

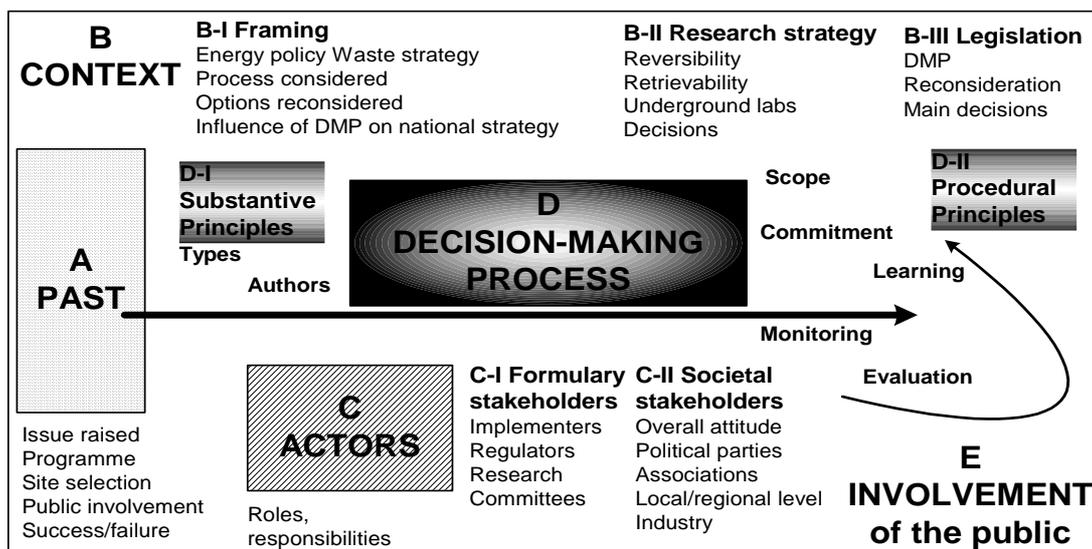
Appendix: Synopsis of national decision-making processes

February 2007

In applying the findings on decision processes to the scope and focus of COWAM 2, WP 3 chose the following structure for a comparison of countries, consisting of five parts:

- A.** Look at what was done in the **PAST**;
- B.** Find out the **CONTEXT** the decision-making process is in (embedding in the national policy, framing, research strategy, legislation);
- C.** Identify the **ACTORS** with their roles and responsibilities;
- D.** Structure the **DECISION-MAKING PROCESS** (with substantive and procedural principles and goals);
- E.** Trace the **INVOLVEMENT OF SOCIETY**.

This may be visualised as follows:



This information is working material for WP 3 purposes and prepared by WP 3 members¹, as an input for its key document, the “Recommendations and Insights”. It reflects personal analyses and not the full range of views. For abbreviations see back.

The **countries** appear in alphabetical order:

BE	Belgium	RO	Romania
CZ	Czech Republic	SI	Slovenia
FR	France	ES	Spain
DE	Germany	SE	Sweden
HU	Hungary	CH	Switzerland
NL	Netherlands	UK	United Kingdom

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A **THE PAST: Experience**

A-1

When was the issue of radioactive waste politically raised?

BE

ONDRAF/NIRAS, the Belgian Agency for Radioactive Waste and Enriched Fissile Materials, was established in 1980 in the context of rising concerns regarding sea dumping of waste. A need for interim storage was recognised. Although Belgium joined the international moratorium on sea dumping (Convention of London, 1983) in 1983, it was only in 1994 that the Belgian government agreed with the definitive ban on sea dumping (established internationally in 1993).

CZ

The Radioactive Waste Repository Authority (RAWRA) was established in June 1997 resulting from the new Ministry of Industry and Trade Decision No. 107/1997 issued in pursuance of Article 26 of Act No. 18/1997 Coll., on the peaceful utilisation of nuclear energy and ionising radiation (the Atomic Act). RAWRA is the state organisation responsible for the management of all those activities related to the disposal of radioactive waste.

FR

At the end of the 1980s the question of the management of the 2,000 m³ of extremely radioactive nuclear waste (HAVL) produced each year by France was raised. The first sites chosen by ANDRA and BRGM were considered as excellent sites from a technical point of view, but those institutions did not manage the question of local population. Because of local opposition, in February 1990, the Prime Minister, Michel Rocard, decreed a one-year moratorium on the question, a moratorium that lasted until the end of 1993 without further explanations.

DE

Before 1976 radioactive waste management (RWM) was a technical rather than a political issue. In 1976 an attempt for investigation of three pre-selected sites for a so called integrated waste management centre failed due to insufficient information of residents and local politicians and resulting resistance against investigations. As a result, a new site (Gorleben) was designated by the government of Lower Saxony in 1977. Up to now, the suitability of the site is controversially discussed. Therefore, in 1999, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) established a committee (AkEnd) to develop a procedure for the selection of a new repository site. The proposal for this procedure (AkEnd procedure/process) was published by AkEnd in 2002, but is not yet implemented.

HU

The first attempt to site an LIW disposal facility in the early 1980s was based on a purely technical approach with complete ignorance of public acceptability. The siting process was carried out in secrecy, and when drillings started at the candidate site, there was fierce local protest against the construction of the facility. Due to the conflict, in 1989 the siting process was terminated.

NL

The issue was raised in 1976, 30 years ago, when the Dutch minister of Economic Affairs selected five salt domes in the Northern provinces of the Netherlands for disposal of nuclear waste. However, until now no test drillings or other research have taken place, because of broad public resistance.

RO

The Law 111/1996 was the first document addressing explicitly the radioactive waste management problem in Romania, which clearly defined the conditions for nuclear activities deployment in Romania. It was followed by the ratification of the "Joint Convention on the safety management of the spent fuel and of the radioactive waste", in 1999, through the Law 105/1999.

SI

For the first time at the end of the 1980s in parallel with NPP construction.

ES

Following the Resolution on the National Energy Plan in 1983 the Spanish Parliament issued the "Constitution of ENRESA" in June 1984.

SE

The Swedish nuclear program had a clear military connection up to about 1960 and the waste problem was suppressed. Thus, still at the end of the 1960s responsible politicians believed that "the amount of waste will become negligible and the produced waste is needed for medical purposes". About 1970 the question was raised politically on a realistic level by the, at that time, anti-nuclear Center Party. As a result the AKA state investigation 1972-1976 presented a first outline of what later became the KBS method (canisters deposited in the bedrock).

CH

The Federal government statuted in their 1957 Message to the Atomic Energy Article in the Federal Constitution: "A task of eminent relevance lies in the formulation of guidelines about the disposition of unusable fission products (so-called radioactive waste, also called 'atomic ashes')". Corresponding regulations, though, were not issued until the Federal Decree of 1978. In 1967 local protest was raised against the first interim-storage project, called "definitive storehouse". In 1978 Government mandated the ministry in charge "to judicably draw attention to the fact that the [nuclear power] utilities have to be decommissioned if the waste issue is not resolved in a concrete manner by the mid-80s" (cont'd. with A-2).

UK

Probably 1976 with the publication of the Royal Commission on Environmental Pollution (RCEP) Report No. 6 on Nuclear Power and the Environment. An oft quoted passage stated, 'there should be no commitment to a large programme of nuclear fission power until it has been demonstrated beyond reasonable doubt that a method exists to ensure the safe containment of long lived, highly radioactive waste for the indefinite future' (para. 27).

A-2 Programme

Is there a dedicated programme/plan to find a repository site? To find an (interim-)storage site?

BE

With respect to disposal, ONDRAF/NIRAS undertook broad consultations around the country from 1985 on, albeit with no takers. The Federal government decided to change its strategy in 1998. The Council of Ministers entrusted ONDRAF/NIRAS with new assignments, but at the same time restricted the scope of its research. In practice, ONDRAF/NIRAS, from then on, had to concentrate on the development of two types of solution for the long-term management of low and intermediate-level (LI) short-lived waste: surface disposal and deep disposal. Moreover, it had to ensure that these solutions fulfilled a number of technical requirements: Apart from the fact they of course had to be safe and feasible, they also had to be progressive (stepwise), flexible, reversible and controllable. ONDRAF/NIRAS also had to limit its research "to the existing nuclear zones and sites where the local authorities showed interest"; in addition, it had to "develop methods, including the management and consultation structures that would make it possible to integrate a project of this nature at local level". Ultimately, it had to provide Government with the necessary elements to put it in a position "to make a technical and economic choice between deep or surface disposal on the basis of comparable safety conditions and with respect for the environment".

ONDRAF/NIRAS elaborated local partnerships (local committees, LCs) with 3 municipalities: MONA in Mol, STOLA in Dessel and PALOFF in Fleurus-Farciennes. All these municipalities are feasible on geological grounds. Mol and Dessel have been living since the 1960s with the nuclear industry on their territory.

All waste types are temporarily stocked in Mol and Dessel as well as in the Belgian NPPs (Doel and Tihange).

CZ

Yes, at the moment there is a siting process of the deep geologic repository as a final repository of spent fuel (SF) and high-level waste (HW). It is based on the governmental Concept of Radwaste and Spent Fuel Management in the Czech Republic, which requires two suitable sites (a candidate and a reserve) to be included into regional development plans. According to governmental decision, storage sites should be restricted to NPP sites, of which the storage facility at Temelín NPP is in the construction licence procedure.

FR

After political difficulties in 1988, the law issued in December 1991 provided a plan on research about the nuclear waste management and finding of potential sites (subsequently called the 1991 Law). The new law on the “sustainable management of radioactive wastes” of June 28, 2006, confirms the objectives of 1991 with a further period of research and exploration.

As to LW there exist three central storage facilities (Manche, closed, and two Centres de l’Aube (Morvilliers, Soulaïne-Dhuys, operating).

DE

Not yet. But a siting procedure was developed by AkEnd. Recently, BMU has announced to compare new sites with the Gorleben site.

HU

From 1993 onwards, in the framework of a National Project, the Geological Institute of Hungary and many other institutions have performed the site exploration for a new LIW repository. As of 2006, no government decision has been made with regard to long-term HLW management.

NL

There is an interim-storage for nuclear waste near Vlissingen for all types of nuclear waste. There is no dedicated plan to find a repository.

