



Country Waste Profile Report for CZECH REPUBLIC 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*

Waste Classification Schemes

Country: CZECH REPUBLIC

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: **cz-eu**

Yes

Description:

TRW - >Temporary waste, whose activity after 5 years storage does not exceed the clearance levels.

LILW-SL > Low and intermediate-level waste-short-lived contains radionuclides with half-life shorter than 30 years and with a maximal mass activity of long-lived alpha emitters of 4 kBq/g

LILW-LL -> Low and intermediate-level waste long-lived exceeds limits for LILW-SL

HLW-> High-level waste waste for which heat generation from radionuclide decay must be taken into account

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

Comment

7186: Waste classification

Solid radioactive waste shall be classified into three basic categories, namely temporary, low-level and intermediate-level, and high-level wastes.

Temporary radioactive waste shall be such waste whose radioactivity after long-term storage (maximum 5 years) does not exceed the clearance levels.

High-level radioactive waste shall be waste for which heat generation from radionuclide decay of the radionuclides contained must be taken into account during its storage and disposal.

Other radioactive waste shall be classified as low and intermediate-level waste. Low and intermediate-level waste is classified into two subcategories. The first subcategory is short-lived waste, in which the half-life of radionuclides contained is shorter than 30 years (including Cs-137) with a limited mass activity of long-lived alpha emitters (in individual packages a maximum of 4000 kBq/kg, and a mean value of 400 kBq/kg in the total volume of waste produced in a calendar year). The other subcategory is long-lived waste, that is waste not ranking in the short-lived radioactive waste subcategory.

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

This country uses the IAEA standard definition:

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

Groups Overview

Country: CZECH REPUBLIC

Reporting Year: 2005

Reporting Group:	Institut
Inventory Reporting Date:	December 2005
Waste Matrix Used:	cz-eu
Description:	Research institutes, radiochemical laboratories, industrial facilities etc.

Site Name	Facility Name	Facilities Defined		
ISOTREND	N	processing		
UJV	Cerv.Skala		storage	
	Prekladist		storage	
	VAO		storage	
	VZ	processing		
Zamservis	SRS	processing		

Reporting Group:	NPP
Inventory Reporting Date:	December 2005
Waste Matrix Used:	cz-eu
Description:	Nuclear power plants

Site Name	Facility Name	Facilities Defined		
EDU	BAPP	processing	storage	
	SVO	processing		
	ZRAO	processing		
ETE	BPP	processing	storage	

Groups Overview

Country: CZECH REPUBLIC

Reporting Year: 2005

Reporting Group:	SURAO
Inventory Reporting Date:	December 2005
Waste Matrix Used:	cz-eu
Description:	Radioactive Waste Repository Authority

Site Name	Facility Name	Facilities Defined	
Bratrstvi	URAO		disposal
Dukovany	URAO		disposal
Hostim	URAO		disposal
Richard	URAO	storage	disposal

Comment **# 359: Status and activities of SURAO**

To provide for activities associated with radioactive waste disposal, the Ministry of Industry and Trade set up a Radioactive Waste Repositories Authority (hereinafter referred to as "SURAO") as a State organisation. The Authority shall carry out particular activities in radioactive waste management based on a licence under Atomic Act (Act No. 18/1997).

The SURAO shall engage in the following activities

- a) preparation, construction, commissioning, operation and closure of radioactive waste repositories and monitoring of their impact on the environment;
- b) radioactive waste management;
- c) conditioning of spent or irradiated nuclear fuel into a form suitable for its disposal or further utilisation;
- d) keeping records of radioactive waste receipts and their generators;
- e) administration of payments to the nuclear account;
- f) drafting of proposals for determination of payments to the nuclear account;
- g) provision for and co-ordination of research and development in the field of radioactive waste management;
- h) monitoring of reserves of licensees for decommissioning of their installations;
- i) provision of services in the field of radioactive waste management;
- j) management of radioactive waste transported to the territory of the Czech Republic from abroad when it is not possible to return it;
- k) provision of temporary administration in the case of radioactive waste that, under a specific Act, has become State property; if these are items that were found, left or hidden, the Authority is entitled also to accept them, instead of a State body determined by a specific Act.

Site (Structure) : ISOTREND

Country: CZECH REPUBLIC

Reporting Year: 2005

Full Name: ISOTREND s.r.o.

Description:

Official Website:

License Holder(s): ISOTREND s.r.o.
 Radiová 1
 CZ-102 27 PRAHA 10

Comment # 395: Activity

Assembly, checks, maintenance and distribution of radionuclide sources, predisposal operation in radioactive waste management

Waste management facilities that are located at this site:

Facility:	N															
Description:	Waste treatment and conditioning facility															
<p>Processing part of facility N</p> <p>The following shows processing 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>TRW</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>		Waste Class	Actual	Planned	TRW	No	No	LILW-SL	No	No	LILW-LL	No	No	HLW	No	No
Waste Class	Actual	Planned														
TRW	No	No														
LILW-SL	No	No														
LILW-LL	No	No														
HLW	No	No														
Type:	Treatment, Conditioning															
Year opened:	0															

Site (Data) : ISOTREND

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Site Name: ISOTREND

Full Name: ISOTREND s.r.o.

