

Geological Disposal of Radioactive Waste: National Commitment, Local and Regional Involvement

A Collective Statement of the
OECD Nuclear Energy Agency
Radioactive Waste Management
Committee Adopted March 2012



Geological Disposal of Radioactive Waste: National Commitment, Local and Regional Involvement

**A Collective Statement of the OECD Nuclear Energy Agency
Radioactive Waste Management Committee
Adopted March 2012**

© OECD 2012
NEA No. 7082

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where the governments of 34 democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Republic of Korea, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Commission takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.

This work is published on the responsibility of the OECD Secretary-General.

NUCLEAR ENERGY AGENCY

The OECD Nuclear Energy Agency (NEA) was established on 1 February 1958. Current NEA membership consists of 30 OECD member countries: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, Norway, Poland, Portugal, the Republic of Korea, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Commission also takes part in the work of the Agency.

The mission of the NEA is:

- to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally friendly and economical use of nuclear energy for peaceful purposes, as well as
- to provide authoritative assessments and to forge common understandings on key issues, as input to government decisions on nuclear energy policy and to broader OECD policy analyses in areas such as energy and sustainable development.

Specific areas of competence of the NEA include the safety and regulation of nuclear activities, radioactive waste management, radiological protection, nuclear science, economic and technical analyses of the nuclear fuel cycle, nuclear law and liability, and public information.

The NEA Data Bank provides nuclear data and computer program services for participating countries. In these and related tasks, the NEA works in close collaboration with the International Atomic Energy Agency in Vienna, with which it has a Co-operation Agreement, as well as with other international organisations in the nuclear field.

Also available in French under the title:

Stockage géologique des déchets radioactifs : Engagement national, participation locale et régionale

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Corrigenda to OECD publications may be found online at: www.oecd.org/publishing/corrigenda.

© OECD 2012

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of the OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) contact@cfcopies.com.

Cover photos: planned area for the spent nuclear fuel repository in Östhammar, Sweden (SKB); the National Assembly, France; meeting of the Local Information and Oversight Committee in Bure, France (CLIS).

Foreword

The management of radioactive waste is a multidimensional question difficult to set entirely apart from the practices that produce such waste, and impossible to reduce to a few simple issues. Likewise, while the actual geological disposal of radioactive waste is a technical endeavour, planning for a repository and overseeing its implementation include more than just technical aspects.

The title of this collective statement highlights two essential dimensions of the complex task of securing continued societal agreement for the deep geological disposal of radioactive waste: national commitment, and local and regional involvement.

In this statement, insights into the subject are drawn from the 2008 Collective Statement of the OECD Nuclear Energy Agency's Radioactive Waste Management Committee (RWMC), as well as from publications by working bodies of the RWMC. This statement also draws upon lessons learnt from actual experience in the various NEA member countries as collected by the Forum on Stakeholder Confidence (FSC) and by the Regulators' Forum (RF). Several transversal studies and statements are cited as well. Most publications cited, and others of interest, may be downloaded from www.oecd-nea.org/rwm/.

Readers are invited to note that the working definition adopted by the RWMC of the term "stakeholder" is: *Any person, group or organisation with a role to play or an interest in the process of deciding about radioactive waste management.* In this statement, "stakeholder" and "actor" are often used interchangeably.

Table of contents

1. Introduction	7
2. A framework for decision making, articulating the national, local and regional levels in radioactive waste management	9
3. Building confidence in governmental institutions, safety authorities and waste management organisations	13
4. New roles for the stakeholders rooted in greater involvement and mutual learning	15
5. The multiple dimensions of safety	19
6. Conclusions	21
7. References	23

1. Introduction

The international position on geological disposal

Radioactive waste is associated with all phases of the nuclear fuel cycle in the production of electricity, and with the use of radioactive materials in industrial, medical, research or education, and defence-related applications. Especially in some countries, an important legacy of waste also exists from past military applications and from R&D performed even before nuclear power became commercially viable. All such waste must be managed safely and in a manner that protects humans and their environment. The eventual safe disposal of all categories of radioactive waste is a necessity with or without any further construction of nuclear power stations.