RO

Romania already has a LW repository in operation, an interim dry storage facility for the SF and a site proposed for the disposal of the operational waste. The investigations for site selection started in 1992 in the frame of an R&D programme and should be finalized with a preliminary safety report in 2006.

the LIW repository should start to operate by 2014 and the geological repository by 2050, according to “The National Strategy on Medium and Long Term Management of Spent Nuclear Fuel and Radioactive Waste, Including the Disposal and the Decommissioning of Nuclear and Radiological Facilities” elaborated by ANDRAD in 2004.

SI

In 1992/93 potential locations for a LW site were identified but there was no information for stakeholders and the public – a technical approach was used. Further research on those locations was stopped because of local opposition. There was no formal political decision or plan. Only later, according to the Act on Ionising Radiation Protection and Nuclear Safety (Off. Gaz., RS, No. 67/2002), the National program for radioactive waste and spent fuel management was accepted by the Slovenian Government (in October 2005) and was adopted by the Slovenian Parliament (in February 2006) as a part of the national program for the protection of the environment pursuant to the regulations on environmental protection. The site selection plan for LILW repository is part of the program.

ES

LIW: Final disposal at El Cabril in Córdoba.

HW: Search for geological disposal.

SE

The company SKB owned by the nuclear power operators is performing a plan to find a repository site for storing canisters in bedrock since about 1977. However, the plan has been changed several times due to political situation and protests against the siting activities. The present plan, still in operation, started about 1992. The interim storage CLAB in Oskarshamn is in operation since 1986 and has recently been enlarged.

In CLAB the waste is stored in water basins in a rock cavern at about 50 meters depth. In Forsmark LW has been deposited since 1988.

CH

In 1977 the electricity-producing industry presented their first concept. One year later it was revised: The deadline of 1985 – for the “Project Guarantee 1985” with which the NPP waste producers have to demonstrate final disposal in Switzerland – was set due to the Federal Decree of 1978. Government decided on “Project Guarantee 1985” in 1988: The disposal of low-level and long-lived intermediate-level (LLLIW) waste as well as the safety but not the site of HLW and SF (in crystalline host rock) were judged to be demonstrated. Government demanded extension of investigations for HLW to sedimentary formations.

After two negative votes on the LW site of Wellenberg (in 1995 and 2002) the LW programme came to a halt (with less long-lived substances, see Final Report of COWAM 1, references in “Insights and Recommendations”). As to HW/SF, Nagra’s documents to demonstrate the disposal feasibility (for the sedimentary host rock of Opalinus Clay in Northern Zurich) were under expert and public scrutiny in 2005. The Federal government accepted the technical demonstration of feasibility for HW/SF/LIW in June 2006. At the same time, however, it rejected Nagra’s proposal to focus their work on Opalinus Clay in the Zurich Weinland. The site selection procedure for concrete locations (for HW and LW repositories) shall be started in 2007, after a broad consultation on the selection concept to be approved in the summer of 2007 by Government.

The Central Interim Storage facility ZWILAG (for all waste types) went into operation in 2001.

UK

There have been several siting programmes in the past, covering HW, IW and LW in turn, but all of them were abandoned in the face of opposition; the last ended in 1997. Most of the wastes are concentrated at Sellafield and Dounreay though there are also wastes at other NPPs and other sites. At present there is no siting programme and therefore de facto interim storage (apart from disposal of low level waste in a shallow repository at Drigg near Sellafield). A programme to decide which long-term waste option(s) to implement commenced in 2001 with the launch of the Managing Radioactive Waste Safely Programme. In 2003 Government set up the Committee on Radioactive Waste Management (CoRWM) to oversee an evaluation of options for IW and HW. A separate review of options for LW is also underway. The siting programme is scheduled to start in 2007.

A-3

Do site selection criteria exist? Which?

BE

In the Belgian case, two historical periods can be identified as follows:

1985 - 1998 “technocratic approach”

1985 – 1987: first selection of 5 possible disposal sites by ONDRAF/NIRAS, based on (geological) criteria of the IAEA, NEA and US NRC;

1990: ONDRAF/NIRAS report stating that surface disposal is the most promising option (alternative techniques: old coalmines [drawback: unpredictable groundwater behaviour] and deep disposal in clay layers [more R&D needed, research was ongoing for B & C type waste, see www.niras.be for specifications]);

1994: ONDRAF/NIRAS report presenting 98 selected sites for surface disposal of LW/MLW, unanimously rejected by the envisaged communities and also rejected by the Belgian government (Christian-Democrats and Socialists);

1995: government order for a new study on alternatives; three solutions were considered from now on: temporary surface storage, definite surface storage and deep disposal;

1996: government order for a new study considering 25 old military sites;

1997: ONDRAF/NIRAS report on technical alternatives and on the old military sites as requested by government;

1998: community of Beauraing candidate (has old military site) ; proposal turned down by 95% of local population;

1998 to date: “participative approach”

ONDRAF/NIRAS modified its work programme for the long-term management of the LIL short-lived waste to account for the new requirements, with which it was in agreement. ONDRAF/NIRAS made a proposal to the interested municipalities to work together, by means of partnerships created especially for this purpose, on the development of an integrated preliminary design for the disposal of this waste. This cooperation did not imply any commitment to implementation. The disposal facility – the disposal itself and the associated buildings – was supposed to be integrated into a broader societal project, consisting of a set of associated conditions that offered added value to the municipality and/or region, so that the integrated preliminary design for disposal would get full acceptance from the local population. ONDRAF/NIRAS left the municipalities with existing nuclear zones free to participate or not in the proposed cooperation.

In its new work programme, ONDRAF/NIRAS renounced the site selection methodology that it had followed up to this point for the surface disposal option and replaced this with a so-called system approach:

For each of the proposed sites it would explore the possibilities of designing a disposal facility that took into account the characteristics of the terrain so that the "disposal site + disposal facility" system should *a priori* fulfil the conditions formulated in the decision of the Council of Ministers. In the case of a positive answer, it would then propose completing one or more preliminary designs.

CZ

Yes, a set of criteria related to safety, geology, political and local acceptance was determined and applied in the 2nd phase of the siting process in 2003-2005.

FR

Geology and political acceptance (local candidatures).

The law of 1991 considered that several sites should be chosen and explored for their geological quality (at least one for granite and one for clay) for a potential deep storage. The phase of seeking candidates, however, ended with the selection of only one site (Bure). The decision concerning the depository site should be taken by the national Parliament on the basis of scientific and technical reports by ANDRA.

DE

Yes. A set of safety related geoscientific criteria and societal criteria were proposed in 2002 by AkEnd.

HU

For siting an LIW disposal facility criteria of geology, technical feasibility, and social acceptance were taken into consideration. First the whole of Hungary, secondly the Mezoföld area were covered by desk-top studies. Public approval was given for just a few dozen out of several hundred potential geological objects. Four prospective areas, three for near surface and one for underground disposal, were covered by field reconnaissance. Boreholes were drilled at two near surface (loess) and one underground (granitic) sites.

NL

Since 1976 there have been several sets of geological criteria, which have been abandoned later. Since 1993 the only criterion is permanent retrievability. However, until now it is unclear what this exactly means.

RO

In site selection for the operational waste, IAEA criteria have been applied. The site characterization and safety assessment also follow the IAEA, respectively ISAM/ASAM recommendations. Recently, the Romanian regulatory body, CNCAN, issued national regulations for near-surface LIW disposal, based also on the IAEA safety standards and recommendations.

SI

In 1990 Slovenia started with the site selection for LIW repository using exclusion and comparative criteria (geological, economical, technical,...), but not taking into account social acceptability. In the case of the site selection process that was performed between 1990 and 1993, 43 different criteria were used. The procedure was divided into four steps. In the first step the unsuitable areas were excluded by taking into consideration the rough exclusion criteria, such as: national parks, urban zones, ground water resources, presence of active faults, geothermal areas, flood areas, presence of natural resources, etc. In the second step potential sites were identified by applying preference criteria such as seismicity and geology, land use and water resources. In the third step potential sites were reduced to candidate sites by comparing potential locations using criteria on population, economical feasibility, transport and ecology. In the fourth and final step, the most suitable location should have been confirmed by field investigations. Due to public unacceptability the siting process was stopped before this step was performed.

The result of siting procedure was five micro locations defined in 1993 what provoked strong opposition between neighbouring inhabitants and ended the site selection unsuccessfully.

During the second site selection process much less strict criteria were used: Only the potentially suitable sites confirmed by local communities were further assessed in the pre-feasibility study. This provided the assessment of all sites based on public acceptability, passive safety, technical functionality, economic, environmental and spatial aspects.

ES

LW: El Cabril was formerly a State-owned property in the province of Córdoba, where uranium ore was mined until the end of the 1950s. Following the constitution of ENRESA one of the priority actions was the

improvement and extension of the El Cabril installations, adapting them to the new safety requirements imposed.

HW: The identification of a large number of zones in the national geography which, from the geological point of view, might be valid pending *in situ* confirmation for geological disposal (granite, salt and clays).

SE

SKB claims that the site selection work is based on criteria to find a suitable site due to geologic conditions and societal activities. NGO critics claim that SKB step by step has moved from looking for a suitable site where the bedrock should have limited fissures to generally volunteering municipalities and then to municipalities hosting nuclear facilities. As an explanation of this change of site-finding strategy SKB claims that nearly all Swedish bedrock is suitable. Consequently the two sites now being investigated in more detail are located practically inside the fences of the NPPs in Oskarshamn and Östhammar. Thus, acceptance and practicalities have very clearly replaced criteria based on "facts" like environmental impact and safety.

CH

With respect to the LW programme, the initial procedure at the beginning of the 1980s was based on mainly technical selection criteria not publicly discussed. The choice of Wellenberg, though, in 1985/86, was driven by politics in so far as the cantonal government of Nidwalden "offered" themselves as a region for exploration. As to the HW programme, the crystalline base rock in Northern Switzerland was chosen in view of the (presumably favourable) Swedish approach. After its failure, the subsequent investigation of sedimentary formations was carried out upon pressure by the regulatory body HSK and the expert committees. With the adoption of the so-called "monitored long-term geological disposal" in nuclear legislation in 2005, ethical and societal aspects have also become relevant. A so-called sectoral plan, based on the Law of Spatial Planning and explicitly required according to the Nuclear Energy Ordinance, shall be set up to define the procedure and criteria for the site selection process for all types of waste, either according to the single- or the double-site concept. The conceptual part (on the criteria) of this plan is in debate and will be approved by Government in the summer of 2007.