Inventory Reporting Date: December 2005

Waste Matrix Used: cz-eu

Comment **# 395: Activity**

Assembly, checks, maintenance and distribution of radionuclide sources, predisposal operation in radioactive waste management

Processing - Treatment method(s)

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

Site (Structure) : UJV

Country: CZECH REPUBLIC

Reporting Year: 2005

Full Name: UJV Rez a.s.
(Nuclear Research Institute Rez)

Description:

Official Website:

License Holder(s): UJV Rez a.s.
CZ-250 68 Rez

Waste management facilities that are located at this site:

Facility:	Cerv.Skala					
Description:	Cervena Skala (Red Rock): Waste storage facility					
Storage part of facility Cerv.Skala						
The following shows storage status for waste classes and SRS.						
Waste Class	Actual	Planned				
TRW	No	No				
LILW-SL	Yes	Yes				
LILW-LL	No	No				
HLW	No	No				
List SRS?	No					
List UMMT?	No					
Capacity:						
Types of Storage Units						
Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?
Cerv.Skala	container (ISO)	1988	No	Yes	No	No
Cerv.Skala	concrete pad	1988	No	No	No	No

Site (Structure) : UJV

Country: CZECH REPUBLIC

Reporting Year: 2005

Facility:	Prekladist
Description:	Prekladiste: Waste storage facility

Storage part of facility**Prekladist**

The following shows storage status for waste classes and SRS.

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

List SRS?	No
List UMMT?	No

Capacity:	
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Types of Storage Units

Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?
prekladist	bunker	1963	No	No	No	No

Site (Structure) : UJV

Country: CZECH REPUBLIC

Reporting Year: 2005

Facility:	VAO
Description:	Sklad VAO (HLW store) - facility for storage of spent fuel and LILW with activity exceeding WAC for operating repositories

Storage part of facility**VAO**

The following shows storage status for waste classes and SRS.

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

List SRS?	No
List UMMT?	No

Capacity:	
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Types of Storage Units

Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?
N	building	1995	No	No	No	No

Site (Structure) : UJV

Country: CZECH REPUBLIC

Reporting Year: 2005

Facility:	VZ															
Description:	Velke Zbytky: Waste treatment and conditioning plant															
Processing part of facility VZ																
The following shows processing status for waste classes and SRS.																
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Waste Class	Actual	Planned														
TRW	No	No														
LILW-SL	No	No														
LILW-LL	No	No														
HLW	No	No														
Type:	Treatment, Conditioning															
Year opened:	1962															

Site (Data) : UJV

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Site Name: UJV

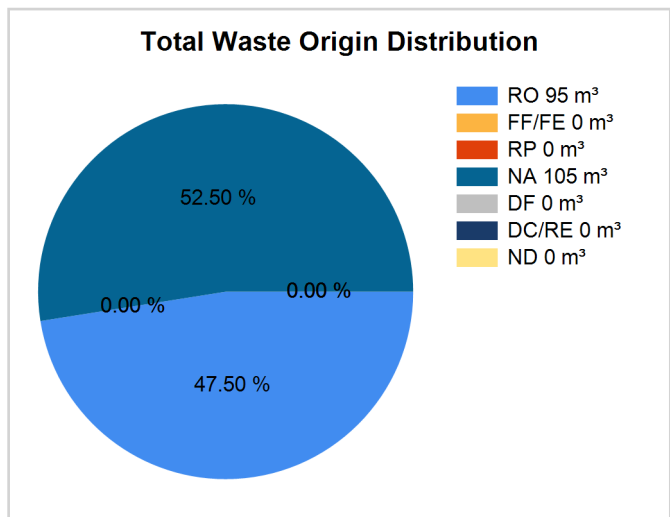
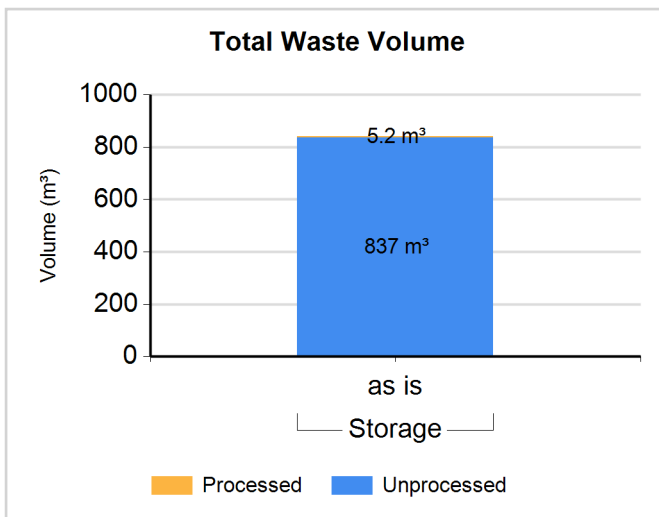
Full Name: UJV Rez a.s.
(Nuclear Research Institute Rez)

Inventory Reporting Date: December 2005

Waste Matrix Used: cz-eu

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	Storage	N	Y	837.000	837.000	5.00	0.00	0.00	95.00	0.00	0.00	0.00
LILW-SL	Storage	Y	Y	5.200	5.200	90.00	0.00	0.00	10.00	0.00	0.00	0.00

Processing - Treatment method(s)

Method	Status			
	Planned	R&D program	Current practice method use over the last 5 years	Past Practice
Calcination	N	Y		N
Decontamination	N	N	Same	N
Evaporation	N	N	Same	N
Radionuclide Separation	N	Y		N
Shredding and Compaction	N	N	Same	N
Solvent Extraction	N	Y		N

Site (Data) : UJV

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Processing - Conditioning method(s)

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

Site (Structure) : Zamservis

Country: CZECH REPUBLIC

Reporting Year: 2005

Full Name: Zamservis s.r.o.

Description:

Official Website:

License Holder(s): Zamservis s.r.o.
Lipová 24
CZ-747 16 Hat

Waste management facilities that are located at this site:

Facility:	SRS																
Description:																	
<p>Processing part of facility SRS</p> <p>The following shows processing 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>TRW</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>			Waste Class	Actual	Planned	TRW	No	No	LILW-SL	No	No	LILW-LL	No	No	HLW	No	No
Waste Class	Actual	Planned															
TRW	No	No															
LILW-SL	No	No															
LILW-LL	No	No															
HLW	No	No															
Type:	Conditioning																
Year opened:	1997																

Site (Data) : Zamservis

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Site Name: Zamservis

Full Name: Zamservis s.r.o.

