



**Country Waste Profile Report for  
THAILAND  
Reporting Year: 2005**

*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](mailto:NEWMDB@IAEA.org)*

## Waste Classification Schemes

Country: THAILAND

Reporting Year: 2005

Waste Class Matrix: **IAEA Def.**

This country does use the IAEA Scheme: No

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

Waste Class Matrix: **Thailand**

Description: Thailand does not have any HLW even though HLW is part of the classification scheme. The classification scheme is specified in the Science and Technology Ministerial Regulation.

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

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

This country uses the following definitions:

	as-generated waste	processed for handling	processed for storage	processed for disposal
Unprocessed means:	x			
Processed means:		x	x	x

## Groups Overview

Country: THAILAND

Reporting Year: 2005

<b>Reporting Group:</b>	<b>National</b>			
Inventory Reporting Date:	December 2005			
Waste Matrix Used:	Thailand			
Description:	In this reporting group, a single theoretical site is defined. The waste quantities reported are the totals for actual sites located around Thailand. See the comment regarding inventory reporting date.			
Site Name	Facility Name	Facilities Defined		
All Sites	OAP-SF1		storage	
	OAP-SF2		storage	
	OAP-SRS		storage	
	OAP-WPF	processing		
Comment	<b># 408: VLLW</b>			
	VLLW is generated but not released due to a lack of regulation regarding release. It is not segregated from LLW and therefore is reported in the NEWMDB as part of LILW-SL waste			

## Site (Structure) : All Sites

Country: THAILAND

Reporting Year: 2005

Full Name: A single theoretical site is defined to facilitate reporting to the NEWMDB. The waste quantities reported are the totals for actual sites located around Thailand, including those at the central facility located at the OAP, Bangkok.

Location: various

Location: various

Description:

Official Website:

License Holder(s): National Centralized  
Radioactive Waste Management / Office of Atoms for Peaces(OAP)  
National Centralized  
Radioactive Waste Management / Office of Atoms for Peaces(OAP)

Waste management facilities that are located at this site:

<b>Facility:</b>	<b>OAP-SF1</b>																																								
<b>Description:</b>	Storage Facility 1 at the OAP in Bangkok, for the storage of SRS which are conditioned and some are not conditioned.																																								
<p><b>Storage part of facility OAP-SF1</b></p> <p>The following shows storage status for waste classes and SRS.</p> <table border="1"> <thead> <tr> <th>Waste Class</th> <th>Actual</th> <th>Planned</th> </tr> </thead> <tbody> <tr> <td>VLLW</td> <td>No</td> <td>No</td> </tr> <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> <table border="1"> <tr> <td>List SRS?</td> <td>Yes</td> </tr> <tr> <td>List UMMT?</td> <td>No</td> </tr> </table> <table border="1"> <tr> <td>Capacity:</td> <td>310 cubic metre</td> </tr> </table> <p>Types of Storage Units</p> <table border="1"> <thead> <tr> <th>Storage Unit Name</th> <th>Type Name</th> <th>Year Opened</th> <th>Closed?</th> <th>Full?</th> <th>Modular?</th> <th>Contains SRS?</th> </tr> </thead> <tbody> <tr> <td>OAP-SF1</td> <td>building</td> <td>1996</td> <td>No</td> <td>No</td> <td>No</td> <td>Yes</td> </tr> </tbody> </table>							Waste Class	Actual	Planned	VLLW	No	No	LILW-SL	No	No	LILW-LL	No	No	HLW	No	No	List SRS?	Yes	List UMMT?	No	Capacity:	310 cubic metre	Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?	OAP-SF1	building	1996	No	No	No	Yes
Waste Class	Actual	Planned																																							
VLLW	No	No																																							
LILW-SL	No	No																																							
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Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?																																			
OAP-SF1	building	1996	No	No	No	Yes																																			

## Site (Structure) : All Sites

Country: THAILAND

Reporting Year: 2005

<b>Facility:</b>	<b>OAP-SF2</b>
<b>Description:</b>	Storage Facility 2 at the OAP in Bangkok, capacity 292.5m <sup>3</sup> , for Radioisotope (RI) wastes which are already processed.

**Storage part of facility****OAP-SF2**

The following shows storage status for waste classes and SRS.

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

List SRS?	No
List UMMT?	No

<b>Capacity:</b>	292.5 cubicmetre, for the storage of the RI wastes, for the conditioned and non-conditioned waste-drums (200 litre).
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## Types of Storage Units

Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?
OAP-SF2	building	1999	No	No	No	No

## Site (Structure) : All Sites

Country: THAILAND

Reporting Year: 2005

<b>Facility:</b>	<b>OAP-SRS</b>
<b>Description:</b>	for storage of the conditioned SRS at the OAP in Bangkok,

**Storage part of facility****OAP-SRS**

The following shows storage status for waste classes and SRS.

