

OVERVIEW REPORT: Scorecard for National Systems for Radioactive Waste Management ^[1]

The following describes some of the mechanisms that have been used up to now to document national radioactive waste management programmes:

The Agency's Waste Management Database (WMDB)

The report, "Radioactive Waste Management Profiles - Compilation of Data from the Waste Management Database, No. 3" [1] is a summary and compilation of waste management data collected from Member States from February 1998 to December 1999 in response to the Agency's 1997/98 WMDB Questionnaire. The report contains information about national programmes in 55 IAEA Member States. The information was collected from Member States as free-format text. The information is difficult to evaluate and to make comparisons between countries because the format of each submission is unique.

Waste Management Symposium

In 1997, WM Symposia Incorporated issued a CD-ROM based report entitled "International Waste Management: A Compendium of Programs and Standards" [2]. This report provides an overview of waste classification schemes used in 18 countries. In addition, the 18 countries provided national overviews of (a) sources of radioactive waste, (b) the regulation of radioactive waste, and (c) radioactive waste management activities.

Nuclear Energy Agency's Nuclear Waste Bulletin

The Nuclear Waste Bulletin [3] of the Nuclear Energy Agency (NEA) provides concise information on current activities, policies and programmes in NEA Member countries and within other international organizations. The Bulletin does not include an exhaustive description of national programmes, rather it provides yearly updates. The Bulletin encourages readers to go back to the information given in previous bulletins and, if necessary, to contact national correspondents in order to obtain more complete information.

The Radioactive Waste Management Committee of the NEA [4] and its two technical sub-groups provide an overall forum for information exchange amongst national programmes. Information exchanges are accomplished through written reports on activities within national programmes and through discussions amongst the national representatives. Main meetings, which occur once a year, provide opportunities for discussing a variety of issues. Meetings usually have a large block of time devoted to one technical topic at which several presentations are given and then discussed in detail. These discussions provide each participating member with an in-depth view of advanced programmes in the particular subject. Detailed technical work is carried out by means of working groups, topical sessions, workshops or symposia, and technical reviews. Working groups produce state-of-the-art reports and detailed analyses. Workshops and symposia provide opportunities for in-depth information exchange, communications and discussion of new ideas and hypotheses. The NEA publishes the proceedings of these workshops and symposia.

¹ This NEWMDB Overview report is an update of a report included in the Radioactive Waste Management Profiles No. 4 (2002)

Radioactive Waste Management in the European Union

In 1999 June, Directorate General XI of the European Commission (Environment, Nuclear Safety and Civil Protection) published a CD ROM entitled “Radioactive Waste Management in the European Union” [5]. The CD ROM contains information on the origins and classification of waste and details of waste management programmes and regulations in 15 European Union countries.

While the mechanisms described above provide extensive detail on national systems for radioactive waste management, they do not provide information in a concise manner that would be easy to digest by policy and decision makers. This issue has been addressed by the NEWMDB.

The NEWMDB provides a simple, easy-to-use method for Member States to indicate the status of the development and implementation of their national systems for radioactive waste management. The General Information section of the NEWMDB contains a “policy questionnaire”. Instead of free-form text, Member State representatives simply point-and-click to select the appropriate answers to policy questions. Figure 1 shows some of the policy questions.

The intent of the questions is to assess the status of and the trends for various aspects of national systems for managing radioactive waste. With the low response rate for the first two data collection cycles (July 2001 to March 2002 and July 2002 to February 2003), too few data have been collected to date to draw broad conclusions. The results obtained were not rigorously assessed because a “lessons learned” process was underway to clarify some of the questions and responses.

Table I lists the various policy questions along with the results from the first two NEWMDB data collection cycles. The results are reported “as-is” to familiarize the reader with the questions asked and to indicate the number of responses to the various questions. The results are reported only for cases where the status of the overall submission by a Member State (known as the Country Waste Profile) and the General Information section of the submission were set to “Approved by Admin” by the database administrator.