UK

In the past site selection criteria were employed but not publicly declared. The present CoRWM process is open and criteria were developed for shortlisting of options and for assessment of shortlisted options. There are no site selection criteria at this stage. These will be developed as part of Stage 3 of the Managing Radioactive Waste Safely Programme, which will discuss the site selection process and criteria to be used to implement the chosen option(s). CoRWM recommends that initially criteria will be developed nationally to screen out areas unsuitable for deep geological disposal or long term interim storage. Subsequent site selection will depend on willingness of communities and the ability to make a safety case for a repository.

A-4

Involvement

Has there been public involvement? How? How deep?

BE

Originally, during the "preliminary study phase" 1985 until 1997, no involvement was foreseen. The reactions of the municipalities, their mayors and the local public stopped almost every site hosting. The local opposition stopped the site selection process. With the conceptual shift to voluntariness and consequently to "local partnerships" the municipalities with their LCs became the centres of attention. ONDRAF/NIRAS made a proposal to the interested municipalities to work together, by means of partnerships created especially for this purpose, on the development of an integrated preliminary design for the disposal of this waste. (see also A-3).

CZ

Since 2002, when the sites were identified and recommended for further research, contacts have been established with local elected representatives of all relevant communities. The meetings were mostly limited to passing information to and having discussions of issues interesting for local inhabitants. In four villages small local information centres are in operation. In September 2004 a so-called Memorandum of Understanding was signed with three communities who declare their willingness to discuss issues related to repository at a general level.

FR

Article 6 of the law stipulates that populations should be “associated” (taken into partnership). This “association” mainly takes shape with the involvement of the main stakeholders within the CLIS (Local Committee for Information and Surveillance). The Agreement for implementing an underground laboratory is to be given after a public inquiry and consultation of the local authorities (regional and departmental councils and municipalities). These inquiries and consultation only are informative for the final decider, which is the National Parliament (Assemblée Nationale).

DE

Suggested by AkEnd for siting process. Different, according to the progress of siting procedure. Extensive.

HU

In the early phases of site selection the public was not involved. After choosing a candidate site, public information procedure has begun. However, the public has not had any influence on the RWM option, the disposal method, or the site selection process.

NL

After site selection in 1976, there was a public participation on the criteria involved in 1987. This resulted in a controversial discussion, from which Government in 1993 concluded that “permanent retrievability” should be the criterion.

RO

The commissioning in 1986 of the LW National Repository Baita-Bihor, hosting civil waste in a former uranium mine, during the Communist period, did not involve the participation of the surrounding local communities. It was a technical decision, politically implemented.

The siting of the interim dry-storage facility on the Černavoda NPP site, in 2003, was formally opened to public debate in the town of Černavoda, but the citizen participation and involvement was very low.

A real dialogue between the local representatives (Mayor and Local Council) of the town of Černavoda and the village of Saligny started recently (2006) for the siting of the new LIW repository at Saligny (near Černavoda NPP).

SI

There was no public involvement.

ES

LW: medium.

HW: low.

SE

Until the test drillings were stopped in 1986 SKB avoided public involvement. Drillings were not announced locally. The new plan from 1992 was based on preliminary investigations in volunteering municipalities with intense local public involvement. There is also public involvement locally and to some extent regionally in the ongoing Environmental Impact Assessment (EIA) processes in Oskarshamn and Östhammar. Another kind of public involvement has taken place in connection with the R&D (Research and Development) plans presented by SKB every 3 years since 1984. Those plans, compulsory according to the law, have been sent out for public consideration by SKI (The Nuclear Power Inspectorate).

CH

Until recently the official decision paradigm was “Decide–Announce–Defend”. The broad public had forcefully obtained their “involvement” in popular votes and referenda. Thus, they could exert pressure on change and concept modifications. It was only after the nuclear “moratorium” vote of 1990 that representatives of “non-official” experts were admitted into the decision-making process (within the so-called “Action Programme ‘Energy 2000’”). This and the double rejection of the proposed LW site at Wellenberg led the Federal Parliament to issue a ban on local/regional referenda in the revised nuclear legislation. As a counter, the instrument of an optional referendum on general nuclear licences, including disposal facilities, on the *national* level was introduced with the new Nuclear Energy Act (NEAct) of 2005. Nevertheless, public involvement is more than voting. Integrative participatory techniques have to date only been used tentatively and on an *ad hoc* basis. It has been recognised that a systematic site selection procedure, including an inclusive public involvement, is needed (sectoral plan, see A-3).

UK

In the past public involvement occurred as a response to proposals. It developed in opposition to specific siting initiatives. As a result the process failed. The present Managing Radioactive Waste Safely (MRWS) process developed by CoRWM for IW and HW has an unprecedented public engagement programme. This includes intensive deliberative techniques, an extensive programme of information and efforts to engage stakeholders. Public and stakeholders were engaged at all stages in the programme, including shortlisting of options, assessment of options (multi-criteria analysis) and implementation proposals. They contribute to the development of criteria (scientific, legal, social, economic and ethical). This public engagement programme is probably the most ambitious yet attempted for decision making (DM) on any issue in the UK. In its response to CoRWM's recommendations the government stated: "It recognises the extensive and highly successful and innovative public and stakeholder engagement work carried out by CoRWM. Government is committed to continuing work with the public and stakeholders to build on the foundation of trust and confidence that CoRWM established." The separate LW review has a more limited engagement programme, managed by the Nuclear Decommissioning Authority (NDA), involving a National Stakeholder Group but not the public. However, there will be extensive consultation on specific proposals for siting LW facilities.

A-5

Outcome

Was the programme a failure or a success?

BE

The "technocratic" approach was a failure (see A-2). The "participative" approach – with the local partnerships – has so far been successful. In concrete terms, the ONDRAF/NIRAS cooperation proposal led to the formation of three partnerships between ONDRAF/NIRAS and the municipalities where a nuclear zone is located. All three adopted the form of a non-profit organisation.

- STOLA-Dessel (Study and Consultation Group Low-level Waste) was established in September 1999 between the municipality of Dessel and ONDRAF/NIRAS.
- MONA (Mols Consultation on Nuclear Waste Category A) was established in February 2000 between the municipality of Mol and ONDRAF/NIRAS.
- PaLoFF (Partenariat Local Fleurus–Farciennes) was established in February 2003 between the municipality of Fleurus and Farciennes and ONDRAF/NIRAS (Fleurus-Farciennes decided to withdraw in February 2006)

The HW/SF programme is still to be set up.

CZ

According to the governmental decision of July 2004 geologic works were interrupted for at least five years. Local referenda were held at several communities resulting in a rejection of activities in the vicinity of the community. Yet the programme cannot be considered a complete failure as later the above-mentioned Memorandum was signed, representatives of communities participated in an excursion to the Swedish underground research lab of Aspö, etc. Some of the activities seem to be a perspective for the future.

FR

At first we can consider it to be a success (Bure was selected), but it was the only site. When Government tried to find another site (in granite) in 1999, it was a failure.

DE

No implementation of AkEnd process yet.

HU

All of the official statements declare the procedure as a success, but the program is still ongoing.

NL

The programme was an example of: Decide internally – Announce to the public – Defend it the best you can and Abandon the sites.

RO

The siting process of the LIL waste disposal is underway.

From a technical point of view, the programme is in progress and could be appreciated as successful. At the end of 2006, a preliminary safety report was sent to the regulatory body (CNCAN) for site licensing. ANDRAD and the Mayor of Saligny agreed on the continuation of site investigation. People from Saligny and Černavoda had been invited and attended along 2006 meetings and debates on radioactive waste and nuclear power plant aspects. The dialogue was opened and public involvement is increasing more and more. This is also a success.

SI
Failure.

ES
LW: success.
HW: failure.

SE
The SKB and the nuclear industry probably claim that the programme has been successful up to now, as the process still is ongoing with some delay. The NGOs think that the process has resulted in choosing a hazardous method not really provided with serious alternatives and confronted with two obviously unsuitable sites.

CH
The LW programme with its focus on Wellenberg has to be viewed as a failure. Contrary to that, the HW/SF programme has evolved but is pending. The newly decided sectoral plan is meant as a guideline for further procedure of both programmes. Its rules and criteria are currently under broad discussion.

UK
The past programmes clearly failed to take public acceptability into account. The CoRWM Public and Stakeholder Engagement (PSE) programme was widely acclaimed to be a success, not least by the Government in its response to CoRWM's proposals. The outputs were taken very seriously as inputs into an evolutionary DMP. It is intended to maintain an open and transparent engagement process during the implementation phase of the MRWS programme.

A-6 Reasons for the failure? Reasons for deviations?

BE
The original approach was purely technical and did not take into account societal stances.

CZ
Specifically, related to the deep geological repository for spent fuel, there was a lack of communication and an orientation on non-nuclear sites. Other reasons are related to the general political situation and political culture.

FR
The failure can be explained by a lack of preparation of the mission on site selection. The opponents, however, were very well prepared.

DE
No implementation of AkEnd process yet.

HU
–

NL
The reason for the failure was the complete absence of public participation and information, combined with a purely technical approach.

RO
–

SI

Inadequate public participation in the process, no sufficient information, no proper political support, no clear waste management policy.

ES

HW: Failure in the initial plan (search of site in all Spain with low-level information). At present the plan is different: 1. information, 2. search candidate, 3. study viability, 4. DM but no geological disposal (Centralised interim Storage Facility, CSF).

SE

The earlier plans failed due to political reasons and public resistance. In 1979 Government decided that the nuclear waste management was solved in a completely safe way. However, this was only a political necessity for not stopping the nuclear power extension and the work had to go on. In 1986 the test drillings were stopped due to strong local protests. The present plan is still in operation.

CH

LW: The selection criteria were not adhered to – politics severely interfered. The proponent had no back-up strategy after the political rejection. No profound institutional changes were carried out. HW/SF: Due to Nagra's initial focus on crystalline formations, the programme could not demonstrate promising (technical) results. This dramatically changed with their turn to sedimentary rocks.

UK

The past failure was, in part, a result of failing to consult or even consider public acceptability. The process was not open and transparent and the organisations involved did not respect stakeholders or take their concerns into account. This led to conflict, lack of trust and eventual demise of proposals. Past failure led on to a different, and more successful, form of engagement.

A-7

Reasons for the success?