Inventory Reporting Date: December 2005

Waste Matrix Used: cz-eu

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

Site (Structure) : EDU

Country: CZECH REPUBLIC

Reporting Year: 2005

Full Name: Nuclear Power Plant Dukovany

Description:

Official Website:

License Holder(s): CEZ a.s

Comment # 391: NPP Dukovany

4 PWR of VVER-440-V213 type are installed. Total electrical output is 1760 MW. Physical startup of the 1 unit was in february 1985. Full commercial operation of all units started in January 1988.
NPP is situated 35 km to the SW of the City of Brno.

Waste management facilities that are located at this site:

Facility:	BAPP
Description:	Auxiliary building containing waste processing and storage facilities

Storage part of facility BAPP

The following shows storage status for waste classes and SRS.

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

List SRS?	No
List UMMT?	No

Capacity:	
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Types of Storage Units

Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?
TW	tank (stainless steel)	1985	No	No	No	No
Box	bunker	1985	No	No	No	No
Mog	well	1985	No	No	No	No

Site (Structure) : EDU

Country: CZECH REPUBLIC

Reporting Year: 2005

Processing part of facility **BAPP**

The following shows processing status for waste classes and SRS.

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

Type:	Treatment
Year opened:	1985

Site (Structure) : EDU

Country: CZECH REPUBLIC

Reporting Year: 2005

Facility:	SVO															
Description:	Liquid Waste Treatment Systems															
Processing part of facility SVO																
The following shows processing status for waste classes and SRS.																
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Waste Class	Actual	Planned														
TRW	No	No														
LILW-SL	No	No														
LILW-LL	No	No														
HLW	No	No														
Type:	Treatment															
Year opened:	1985															

Site (Structure) : EDU

Country: CZECH REPUBLIC

Reporting Year: 2005

Facility:	ZRAO		
Description:	Conditioning of Liquid Radioactive Waste by Solidification		
Processing part of facility		ZRAO	
The following shows processing status for waste classes and SRS.			
Waste Class	Actual	Planned	
TRW	No	No	
LILW-SL	No	No	
LILW-LL	No	No	
HLW	No	No	
Type:	Conditioning		
Year opened:	1994		

Site (Data) : EDU

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Site Name: EDU

Full Name: Nuclear Power Plant Dukovany

Inventory Reporting Date: December 2005

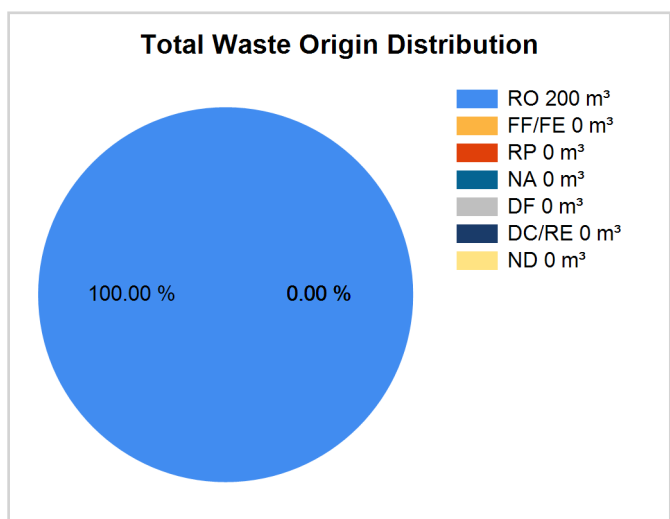
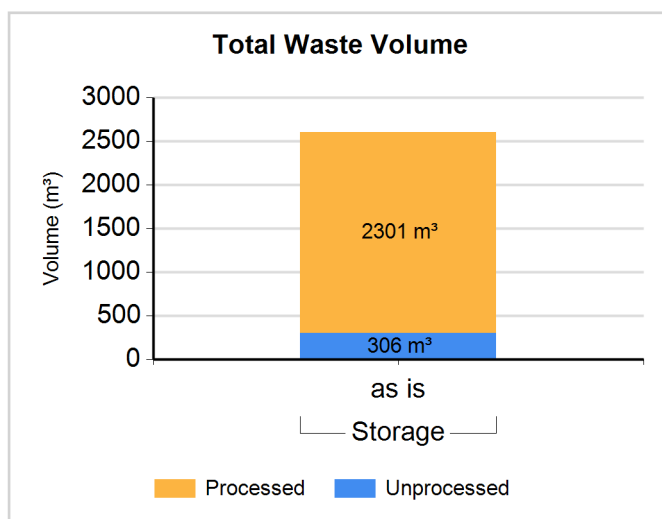
Waste Matrix Used: cz-eu

Comment # 391: NPP Dukovany

4 PWR of VVER-440-V213 type are installed. Total electrical output is 1760 MW. Physical startup of the 1 unit was in february 1985. Full commercial operation of all units started in January 1988. NPP is situated 35 km to the SW of the City of Brno.

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	Storage / BAPP	N	N	306.000	306.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
LILW-SL	Storage / BAPP	Y	N	2301.000	2301.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00

Processing - Treatment method(s)

Method	Status			
	Planned	R&D program	Current practice method use over the last 5 years	Past Practice
Compaction	N	N	Same	N
Evaporation	N	N	Same	N
Ion Exchange	N	N	Same	N
Solvent Extraction	N	N	Increase	N

Site (Data) : EDU

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Processing - Conditioning method(s)

Method	Status			
	Planned	R&D program	Current practice method use over the last 5 years	Past Practice
Bituminization	N	N	Same	N
Polymerization	Y	N		N

Site (Structure) : ETE

Country: CZECH REPUBLIC

Reporting Year: 2005

Full Name: Nuclear Power Plant Temelin

Description:

Official Website:

License Holder(s): CEZ a.s.

