waste as at December 2004

Country: ESTONIA

Reporting Year: 2004

Spent Sources > 30 years in Storage

Nuclide	Number of Sources/Total Activity of Sources (GBq)		c o n d	u n c o n d	c a t	Total Activity for all Groups (GBq)	Decay Date
	Group I less than or equal 2 GBq	Group II more than 2GBq					
	num/activity	num/activity					
Am-241		27	N	Y	Y	1.240E+002	2003.12
		1.240E+002					
Pu-238		44	N	Y	Y	1.350E+004	2003.12
		1.350E+004					
Pu-239	11356		N	Y	Y	1.610E+002	2003.12
	1.610E+002						

Site (Structure) : Tammiku

Country: ESTONIA

Reporting Year: 2004

Full Name: Tammiku Radioactive Waste Depository

Description:

Official Website:

License Holder(s): A.L.A.R.A. AS, National RWMO

Attachment #170: Site

Tammiku.PDF

Short description of the Tammiku facility

Waste management facilities that are located at this site:

Facility:	Tammiku		
Description:	RADON type facility for institutional RW		
Disposal part of facility Tammiku			
The following shows disposal status for waste classes and SRS.			
Waste Class	Actual	Planned	
LILW-SL	Yes	No	
LILW-LL	Yes	No	
HLW	No	No	
List SRS?	No		
List UMMT?	No		
Type:	engineered near surface		
Facility is modular?	No		
Capacity existing (m3):	200	Capacity planned (m3):	200
Depth (m):	0-3	Host medium:	sedimentary (sand)
Phase Name	Start Year	End Year	Estimate
operation	1963	1995	False

Site (Data) : Tammiku

Stock of waste as at December 2004

Country: ESTONIA

Reporting Year: 2004

Site Name: Tammiku

Full Name: Tammiku Radioactive Waste Depository

Inventory Reporting Date: December 2004

Waste Matrix Used: IAEA Def.

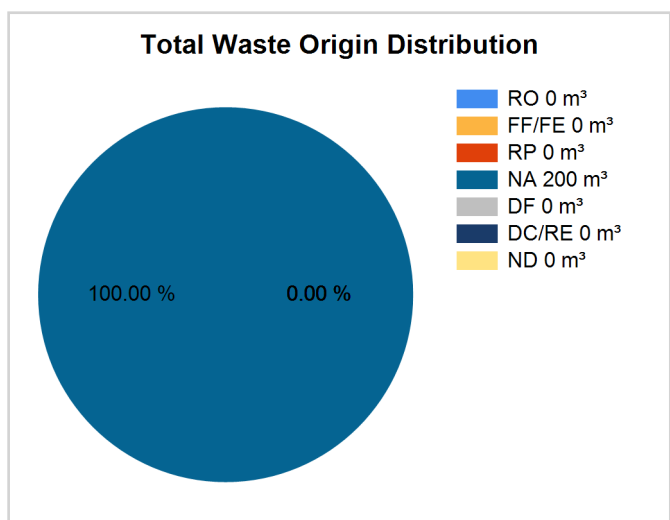
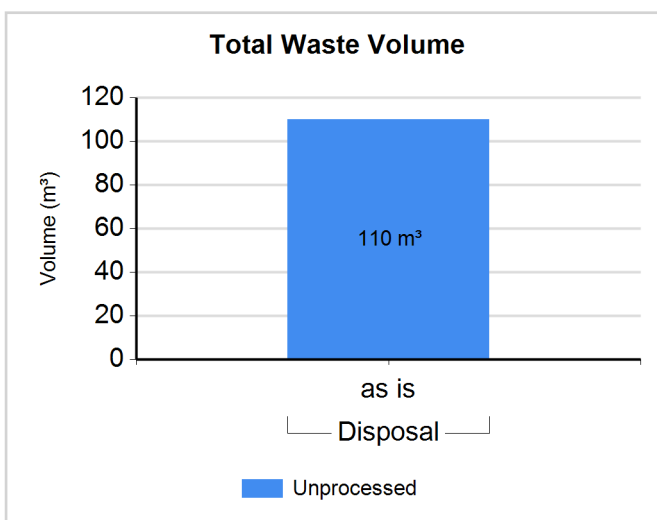
Attachment #170: Site

Tammiku.PDF

Short description of the Tammiku facility

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.