BE

The three partnerships were organized in a way that enabled them to operate as open, independent discussion and work forums.

The idea behind the local partnership programme was that the potential host communities should be given the opportunity to be involved in the development of both the technical and the socio-economic part of the repository project (the so-called "integrated project") and should be enabled to determine for themselves the conditions for accepting such a drastic intervention in their immediate surroundings. These "conditions" were regarded to be more than just technical and safety measures. Together they were to constitute the above mentioned accompanying project (in one way or another related to the disposal site) from which the entire community benefits.

In addition, ONDRAF/NIRAS chose to go ahead only with those municipalities who – after a briefing session – showed spontaneous interest in the development and local integration of this kind of siting project. It is worthwhile to mention that these municipalities saw the project as a kind of "responsibility towards (their local) society" and as a challenge as such. Although the principle of compensation was known and considered obvious, there were no elements of possible compensation specified at this stage.

CZ

Some positive reactions might be related to experience in nuclear issues and personal willingness to communicate.

FR

The relative success is due to the local political will.

DE

No implementation of AkEnd process yet.

HU

A new cooperation between the affected local municipalities and the investor was developed. This cooperation is a basis of the communication procedure to the public of the concerned area. In addition, generous compensation/incentives have been offered to the host and neighbouring communities.

RO

–

SI

–

ES

LW: During the 1960s the international strategy was to store the wastes in the mines from where the uranium from which they were produced had originally been extracted. This made the localisation of the site easy. Intensive negotiations with local authorities. Intensive communication by implementer.

SE

The current and ongoing plan has been more opportunistic and has not been stopped so far.

CH

With HW it was mainly the external review bodies that have promoted a consistent and continuous management. Subsequently, Nagra as the proponent modified their programme by switching from crystalline to the more promising sedimentary host rocks.

UK

The CoRWM programme for developing options for the long term management of IW and HW was predicated on the effort to involve the public and stakeholders, to define principles, to develop criteria including those of fairness, to listen to what people say in the effort to inspire public confidence in the process. Public and stakeholders contributed to the Multi Criteria Decision Analysis (MCDA) and to an holistic assessment of options. There was considerable bilateral activity with visits to nuclear communities and consultations with the nuclear industry, regulators, scientific bodies and other groups. The LW review is engaging with the National stakeholders.

A-8

“Solved” issues

Are there already defined solutions for RW types?

BE

In May 2006, ONDRAF/NIRAS submitted a final report to Government which contained all necessary elements to enable Government to decide on the continuation of the disposal programme for LI short-lived waste. This report concluded the work dedicated to developing integrated preliminary designs for disposal within the scope of local partnerships. The municipalities of Dessel and Mol had expressed their willingness to consider the realization within their borders of the surface repository or deep repository developed by the respective partnerships STOLA-Dessel and MONA, provided that the conditions associated with the establishment of these facilities are met.

On the basis of this report, the cabinet decided in June 2006 that short-lived LLI waste will be disposed of in a surface repository within the borders of the municipality of Dessel. This decision makes it possible to proceed to the next stage of the work programme, namely the concrete design of an integrated surface disposal project within the borders of the Dessel municipality. The continuation of the participatory process and the central role of the partnerships are crucial in this respect.

The local advisory group STORA was transformed to STORA to follow up the disposal of low-level waste in Dessel, to “discuss all present nuclear waste in Dessel ... including high-level waste”, and to “inform the population on all nuclear matters”, *e. g.*, the dismantling of Belgonucléaire.

CZ

There are three repositories of LIW in operation.

FR

Repository sites exist for LIW except specific wastes as granites and waste containing radium. For long-lived high-level waste (HAVL) see answer B6.

DE

No. But a license for a repository for negligibly heat producing waste was granted in 2000, but not executed due to pending lawsuits against the license.

HU

LIW – existing site in Püspökszilágy for the waste of the research institutes.

ISFS – existing site for interim storage of SF in the territory of the NPP in Paks.

LIW – planned site of the LIW disposal in Bataapáti, the site characterisation is in process.

HW – planned underground research laboratory in Boda, preliminary site characterisation is in progress.

NL

There is only interim storage, so no defined solution.

RO

The LIL-SL civil waste (arising from nuclear research, medicine, industry) is stored in the National Repository Baita-Bihor.

The LIL-SL operational waste will be disposed in a near-surface repository. The Saligny site, placed in the proximity of the Černavoda NPP, is in the stage of detailed characterisation.

High-enriched SF arising from VVR-S and TRIGA research reactors were sent back to USA.

Low-enriched VVR-S spent fuel is stored in the reactor pools. It is intended to be sent to the country of origin, Russia. If a return will be not possible, a safe intermediate storage followed by deep geological disposal in Romania is foreseen.

For the LEU TRIGA spent fuel, there are two possible alternatives: to be sent to USA or to find a domestic solution.

SI

New procedure established on the basis of former experience. It was decided that site selection should be limited to a repository for short-lived LIW only, including a surface and an underground type of disposal facility, and that cost assessment of site selection should be prepared as soon as possible.

The LILW management strategy was prepared in 2000 and included all elements of waste management: production, storage, treatment and conditioning, site selection procedure, repository construction and post-closure activities.

ES

LW: October 1992 when the first Provisional Operating Permit (POP) was issued.

HW: Stop the studies of search of geological disposal and new plan of the centralised interim storage.

SE

The repository SFR for short-lived LIW in Forsmark (Östhammar) has been in operation since 1988. The issue of handling long-lived LIW has so far not been raised, not even in connection with the plan for HW.

CH

Nothing is "solved" but interim storage takes place since 2001.

UK

At present only LW has a defined route to a repository at Drigg near Sellafield. However this is reaching its capacity and a national debate on long-term LW management was launched in 2005. CoRWM made its recommendations for management of higher activity wastes in 2006. Geological disposal is proposed as the best available approach with a robust programme of interim storage. The strategy has been accepted by government and an implementation process is envisaged based on a voluntary approach to site selection. The process is likely to extend over many decades.

B **THE CONTEXT**

BI **Framing: Embedding in the national policy**

B-1 Energy policy Nuclear policy: Invest in nuclear or phase out?
--

BE

By law in 2003 the Belgian government opted for a gradual nuclear phase-out. This means that reactors will not be replaced when they reach a 40-y lifetime. However, in recent debates on energy and climate change, many observers and mandatories state that this decision should be reconsidered.

CZ

Investment – a new nuclear unit is considered.

FR

Investment with a new generation of reactors.

DE

Phase out.

HU

There is no official plan for a new NPP, but Parliament decided on the extension of the operational lifetime of Paks NPP.

NL

Government decided recently in favour of an extension of the lifetime of the NPP Borssele until 2033. If new NPPs will be built is unknown.

RO

Yes: investment. At present, the Romanian Government supports the finalization of Černavoda Unit 2 and is looking for a financial solution for the construction of Units 3 and 4.

SI

There are no plans for new NPPs. Decommissioning is planned for the year 2023. There is a possible extension of operation of existing NPP in the strategy on national energy plan. There are more talks in public about renewable sources of energy.

ES

In January 2004, the Socialist Government announced its compromise to substitute nuclear “gradually and in a 20-year period at maximum” with other cleaner, safer and more economic options. The debate is going on.

SE

Nuclear energy shall be phased out and the two reactors in Barsebäck were stopped. But the existing plants will probably be rebuilt to/replaced by higher capacity which will more than compensate for the power decline in Barsebäck. A possible non-socialist government after the election in September 2006 might change the nuclear power policy.

CH

In the past there repeatedly were national votes on nuclear issues (in 1979, 1984, 1990, 2003). In 1990 a 10-year moratorium to construct new nuclear power plants was adopted, in 2003 a phase-out was rejected. The ministry in charge favours a gradual phase-out, hoping to have good prospects in the climate debate. In the spring of 2006, the electricity industry presented the idea, but no clear plans, to build modern NPPs (of the EPR type) at the sites of the existing installations. One year later, utilities mention to seek permission for one to two new reactors in 2008.

UK

At present there are no proposals for new nuclear build. However, with closure of most nuclear stations in the near future and concerns about climate change and energy security there has been a shift in policy. The 2003 Energy Policy White Paper is non-committal and there is a pragmatic attitude to future decisions on energy options which will depend on commercial and political criteria. On the whole it was not encouraging about the future of nuclear energy. By the time of the 2006 Energy White Paper the political climate had changed and nuclear was perceived to have a role to play in a future mix alongside other low carbon options. However, with the remaining nuclear stations shortly to close and the problems of finding investment for new ones, nuclear's role will be diminishing for the foreseeable future. The problem of radioactive waste is an obvious drawback for nuclear energy. CoRWM's proposals are explicitly confined to legacy wastes and do not give a green light for new nuclear build. However, it may be perceived that a 'solution' for nuclear waste removes at least one obstacle to the future of nuclear energy.

B-2

Is there an accepted national RWM strategy, at least a "political consent" about it?

BE

See A-2, A-3. The national RWM strategy, to be executed by ONDRAF/NIRAS was established by the Belgian government in 1998.

CZ

No entry.

FR

Yes (for 90% of members of parliament) but not among citizens. The new law (of 2006) did not clarify the issue.

DE

Not yet. The National waste management plan is currently being developed by the Federal government. However, there is a general agreement to prefer final disposal in deep geological formations.

HU

The National Project on LIW management was approved by Government, without any public discussion or political debate. In 2005 Parliament decided unanimously on the extension of the operational lifetime of the Paks NPP. No officially endorsed national strategy on HLW exists yet.

NL

No, there is no strategy.

RO

Yes. Romania assumed the responsibilities regarding the safety management of radioactive waste. The RWM strategy foresees the final disposal of all types of waste (without SF reprocessing – open fuel cycle).

SI

The National RWM strategy is prepared and accepted. The technical basis for a National program on radwaste and SF management was prepared and accepted in 2004. Overall LILW and SF management is proposed for the period until 2015. Decommission strategies are included. Measures and resources are known and included for implementation of the proposed policy. The Ministry of Environment and Spatial Planning prepared the National program on radwaste and SF management and operational programs for the period 2006 – 2009.

ES

There are Parliament Group agreements to press Government towards a Centralised Storage Facility for HW.

SE

Definitely yes from a political point of view. All the R&D plans presented by SKB since 1984 have been approved by Government.