Comment **# 390: NPP Temelin**

The Temelín NPP is the largest power station in the Czech Republic. 2 PWR reactors of the VVER-1000-320 type are installed with capacity of 2000 MW.

The NPP station is situated approximately 24 km north of the City of Ceske Budejovice.

The site preparation started in 1983. In 1990, the government of the CSFR decided to cease the construction on the 3rd and 4th units. Finally, in March 1993, the government of the CR decided that the 1st and 2nd VVER 1000 units should be completed only. However, the modifications and alterations further postponed the commissioning of the power station. Unit 1 was critical in October 2000. The trial operation of the Unit 1 started in July 2002. The Unit 2 was critical in May 2002. The trial operation of the Unit 2 started in April 2003.

Waste management facilities that are located at this site:

Site (Structure) : ETE

Country: CZECH REPUBLIC

Reporting Year: 2005

Facility:	BPP
Description:	Waste processing and interim storage facility

Storage part of facility BPP

The following shows storage status for waste classes and SRS.

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

List SRS?	No
List UMMT?	No

Capacity:	
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Types of Storage Units

Storage Unit Name	Type Name	Year Opened	Closed?	Full?	Modular?	Contains SRS?
box	bunker	2000	No	No	No	No
kobka	well	2000	No	No	No	No

Processing part of facility BPP

The following shows processing status for waste classes and SRS.

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

Type:	Treatment, Conditioning
Year opened:	2000

Site (Data) : ETE

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Site Name: ETE

Full Name: Nuclear Power Plant Temelin

Inventory Reporting Date: December 2005

Waste Matrix Used: cz-eu

Comment # 390: NPP Temelin

The Temelín NPP is the largest power station in the Czech Republic. 2 PWR reactors of the VVER-1000-320 type are installed with capacity of 2000 MW.

The NPP station is situated approximately 24 km north of the City of Ceske Budejovice.

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Processing - Treatment method(s)

Method	Status			
	Planned	R&D program	Current practice method use over the last 5 years	Past Practice
Compaction	N	N	Increase	N
Evaporation	N	N	Increase	N
Ion Exchange	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
Bituminization	N	N	Increase	N

Site (Structure) : Bratrstvi

Country: CZECH REPUBLIC

Reporting Year: 2005

Full Name: Radioactive Waste Repository Bratrstvi

Description:

Official Website:

License Holder(s): SURAO (Radioactive Waste Repository Authority)

Comment # 388: Information

The Bratrstvi facility was built in an abandoned uranium mine near Jachymov (Joachimsthal). It is used for waste containing natural radionuclides (Ra-226, Pb-210, Uranium and Thorium isotopes).

Waste management facilities that are located at this site:

Facility:	URAO
Description:	Radioactive waste repository

Site (Structure) : Bratrstvi

Country: CZECH REPUBLIC

Reporting Year: 2005

Disposal part of facility **URAO**

The following shows disposal status for waste classes and SRS.

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

List SRS?	Yes
List UMMT?	No

Type:	rock cavern (mountain/hill)		
Facility is modular?	No		
Capacity existing (m3):	1200	Capacity planned (m3):	1200

Depth (m):	30-60	Host medium:	crystalline rock (gneiss)
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Phase Name	Start Year	End Year	Estimate
planning and/or concept assessment	1970		False
site selection		1971	False
design	1971		False
construction	1972	1973	False
commissioning	1974		False
operation	1974	2030	False
closure	2030		False

Comment **# 7197: Total volume of repository**

The volume of the facility is about 3500 m3 including transport corridors. Reviews of historical records and documents were done during 1999-2003.

Comment **# 9798: Calculation of used repository capacity**

From the total volume of 3500 m3 of only 1200 m3 can be used for disposal of RAW. At the end of 2004 about 880 m3 of RAW (73.3% from available disposal volume) were disposed.

Site (Data) : Bratrstvi

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Site Name: Bratrstvi

Full Name: Radioactive Waste Repository Bratrstvi

Inventory Reporting Date: December 2005

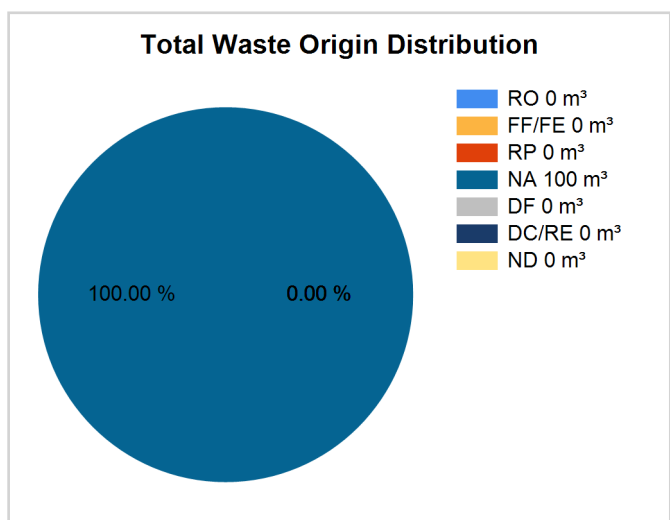
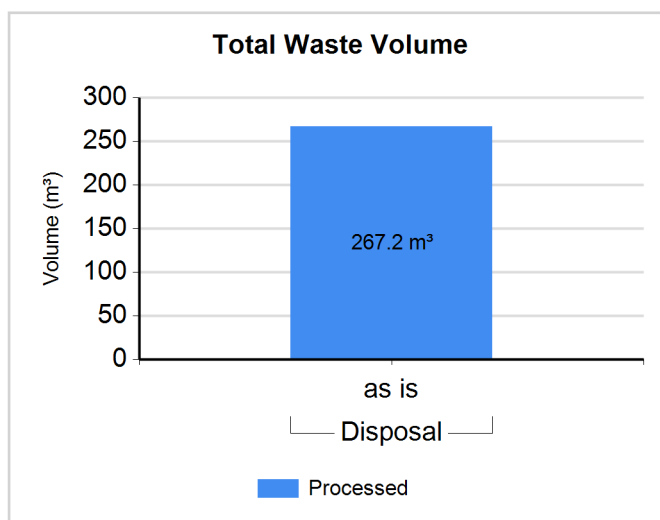
Waste Matrix Used: cz-eu

Comment # 388: Information

The Bratrstvi facility was built in an abandoned uranium mine near Jachymov (Joachimsthal). It is used for waste containing natural radionuclides (Ra-226, Pb-210, Uranium and Thorium isotopes).

