



Country Waste Profile Report for CROATIA Reporting Year: 2013

*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: CROATIA

Reporting Year: 2013

Waste Class Matrix: **IAEA Def.**

This country does use the IAEA Scheme: No

Description: The Agency's standard matrix

Waste Class Name	Distribution %			
	VLLW	LLW	ILW	HLW
VLLW	100.0	0.0	0.0	0.0
LLW	0.0	100.0	0.0	0.0
ILW	0.0	0.0	100.0	0.0
HLW	0.0	0.0	0.0	100.0

Waste Class Matrix: **National**

Yes

Description: New radioactive waste classification scheme will be in compliance with IAEA GSG-1 Classification of Radioactive Waste. Until new ordinance on radioactive waste management is promulgated according to the Law on radiological and nuclear safety (O.G. 28/10), waste classification from IAEA SS 111-G-1.1 Classification of radioactive waste is in force.

Waste Class Name	Distribution %			
	VLLW	LLW	ILW	HLW
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

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: CROATIA

Reporting Year: 2013

Reporting Group:	IMI			
Inventory Reporting Date:	December 2013			
Waste Matrix Used:	National			
Description:	Institute for Medical Research and Occupational Health (MI) is a national institute dedicated to occupational health. It was the first institution that started with activities related to radiation protection. As a product of those activities, there is a (now closed) storage of disused sealed sources. For more information see: www.imi.hr			
Site Name	Facility Name	Facilities Defined		
IMI	SRM		storage	

Reporting Group:	IRB			
Inventory Reporting Date:	December 2013			
Waste Matrix Used:	National			
Description:	Group Description: Institute Rudjer Boskovic (IRB) is the largest Croatian research centre in sciences and science applications. It is a national institution dedicated to research, higher education, support to the academic community, state and municipalities and technology-based industry. For more information see: www.irb.hr . At present it is a location of the only operational radioactive waste storage facility in the country.			
Site Name	Facility Name	Facilities Defined		
IRB	TSRM		storage	

Reporting Group:	Total			
Inventory Reporting Date:	December 2013			
Waste Matrix Used:	National			
Description:				
Site Name	Facility Name	Facilities Defined		
TS	Storage		storage	

Site (Structure) : TS

Country: CROATIA

Reporting Year: 2013

Full Name: Total Storage

Description:

Official Website:

License Holder(s):

Waste management facilities that are located at this site:

Facility:	Storage													
Description:														
<p>Storage part of facility Storage</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>LILW-SL</td> <td>Yes</td> <td>No</td> </tr> <tr> <td>LILW-LL</td> <td>Yes</td> <td>No</td> </tr> <tr> <td>HLW</td> <td>No</td> <td>No</td> </tr> </tbody> </table>			Waste Class	Actual	Planned	LILW-SL	Yes	No	LILW-LL	Yes	No	HLW	No	No
Waste Class	Actual	Planned												
LILW-SL	Yes	No												
LILW-LL	Yes	No												
HLW	No	No												
List SRS?	No													
List UMMT?	No													
Capacity:														

Site (Data) : TS

Stock of waste as at December 2013

Country: CROATIA

Reporting Year: 2013

Site Name: TS

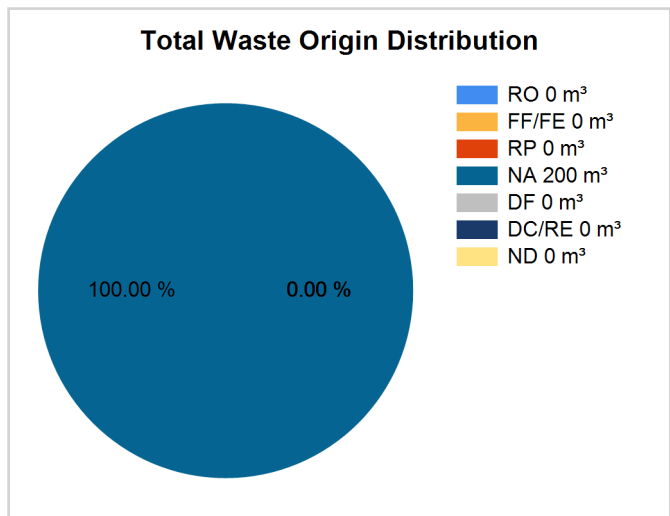
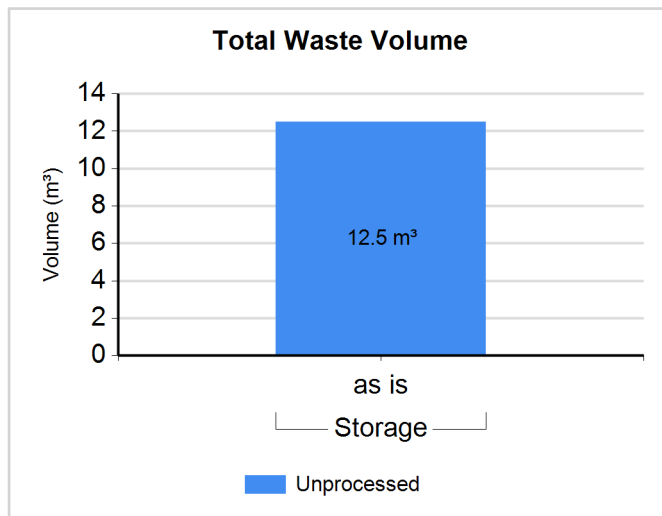
Full Name: Total Storage