The second collection cycle, which asked IAEA Member States that did not contribute to the first cycle to do so for the second, was expected to provide enough additional information to begin the assessment process. However, with only about one fourth of Agency Member States providing data to the NEWMDB, and with the on-going “lessons learned” process, an assessment will have to await increased participation in the NEWMDB by Agency Member States.

At time of writing of this overview report, plans called for the development of the second version of the NEWMDB to address concerns and inconsistencies identified in the first two data collection cycles. Also at time of writing, plans called for the third data collection cycle to be held in the second half of 2003.

NEWMDB HOME | Framework | Waste Data | Logout | Print | Help

FRAMEWORK

- Overall Status
- Waste Matrices
- Users
- Reporting Groups
- Sites
- General Info
 - Contact Info
 - Regulator(s)
 - Regulation(s)
 - Milestones
 - Policies**

General Info ▸ Policies ▸ National Systems ▸ Requirements

Last changed: today at 10:22 PM by Admin

National Systems	Disposal Facilities	Processing Storage	Spent SRS	Import-Export	Liquid HLW	UMMT	Decommission
←	Help	Policy	Strategies	Requirements	Responsibilities	Activities	

Insert each of the following phrases into the question. "Has your country...
...according to IAEA Safety Series No. 111-S-1". For example, "Has your country identified the parties involved in the different steps of radioactive waste management according to IAEA Safety Series No. 111-S-1?"

	Yes	Partially	No
identified the parties involved in the different steps of radioactive waste management	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
specified a rational set of safety, radiological and environmental protection objectives	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
implemented a mechanism to identify existing and anticipated radioactive wastes	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
implemented controls over radioactive waste generation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
identified available methods and facilities to process, store and dispose of radioactive waste on an appropriate time-scale	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
taken into account interdependencies among all steps in radioactive waste generation and management	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
implemented appropriate research and development to support the operational and regulatory needs	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
implemented a funding structure and the allocation of resources that are essential for radioactive waste management	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
implemented formal mechanisms for disseminating information to the public and for public consultation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

[SAVE](#)

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Figure 1: Example Policy Questions in the NEWMDB

Table I: Responses to “General Information” Policy Questions

Has your Country implemented a national policy for radioactive waste management?			
Yes : 66.7%	Partially : 27.8%	No : 5.6%	# of responses: 36
Has your country developed strategies to implement a national policy?			
Yes : 62.9%	Partially : 31.4%	No : 5.7%	# of responses: 35
Has your Country identified the parties involved in the different steps of radioactive waste management			
Yes : 80.0%	Partially : 20.0%	No :	# of responses: 35
Has your Country specified a rational set of safety, radiological and environmental protection objectives			
Yes : 77.1%	Partially : 22.9%	No :	# of responses: 35
Has your Country implemented a mechanism to identify existing and anticipated radioactive wastes			
Yes : 62.9%	Partially : 28.6%	No : 8.6%	# of responses: 35
Has your Country implemented controls over radioactive waste generation			
Yes : 82.9%	Partially : 14.3%	No : 2.9%	# of responses: 35
Has your Country identified available methods and facilities to process, store and dispose of radioactive waste on an appropriate time-scale			
Yes : 71.4%	Partially : 28.6%	No :	# of responses: 35
Has your Country taken into account interdependencies among all steps in radioactive waste generation and management			
Yes : 71.4%	Partially : 28.6%	No :	# of responses: 35
Has your Country implemented appropriate research and development to support the operational and regulatory needs			
Yes : 62.9%	Partially : 25.7%	No : 11.4%	# of responses: 35
Has your Country implemented a funding structure and the allocation of resources that are essential for radioactive waste management			
Yes : 60.0%	Partially : 22.9%	No : 17.1%	# of responses: 35
Has your Country implemented formal mechanisms for disseminating information to the public and for public consultation			
Yes : 51.4%	Partially : 34.3%	No : 14.3%	# of responses: 35

Table I: Responses to “General Information” Policy Questions (Part 2)