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-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	Y	N	267.200	267.200	0.00	0.00	0.00	100.00	0.00	0.00	0.00

Spent Sources <=30 years in Disposition

Nuclide	Number of Sources/Total Activity of Sources (GBq)			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									
Pb-210	7			Y	N	N					8.457E-001	2005.12
	8.457E-001											

Site (Data) : Bratrstvi

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Spent Sources > 30 years in Disposition

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					
Ra-226	131	43	Y	N	N	4.168E+002	2005.12
	3.705E+001	3.797E+002					

Site (Structure) : Dukovany

Country: CZECH REPUBLIC

Reporting Year: 2005

Full Name: Radioactive Waste Repository Dukovany

Description:

Official Website:

License Holder(s): SURAO (Radioactive Waste Repository Authority)

Comment **# 381: Information**

The Dukovany repository (URAO) serves for radioactive waste from operation of Czech NPP. It does not accept waste from research, industry and medicine or spent sealed sources. The accepted waste corresponds to the IAEA LLW-SL waste class.

Waste management facilities that are located at this site:

Site (Structure) : Dukovany

Country: CZECH REPUBLIC

Reporting Year: 2005

Facility:	URAO
Description:	Near-surface radioactive waste repository for disposal of operational waste from both NPPs and waste from their decommissioning, also other RAW can be disposed not exceeding 5% of the total limit of radionuclide inventory (for C-14 only 1%)

Disposal part of facility URAO

The following shows disposal status for waste classes and SRS.

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

List SRS?	No
List UMMT?	No

Type:	engineered near surface		
Facility is modular?	Yes		
Capacity existing (m3):	55000	Capacity planned (m3):	55000

Depth (m):	5.3	Host medium:	sedimentary (other)
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Phase Name	Start Year	End Year	Estimate
planning and/or concept assessment	1976		False
site selection		1982	False
design		1986	False
construction	1987		False
commissioning		1994	False
operation	1995		False
closure	2100		True

Comment # 9797: Calculation of used repository capacity

The reported % of existing capacity used is based on the number of vaults filled by RAW in 200 I drums, which was at the end of 2004 about 9,5 vaults (about 8,5% of the volume of the whole repository - 112 vaults).

Site (Data) : Dukovany

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Site Name: Dukovany

Full Name: Radioactive Waste Repository Dukovany

Inventory Reporting Date: December 2005

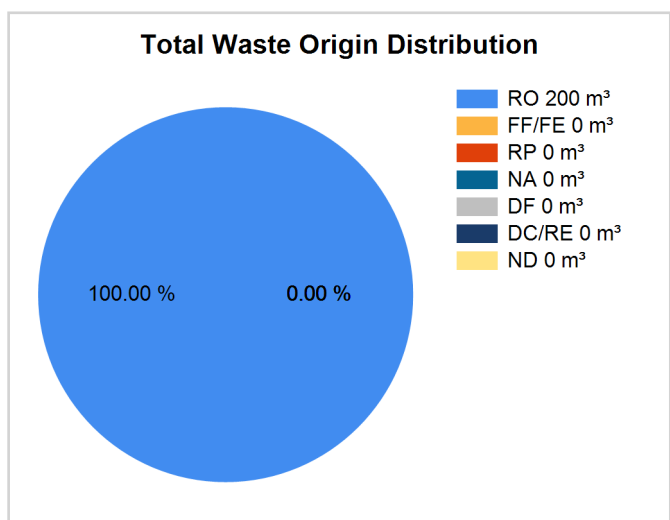
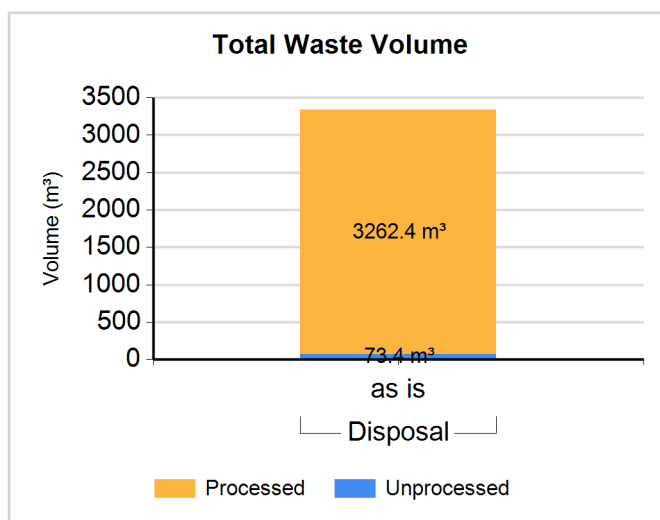
Waste Matrix Used: cz-eu

Comment # 381: Information

The Dukovany repository (URAO) serves for radioactive waste from operation of Czech NPP. It does not accept waste from research, industry and medicine or spent sealed sources. The accepted waste corresponds to the IAEA LLW-SL waste class.