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

List SRS?	Yes
List UMMT?	No

<b>Capacity:</b>	15 drums (200 litre) for conditioned Radium and 2 stainless steel container for conditioned Cobalt-60 (420 Ci) and the conditioned Ra-226(4 Ci) irradiator.
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## Types of Storage Units

Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?
SRS	cask	2001	No	No	No	Yes

Comment **# 7366: Conditioning of SRS under the support of IAEA**

The first Radium-226 conditioning operation was performed under the support of the IAEA in year 2001. The total amount of Ra-226 was 4,823.6 mg( 948 pieces). The second Radium-226 conditioning operation has been planned to operate in year 2004. For the conditioning of Co-60 source (420 ci) from the Radiological accident in Samutprakran province, Thailand in year 2000, was also supported by IAEA and successfully operated in year 2002.

## Site (Structure) : All Sites

Country: THAILAND

Reporting Year: 2005

<b>Facility:</b>	<b>OAP-WPF</b>	
<b>Description:</b>	Waste Processing Facility at the Office for Atoms for Peace, Bangkok, liquid waste treatment plant (chemical precipitation) since 1965, incinerator (20 kg/day) since 1992, compactor since 1992.	
<b>Processing part of facility</b>	<b>OAP-WPF</b>	
The following shows processing status for waste classes and SRS.		
<b>Waste Class</b>	<b>Actual</b>	<b>Planned</b>
VLLW	No	No
LILW-SL	No	No
LILW-LL	No	No
HLW	No	No
<b>Type:</b>	Treatment, Conditioning	
<b>Year opened:</b>	1965	

## Site (Data) : All Sites

Stock of waste as at December 2005

Country: THAILAND

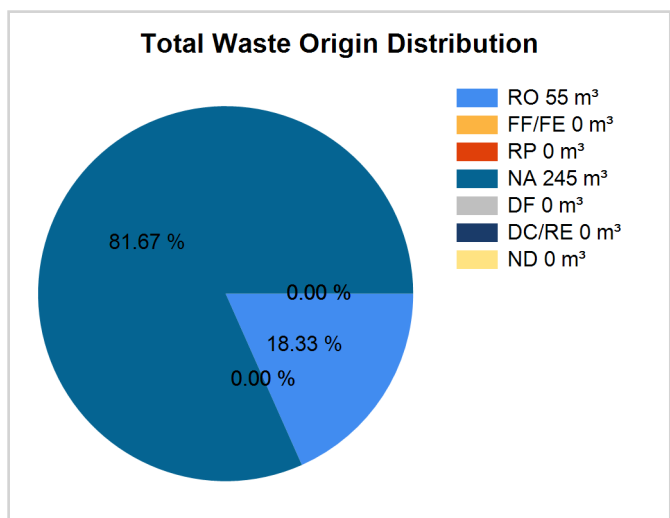
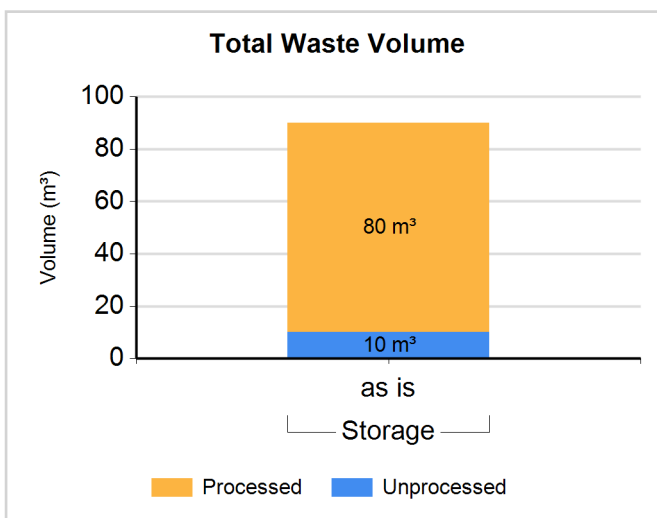
Reporting Year: 2005

**Site Name:** All Sites

**Full Name:** A single theoretical site is defined to facilitate reporting to the NEWMDB. The waste quantities reported are the totals for actual sites located around Thailand, including those at the central facility located at the OAP, Bangkok.

**Inventory Reporting Date:** December 2005**Waste Matrix Used:** Thailand**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) : All Sites

Stock of waste as at December 2005

Country: THAILAND

Reporting Year: 2005

**Waste Class: VLLW**

Waste Class Name	Location / Facility	Proc	Est.	Volume "as is" (m <sup>3</sup> )	Volume "as dispo" (m <sup>3</sup> )	RO %	FF/FE %	RP %	NA %	DF %	DC/RE %	ND %
VLLW	Storage / OAP-SF2	N	N	5.000	5.000	0.00	0.00	0.00	100.00	0.00	0.00	0.00
VLLW	Storage / OAP-SF2	Y	N	80.000	80.000	5.00	0.00	0.00	95.00	0.00	0.00	0.00

Comment **# 6850: The additional characteristics of the waste**

Most of processed solid waste came from the medical use, and universities. But the most of liquid waste came from the OAP research reactor and OAP laboratories.