CH

There is a moratorium on new reprocessing contracts (from 2007 until 2016) stated in the revised nuclear legislation. With the adoption of the so-called “monitored long-term geological disposal” the paradigm of “final disposal” was enlarged by retrievability and controllability. There is no consensus on the procedure. It is to be specified, after broad public involvement, in 2007.

UK

In October 2006 the UK Government accepted CoRWM’s proposals for the future management of IW and HW. There is, therefore, a defined way forward. An implementation process is envisaged based on a willingness by communities to participate supported by partnerships and packages designed to enhance well-being. It is considered this is the best approach to identify a site that is both publicly acceptable and safe. The agreed interim policy is to continue to package intermediate level waste so it can be disposed of using the Nirex Letter of Compliance Process. This is a regulatory requirement. LW suitable for disposal is disposed of at the Drigg repository. A process for identifying future management of LW and reactor decommissioning wastes is being undertaken by the NDA. Meanwhile, legacy wastes from reprocessing are stored at Sellafield and Dounreay and other wastes at nuclear sites.

B-3

**Consideration of process aspects (see [D](#))
Is the DMP explicitly addressed in the RWM policy?**

BE

The siting process that engaged the municipalities of Mol, Dessel and Fleurus-Farciennes to date only deals with so-called “category A waste” (low- and medium-level short-lived). This waste has an average half-life of about 30 years, which will imply monitoring of the disposal site during 200 to 300 years (after 300 years, the waste contains only residual alpha activity). The municipality of Dessel was selected to host this kind of waste.

For HW there is only a research report (“SAFIR”). The respective DMP has to be elaborated yet.

CZ

No entry.

FR

The steps are defined but the DMP for site selection (for repository) or for technical choices are not addressed.

New law: The law project defines a DMP for storage authorization. If research goes on successfully, there will be a law in 2015 about the conditions of reversibility of a storage, followed by a decision of Government (not a law) to authorize the depository, after public debate, public enquiries and consultation of local communities. The depository could begin in 2025.

DE

Not yet.

HU

The Atomic Energy Act stipulates that the final decision should be with Parliament. There is also a possibility for a local referendum.

NL

No.

RO

The ANDRAD Strategy establishes the responsibilities of the organizations involved in the RWM. According to this document, ANDRAD is responsible for public information regarding the specific problems of RWM.

The public can make observations to the EIS. This document is open to the whole public, even on Internet. All observations must receive answers in order to be approved by the Ministry of Environment.

The Local Council of the municipality hosting the disposal site must release the building permit for the facility.

SI

Yes. Public participation and local communities involvement in decision-making process is prescribed in the Act on Environmental Protection as part of the EIP (EIS). This right is also defined in the Aarhus Convention (see reference in "Insights and Recommendations") on the access to information, public participation in DM and access to justice in environmental matters (Off. Gaz., RS, no. 62/2004). Public participation and involvement is part of the National program on radwaste and SF management and is implemented in all documents of ARAO on the mixed mode approach.

ES

No. COWAM Spain is elaborating a DMP.

SE

Generally yes. The R&D plans are announced for consideration by organisations and the public. The EIA process is being carried out according to the Environmental Code prescribing public involvement.

CH

No. A concrete spatial-planning instrument, a so-called sectoral plan, for a coherent site selection procedure, shall be created (in 2006) to be the basis for further work. In 2005 the Federal Minister of the Environment nominated a pluralistic *ad hoc* 5-person Advisory Committee to counsel him on the issue (with four executive politicians, also sceptical towards nuclear, and one CEO of a major utility). The draft plan foresees three distinct stages: 1. Selection of "several" potential siting regions for both HW and LW programmes, 2. Selection of "at least" two sites for each programme, 3. Site comparison and designation, subsequent procedure for general licences for each programme.

UK

The DMP undertaken by CoRWM has been the basis for the elaboration of a national RWM strategy confirmed by government. The next stage in the MRWS process is to set up an Overseeing Body (successor to CoRWM) to manage a staged implementation process. An implementing body (the NDA) will undertake the research and development of the repository. The DMP for implementation is based on volunteerism but with provision for democratic ratification of decisions and the right of withdrawal from the process. The DMP will be elaborated as implementation proceeds through screening, siting, partnership and repository development. The fundamental approach is one of participation, engagement and partnership.

B-4

Is there a systematic reconsideration of strategic RWM options during the DMP?

BE

With the municipality of Dessel being selected for the LIW site, the process is now in the next phase, focusing on the detailed technical design of the site and on the cooperation between Dessel and the neighbouring municipality of Mol. The systematic reconsideration of strategic waste management options during the DMP is possible: use of best available technology, continuity of the public participation on a local level (maybe also on a regional level).

CZ

In the Concept it is considered to replicate the assessment of options in 15 – 20 years.

FR

Parliament could reconsider the strategy in the new law but there is no other appointment foreseen.

DE

No. AkEnd compared different waste management options during development of the AkEnd procedure.

HU

No.

NL

No.

RO

Yes, if it is requested by the Nuclear Agency CNCAN or at ANDRAD's initiative.

SI

The accepting of the National program on radwaste and SF management (every aspect of RWM is included) was debated in the national Parliament, the formal and highest DM body in Slovenia.

ES

Due to past failures there has been much important reconsideration and change in the strategy of RWM in Spain.

SE

No, not in the ongoing process. NGOs demand a reconsideration.

CH

The concept of "monitored long-term geological disposal" foresees a stepwise process with the possibility of recourses. The sectoral plan draft does not include reconsideration but is subject to a wide consultation and inclusive involvement of stakeholders.

UK

Yes, during the CoRWM process for IW and HW all possible options (fifteen with variants) were identified, described and considered. These options were screened to produce a short list of options for assessment. These options were: long term interim storage (six variants); near surface disposal of short-lived wastes; deep geological disposal; phased deep geological disposal. For LW, disposal and storage options (central, local), and recycling are being considered. Although geological disposal was chosen as the favoured option, there is a commitment to flexibility leaving open the possibility that other long-term options could emerge as practical alternatives. Consequently there is a commitment to continuing R & D and to ensuring interim storage that is robust against delay or failure of the repository programme.

B-5

What is the influence of the DMP on the national RW policy: Actual? Expected?

BE

The site selection requires the agreement of the local community (Municipal Council). The model of LC (public participation) can be inspiring for the empowerment of local democracy in handling other social dilemmas.

CZ

No entry.

FR

There is some influence (for example, more time will be given to the research, or studies about reversibility) but not a real influence on the final goal.

DE

No influence intended. AkEnd mandate included the waste management strategy: final disposal in deep geological formations, one repository for all types and amounts of German waste.

HU

The local public has the right of referendum.

NL

Unknown.

RO

No influence until now.

SI

The site will be selected only in agreement with the local communities. The same approach is part of the National program on radwaste and SF management and was accepted by Parliament.

ES

Depending on the outcome of the suggested DMP, there will be an important milestone of national waste management policy. CSF will provide us with the (temporary) storage of HW.

SE

In reality the RW policy was decided by the AKA investigation in 1976. That policy has been confirmed by Government and SKB's R&D plans have been periodically accepted since 1984. The policy will be scrutinized by the Environmental Court when it comes to the question of approving a repository.

CH

Management issues, incl. steps in the DMP, have not been broadly discussed so far (only in expert circles). An analysis of the public consultation on the HW/SF programme (in autumn 2005) might show public expectations. The sectoral plan, publicly reviewed in 2006/7 and to be decided upon by the Federal government in the summer of 2007, should consider that.

UK

The DMP has been fundamental to the development of a national RW policy. It has identified an end state of disposal and outlined a process for implementing the recommendations of CoRWM endorsed by Government.

BII

Current official research strategy

B-6

"Directions/roads/avenues" of research?

BE

– At SCK•CEN, the Belgian Nuclear Research Centre, research on long-term disposal in clay layers is progressing. The research concentrates on performance assessment studies as well as on *in situ* experiments in an underground research lab. Among others, new experiments investigate the behaviour of clay exposed to heat (simulation of heat generation by HW containers). There is more information on www.euridice.be;

– Belgian research on state-of-the-art partitioning and transmutation technologies could bring new insights and opportunities into RWM in general (www.sckcen.be/myrrha/);

– The PISA programme of SCK•CEN (Programme of Integration of Social Sciences in nuclear research) studies issues of transgenerational ethics, long-term governance and deliberative democracy in relation to RWM site selection and follow-up.

CZ

The deep geologic repository is considered according to the concept to be constructed in the CR, but advanced technologies including transmutation should be followed and methodically and financially supported.

FR

Three avenues are defined (separation-transmutation, geological disposal, conditioning and intermediate repository). They are considered as complementary. There is also a demand of the view of a 4th way (sub-surface long term disposal).

DE

Final disposal in deep geological formations.

HU

Final disposal for all waste in deep geological formations.

LIW – planned site of the LIW disposal in Bábaapáti, the site characterisation is in process in granite.

HW – planned underground research laboratory in Boda, research is in progress in an aleurolit formation.

NL

Research plans have to be made.

RO

The current objectives in the research programmes are:

- concluding on the Safety Analysis of the National Repository Baita Bihor;
- site characterization and safety assessment for near surface disposal of the operational waste;
- solutions for the SF storage and geological disposal.

SI

The site selection process should meet two main criteria: a safe disposal solution proved by safety assessment and site selection in agreement with the host community.

Mixed mode approach was selected: technical screening, public participation and local communities involvement in decision-making process, negotiation phase to obtain local communities agreement on further field investigations.

ES

Information, agreement with the stakeholders (political and social), searching candidate, study viability, DM (Centralised interim storage), methodology in progress (COWAM Spain).

SE

Final disposal in canisters at about 500 meters in crystalline rocks. In reality decided by the AKA investigation in 1976.

CH

So far, almost exclusively on final geological disposal. The need for research on non-technical and involvement issues was recognised in a 2004 expert report commissioned by the Federal Office of Energy. In early 2006 the NPPs as major waste producers commissioned ETH with research on non-technical issues (1.5- to 3-year mandate).

UK

United Kingdom Nirex Limited has undertaken significant research since being established in 1982. Extensive research programmes concerning all aspects of DM and long-term waste management options are being undertaken. CoRWM's programme drew on research into options, implementation strategies, DM etc. It covered scientific, social and ethical issues. Expert workshops supporting a Multi Criteria Decision Analysis were held. There have also been workshops on deliberative democracy and on ethical issues which are part of the holistic assessment being undertaken. A research programme will support the implementation process. This will cover alternative options, interim storage and other necessary elements. At present it is foreseen that research will be undertaken by the implementing body under the general direction of the Overseeing Body. However, the areas and responsibilities for research have to be determined as implementation proceeds.