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	73.400	73.400	100.00	0.00	0.00	0.00	0.00	0.00	0.00
LILW-SL	Disposal	Y	Y	3262.400	3262.400	100.00	0.00	0.00	0.00	0.00	0.00	0.00

Site (Structure) : Hostim

Country: CZECH REPUBLIC

Reporting Year: 2005

Full Name: Radioactive Waste Repository Hostim

Description:

Official Website:

License Holder(s): SURAO (Radioactive Waste Repository Authority)

Comment **# 389: Information**

The repository was situated near the City of Beroun. It was constructed in an abandoned limestone mine and put into operation in 1959 for radioactive waste from research, industry and medicine. It was closed in 1965 and most of waste packages were transferred in the Richard repository. The repository was finally filled with concrete and sealed in 1997. The site is monitored.

Waste management facilities that are located at this site:

Site (Structure) : Hostim

Country: CZECH REPUBLIC

Reporting Year: 2005

Facility:	URAO
Description:	Closed Radioactive Waste Repository

Disposal part of facility URAO

The following shows disposal status for waste classes and SRS.

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

List SRS?	No
List UMMT?	No

Type:	rock cavern (mountain/hill)		
Facility is modular?	No		
Capacity existing (m3):	1690	Capacity planned (m3):	0

Depth (m):	30	Host medium:	sedimentary (other)
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Phase Name	Start Year	End Year	Estimate
planning and/or concept assessment	1959		False
commissioning		1959	False
operation	1959	1964	False
closure	1965	1997	False
institutional control	1998		False

Site (Data) : Hostim

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Site Name: Hostim

Full Name: Radioactive Waste Repository Hostim

Inventory Reporting Date: December 2005

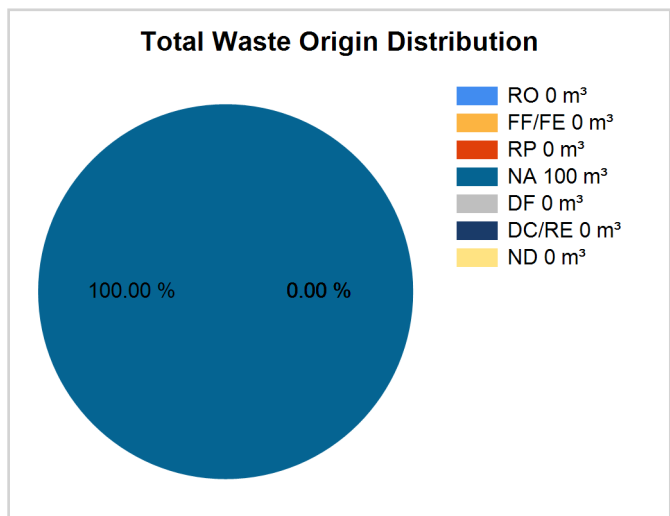
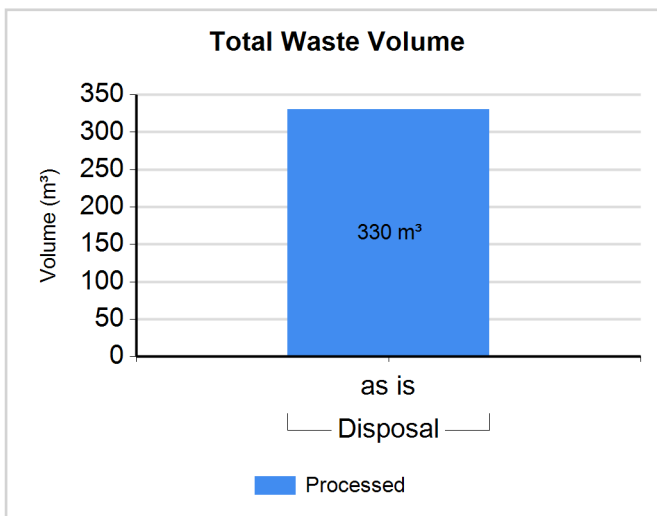
Waste Matrix Used: cz-eu

Comment # 389: Information

The repository was situated near the City of Beroun. It was constructed in an abandoned limestone mine and put into operation in 1959 for radioactive waste from research, industry and medicine. It was closed in 1965 and most of waste packages were transferred in the Richard repository. The repository was finally filled with concrete and sealed in 1997. The site is monitored.

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: TRW

Waste Class Name	Location / Facility	Proc	Est.	Volume "as is" (m³)	Volume "as dispo" (m³)	RO %	FF/FE %	RP %	NA %	DF %	DC/RE %	ND %
TRW	Disposal	Y	N	330.000	330.000	0.00	0.00	0.00	100.00	0.00	0.00	0.00

Site (Structure) : Richard

Country: CZECH REPUBLIC

Reporting Year: 2005

Full Name: Radioactive Waste Repository Richard

Description:

Official Website:

License Holder(s): SURAO (Radioactive Waste Repository Authority)

Comment # 380: Information

Abandoned mine Richard (60 km N of Prague) serves as repository for radioactive waste from research, industry and medicine. Basic waste acceptance requirements are a dose rate at 5 cm distance from the surface of the waste package less than 1 mSv/h. The accepted waste corresponds to the IAEA LLW waste class.

Waste management facilities that are located at this site:

Facility:	URAO
Description:	Radioactive waste repository

Storage part of facility URAO

The following shows storage status for waste classes and SRS.

Waste Class	Actual	Planned
TRW	No	No
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?
komora	cave	1964	No	No	No	Yes

Site (Structure) : Richard

Country: CZECH REPUBLIC

Reporting Year: 2005

Disposal part of facility **URAO**

The following shows disposal status for waste classes and SRS.