Waste Class: LILW-SL

Waste Class Name	Location / Facility	Proc	Est.	Volume "as is" (m³)	Volume "as dispo" (m³)	RO %	FF/FE %	RP %	NA %	DF %	DC/RE %	ND %
LILW-SL	Disposal	N	N	105.000	105.000	0.00	0.00	0.00	100.00	0.00	0.00	0.00

Waste Class: LILW-LL

Waste Class Name	Location / Facility	Proc	Est.	Volume "as is" (m³)	Volume "as dispo" (m³)	RO %	FF/FE %	RP %	NA %	DF %	DC/RE %	ND %
LILW-LL	Disposal	N	N	5.000	5.000	0.00	0.00	0.00	100.00	0.00	0.00	0.00

Country: ESTONIA

Reporting Year: 2004

Name:	MoE
Full Name:	Ministry of the Environment
Divison:	
City or Town:	Tallinn
Main Website:	

Regulations / Laws

Country: ESTONIA

Reporting Year: 2004

Name:	Rad_Act		
Title or Name:	Radiation Act (Kiirgusseadus)		
Reference Number:	RT I 2004, 26, 173		
Date Promulgated or Proclaimed:	4/7/2004	Law	

Attachment **#171: Regulation**

IAEA-CN-87_97P.PDF

Development and Problems of Radioactive Waste Management Infrastructure in Estonia. Paper presented in Malta Conference, November 2001

Name:	KKM_53_98		
Title or Name:	Regulation of the Minister of the Environment on the order of management, registration and transference of radioactive waste		
Reference Number:	RTL 1998 264/265 1086		
Date Promulgated or Proclaimed:	8/17/1998	Regulation	

Comment **# 412: Com_1**

The regulation imposes detailed requirements for radioactive waste management and covers the storage and disposal of radioactive waste and radioactive waste management facilities. It also sets out basic safety criteria for siting, design and operation of RW management facilities.

Future Outlook

Country: ESTONIA

Reporting Year: 2004

Data not available.

Policies

Country: ESTONIA

Reporting Year: 2004

National Systems

Policy		(Yes;Partially;No)
Q14	Has your Country implemented a national policy for radioactive waste management?	No
Strategies		(Yes;Partially;No)
Q15	Has your country developed strategies to implement a national policy?	No
Requirements		(Yes;Partially;No)
Q17	identified the parties involved in the different steps of radioactive waste management	Partially
Q18	specified a rational set of safety, radiological and environmental protection objectives	Partially
Q19	implemented a mechanism to identify existing and anticipated radioactive wastes	Partially
Q20	implemented controls over radioactive waste generation	Yes
Q21	identified available methods and facilities to process, store and dispose of radioactive waste on an appropriate time-scale	Partially
Q22	taken into account interdependencies among all steps in radioactive waste generation and management	Partially
Q23	implemented appropriate research and development to support the operational and regulatory needs	No
Q24	implemented a funding structure and the allocation of resources that are essential for radioactive waste management	Partially
Q25	implemented formal mechanisms for disseminating information to the public and for public consultation	Partially
Responsibilities		(Complete;Incomplete)
Q28	establish and implement a legal framework for the management of radioactive waste	Complete
Q29	establish or designate a regulatory body that has the responsibility for carrying out the regulatory function with regard to safety and the protection of human health and the environment.	Complete
Q30	define the responsibilities of waste generators and operators of waste management facilities	Complete
Q31	provide for adequate resources	Incomplete
Q33	enforce compliance with regulatory requirements	Complete
Q34	implement the licensing process	Complete
Q35	advise the government	Incomplete
Q37	identify an acceptable destination for the radioactive waste	Complete
Q114	comply with legal requirements	Complete

Policies

Country: ESTONIA

Reporting Year: 2004

Activities		(Yes;Partially;No)
Q43	perform safety and environmental impact assessments for radioactive waste management facilities	Yes
Q44	ensure adequate radiation protection for workers, the general public and the environment	Yes
Q45	ensure suitable staff, equipment, facilities, training and operating procedures are available to perform the safe radioactive waste management steps	Yes
Q46	establish and implement a quality assurance programme for the radioactive waste generated or its processing, storage and disposal	No
Q47	establish and keep records of appropriate information regarding the generation, processing, storage and disposal of radioactive waste, including an inventory of radioactive waste	Yes
Q48	provide surveillance and control of activities involving radioactive waste as required by the regulatory body	Yes
Q49	collect, analyze and, as appropriate, share operational experience to ensure continued safety improvements in radioactive waste management	Yes
Q50	conduct or otherwise ensure appropriate research and development to support operational needs in radioactive waste management	Yes