In 2008, the Radioactive Waste Management Committee (RWMC) of the OECD Nuclear Energy Agency issued a collective statement regarding the suitability and the feasibility of geological disposal for specified categories of radioactive waste. That statement reflects the strong international consensus that geological disposal is the appropriate route: geological disposal is technically feasible; it can be made safe for current and future generations; there are no credible alternatives to geological disposal; and, whatever further technical advances may be gained, the need for geological disposal of some classes of waste will persist. Geological disposal also represents an ethically correct approach (taking responsibility within the generation producing the waste) and it should be pursued now proportionately with each country's situation (NEA, 2008).

At the same time, it is also recognised that the management of radioactive waste is a multidimensional question that is difficult to set entirely apart from the practices that produce such waste, and impossible to reduce to a few simple issues. While proceeding to geological disposal is a technical endeavour, planning for it and overseeing its implementation include more than just technical aspects. Geological disposal of radioactive waste is a societal endeavour as well and therefore comes under discussion and deliberation on national, regional and local levels.

This collective statement examines the links between national commitment to a radioactive waste management solution, and local and regional involvement, with the objective of developing confidence in waste management options.

The trend towards enhanced dialogue and stakeholder involvement

Dialogue and stakeholder involvement have become a central part of the waste management process. A trend can be seen in OECD countries towards implementing forms of public involvement that require new or enhanced dialogue among all parties concerned. As parties to this dialogue, regional and local political players and civil society take an active role where appropriate in decisions concerning radioactive waste management, including the siting and implementation of geological repositories (ENEF, 2011). They are developing their competence to play this role, and are entering into partnerships, often on an equal footing, with the management institutions, so that both technical and societal questions can be addressed in a manner conducive to confidence (NEA, 2010a). As counterparts, radioactive waste management institutions have been embracing a broader, more realistic view of learning and decision making in society. Waste management organisations and regulators have lucidly analysed the discomfort of public rejection connected to former technocratic or “top-down” approaches to implementing waste management solutions (NEA, 2000). Revising organisational culture is admittedly difficult, but clearly it is underway, and the institutional actors have demonstrated constructive interest in learning and adapting to societal requirements for radioactive waste management (NEA, 2003; NEA, 2004a; NEA, 2007a).

2. A framework for decision making, articulating the national, local and regional levels in radioactive waste management

Long-term radioactive waste management involves the construction of a limited number of facilities and it is therefore a national challenge with a strong local/regional dimension. It must be acknowledged that it is challenging to involve the national and local publics in discussion of broad, national strategic choices, especially those rooted in decisions taken by an authority many years back. Typically, it is when site investigations are carried out, or when actions are taken to locate a facility in a specific area, that stakeholders begin to manifest an interest in the issues and claim a voice in decisions. Waste management organisations and other actors of national programmes are nowadays aware of the importance of having adequate national consultation on aspects of waste management strategy, and seek it proactively. They have learnt that moving from the national to the local dimension inevitably requires the pre-existence of a national *framework for decision making* that is widely supported, and adhered to, by the relevant actors.

On national commitment

A set of conditions will help facilitate the implementation of a national radioactive waste management (RWM) framework. They are discussed and explained in NEA, 2004a and c, and listed below (with further supporting citations):

- The link between current radioactive waste management policy and the future of nuclear energy must be discussed openly.
- Waste management is generally perceived to be related to national orientations on energy policy. It is thus important to have clarity on the link between radioactive waste production and management and plans regarding the role of nuclear energy in the country. Stakeholders' ability to participate meaningfully in debates and decisions on fundamental questions of overall energy policy is expected to be an important contributor to advancing radioactive waste management programmes.
- The waste management programme is built upon a concerted decision or a statement by the national government that neglecting or deferring decisions on radioactive waste management is not acceptable and that there is a need to implement an integrative policy.
 - A national waste management plan explaining the amount and destination of the various waste streams is issued and maintained.