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

List SRS?	Yes
List UMMT?	No

Type:	rock cavern (mountain/hill)		
Facility is modular?	No		
Capacity existing (m3):	8300	Capacity planned (m3):	8300

Depth (m):	30-60	Host medium:	sedimentary (other)
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Phase Name	Start Year	End Year	Estimate
planning and/or concept assessment	1961		False
site selection		1961	False
design	1961		False
construction		1962	False
commissioning	1964		False
operation	1964	2070	False
closure	2070		False

Comment **# 9799: Calculation of used repository capacity**

From the total volume of 17 050 m3 of only 8300 m3 can be used for disposal of RAW. At the end of 2004 about 6260 m3 of RAW (75.4% from available disposal volume) were disposed.

Site (Data) : Richard

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Site Name: Richard

Full Name: Radioactive Waste Repository Richard

Inventory Reporting Date: December 2005

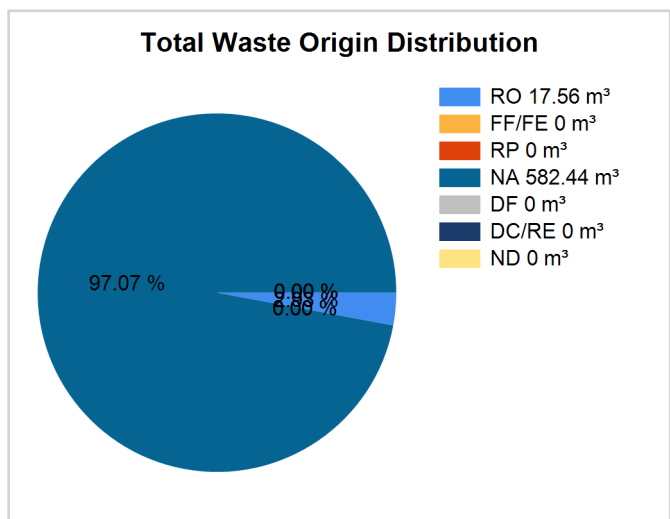
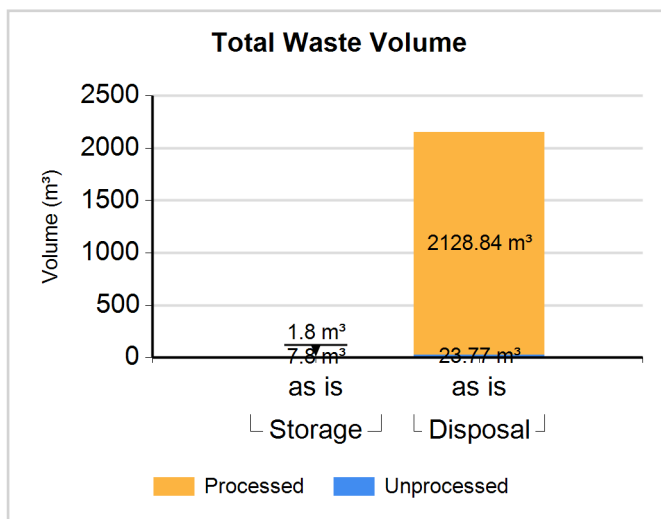
Waste Matrix Used: cz-eu

Comment # 380: Information

Abandoned mine Richard (60 km N of Prague) serves as repository for radioactive waste from research, industry and medicine. Basic waste acceptance requirements are a dose rate at 5 cm distance from the surface of the waste package less than 1 mSv/h. The accepted waste corresponds to the IAEA LLW waste class.

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	Storage	N	Y	5.000	5.000	0.00	0.00	0.00	100.00	0.00	0.00	0.00
LILW-SL	Storage	Y	N	0.200	0.200	0.00	0.00	0.00	100.00	0.00	0.00	0.00
LILW-SL	Disposal	N	Y	23.770	23.770	0.00	0.00	0.00	100.00	0.00	0.00	0.00
LILW-SL	Disposal	Y	Y	2128.840	2128.840	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	Storage	N	Y	2.800	2.800	17.56	0.00	0.00	82.44	0.00	0.00	0.00
LILW-LL	Storage	Y	Y	1.600	1.600	0.00	0.00	0.00	100.00	0.00	0.00	0.00

Site (Data) : Richard

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

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					
Cf-252	1			Y	N	N	2.596E-003	2005.12
	2.596E-003							
Co-60		18		Y	N	N	3.719E+005	2005.12
		3.719E+005						
Cs-137	22	13		Y	N	N	2.388E+005	2005.12
	1.448E+001	2.388E+005						
Pm-147	1			Y	N	N	1.026E-004	2005.12
	1.026E-004							

Spent Sources <=30 years in Disposition

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					
Ba-133	7			Y	N	N	1.770E-004	2005.12
	1.770E-004							
Cd-109	14			Y	N	N	6.842E+000	2005.12
	6.842E+000							
Ce-144	2			Y	N	N	7.430E-004	2005.12
	7.430E-004							
Ce-144				Y	N	N	0.000E+000	2005.12
Cf-252	14	1		Y	N	N	1.131E+001	2005.12
	6.050E-001	1.070E+001						
Co-57	15			Y	N	N	3.920E-002	2005.12
	3.920E-002							

Site (Data) : Richard

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Co-60	948	181	1	Y	N	N	9.628E+005	2005.12
	2.432E+002	9.036E+005	5.898E+004					
Cs-134	1			Y	N	N	2.059E-004	2005.12
	2.059E-004							
Cs-137	187	147	1	Y	N	N	4.105E+005	2005.12
	9.713E+001	3.534E+005	5.697E+004					
Eu-152	2			Y	N	N	2.354E-004	2005.12
	2.354E-004							
Fe-55	19			Y	N	N	3.079E+000	2005.12
	3.079E+000							
H-3	3	7		Y	N	N	4.136E+003	2005.12
	9.381E-001	4.135E+003						
Kr-85	79	33		Y	N	N	1.493E+003	2005.12
	1.299E+002	1.363E+003						
Mn-54	1			Y	N	N	2.144E-007	2005.12
	2.144E-007							
Na-22	2			Y	N	N	1.031E-005	2005.12
	1.031E-005							
Pb-210	1			Y	N	N	1.087E-004	2005.12
	1.087E-004							
Pm-147	26			Y	N	N	5.798E+001	2005.12
	5.798E+001							
Ru-106	3			Y	N	N	6.226E-003	2005.12
	6.226E-003							
Se-75	16			Y	N	N	1.199E-001	2005.12
	1.199E-001							
Sr-89				Y	N	N	0.000E+000	2005.12
Sr-90	276	31		Y	N	N	2.742E+003	2005.12
	1.613E+002	2.581E+003						