Inventory Reporting Date: December 2013

Waste Matrix Used: National

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	N	9.500	9.500	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	N	3.000	3.000	0.00	0.00	0.00	100.00	0.00	0.00	0.00

Regulators

Country: CROATIA

Reporting Year: 2013

Name:	MH
Full Name:	Ministry of Health and Social Welfare
Divison:	Sanitary Inspection Department
City or Town:	Zagreb
Main Website:	

Name:	SORNS
Full Name:	State Office for Radiological and Nuclear Safety
Divison:	
City or Town:	Zagreb
Main Website:	

Regulations / Laws

Country: CROATIA

Reporting Year: 2013

Name:	RN SAFETY		
Title or Name:	Act on Radiological and Nuclear Safety		
Reference Number:	Off. Gazette 28/10		
Date Promulgated or Proclaimed:	2/24/2010	Law	

Attachment **#2079: Regulation**

rnsafety.pdf

Act on Radiological and Nuclear Safety (Off. Gazette 28/10), provisional translation

Name:	RadWaste M		
Title or Name:	Regulation on conditions and method of disposal of radioactive waste, spent sealed radioactive sources and ionising radiation sources which are not intended for further use		
Reference Number:	Official Gazette 44/08		
Date Promulgated or Proclaimed:	4/16/2008	Regulation	

Attachment **#1603: Regulation**

waste_44-08.pdf

Regulation on conditions and method of disposal of radioactive waste, spent sealed radioactive sources and ionising radiation sources which are not intended for further use (Official Gazette 44/08)

Country: CROATIA

Reporting Year: 2013

Policies

Country: CROATIA

Reporting Year: 2013

National Systems

Policy		(Yes;Partially;No)
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Q14	Has your Country implemented a national policy for radioactive waste management?	Yes
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Attachment

#2081: Questionnaire

C_Strategy for Management of Radioactive Waste and Spent Nuclear Fuel_13072009.pdf

Strategy for Management of Radioactive Waste and Spent Nuclear Fuel within the Framework of Accession Negotiations

Strategies		(Yes;Partially;No)
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Q15	Has your country developed strategies to implement a national policy?	Yes
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Attachment

#2082: Questionnaire

C_Strategy for Management of Radioactive Waste and Spent Nuclear Fuel_13072009.pdf

Strategy for Management of Radioactive Waste and Spent Nuclear Fuel within the Framework of Accession Negotiations

Requirements		(Yes;Partially;No)
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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	Yes
Q19	implemented a mechanism to identify existing and anticipated radioactive wastes	Yes
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	Partially
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

Policies

Country: CROATIA

Reporting Year: 2013

Responsibilities		(Complete;Incomplete)
Q28	establish and implement a legal framework for the management of radioactive waste	Incomplete
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	Incomplete
Q31	provide for adequate resources	Incomplete
Q33	enforce compliance with regulatory requirements	Complete
Q34	implement the licensing process	Complete
Q35	advise the government	Complete
Q37	identify an acceptable destination for the radioactive waste	Incomplete
Q114	comply with legal requirements	Incomplete
Activities		(Yes;Partially;No)
Q43	perform safety and environmental impact assessments for radioactive waste management facilities	Partially
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	Partially
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	Partially
Q49	collect, analyze and, as appropriate, share operational experience to ensure continued safety improvements in radioactive waste management	No
Q50	conduct or otherwise ensure appropriate research and development to support operational needs in radioactive waste management	No
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"?	No
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: CROATIA

Reporting Year: 2013

Disposal Facilities

Licensing		(Yes - All;Yes - Some;No)
Q53	Environmental Assessment (EA)	Yes - All
Q54	Environmental Impact Statement (EIS)	Yes - All
Q55	Performance Assessment (PA)	Yes - All
Q56	Quality Assurance (QA)	Yes - All
Q57	Safety Assessment (SA)	Yes - All
Q59	If Quality Assurance is part of your Country's current, waste disposal facility licensing policy, does the QA Program conform to international standards (such as the ISO9000 series)?	Yes - All
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: CROATIA