Clearance		(Yes;No)
Q128	Does your country have "clearly defined clearance levels based on radiological criteria, with policy statements that material below those levels can be recycled or disposed of with non-radioactive wastes"?	Yes
Q129	Has your country ever used a "case-by-case" approach to clearing radioactive wastes (excluding spent/disused sealed radioactive sources)?	No
Q130	Has your country ever used clearance levels to dispose of, reuse or recycle radioactive waste as non-radioactive waste or as a non-radioactive resource (excluding spent/disused sealed radioactive sources)?	No

Policies

Country: ESTONIA

Reporting Year: 2004

Disposal Facilities

Licensing		(Yes - All;Yes - Some;No)
Q53	Environmental Assessment (EA)	No
Q54	Environmental Impact Statement (EIS)	No
Q55	Performance Assessment (PA)	No
Q56	Quality Assurance (QA)	No
Q57	Safety Assessment (SA)	Yes - Some
Operation		(Yes - All;Yes - Some;No)
Q60	Does your Country have formal, documented waste acceptance criteria for its operating or proposed disposal facilities?	No
Post-Closure		(Yes;No)
Q61	Does your Country have any written policies to address the maintenance of records that describe the design, location and inventory of waste disposal facilities?	No
Q63	Does your Country have any written policies to address active institutional controls or passive institutional controls, such as monitoring or access restrictions?	No

Policies

Country: ESTONIA

Reporting Year: 2004

Processing/Storage

Policies/Procedures		(Yes;No)
Q73	waste sorting/segregation	Yes
Q74	waste minimization	Yes
Q75	waste storage	Yes
Q76	processing and/or storing and/or disposing of nuclear fuel cycle waste separately from non-nuclear fuel cycle waste (also known as nuclear applications waste)	No
Q78	Does your country have any legislation, regulation, or policy that waste processing must take place prior to storage (see following note)	Yes
Implementation		(Yes;No)
Q80	Does your Country have any waste processing facilities at the same location where the waste is generated?	Yes
Q81	Does your Country have any centralized waste processing facilities?	Yes
Q82	Does your Country have any mobile waste processing facilities?	No
Foreign		(Yes;No)
Q121	Has your country sent any wastes or spent fuel to another country for processing (reprocessing for fuel)?	No
Q124	Has your country accepted any wastes or spent fuel from another country for processing (reprocessing for fuel)?	No

Policies

Country: ESTONIA

Reporting Year: 2004

Spent/Disused SRS

Registration		(Yes;No)
Q84	Is there a national level registry?	Yes
Q85	If answer was yes, is the registry used only for disused/spent SRS?	No
Q87	Are there regional-level registries (one or more)?	No
Q90	Are there local-level registries (one or more)?	No
Procedures		(Yes;No)
Q91	Does your Country have documented procedures in place to ensure that sealed radioactive sources (SRS) are transferred to secure facilities in a timely manner after their user declares them to be spent?	Yes
Agreements		(Yes;No)
Q93	Government to Government agreements	No
Q94	Government - Supplier agreements	No
Q95	Supplier-User agreements	Yes
Q97	Do any agreements include suppliers that are outside of your Country?	Yes
Release / Disposal		(Yes;No)
Q99	Does your Country have any regulations to free-release spent sealed radioactive sources (SRS)?	Yes
Q100	Has your Country disposed of spent SRS in existing disposal facilities for LILW or HLW waste?	Yes
Q101	Does your Country plan to dispose of spent SRS in existing or planned disposal facilities for LILW or HLW waste?	No
Q102	Has your Country implemented dedicated disposal facilities for spent SRS?	No
Q103	Does your Country have plans to implement dedicated disposal facilities for spent SRS?	No
Import-Export		
Radioactive Waste		(Yes;No)
Q104	Does your Country have laws or Regulations restricting either the import or export of radioactive waste (excluding spent fuel)?	Yes
Spent Fuel		(Yes;No)
Q105	Does your Country have laws or Regulations restricting either the import or export of spent fuel?	Yes

Policies

Country: ESTONIA

Reporting Year: 2004

Liquid HLW**Storage****(Yes;No)**

Q106 Does your Country have high-level liquid wastes in storage? No

UMMT**Responsibility****(Yes;No)**

Q110 Does your Country have any Uranium Mine and Mill Tailings sites that do not have a designated authority to manage them? No

Decommissioning**Funding****(Yes - All;Yes - Some;No)**

Q111 Does your Country require that funds should be set aside in support of future waste management activities, such as decommissioning activities? No

Facilities**(Yes;No)**

Q119 Does Your Country have any nuclear fuel cycle facilities? No

Q120 Does Your Country have any nuclear applications facilities (non fuel cycle facilities)? No

Future Outlook

Country: ESTONIA

Reporting Year: 2004

Data not available.

Future Outlook

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Data not available.

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