Site (Data) : Richard

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Tl-204	4			Y	N	N	8.246E-002	2005.12
	8.246E-002							
Tm-170				Y	N	N	0.000E+000	2005.12
Y-88				Y	N	N	0.000E+000	2005.12
Zn-65	1			Y	N	N	6.298E-004	2005.12
	6.298E-004							

Spent Sources > 30 years in Storage

Nuclide	Number of Sources/Total Activity of Sources (GBq)		c	u	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	194	51	Y	N	N	N	4.277E+003	2005.12	
	3.625E+001	4.241E+003							
C-14	1		Y	N	N	N	2.000E-004	2005.12	
	2.000E-004								
K-40	2		Y	N	N	N	6.920E-007	2005.12	
	6.920E-007								
Ni-63	1		Y	N	N	N	3.205E-001	2005.12	
	3.205E-001								
Pu-238	4	2	Y	N	N	N	1.108E+002	2005.12	
	2.500E+000	1.083E+002							
Pu-239		38	Y	N	N	N	2.434E+003	2005.12	
		2.434E+003							
Ra-226	1		Y	N	N	N	3.657E-001	2005.12	
	3.657E-001								
U-238	2		Y	N	N	N	9.540E-001	2005.12	
	9.540E-001								

Site (Data) : Richard

Stock of waste as at December 2005

Country: CZECH REPUBLIC

Reporting Year: 2005

Spent Sources > 30 years in Disposition

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	107	66	Y	N	N	7.544E+003	2005.12
	6.778E+001	7.476E+003					
C-14	12	2	Y	N	N	1.431E+001	2005.12
	3.309E+000	1.100E+001					
Pu-239	17	25	Y	N	N	1.206E+003	2005.12
	6.200E+000	1.200E+003					

Regulators

Country: CZECH REPUBLIC

Reporting Year: 2005

Name:	SUJB
Full Name:	State Office for Nuclear Safety
Divison:	Division of Radioactive Waste and Spent Fuel Management
City or Town:	Prague
Main Website:	

Regulations / Laws

Country: CZECH REPUBLIC

Reporting Year: 2005

Name:	Atomic Act	
Title or Name:	Act on Peaceful Use of Nuclear Energy and Ionizing radiation	
Reference Number:	18/1997	
Date Promulgated or Proclaimed:	1/24/1997	Law

Name:	307	
Title or Name:	Decree of the State Office for Nuclear Safety on Radiation Protection	
Reference Number:	307/2002	
Date Promulgated or Proclaimed:	6/13/2002	Regulation

Name:	317	
Title or Name:	Decree Of the State Office for Nuclear Safety , on Type Approval of Packaging Assemblies for Transport, Storage and Disposal of Nuclear Materials and Radioactive Substances, on Type Approval of Ionizing Radiation Sources and on Transport of Nuclear Materials and Specified Radioactive Substances	
Reference Number:	317/2002	
Date Promulgated or Proclaimed:	6/13/2002	Regulation

Name:	145	
Title or Name:	Decree of the State Office for Nuclear Safety, on Accounting for and Control of Nuclear Materials and their Detailed Specification	
Reference Number:	145/1997	
Date Promulgated or Proclaimed:	6/19/1997	Regulation

Name:	214	
Title or Name:	Decree of the State Office for Nuclear Safety, on Quality Assurance in Activities Related to the Utilization of Nuclear Energy and in Radiation Activities, and Laying Down Criteria for the Assignment and Categorization of Classified Equipment into Safety Classes	
Reference Number:	214/1997	
Date Promulgated or Proclaimed:	8/15/1997	Regulation

Regulations / Laws

Country: CZECH REPUBLIC

Reporting Year: 2005

Name:	318		
Title or Name:	Decree of the State Office for Nuclear Safety, on Details of Emergency Preparedness of Nuclear Facilities and Workplaces with Ionising Radiation Sources and on Requirements on the Content of On-Site Emergency Plan and Emergency Rule		
Reference Number:	318/2002		
Date Promulgated or Proclaimed:	6/13/2002	Regulation	

Name:	185		
Title or Name:	Decree of the State Office for Nuclear Safety on Decommissioning of Nuclear Facilities or Workplaces of IIIth or IVth Category		
Reference Number:	185/2003		
Date Promulgated or Proclaimed:	6/3/2003	Regulation	

Future Outlook

Country: CZECH REPUBLIC

Reporting Year: 2005

Data not available.

Future Outlook

Country: CZECH REPUBLIC

Reporting Year: 2005

Data not available.

Future Outlook

Country: CZECH REPUBLIC

Reporting Year: 2005

Data not available.

Future Outlook

Country: CZECH REPUBLIC

Reporting Year: 2005

Data not available.

Future Outlook

Country: CZECH REPUBLIC

Reporting Year: 2005

Data not available.

Future Outlook

Country: CZECH REPUBLIC

Reporting Year: 2005

Data not available.

Future Outlook

Country: CZECH REPUBLIC

Reporting Year: 2005

Data not available.

Future Outlook

Country: CZECH REPUBLIC

Reporting Year: 2005

Data not available.

Future Outlook

Country: CZECH REPUBLIC

Reporting Year: 2005

Data not available.