B-7

Research on reversibility of option?

BE

Reversibility has been considered in all the technical options presented by the local partnerships. Technical, economical and social specifications of reversibility of the selected design will have to be considered in more detail in the future.

CZ

No entry.

FR

Yes.

DE

Not really. But following the international debate and development. In the past participation in international projects.

HU
No.

NL
There have been made reports on retrievability. However, what this concept exactly means is not clear.

RO
No.

SI
Not yet. For the moment and for the LIW repository retrievability studies will be performed on request of the local community.

ES
Centralised Storage Facility – Reversibility.

SE
Originally the KBS method was claimed to prevent retrievability. Now SKB claims that this is an option.

CH
During the late 1990s there was a discussion on this in a political *ad hoc* body, albeit with no consensus on the agenda to follow (prolonged storage vs. final disposal). EKRA proposed the mentioned 3rd path of “monitored long-term geological disposal” in 2000 but no research was decided.

UK
Yes, Nirex has and is undertaking research into the ability to maintain a repository in a retrievable state and to retrieve wastes after it is closed. Nirex have developed a Phased Geology Repository Concept in response to stakeholders’ issues and concerns. CoRWM’s proposals recognise that retrievability is an issue for the public and some stakeholders. In view of the fact that closure of a repository is unlikely to occur until at least a century from now CoRWM considers there is sufficient flexibility for retrievability. However, it has left the matter open for further debate.

B-8 Research on retrievability of waste?

BE
See B-7. Retrievability of HW in connection with the disposal in deep clay layers is also subject of (future) research.

FR
Yes.

CZ
According to the Atomic Act disposal is defined as emplacement of waste without the intension to retrieve it – no research on retrievability.

DE
Not really. But following the international debate and development.

HU
No.

NL
No

RO
No.

SI

Not yet. It is seriously considered by ARAO (costs were considered in the strategy). It should come up in local committees if necessary. But for the purpose of LILW repository it is not requested by legislation.

ES

Centralised Storage Facility – Retrievability.

SE

Originally the KBS method was claimed to prevent retrievability. Now SKB claims that this is an option.

CH

It is recognised that some research is necessary to develop the “monitored long-term geological disposal” concept (esp. concerning the pilot facility to be monitored). During the preparation for the feasibility study on HW, Nagra produced a report on (technical) R&D needs on advice by the federal advisory committee KSA.

UK

Yes, including Nirex research and considerations of intergenerational equity. See above.

B-9

Laboratories or sites involved/planned?

BE

For research on LIW see www.niras.be.

For research on HW see www.euridice.be.

CZ

No entry.

FR

Yes. At least two required according to the 1991 Law but only one exists at the moment.

DE

Former laboratory in rock salt shut down due to stability problems. Laboratory planned at the future repository site.

HU

An underground research laboratory is planned (in Boda) as the first phase of the siting of a HLW facility.

NL

No.

RO

Two sites: Baita Bihor and Saligny.

SI

No.

ES

A centralised interim storage. Preferably a site already licensed as a nuclear installation (but not indispensable).

SE

Earlier investigations were carried out in the Stripa mine (earlier an iron mine). Now intense investigations are going on in the Äspö rock laboratory in Oskarshamn, where full-scale tests are made at the proposed deposition depth.

CH

Underground research labs have a long tradition: Grimsel (crystalline) since 1982, Mont Terri (clay) since 1989. Explorations from the surface were carried out in many sites (LW and HW). Wellenberg (LW) was abandoned, Benken (HW/SF) is favoured by Nagra. The Federal government requires an option analysis, on the basis of technical and non-technical criteria, for further focused work. The sectoral plan draft foresees underground investigation in stage 3 for "at least" two sites in each programme (HW and LW, respectively) (see B-3).

UK

There is no site selection process in the UK at this time. A proposal for an underground laboratory at Sel-lafield was rejected in 1997 following a public inquiry. The UK participates in joint research at underground laboratories in other countries. A site selection process will be developed as part of the implementation programme proposed by CoRWM.

B-10

Are there political decisions to be prepared with expected scientific results?

BE

Not for now.

CZ

Yes, the revision of the Atomic Law, initiated by the Senate, was admitted by the Parliament. A revision is expected in 2007.

FR

Yes, in the new law of 2006, which is in the continuity of the 1991 Law.

DE

Yes. According to AkEnd the final designation of the repository site should be taken and/or legitimated/legalized by the German Bundestag, the parliament (or a similar high-ranking constitutional institution). This decision will be based on the results of the scientific and societal site selection procedure.

HU

No.

NL

No.

RO

No.

SI

No.

ES

–

SE

The answer is probably both yes and no depending on how the Swedish situation is judged.

CH

The so-called demonstration of disposal feasibility for HW was under expert scrutiny and in public consultation in autumn 2005. General feasibility was accepted by the Federal government in June 2007. A procedural strategy is under development. The subsequent option analysis shall be based on technical and non-technical grounds as statuted in the sectoral plan.

UK

CoRWM considers involvement of relevant decision makers to be vital to the success of the process as they will be responsible for ensuring proposals are carried forward. Government, local government and

other decision making bodies were consulted throughout the CoRWM process. The recommendations have been fully endorsed by government which will now proceed to implement them. The proposals were also broadly welcomed by decision makers anxious to find a way forward.

Bill

Legislation: Embedding in the regulatory system

B-11

What is the legislative basis? (Acts, regulations, directives, guidelines, etc.)

BE

Radiation protection limits and guidelines are taken up in the "general legislation on the protection of the public, the workers and the environment against ionising radiation", issued by the Royal Decree of 20 July 2001. Basic norms are derived from the European Directive 96/29/Euratom. The legislation makes no mention of guidelines to involve the general public in DMPs.

CZ

The Atomic Law (1997) on the peaceful utilisation of nuclear energy and ionising radiation. Governmental concept on RWM. See www.sujb.cz.

FR

The 1991 Law and the new law of the 28 of June, 2006.

DE

Atomic Act. Specific legislation on site selection probable.

HU

The most important legislation framing RWM is the Act on Atomic Energy No. CXVI of 1996, which replaces the Act 1/1980, the so-called "old Atomic Energy Act".

The Government, in its Decision No 2414/1997, authorised the Director General of the Hungarian Atomic Energy Authority (HAEA) to establish a company entitled as "Public Agency for Radioactive Waste Management" (PURAM). According to this Decision, PURAM takes over the tasks related to collection, treatment, transport, storage and disposal of radwaste of small scale producers from the National Public Health and Medical Officer Service.

Considerations of social-political issues concerning radioactive waste management are given in the Act on Environmental Protection (1995. XIII.). The Act requires assessments of impacts of – among others – major waste management activities in the form of EIAs. The Act calls also for hearings of citizens in local and neighbouring municipalities and other interested groups.

NL

Atomic Act, but this Act will be reviewed this/next year.

RO

The legislative framework consists of:

- Law 111/1996 (republished and modified through the Law 193/2003)
- Governmental Decision 1259/2002 regarding the approval of the National Strategy for the development of nuclear field in Romania and the Action Plan for its implementation
- Law 320/2003 regarding the ANDRAD establishment, the attributions and responsibilities of ANDRAD and licensed organizations, as well as the relationships between them.
- Governmental Decision 1601/2003 regarding the organization and the operation of the National Agency for Radioactive Waste (ANDRAD)
- Governmental Order 844/2004 for the approval of the "National Strategy for medium and long term regarding the radioactive waste and the SF management, including final disposal and nuclear and radiological facilities decommissioning"
- CNCAN Order 14/2000 – Fundamental norms on radiological safety
- CNCAN Order 56/2004 – Fundamental norms for safely management of radioactive waste
- CNCAN Order 400/2005 – Norms for surface disposal of the radioactive waste

SI

Nuclear legislation:

- Act in 2002, amendment to the Act in 2003, 2004:
- repository site by 2008,
- repository in operation by 2013.

Spatial legislation:

- Policy of spatial management, 2001: directives and principles of spatial planning (solving of LIW repository)
- Spatial Management Act, 2002: procedure on approval of location of certain construction
- Regulation on Types of Spatial Arrangements of National Importance, 2003: includes all nuclear facilities and procedure (application for national location plan which defines conditions for acquisition of construction license)
- Strategy of Spatial Development, 2004: gives time constraints for LIW repository and introduce mixed mode approach

Environmental legislation:

- Environment Protection Act (Off. Gaz., RS, no. 41/2004).

ES

Establishment of ENRESA, of CSN and the 5th National Waste Plan.

SE

Up to now the activities of SKB have been evaluated and approved according to the Nuclear Technology Act. The possible permit for a disposal will also be approved according to the Environmental Code.

CH

Atomic Energy Article of 1957 in the Federal Constitution, newly revised NEAct including a detailed Ordinance (in force from Feb. 2005), various technical guidelines, *i. a.* on protection goals for disposal (R-21). The sectoral plan, with requisites for the site selection strategy (to be established), is based on the Law of Spatial Planning.

UK

Command 2919 outlines the UK legislation on radioactive waste management, the UK all adheres to EC and international regulations. The regulatory arrangements are set out by the Nuclear Installations Inspectorate and the Environment Agencies. There is a Radioactive Waste Policy Group (RWPG) made up of government departments and the regulators who have made interim statements on policy while the Managing Radioactive Waste Safely (MRWS) Programme is progressing. The MRWS programme may result in new legislation on various aspects. The implications for planning procedures and processes will need to be considered.

B-12

Is the DMP explicitly addressed in the RWM legislation? Is there a specific procedure codified? (see D-11)

BE

Yes, environmental impact analysis, construction and implementation permits are foreseen. FANC is the regulator. Formal federal and regional procedures exist. ONDRAF/NIRAS already had preliminary talks with the authorities on the Federal and Regional levels to fine-tune the procedures (avoid misunderstandings or surprises) and to inform these authorities about the possibility of a project.

CZ

No.

FR

Not really.

DE

Not yet. A law and a regulation on site selection are in preparation.

HU

Before the beginning of building a new NPP or waste disposal a Parliament Decision in Principle is needed.

NL

No.