Comment **# 7368: VLLW volume-reduction**

Most VLLW solid wastes are generated by RI users.

Those VLLW are treated for volume reduction and then kept in 200 litre-drums at OAP-SF2. Now there are about 400 drums.

**Waste Class: LILW-SL**

Waste Class Name	Location / Facility	Proc	Est.	Volume "as is" (m <sup>3</sup> )	Volume "as dispo" (m <sup>3</sup> )	RO %	FF/FE %	RP %	NA %	DF %	DC/RE %	ND %
LILW-SL	Storage / OAP-SF2	N	N	5.000	5.000	50.00	0.00	0.00	50.00	0.00	0.00	0.00

Comment **# 6851: The additional characteristics of the waste**

Unprocessed Waste are as follows:

- Spent ion-exchange resin from the OAP Research Reactor, have been kept in 50 drums ( 50 litre), total about 2.5 cubic-metre
- The iron-steel contaminated with Cs-137 from the Steel Factories, ( products from the melting of scrap metal from East Europe), total volume about 2.5 cubic-metre

**Processing - Treatment method(s)**

Method	Status			
	Planned	R&D program	Current practice method use over the last 5 years	Past Practice
Chemical Precipitation	N	N	Same	N
Compaction	N	N	Same	N
Decontamination	N	N	Same	N
Evaporation	Y	N		N
Incineration	N	N	Same	N
Ion Exchange	N	N	Same	N
Size Reduction	Y	N		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	Same	N
Containerization	N	N	Increase	N
Encapsulation	N	N	Increase	N

## Site (Data) : All Sites

Stock of waste as at December 2005

Country: THAILAND

Reporting Year: 2005

### **Spent Sources <=30 years in Storage**

**Data available but will not be reported.**

Attachment #840: SRS Data (LE30)

SRS thailand.xls

SRS inventory (as of January 2004)

### **Spent Sources > 30 years in Storage**

**Data available but will not be reported.**

Attachment #841: SRS Data (GT30)

SRS thailand.xls

SRS inventory (as of January 2004)

### **Multiple Nuclides SRS in Storage**

**Data available but will not be reported.**

## Regulators

Country: THAILAND

Reporting Year: 2005

<b>Name:</b>	<b>OAP</b>
Full Name:	Office of Atoms for Peace
Divison:	Bureau of Radiation Safety Regulation, Bureau of Nuclear Safety Regulation,
City or Town:	Bangkok
Main Website:	

Comment **# 6848: Wastes that are regulated by the Regulator**

Matrix Thailand - HLW, LILW-LL, LILW-SL, VLLW

Note: At present, there is no HLW.

## Regulations / Laws

Country: THAILAND

Reporting Year: 2005

<b>Name:</b>	<b>AEPA 2504</b>		
<b>Title or Name:</b>	Atomic Energy for Peace Act, B.E 2504 (B.E = Buddishm Era) Ministerial Regulation on Waste Management B.E. 2546 ( 2003)		
<b>Reference Number:</b>	Ministerial Regulation BE 2546 Art.1-13		
<b>Date Promulgated or Proclaimed:</b>	4/1/2003		Regulation

Comment **# 6849: Wastes that are regulated by the Regulation**

Matrix Thailand - HLW, LILW-LL, LILW-SL, VLLW

## Milestones

Country: THAILAND

Reporting Year: 2005

Start Year or Reference Year:	2005	End Year:	2007
Description of Milestone:			
The Atomic Energy for Peace Act B.E.2504 is being revised to match the development of Nuclear Technology in the country.			
Start Year or Reference Year:	2004	End Year:	2006
Description of Milestone:			
The construction of the Centralized Waste Processing and Storage Facilities at the new site, Ongkarak district, Nakhonnayok province has been delayed, due to the financial problem.			
Start Year or Reference Year:	1989	End Year:	2003
Description of Milestone:			
The Thai cabinet had a resolution in 1989 to relocate the Nuclear Research Center, comprising the research reactor, waste management facility, isotope production facility and other nuclear facilities in OAEP to more appropriate and safe location due to it is located near the Bangkok airport. The Prequalified Bidding for the new nuclear research center was performed in 1995. The final Bidding was done in 1996. In 1997, the OAEP signed contract with General Atomics to design and establish the new Nuclear Research Center at Ongkarak district, Nakhonnayok Province, 60 km away from OAEP. In year 2003, the OAEP got the construction permit for the new Research reactor.			

## Future Outlook

Country: THAILAND

Reporting Year: 2005

**Data not available.**

## Future Outlook

Country: THAILAND

Reporting Year: 2005

**Data not available.**

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Country: THAILAND

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## Future Outlook

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