- Statements regarding the policy on export or import of radioactive waste are useful.
- The role of the various actors in implementing the policy is stated and widely communicated.
- The policy identifies who will be responsible for its funding and addresses long-term issues such as the ownership of the waste.
- There is clarity in how the policy is carried out, e.g. concerning roles and responsibilities, and there is commitment to carry it through.
 - Strong and long-term commitment of all institutional actors is established from the very start. Most importantly, an “engine” and a “driver” of the process (generally two different institutions) help keep the decision-making process going and stay in focus.
 - Waste management organisations are often on the front line. Safety authorities too are becoming particularly visible throughout the decision-making process. Regulation must be clear, proportionate and deliverable (NEA, 2009b).
- Policy clarifies that there exists no absolute technically best site, but only a good combination of “safe and licensable site” and “waste management concept” that enjoys host community support. Identifying this good combination of features is the goal of site selection processes.
- Siting efforts are accompanied with sound local and regional development schemes taking into account the views of the involved communities and with a view to the long-term prospects for quality of life, beyond the endowment of immediate economic benefits (CIP, 2010).

The special role of the regulators as an expression of national commitment

The safety authorities or regulators have a *mission in service of the public*: their responsibility is to protect the public health and the environment. Ideally, and subject to any legal constraints, the regulators should be “guarantors” of safety and the “peoples’ expert”, acting as an accessible resource. Regulators thus seek to establish good contact with the different stakeholders. Open channels of communication are maintained with the general public, implementers, government departments, parliament, concerned action groups and others. Regulators determine and inform in advance when, where and how they can accommodate public and other stakeholders’ input into their regulatory judgments (NEA, 2004b). At a minimum, they communicate the basis of their decisions (NEA, 2003).

Principles of decision making

In today’s RWM decision-making context, a “decision” no longer means opting, in one go and for all time, for a complete package solution. Instead, a decision is one step in an overall, cautious process of examining and making choices that preserve the safety and well-being of the present generation and the coming ones

while not needlessly depriving the latter of their right of choice. Consideration is thus increasingly being given to the better understanding of concepts such as “stepwise decision making” and “adaptive staging” in which the public, and in particular the most affected local public, are meaningfully involved in the planning process (NEA, 2004c).

Decision processes are expected to meet a number of competing requirements. Thus it is desirable that radioactive waste management processes be participatory and flexible and, at the same time, accountable. Three overarching principles are the essential elements of any decision making seeking broad societal support (NEA, 2004c):

- *Decision making should be performed through iterative processes, providing the flexibility to adapt to contextual changes*, e.g. by implementing a stepwise approach that provides sufficient time for the involved actors to ensure fairness of representation and to develop competence. Competence will grow notably through discussing and exchanging on research and its independent assessment.
- *Social learning should be facilitated*, e.g. by promoting interactions between various stakeholders and specialists.
- *Public involvement in decision-making processes should be facilitated*, e.g. by promoting constructive and high-quality communication between individuals with different knowledge, beliefs, interests, values and world views.

Pragmatic elements for decision making with regional and local support

- Local and regional support is likely to be favoured by a voluntary siting process in which the consent of host communities is sought from the outset, and communities are allowed to withdraw from consideration within a certain period or under certain circumstances (NEA, 2004a, c).
- Fully visible, enhanced oversight by local/regional authorities representing local/regional interests, builds additional confidence in the decision-making process (Moore, 2011).
- The long-term acceptance of any waste management facility will depend upon a solid, durable relationship between the local communities and the waste management installation. Building such a relationship is promoted by designing and implementing installations in ways that reflect the values and interests of local communities (NEA, 2007b).
- The partnership approach is a method for achieving collaboration between waste management institutions and local communities. Partnership arrangements seek to ensure both fairness (e.g. inclusiveness) and competence (informed decision making). Partnership arrangements are also helpful in working out compensation, local control and development opportunities (NEA, 2010a).