Indicate whether or not the following responsibilities have been defined in your country according to IAEA Safety Series No. 111-S-1			
Member State Responsibility			
provide for adequate resources	Complete: 51.4%	Incomplete: 48.6%	# of responses: 35
define the responsibilities of waste generators and operators of waste management facilities	Complete: 94.3%	Incomplete: 5.7%	# of responses: 35
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: 91.4%	Incomplete: 8.6%	# of responses: 35
establish and implement a legal framework for the management of radioactive waste	Complete: 65.7%	Incomplete: 34.3%	# of responses: 35
Regulatory Body Responsibility			
advise the government	Complete: 88.6%	Incomplete: 11.4%	# of responses: 35
implement the licensing process	Complete: 91.4%	Incomplete: 8.6%	# of responses: 35
enforce compliance with regulatory requirements	Complete: 82.9%	Incomplete: 17.1%	# of responses: 35
Waste Generator and Operators of Waste Management Facilities Responsibility			
comply with legal requirements	Complete: 85.7%	Incomplete: 14.3%	# of responses: 35
identify an acceptable destination for the radioactive waste	Complete: 68.6%	Incomplete: 31.4%	# of responses: 35

Table I: Responses to “General Information” Policy Questions (Part 3)

<p>To indicate whether or not waste generators and operators of waste management facilities have the responsibility to manage radioactive waste safely, the following policy questions were asked in the General Information section of the NEWMDB. The NEWMDB states “...To indicate the status for implementing the responsibility to "manage radioactive waste safely" in your country, please answer the [following] questions...”. Note: One Member State indicated that it had difficulty with the questions because the option of “partially” was not included.</p>			
Does your country perform safety and environmental impact assessments for radioactive waste management facilities?	Complete: 88.6%	Incomplete: 11.4%	# of responses: 35
Does your country ensure adequate radiation protection for workers, the general public and the environment?	Complete: 100.0%	Incomplete:	# of responses: 35
Does your country ensure suitable staff, equipment, facilities, training and operating procedures are available to perform the safe radioactive waste management steps?	Complete: 88.6%	Incomplete: 11.4%	# of responses: 35
Does your country establish and implement a quality assurance programme for the radioactive waste generated or its processing, storage and disposal?	Complete: 74.3%	Incomplete: 25.7%	# of responses: 35
Does your country establish and keep records of appropriate information regarding the generation, processing, storage and disposal of radioactive waste, including an inventory of radioactive waste?	Complete: 97.1%	Incomplete: 2.9%	# of responses: 35
Does your country provide surveillance and control of activities involving radioactive waste as required by the regulatory body?	Complete: 97.1%	Incomplete: 2.9%	# of responses: 35
Does your country collect, analyze and, as appropriate, share operational experience to ensure continued safety improvements in radioactive waste management?	Complete: 88.6%	Incomplete: 11.4%	# of responses: 35
Does your country conduct or otherwise ensure appropriate research and development to support operational needs in radioactive waste management?	Complete: 82.9%	Incomplete: 17.1%	# of responses: 35

Table I: Responses to “General Information” Policy Questions (Part 4)