Reporting Year: 2013

Processing/Storage

Policies/Procedures		(Yes;No)
Q73	waste sorting/segregation	No
Q74	waste minimization	No
Q75	waste storage	No
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)	Yes
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	In your Country are there any waste processing facilities at the same location where the waste is generated?	Yes
Q81	In your Country are there any centralized waste processing facilities?	No
Q82	In your Country are there 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: CROATIA

Reporting Year: 2013

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?	Yes
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)?	No
Q100	Has your Country disposed of spent SRS in existing disposal facilities for LILW or HLW waste?	No
Q101	Does your Country plan to dispose of spent SRS in existing or planned disposal facilities for LILW or HLW waste?	Yes
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

Country: CROATIA

Reporting Year: 2013

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? Yes - All

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)? Yes

Timeframe**(Yes - All;Yes - Some;No)**

Q113 Does your Country require a time frame for the decommissioning of non-nuclear fuel cycle facilities once these facilities cease operation? No

Waste Management Infrastructure and Financing

Country: CROATIA

Reporting Year: 2013

National Infrastructure

Nuclear Energy Context:	
Research & Development:	
Policies and Programs:	
Decommissioning and Dismantling:	
Legal Framework:	<p>In Croatia the issues related to the safety of spent fuel and radioactive waste management are almost entirely covered by the Act on Radiological and Nuclear Safety. The Act establishes measures for radiological safety, measures for physical protection and measures for nonproliferation of nuclear weapons in performing nuclear operations and operations involving sources of ionizing radiation. The goal is to ensure adequate protection of individuals, society and the environment against harmful effects of ionizing radiation, as well as to ensure safe performance of operations involving ionizing radiation sources, nuclear operations, radioactive waste management and physical protection of ionizing radiation sources and nuclear installations.</p> <p>State Office for Radiological and Nuclear Safety (SORNS) is the regulatory body entrusted with the implementation of the legislative and regulatory framework. The SORNS, as the state administration body, is the competent authority for all activities pertaining to radiological and nuclear safety, as well as for the activities pertaining to storage of radioactive waste and disused sources of domestic origin in the central national storage.</p>
Planned Improvements:	

National Financing

Nuclear installations:	
Legacy Wastes:	
Medical installations:	
Extractive Industries:	
Additional Comments:	

Waste Management Organisations

Country: CROATIA

Reporting Year: 2013

Name:	
Full Name:	
Description:	
Address:	
Main Website:	
Year Established:	1
Legal Nature:	Public

Waste Management Strategies

Country: CROATIA

Reporting Year: 2013

Waste Class	
Strategy	

Waste Management Responsibility

Country: CROATIA

Reporting Year: 2013

Waste Class:	
Regulatory Authority:	
Treatment/Conditioning of Radioactive Waste:	
Transport of Radioactive Waste:	
Development/operation of interim Storage Facilities:	
Development/operation of Disposal Facilities:	
Waste Management Organisation:	
Additional Comments:	

Main Waste Producers

Country: CROATIA

Reporting Year: 2013

Name:	
Full Name:	
Description:	
Address:	
Main Website:	

Future Outlook

Country: CROATIA

Reporting Year: 2013

Outlook for the year: 2030

Gross Nuclear Capacity (MW):	
Assumptions:	
Total Waste "as dispo" Volume in Storage (m ³):	1497.5
Total Waste Volume in Disposal (m ³):	0
Assumptions:	
Total Spent Fuel in Storage (tHM):	
Total Spent Fuel in Disposal (tHM):	
Assumptions:	
Remaining Disposal Capacity for Volume of Waste (m3):	
Assumptions:	
Remaining Disposal Capacity for Spent Fuel (tHM):	
Assumptions:	

Future Outlook

Country: CROATIA

Reporting Year: 2013

Outlook for the year: 2050

Gross Nuclear Capacity (MW):	
Assumptions:	
Total Waste "as dispo" Volume in Storage (m ³):	1785.5
Total Waste Volume in Disposal (m ³):	0
Assumptions:	
Total Spent Fuel in Storage (tHM):	
Total Spent Fuel in Disposal (tHM):	
Assumptions:	
Remaining Disposal Capacity for Volume of Waste (m3):	
Assumptions:	
Remaining Disposal Capacity for Spent Fuel (tHM):	
Assumptions:	

Outlook for the year: 2100

Data not available.