Collaboration can take place through a variety of partnership organisations (e.g. NGOs, local government associations, units within or around local/regional governments). Such partnerships have been or are being set up in an increasing number of countries. Most often such organisations build their own expertise and influence the implementer's work. They also collect, process and disseminate information on the facility and its impacts, monitor other players' performance and advise local governments. The result of collaboration is mutual learning on the part of the community and the decision-makers.

Community benefits include empowering measures, such as financial resources to pay the expenses of collaboration and to hire the communities' own experts, and socio-economic benefits aimed at making host communities better off. All benefits can be adjusted to the needs of the host community and have the potential to contribute as well to the sustainable development of the region.

3. Building confidence in governmental institutions, safety authorities and waste management organisations

Issues of confidence and fairness will play an important role all along the decision-making process. Building and maintaining shared societal confidence in waste management arrangements requires sustained commitment and dialogue.

Some social concerns expressed in regard to waste management processes may stem from eroded confidence in operating or managing institutions. The decision-making process can be aided by building in milestones and check points, clarifying roles, etc. The decision-making process can furthermore be designed to try to restore trust where the trust relationship has been damaged. Approaches include: i) involving in the decisions those who are affected, so that they gain more control, and/or ii) dividing major decisions into relevant steps, providing feedback after each step and allowing the affected people to halt the procedure if they lose trust in the “trustees”.

Alongside efforts to involve stakeholders, building confidence implies that institutions must develop appropriate features in the areas of organisation, mission and behaviour (NEA, 2000; NEA, 2004a, c). Waste management organisations and safety authorities cannot address the problems of trust and confidence experienced the world over in relations between government and the governed, but they can carefully fulfil their own societal and ethical responsibilities. Namely they can attend to:

- *Organisational features*: independence, clarity of role, dedicated and sufficient funding, a not-for-profit status, structural learning capacity, an internal culture of “scepticism” allowing practices and beliefs to be reviewed, high levels of skill and competence in relevant areas, including stakeholder involvement, strong internal relations and cohesion, an ethical charter or code of conduct, and general “quality consciousness”.
- *Mission features*: a clear mandate and well-defined goals, a specific management plan, a well-founded and articulated identity, a good operating record. Good integration in the entire back-end of the nuclear fuel cycle may also be seen as instilling additional confidence in the stakeholders.
- *Behavioural features*: openness, transparency, honesty, consistency, willingness to be tested, freedom from arrogance, recognition of limits, commitment to a highly devoted and motivated staff, coherence with organisational goals, an active search for dialogue, an alert listening stance and caring attitude, proactive practices, emphasis on stakeholder involvement, a policy of continuous improvement, use of third-party spokespersons and

a level of commitment to the organisation's mandate that is as profound as that displayed by non-governmental and civil society organisations.

These features are pertinent for the whole range of institutional RWM actors (NEA, 2003; NEA, 2007a). Practical recommendations can be made as follows:

- *Openness*: Being active in providing information about decisions, policies and questions related to safety. Openness is also a matter of being prepared to answer questions, to discuss and to exchange views with the public or organisations. Communications need to be open and honest. Open channels of communication must be maintained.
- *Clarity*: Demonstrating commitment to openness through efforts to communicate in ways that are clear and understandable to the broader public. Use of plain language to explain safety, institutional and procedural concepts is essential for fostering the understanding and transparency necessary for building confidence.
- *Accountability*: Being prepared to have actions and decisions probed and questioned in public fora.
- *Independence*: Independence of governmental organisations from the nuclear energy industry in regard to licensing decisions, and from any other organisations likely to be affected by such decisions. Independence has to be demonstrated by visible actions.
- *Competence*: Competence is both statutory and effective. Statutory competence is granted by the mandate defined for governmental actors in the national programme. It is a prerequisite for legitimacy and action. Effective competence relies on the training of staff and the resources of their institution. High research, technical and operational competence is needed on the side of the waste management organisation or implementer, and as well, on the side of the controlling body, the safety authority or regulator. To achieve and maintain adequate, effective competence within these organisations, they must be able to attract and retain capable staff.