Please indicate if any of the following are part of your Country's current waste disposal facility Licensing Policy			
Environmental Assessment (EA)			
Yes - All : 68.6%	Yes - Some : 11.4%	No : 20.0%	# of responses: 35
Environmental Impact Statement (EIS)			
Yes - All : 65.7%	Yes - Some : 17.1%	No : 17.1%	# of responses: 35
Performance Assessment (PA)			
Yes - All : 62.9%	Yes - Some : 20.0%	No : 17.1%	# of responses: 35
Quality Assurance (QA)			
Yes - All : 65.7%	Yes - Some : 8.6%	No : 25.7%	# of responses: 35
Safety Assessment (SA)			
Yes - All : 80.0%	Yes - Some : 11.4%	No : 8.6%	# of responses: 35
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 : 53.8%	Yes - Some : 34.6%	No : 11.5%	# of responses: 26
Does your Country have formal, documented waste acceptance criteria for its operating disposal facilities?			
Yes - All : 37.1%	Yes - Some : 20.0%	No : 42.9%	# of responses: 35
Does your Country have any written policies to address the maintenance of records that describe the design, location and inventory of waste disposal facilities?			
Yes : 51.4%		No: 48.6%	# of responses: 35
If the answer to the previous question was YES, does your Country have any policies, laws or regulations that prescribe what records are to be maintained?			
Yes : 77.8%		No: 22.2%	# of responses: 18
Does your Country have any written policies to address active institutional controls or passive institutional controls, such as monitoring or access restrictions?			
Yes : 45.7%		No: 54.3%	# of responses: 35
If the use of active institutional controls is part of your Country's written policies, please indicate which of the following practices are either implemented or are being considered			
access restrictions			
Yes : 93.3%		No: 6.7%	# of responses: 15
drainage and/or leachate collection system(s)			
Yes : 66.7%		No: 33.3%	# of responses: 15
leachate treatment systems			
Yes : 60.0%		No: 40.0%	# of responses: 15
environmental monitoring			
Yes : 86.7%		No: 13.3%	# of responses: 15
facility monitoring			
Yes : 93.3%		No: 6.7%	# of responses: 15
surveillance			
Yes : 93.3%		No: 6.7%	# of responses: 15
plans for intervention measures during active institutional control if there is an unplanned release of radioactive materials from the disposal facility			
Yes : 73.3%		No: 26.7%	# of responses: 15

Table I: Responses to “General Information” Policy Questions (Part 5)

The following policy questions are related to pre-disposal waste management			
Does your country have written policies or written procedures for waste sorting/segregation?	Yes: 82.9%	No: 17.1%	# of responses: 35
Does your country have written policies or written procedures for waste minimization?	Yes: 71.4%	No: 28.6%	# of responses: 35
Does your country have written policies or written procedures for waste storage?	Yes: 85.7%	No: 14.3%	# of responses: 35
Does your country have written policies or written procedures for 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: 28.6%	No: 71.4%	# of responses: 35
Does your country have any legislation, regulation, or policy that waste processing must take place prior to storage (see following note)? NOTE: The statement above implies wastes that require processing should not be placed into storage facilities (except for short-term, interim storage awaiting processing) in an unprocessed state for significant periods, where significant is defined by the regulatory body.	Yes: 45.7%	No: 54.3%	# of responses: 35
Does your Country have any waste processing facilities at the same location where the waste is generated?	Yes: 82.9%	No: 17.1%	# of responses: 35
Does your Country have any centralized waste processing facilities?	Yes: 65.7%	No: 34.3%	# of responses: 35
Does your Country have any mobile waste processing facilities?	Yes: 22.9%	No: 77.1%	# of responses: 35

Table I: Responses to “General Information” Policy Questions (Part 6)

The following NEWMDB policy questions are related to the management of spent and/or disused sealed radioactive sources (SRS)			
Is there a national level registry?	Yes: 91.7%	No: 8.3%	# of responses: 36
If answer was yes, is the registry used only for disused/spent SRS?	Yes: 24.2%	No: 75.8%	# of responses: 33
Are there regional-level registries (one or more)?	Yes: 11.1%	No: 88.9%	# of responses: 36
If the answer was yes, are any registries used only for disused/spent SRS?	Yes:	No: 100.0%	# of responses: 4
Are there local-level registries (one or more)?	Yes: 36.1%	No: 63.9%	# of responses: 36
If the answer was yes, are any registries used only for disused/spent SRS?	Yes: 46.2%	No: 53.8%	# of responses: 13
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: 72.2%	No: 27.8%	# of responses: 36
Does your Country have any agreements in place whereby spent sealed radioactive sources (SRS) are returned to their supplier by the user (check all options that apply)?			
Government to Government agreements	Yes:	No: 100.0%	# of responses: 34
Government - Supplier agreements	Yes: 8.8%	No: 91.2%	# of responses: 34
Supplier-User agreements	Yes: 88.6%	No: 11.4%	# of responses: 35
Do any agreements include suppliers that are outside of your Country?	Yes: 80.0%	No: 20.0%	# of responses: 35
Does your Country have any regulations to free-release spent sealed radioactive sources (SRS)?	Yes: 31.4%	No: 68.6%	# of responses: 35
Has your Country disposed of spent SRS in existing disposal facilities for LILW or HLW waste?	Yes: 45.7%	No: 54.3%	# of responses: 35
Does your Country plan to dispose of spent SRS in existing or planned disposal facilities for LILW or HLW waste?	Yes: 80.0%	No: 20.0%	# of responses: 35
Has your Country implemented dedicated disposal facilities for spent SRS?	Yes: 11.4%	No: 88.6%	# of responses: 35
Does your Country have plans to implement dedicated disposal	Yes: 28.6%	No: 71.4%	# of responses: 35