RO

The Law 320/2003 established the attributions and responsibilities of ANDRAD and of the licensed organizations, as well as the relationships between them. Better-defined responsibilities are stipulated in the ANDRAD Strategy (Governmental Order 844/2004).

SI

Strategy of Spatial development (2004) introduces mixed mode approach where public participation and local communities involvement in DMP is foreseen. Environmental Protection Act defines the public hearing procedure as part of the EIP (EIA). The "Program for the preparation of the detailed plan of national importance for the LIW repository" which was accepted in 2004 also defines public involvement. But besides formal requests for PI ARAO developed different mechanisms to involve publics in the site selection process through the mixed mode approach such as: mediator, NGO co-operations, local partnerships, etc.

ES

No. COWAM Spain is elaborating a DMP.

SE

The consideration of the R&D plans probably is addressed in the Nuclear Technology Act. The EIA process according to the Environmental Code is a kind of DMP.

CH

See B-4 and B-5. Switzerland has not engaged in strategic environmental assessments (SEAs) which might be an instrument of DMPs.

UK

The UK relies on planning legislation and regulatory bodies for implementation of proposals such as radioactive waste facilities. Planning decisions are taken at local level but ministers may 'call in' proposals for their decision. Stage 3 of the MRWS programme which is about to commence following the government's acceptance of the CoRWM proposals will discuss the decision-making process for siting. The outcomes may be turned into legislation. The SEA and EIA legislation outlines a staged decision-making process that must be followed for projects that could have a significant environmental impact like long-term radioactive waste management facilities. SEA and EIA are not specific to radioactive waste management as they apply to all projects that could have a significant environmental impact.

B-13

Is a systematic reconsideration of strategic waste management options addressed?

BE

Yes: for the LIW siting process (see B-14).

CZ

The Governmental Concept considers a re-evaluation of waste management options in 15 to 20 years.

FR

See B4.

DE

No.

HU

No.

NL
No.

RO
Yes.

SI
Yes, revisions are planned for all important documents and programs as part of the reviewing process.

ES
There has been much important reconsideration and changes in the strategy of management of radioactive waste in Spain, due to past failure.

SE
No, but it is a wish by the NGOs.

CH
No and not foreseen, in spite of the demand by the national environmental NGOs. The sectoral plan (concept under societal discussion) may incorporate respective clauses.

UK
All options have been considered as part of the MRWS/CoRWM programme.

B-14 What are the main decisions to be taken/problems to be solved? By whom? (see C) When?

BE
The decision by Government that LI short-lived waste will be disposed of in a surface repository within the borders of the municipality of Dessel marks the transition from the preliminary design studies phase, which is now concluded, to the design studies phase. These studies will be carried out in the same spirit of dialogue and cooperation that has prevailed since 1998.
During the design phase, the integrated preliminary disposal design will evolve from its current state into a project that is ready to be carried out: a project for which a binding agreement has been reached between all parties concerned, and for which all necessary permits have been obtained. Consequently, the design studies will relate to all aspects of the integrated disposal project: disposal facility, associated conditions, funding and judicial aspects, preparation of the files in connection with the nuclear and non-nuclear permit requests, *etc.*
The continuation of the participatory process and the partnerships' central role are crucial in the future programme. Both partnerships and municipalities are of the opinion that even after choosing one integrated disposal project within the borders of one of the two municipalities, the other municipality and its partnership should be able to participate in the subsequent DMP. To ensure equal treatment of the interests, an appropriate participation model will be developed for this new phase.

CZ
Procedure of permit survey areas (Ministry of the Environment, 2009).

FR
The new law of 2006 rests with the same research avenues of 1991.
The new law indicates that the storage is the "reference solution" ("solution de référence"). In 2015, decision by Parliament and government.

DE
Decisions to be taken during the siting process and the decision makers are defined by the specific goals of the procedural steps.

HU
The Document on Establishing the Public Agency for Radioactive Waste Management (PURAM) was compiled with due regard to the provisions above, that – if all the other conditions defined in the Company

Law met – had been submitted to the Director General of the HAEA as the Founder to the Court of Registration. By that way, PURAM was set up on June 2, 1998.

Government, authorised by the Clause "f" in Art. 67 of the Act, clarified the basic tasks of the Public Agency in its Decision No 240/1997 (18 December). According to that, the tasks of PURAM could be grouped as designing, implementation, radioactive waste management and activities relating to the decommissioning of nuclear facilities. Moreover, the Public Agency shall be kept in operation as a company. The rules and procedures of the Fund are controlled by the ministerial Decree No 67/1997, which was issued by the Minister of Economic and Transport (supervising the HAEA), in agreement with the other ministers involved.

On 21 November 2005 the Hungarian Parliament took a Decision in Principle to make preparations for the establishment of a radioactive waste repository for low- and medium-level radioactive waste, on the one hand, and on the extension of the operational lifetime of the Paks Nuclear Power Plant, on the other hand. The resolution reads as follows: "Under Act CXVI of 1996 on Atomic Energy, Article 7, Section (2) the Parliament approves, preliminarily and in principle, to initiate activities to prepare the establishment of a radioactive waste repository for low- and medium-level waste in the administrative area of Bataapati, in the region of Bataapati (Uveghuta), in a territory which was previously assessed suitable from geological point of view. The Parliament takes note of the information to extend the operational life time of the Paks Nuclear Power Plant, as a solution necessary for the country's long-term and safe provision with electric energy."

In 2005 the four Information Associations began a joint lobbying process for the modification of the Atomic Energy Act with the need of the broader availability of the state subsidies. The former regulation permitted only the financing of communication activities. On 20 December 2005 the Parliament accepted this modification. The new regulation authorised the Associations to use the subsidies also for other purposes, including municipal services as well as local and regional development tasks.

NL

As there are no plans for retrievable disposal, this question cannot be answered.

RO

Improvement of the legislative and regulatory framework:

- ANDRAD proposed modifications and improvements of the Law regarding the safe management of spent fuel and radioactive waste in Romania. It was approved by the Law 26/2007, which among other provisions foresees the creation of the financial resources requested for radioactive waste management and decommissioning of nuclear facilities and the principles for the funds creation. A future Governmental Decision will establish in 2007 the quantum of the contribution that should be paid by the radioactive waste producers.
- RW characterization and a national database with all radioactive waste characteristics: ANDRAD responsible – 2006 to 2008.
- Completion of the Preliminary Safety Report for the operational LIL waste disposal (ANDRAD, INR, CITON) – end of 2006.
- Licensing of the LIW repository (ANDRAD, CNCAN, INR, CITON) – 2007.
- Strategy for the final disposal of the spent fuel and other long-lived waste (ANDRAD, INR, CITON) – 2010 to 2014.

SI

Technical and social acceptance of repository site for LIW by 2008. ARAO, experts and local communities. Local partnerships are established and provide a framework for public involvement and participation in the decision-making process. The local partnerships consider the characteristics and expectations of the individual local community; for each of them the form and mode of work, decision-making contents, mode of independent studies, consultations and verification, time dependence and results of cooperation on individual steps are individually defined.

ES

Return of glass containers from France (2010); from 2012 on the existing fuel ponds will reach full capacity. SF: Centralised Storage Facility. Deciders: Ministry of Industry (Authorization); Town Council (License or Permission); Ministry of Environment (EIA), and CSN, Autonomous Regions.

SE

The main decisions are to be taken by Government and the Environmental Court, maybe within 10 years.

CH

A. Concept of sectoral plan (Rules/criteria for site selection) (all indications according to draft):

- Consultation in the summer of 2006: workshops, focus groups
- Formal comment phase from Nov. 2006 with authorities of all levels (incl. abroad) and interested organisations
- Decision by government in mid-2007 (general feasibility of HW repositories accepted, see A-2)

B. Implementation (only main decisions): Selection of least 2 sites by 2019, (probable) national referendum in 2020, general licence in 2021, operation planned by 2030 (LW) and 2040 (HW)

UK

The basic decision on the long-term option (geological disposal with robust interim storage) has been accepted. The basic principles for implementation of the option (willingness to participate, staged process, development of partnerships democratic ratification) have also been accepted. The process now proceeds to implementation. Options for LW management will also be considered.

C THE ACTORS

C-1

Roles and responsibilities

Is there a clear distribution of responsibilities and roles of different actors in the national RWM?

BE

Yes. Key players currently involved in DMP and their respective tasks are the following:

ONDRAF/NIRAS:

- authorised RWM (and related policy) agency
- public information (national)

stakeholders – through the partnerships and eventual follow-up structures:

- local representation/policy
- proposals of pre-designs of disposal sites
- public information and communication (local)

Federal Agency for Nuclear Control (FANC):

- safety authority (national)
- public information (national, not “active”, only via website)

CZ

There is a clear distribution at the level of the national actors.

FR

Yes, at least at the level of the national actors.

DE

Not really, regarding the distribution of responsibilities on the national level. Re-distribution of responsibilities is intended.

HU

Partially. PURAM is the implementer. HAEA is responsible for most regulatory tasks, but at the same time it is the main policy maker in the field of RWM.

NL

No.

RO

Yes.

SI

Yes. ARAO is the government agency responsible for radioactive waste management and therefore the main actor in the site selection process and DMP. Slovenian Nuclear Safety Administration, Ministry for Environment and Spatial Planning, Slovenian Radiation Protection Administration and other competent authorities which issue the approvals and permits. Local community/ies, NGOs, other interested parties according to the Aarhus convention.

ES

ENRESA has the responsibility for radioactive waste management. The legislation process is clear in so far as it describes all phases of the DMP and respective responsibilities. COWAM Spain is developing a DMP aiming at coherence of the needs to manage the radioactive waste, the official institutions and potential nesting communities. A Parliament agreement exists to demand a solution from Government. Government elaborates policy. This has to be followed by the implementer ENRESA. CSN regulates and informs on inspections.

SE

Yes.

CH

The waste producers established a management company called Nagra in 1972 to take care of the final disposition of the waste. With reference to the polluter-pays principle the state has so far abstained from any leading role in RWM (basically given by the International Waste Safety Convention). Their Interdepartmental Working Group on Radioactive Waste Management (AGNEB) is the co-ordinating body within the Federal administration but not resourced to undertake this part. – Concerning the “strategic” DMP issues, the government appointed a pluralistic political Advisory Committee to prepare work for the sectoral plan (see B-3), which is planned to form the guardian, the standing committee to oversee the entire programme.