4. New roles for the stakeholders rooted in greater involvement and mutual learning

Public information, consultation and/or participation in environmental or technological decision making are required by a number of international treaties (in particular, the UNECE Aarhus Convention) and in national law. Stakeholder involvement in policy making has received considerable attention within the OECD.¹ In most OECD/NEA countries there are mechanisms for involving stakeholders, and especially the local public and local authorities, in planning activities with social and environmental impacts; these mechanisms may be applied to waste management development projects in particular.

In the field of radioactive waste management, NEA countries are moving away from a traditional “decide, announce and defend” model, for which the focus was almost exclusively on technical content, to one of “engage, interact and co-operate”, for which both technical content and quality of process are of comparable import to a constructive outcome. In this context, the technical side of waste management is no longer of unique importance; organisational ability to learn, to communicate and to adapt now moves into the fore (NEA, 2000; NEA, 2003).

Involving stakeholders rests on providing information and may include, by increasing degrees, consultation, active participation and shared decision authority. There are management tools and also mandated instruments (e.g. the Environmental Impact Statement or EIA) that facilitate stakeholder involvement. Participatory approaches may deliver potential positive effects of several types: substantive improvements to decisions, procedural improvements (such as better integration of a wider information base) and contextual effects (for example reinforcement of democracy and of confidence in institutional players). Broad participation today may also compensate, to some degree, for the unavoidable absence of future generations in current reflections or negotiations (NEA, 2004d).

Overall, important changes have taken place in citizen participation for radioactive waste management in the past decade. Such evolutions all depend on the effective empowerment of the local and regional actors. They can be summarised as follows:

1. See for instance OECD (2001), *Citizens as Partners: OECD Handbook on Information, Consultation and Public Participation in Policy-making*; OECD (2003), *Open Government: Fostering Dialogue with Civil Society*; OECD (2004), *Promise and Problems of E-Democracy: Challenges of Online Citizen Engagement*; or OECD (2008), “Mind the Gap: Fostering Open and Inclusive Policy Making”.

- Shift from information and consultation towards partnership, i.e. from token involvement to citizen influence and power.
- Shift from passive to active role of local communities: from resigned acceptance to collaboration, volunteering and veto.
- Development of a great variety of administrative formats for collaboration.
- Recognition of the need for, and legitimacy of, community empowerment measures and socio-economic benefits.
- Emergence of new ideals and bases for collaboration including: mutual learning, adding value to the host community/region and sustainable development.

To support local and regional empowerment, national RWM programmes typically encourage the creation of working groups (combining elected people and representatives of various non-governmental or civil society organisations), and furthermore provide resources for their work such as an independent budget for research and deliberation, and access to independent expertise (COWAM-2, 2006; ENEF, 2011; NEA, 2010a).

In response to an evolution and growth in understanding of RWM issues there has been an ongoing change from traditional to new roles, as shown in the table below (NEA, 2008). Overall, as dialogue and stakeholder involvement have become central to the waste management process, scientists address new questions raised by the general public; policy-makers and waste management organisations innovate with public dialogue formats; regulators increasingly act as “safety communicators” and “peoples’ experts”, becoming involved in early consultations with local communities before final decisions on facilities, sites and concepts are rendered (NEA, 2003).

Traditional and evolving roles and responsibilities of main actors in RWM

Stakeholders	Traditional expectations for roles and responsibilities	Evolving expectations for roles and responsibilities
Policy-makers	Defining policy options, investigating their consequences under different assumptions, making policy choices.	Informing and consulting stakeholders about policy options, assumptions, anticipated consequences, values and preference. Setting the “ground rules” for the decision-making processes. Communicating the bases of policy decisions.
Safety authorities	Defining regulatory requirements and guidance. Defining a regulatory process, making choices regarding regulatory options. Reviewing the implementer’s safety options and design and asking for possible complements or modifications. Making a decision on the step forward.	Maintaining open and impartial regulatory processes. Providing stakeholders with understandable explanations of the mechanisms of regulatory oversight and decision making, including explanations of the opportunities available for stakeholder participation therein.

Traditional and evolving roles and responsibilities of main actors in RWM (cont.)