Table I: Responses to “General Information” Policy Questions (Part 7)

Additional NEWMDB policy questions				
Does your Country have laws or Regulations restricting either the import or export of radioactive waste (excluding spent fuel)?	Yes: 83.3%	No: 16.7%	# of responses: 36	
Does your Country have laws or Regulations restricting either the import or export of spent fuel?	Yes: 57.1%	No: 42.9%	# of responses: 35	
Does your Country have high-level liquid wastes in storage?	Yes: 14.3%	No: 85.7%	# of responses: 35	
If your Country has high-level liquid wastes in storage, are there documented plans in place to process these liquids?	Yes - All: 80.0%	Yes - Some:	No: 20.0%	# of responses: 5
If your Country has high-level liquid wastes in storage, are there plans to have this waste be processed within a specified time frame?	Yes - All: 40.0%	Yes - Some: 20.0%	No: 40.0%	# of responses: 5
If the answer to the previous question is Yes, what year is this processing planned to be completed (format = YYYY)			2005 (2 countries) 2020 (1 country)	
Does your Country have any Uranium Mine and Mill Tailings sites that do not have a designated authority to manage them?	Yes: 2.9%	No: 97.1%	# of responses: 35	
If the answer to the previous question was yes, are there any regulations or plans for regulations to ensure that UMMT sites have a designated authority?	Yes: 100.0%	No:	# of responses: 1	
Does your Country require that funds should be set aside in support of future waste management activities, such as decommissioning activities?	Yes - All: 51.4%	Yes - Some: 25.7%	No: 22.9%	# of responses: 35
Does your Country require a time frame for the decommissioning of nuclear fuel cycle facilities once these facilities cease operation?	Yes - All: 22.9%	Yes - Some: 11.4%	No: 65.7%	# of responses: 35
Does your Country require a time frame for the decommissioning of non-nuclear fuel cycle facilities once these facilities cease operation?	Yes - All: 20.0%	Yes - Some: 17.1%	No: 62.9%	# of responses: 35

References

- [1] International Atomic Energy Agency, “Radioactive Waste Management Profiles - Compilation of Data from the Waste Management Database, No. 3”, report IAEA/WMDB/3, Vienna, April 2000.
- [2] WM Symposia Incorporated, “International Waste Management: A Compendium of Programs and Standards”, prepared by Golder Associates Incorporated, February 1997.
- [3] Organization of Economic Co-operation and Development/Nuclear Energy Agency, “Nuclear Waste Bulletin - Update on Waste Management Policies and Programmes”, No 14 – 2000 Edition, , Paris, 2001.
- [4] Internet home page of the Radioactive Waste Management Committee of the Nuclear Energy Agency, <http://www.nea.fr/html/rwm/rwmc.html/>.
- [5] European Commission, “Radioactive Waste Management in the European Union”, Directorate General XI - Environment, Nuclear Safety and Civil Protection, Brussels, Belgium, CD ROM, June 1999.