Stakeholders	Traditional expectations for roles and responsibilities	Evolving expectations for roles and responsibilities
Safety authorities (<i>cont.</i>)	<p>Reviewing and validating operational rules.</p> <p>Controlling the compliance of operation with operational rules.</p> <p>Communicating the bases of regulatory decisions.</p>	Serving as a source of information and expert views for local communities.
Scientific experts, consultants	<p>Carrying out scientific/technical investigations with integrity and independence.</p> <p>Advising institutional bodies such as safety authorities and implementing agencies on technical issues in relation with safety concerns in view of providing balanced and qualified input for decision making.</p>	<p>Acting as technical intermediaries between the general public and the decision-makers.</p> <p>Providing balanced and qualified input for all stakeholders and encouraging informed and comparative judgment.</p>
Implementers	<p>Proposing safety options and designs for radioactive waste management solutions, investigating their consequences under different assumptions.</p> <p>Developing a chosen solution, implementing the solution.</p>	<p>Co-operating with local communities to find an acceptable solution for radioactive waste management.</p> <p>Co-operating with local communities in implementing the solution.</p> <p>Interacting with policy-makers and safety authorities.</p>
Potential host communities	Accepting or rejecting the proposed facility.	<p>Negotiating with implementers to find locally acceptable solutions for radioactive waste management that help avoid or minimise potentially negative impacts and provide for local development, local control and partnership.</p> <p>Interacting with policy-makers and safety authorities.</p>
Elected local or regional representatives	Representing their constituencies in debates on radioactive waste management facilities.	<p>Mediating between several levels of governments, institutions and local communities in seeking mutually acceptable solutions.</p> <p>Interacting with safety authorities and implementers.</p>
Waste generators	Providing (partial or full) financing to implement radioactive waste management solutions.	Providing financing for developing and implementing acceptable radioactive waste management solutions under transparent arrangements and demonstrating this transparency.

Source: Table adapted from NEA, 2008.

5. The multiple dimensions of safety

Adequate institutional control is an essential condition for assuring confidence in the safety of a national waste management undertaking. Such control must be exercised by the national safety authority, but a measure of control may also be delegated to other parties. This shared control is viewed as important by regional and local stakeholders. For instance, in a survey the single element that increased people's trust in nuclear plant management was that "an advisory board of local citizens and environmentalists is established to monitor the plant and is given legal authority to shut the plant down if they believe it to be unsafe" (Slovic, 1993; 2000). For any individual or community of individuals, important components of safety are the degree of control and familiarity of the issue at hand. By exploring the meanings further, we may find that the concept of control is linked with the idea of possessing knowledge and access to information, ability to intervene and being in charge. Familiarity too (rooted in that of "family") is linked with the idea of possessing knowledge, but furthermore with predictability, continuity and ties with the present and future (NEA, 2010b). Regulators and implementers have control and familiarity with the safety issues related to RWM, and their role leads them (through research and assessment) to develop further those dimensions on behalf of society. Other stakeholders need to gain, in their own way, control and familiarity.

Enhanced control and familiarity can be gained in the context of the partnership arrangements discussed throughout this statement. A basis for confidence in safety is developed through research and assessment and these can be reviewed and examined by the members of partnerships. The need for new or complementary research can be identified through dialogue.

Partnership arrangements also allow a judgment to be reached on the level of trust that regional and local parties may place in the institutional actors. Full trust in these actors may mean devolving to them some of the controls that the local communities may wish to have at the beginning of the process. An example is the formal or informal right of veto that the community would typically require at least during the early phases of repository development and may be willing to forego in later phases, when trustworthiness of the project and of relationships has been demonstrated. A continued policy of openness and transparency on the part of the institutional actors is therefore important for safety, as lack of transparency increases doubt, and impacts negatively on control and familiarity and on trust in the actors.

In the process of deliberation, planning and preparing to host a radioactive waste management facility, the installation may become a significant part of a host region

or community and its identity. An appropriate aim is thus to design and implement an installation that not only is accepted at one point in time, but also is apt to become a durable part of the fabric of local life, something that adds value, that the community “owns” and of which it is proud. There is a growing awareness that integration of the facility in the community in this way can contribute to safety (NEA, 2007b). While responsibility for physical safety must always remain with designated authorities, local communities request a role in monitoring and can receive training for this (NEA, 2009a). Today’s overarching message is: “Do not hide these facilities; do not keep them apart (safety by exclusion), but make them A PART of the community (safety by integration)” (NEA, 2010b).

6. Conclusions

In today's context, there is a heightened request for transparency and public input in all matters connected with technological governance, including environmental protection, nuclear power, radioactivity and, especially, radioactive waste. In particular, large-scale technology projects are much more likely to be accepted when stakeholders have been actively involved in creating them and have developed a sense of interest in or responsibility for them.

A trend is seen in OECD/NEA countries towards implementing forms of public involvement that require new or enhanced dialogue among all parties concerned. Dialogue and stakeholder involvement have thus become a central part of the waste management process. As parties in this dialogue, regional and local political players and civil society are coming forward to take an active role where appropriate in decisions concerning radioactive waste management, including the siting and implementation of geological repositories. They are also developing their competence to play this role, and are entering into partnerships, often on an equal footing, with the management institutions, so that both technical and societal questions can be addressed in a manner conducive to confidence. At the same time, radioactive waste management institutions have been embracing a broader, more realistic view of learning and decision in society, removed from the more technocratic view seen earlier. Revising organisational culture is admittedly difficult, but clearly it is underway, and the institutional actors have demonstrated constructive interest in learning and adapting to societal requirements for radioactive waste management.

This statement:

- Presented both principles and pragmatic aspects of a decision-making framework to articulate national, regional and local levels.
- Reviewed the features of organisation, mission and behaviour that can help to build confidence in the institutions tasked with radioactive waste management.
- Highlighted changing roles among stakeholders.
- Considered how technical and societal partners can develop shared understanding of, and confidence in, the safety of geological repositories.

7. References

Note: online references were each consulted on 25 November 2011.

- CIP (2010), *European-level Guidelines for the Inclusive Governance of Radioactive Waste Management*, COWAM In Practice, co-ordinated by Mutadis, Paris. http://cowam.com/IMG/pdf_CIP-EUG_version_finale_telechargeable.pdf.
- COWAM-2 (2006), *Roadmap for Local Committee Construction; Better Paths Towards the Governance of Radioactive Waste*, COWAM-2, co-ordinated by Mutadis, Paris. www.cowam.com/IMG/pdf_Cowam_2_WP1_ROADMAP_for_Local_Committee_Construction.pdf.
- ENEF (2011), *Good Practices Guide on Transparency for Nuclear Projects in the European Union*, Brussels, European Nuclear Energy Forum Working Group Transparency. http://ec.europa.eu/energy/nuclear/forum/transparency/doc/guide_on_good_practices.pdf.
- Moore, R.C (2011), *Enhancing the Role of State and Local Governments in America's Nuclear Future: An Idea Whose Time Has Come*, Report prepared for the Blue Ribbon Commission on America's Nuclear Future. http://brc.gov/sites/default/files/documents/enhancing_the_role_of_state_and_local_governments_in_americas_nuclear_future.pdf.
- NEA (2000), *Stakeholder Confidence and Radioactive Waste Disposal*, Workshop Proceedings, 28-31 August 2000, OECD, Paris. www.oecd-nea.org/rwm/fsc/workshops/index.html.
- NEA (2003), *The Regulator's Evolving Role and Image in Radioactive Waste Management*, OECD, Paris. www.oecd-nea.org/rwm/fsc/reports.html.
- NEA (2004a), *Learning and Adapting to Societal Requirements for Radioactive Waste Management*, OECD, Paris. www.oecd-nea.org/rwm/fsc/reports.html.
- NEA (2004b), "Addressing Issues Raised by Stakeholders: Impacts on Process, Content, and Behaviour in Waste Management Organisations", NEA/RWM/FSC(2004)8, Proceedings of a Topical Session, OECD, Paris. www.oecd-nea.org/rwm/fsc/sessions.html.
- NEA (2004c), *Stepwise Approach to Decision Making for Long-term Radioactive Waste Management: Experience, Issues and Guiding Principles*, OECD, Paris. www.oecd-nea.org/rwm/fsc/reports.html.
- NEA (2004d), *Stakeholder Involvement Tools: Short Guide and Annotated Bibliography*, OECD, Paris. www.oecd-nea.org/rwm/fsc/reports.html.

- NEA (2007a), *Cultural and Structural Changes in Radioactive Waste Management Organisations*, OECD, Paris. www.oecd-nea.org/rwm/fsc/reports.html.
- NEA (2007b), *Fostering a Durable Relationship Between a Waste Management Facility and its Host Community, Adding Value through Design and Process*, OECD, Paris. www.oecd-nea.org/rwm/fsc/reports.html.
- NEA (2008), *Moving Forward with Geological Disposal of Radioactive Waste*, OECD, Paris. www.oecd-nea.org/rwm/reports/2008/nea6433-statement.pdf.
- NEA (2009a), *Regional Development and Community Support for Radioactive Waste Management, Synthesis of the FSC National Workshop and Community Visit, Tengelic and Bataapáti, Hungary, 14-17 November 2006*, OECD, Paris. www.oecd-nea.org/rwm/fsc/workshops/index.html.
- NEA (2009b), "Towards Transparent, Proportionate and Deliverable Regulation for Geologic Disposal: Main Findings from the RWMC Regulators' Forum Workshop. Tokyo, 20-22 January 2009", NEA/RWM/RF(2009)1, OECD, Paris. [www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=NEA/RWM/RF\(2009\)1&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=NEA/RWM/RF(2009)1&docLanguage=En).
- NEA (2010a), *Partnering for Long-term Management of Radioactive Waste. Evolution and Current Practice in Thirteen Countries*, OECD, Paris.
- NEA (2010b), *More Than Just Concrete Realities: The Symbolic Dimension of Radioactive Waste Management*, OECD, Paris. www.oecd-nea.org/rwm/fsc/reports.html.
- Slovic, P. (1993, 2000), "Perceived Risk, Trust and Democracy", *Risk Analysis*, Vol. 13, No. 6, pp. 675-682. [Anthologised in: Lofstedt, R. & Frewer, L. (eds) (1998), *Risk and Modern Society*, London, Earthscan; Connolly, T. Arkes, H.R. & Hammond, K.R. (eds) (2000), *Judgment and Decision Making: An Interdisciplinary Reader*, 2nd edition, Cambridge, UK, Cambridge University Press; Slovic, P. (2000), *The Perception of Risk*, Earthscan, London.]

OECD/NEA PUBLISHING, 2 rue André-Pascal, 75775 PARIS CEDEX 16
ISBN 978-92-64-99183-5



Geological Disposal of Radioactive Waste: National Commitment, Local and Regional Involvement

Disposal in engineered facilities built in stable, deep geological formations is the reference solution for permanently isolating long-lived radioactive waste from the human biosphere. This management method is designed to be intrinsically safe and final, meaning that it is not dependent on human presence or intervention in order to fulfil its safety goal. Selecting the site of a waste repository brings up a range of issues involving scientific knowledge, technical capacity, ethical values, territorial planning, community well-being and more. Bringing to fruition the multi-decade task of siting and developing a repository demands a strong national commitment and significant regional and local involvement.

This collective statement by the Radioactive Waste Management Committee of the OECD Nuclear Energy Agency recognises the advances made towards greater transparency and dialogue among the diverse stakeholders concerned and identifies the fundamental elements needed to support national commitment and to foster territorial involvement. It concludes that technical and societal partners can develop shared confidence in the safety of geological repositories and jointly carry these projects forward.

OECD Nuclear Energy Agency
12, boulevard des îles
92130 Issy-les-Moulineaux, France
Tel.: +33 (0)1 45 24 10 15
nea@oecd-nea.org www.oecd-nea.org

ISBN 978-92-64-99183-5