UK

The actors – regulators, planning authorities, waste management companies, government – have clearly defined roles. There may be some role conflict or overlap (e.g. among regulators, between central and local government, between national and devolved administrations).

CI

Formulary stakeholders

C-2

Waste implementing organisations

BE

ONDRAF/NIRAS is the Belgian Agency for Radioactive Waste and Enriched Fissile Materials. Through a mandate by the Belgian government, this public agency manages all the radioactive waste located within Belgian borders.

CZ

RAWRA (Radioactive Waste Repository Authority).

FR

ANDRA.

DE

BfS, DBE (on behalf of BfS).

HU

PURAM (Public Agency for Radioactive Waste Management).

NL

Centrale Organisatie Voor Radioactief Afval (COVRA).

RO
ANDRAD.

SI
Agency for Radwaste Management (ARAO).

ES
ENRESA.

SE
SKB.

CH
Nagra (National Cooperative for the Disposal of Radioactive Waste); Federal Office of Public Health (responsible to collect the waste from medicine, industry, and research, MIR); ZWILAG to process and store waste from NPPs, PSI to store MIR waste.

UK
UK Nirex has the following Mission Statement: "In support of Government policy, develop and advise on safe, environmentally sound and publicly acceptable options for the long-term management of radioactive materials in the UK." Nirex is to be transferred to the NDA which will now assume responsibility for both the short- and long-term management of nuclear wastes. CoRWM will be reconstituted to provide advice on the plans for long term management.

C-3 Main waste producers

BE
Electrabel, Belgonucléaire, FBFC (fuel assembly manufacturer), SCK•CEN, IRE Fleurus (isotope production), hospitals, university research labs.

CZ
ČEZ (operator of the NPPs).

FR
EDF (NPPs), CEA (research, industry, military waste) and COGEMA (reprocessing).

DE
Nuclear energy industry.

HU
NPP Paks, 2 research reactors in Budapest, hospitals.

NL
NPP Borssele, research reactors Petten and Delft.

RO
Cernavoda NPP, IFIN-HH and RAAN-SCN (research centres with research reactors), Fuel Fabrication Plant, National Company of Uranium (CNU).

SI
NPP Krško. Very little waste comes from industry, medicine and research centres. The waste is stored in the Centralized Interim Storage Facility operated by ARAO.

ES
NPPs and the radioactive installations (Research Centres, Hospitals, Industries, etc.).

SE
Nuclear reactors for different purposes, dominantly electric power. Some other limited sources.

CH

5 NPPs (with <3000 MW_e power), <5 vol % from MIR producers (including PSI).

UK

The UK reprocesses most of its SF. Therefore the Sellafield nuclear site is a major producer. But wastes are also generated by power plants, research, defence, *etc.* and increasingly as decommissioning proceeds. The organisations which produce waste include nuclear generators, universities, hospitals, the Ministry of Defence. The remediation of old nuclear sites will also create large amounts of waste. This is being overseen by the Nuclear Decommissioning Authority. There has been considerable reorganisation within the nuclear industry including privatisation and contractorisation.

C-4 Regulatory bodies

BE

The regulator FANC: set up by law of 1994-4-15, operational from 2001-9-1, only active upon formal application (by ONDRAF/NIRAS). It is a public institution with technical and juridical expertise. FANC is responsible for licensing and monitoring all nuclear activity and nuclear pollution.

CZ

SUJB (State Office for Nuclear Safety).

FR

Nuclear safety authority.

DE

BMU.

HU

Hungarian Atomic Energy Agency (HAEA), Ministry of Health.

NL

Ministry of Environment is the central organ.

RO

CNCAN.

SI

Slovenian Nuclear Safety Administration, Slovenian Radiation Protection Administration, ministries, Environmental Protection Agency, *etc.*

ES

Consejo de Seguridad Nuclear, CSN.

SE

Swedish Nuclear Power Inspectorate (SKI), Swedish Radiation Protection Authority (SSI).

CH

The Federal Office of Energy organises the licensing process, prepares licences, and issues regulatory guidelines. HSK is the Nuclear Safety Inspectorate and issues technical regulatory guidelines, issues clearances, technically prepares licences, supervises facilities, reviews proponents' projects. The Ministry, the Department of the Environment, Transport, Energy and Communication, decides on the licences.

UK

There are 3 main regulators who oversee radioactive waste in the UK:

- The Nuclear Installations Inspectorate (NII) which is part of the Health and Safety Executive (HSE) is responsible for looking at health and safety issues on nuclear sites.
- The Environment Agency is responsible for the protection of the environment by regulating discharges from sites in England and Wales.

– The Scottish Environment Protection Agency (SEPA) is responsible for the protection of the environment by regulating discharges from sites in Scotland.

C-5 Research institutions

BE

SCK•CEN (Belgian Nuclear Research Centre), IRE Fleurus, various smaller research labs in industrial companies, hospitals and universities.

CZ

ŘEŽ (Nuclear Research Institute) and ČVUT (Technical University in Prague).

FR

ANDRA, CEA and CNRS.

DE

FZK, FZJ, FZR, GRS, GSF, universities.

HU

Budapest Technical University (Central Research Institute of Physics), Atomic Energy Research Institute at Hungarian Academy of Sciences, National Geology Survey.

NL

Nuclear Research Group (NRG) in Petten, Reactor Institute Delft.

RO

Institute for Nuclear Research (INR), Nuclear Engineering and Design Centre (CITON), Institute for Physics and Nuclear Engineering (IFIN-HH).

SI

Jozef Stefan Institute (IJS), Slovenian National Building and Civil Engineering Institute (ZAG), Geological Survey Institute (GeoZS).

ES

CIEMAT; CSIC; CEDEX; ITGE; Spanish Universities; Companies: Aitemin; Inasmet; Quantisci; DM Iberia; Unesa; Initec; Inima; Geocisa; Geocontrol; International Waste Management Organizations.

SE

SKB and some university institutions.

CH

Nagra, Paul Scherrer Institute (PSI), mainly commissioned by Nagra, some university departments.

UK

Various but the main body of research resides with UK Nirex Limited. Research also involves universities and consultants under contract to industry and Nirex.

C-6 (Other) expert institutions

BE

FANC (Federal Agency for Nuclear Control), Belgian Nuclear Engineering Network (a joint initiative of 5 Belgian universities and a partner of the European Nuclear Engineering Network).

CZ

Czech Academy of Sciences.

FR

IRSN, CNE (National commission for evaluation).

DE

RSK (permanent), SSK (permanent), AkEnd (1999-2002). Established by BMU. Members are appointed.

HU

None.

NL

None.

RO

GEOTEC, University of Bucharest.

SI

University of Ljubljana (Faculty for Social Sciences, Department of Psychology...), ZVD (Institute of Occupational Safety, IBE (largest independent consulting engineering company).

ES

CIEMAT, Instituto Tecnológico GeoMinero (ITGE) (Geological Survey of Spain).

SE

No institution only treats nuclear waste. Related issues are handled by, e. g., the Geological Survey and the Geotechnical Institute.

CH

Swiss Federal Nuclear Safety Commission (KSA): permanent advisory committee to the Federal Council, "second opinion" to HSK (plan existent to be dismissed); Commission on Radioactive Waste Disposal (KNE): permanent advisory committee to HSK in geoscientific matters. Both nominated by the Ministry of Environment in charge (DETEC) and appointed by the Federal government.

UK

The UK has various expert institutions including the Royal Society, British Geological Society, Royal Commission on Environmental Pollution, Parliamentary Office of Science and Technology, etc. There was also an expert panel set up by government to review CoRWM's scientific work.

C-7

Committees: Terms of reference? Advisory (to whom)? Authorised? Permanent? How are their members nominated?

BE

During the preparatory process in the run-up to the site selection, the partnerships were organized in a way that enabled them to operate as open, independent discussion and work forums. It is expected that the partnerships MONA and STORA will continue their work in a similar way in the future:

Representativeness

The partnerships were representative of the community in which they were based. Great care was taken to ensure that all local stakeholders, in a broad spectrum of fields, were represented: political, socio-cultural, environmental and economic. Ordinary members of the public and representatives from outside the municipality could also participate. Some 70 to 80 people were involved in each partnership, all on a voluntary and unpaid basis. Two paid employees were responsible for coordinating activities.

Democratic and autonomous working practices

Each partnership had a general assembly, a management board, two staff and several working groups. A representative from ONDRAF/NIRAS assisted each working group. A specialist from the University of Antwerp (MONA and STOLA) or the University of Liège (PaLoFF) provided advice on methodology. If it was considered necessary, each working group could also call on independent experts.

Autonomous decision-making

Each partnership was free to terminate its activities at any time. It also decided autonomously what recommendations to make to the municipal council regarding a potential project. The fact that a partnership

existed in no way committed the municipality concerned to accept that a repository would actually be built within its borders.

Location within the community

For both practical and symbolic reasons, the headquarters of each partnership were located in the heart of the community concerned.

CZ

Board of RAWRA, specified by the Atomic Act.

FR

CLIS (created by 1991 Law), 93 members representative of the state authorities, the local elected councils (regions, departments, communes), the social and economic area (professional organizations and trade unions), and the associations for environment (including opponents).

CNE: scientific committee designed by Government in 1991 and replaced if necessary.

DE

RSK (permanent), SSK (permanent), AkEnd (1999-2002). Established by BMU. Members are appointed.

HU

Information Associations in four affected regions, established by local municipalities (for details see WP 1 Roadmap).

NL

None.

RO

None. Only an Initiative Committee in Černavoda town.

SI

Local co-operations (partnerships) are defined by the needs of the LC, having defined the mode and content of co-operation, the timetable, the DM and results of different steps in the partnership. Presently in two local partnerships they are having committees for sustainable development, technical issues, for environment and health, limited land use, to comply with the Aarhus Convention and to investigate renting out an abandoned mine in their local community for a disposal of radioactive waste. In one local partnership there is a steering committee, in the other a coordinating committee.

ES

On 2006-6-23 an Interministerial Committee was created to establish siting criteria for the planned central interim storage facility. It is chaired by the Spanish Secretary General of Energy. It is to be supported by a technical Advisory Board. This technical body will have to manage the technical work and to solve any technical question during the process. This body (Oficina Técnica de Apoyo) will be composed by experts of different disciplines coming from different Spanish universities.

SE

KASAM (National Council for Nuclear Waste), an advisory expert group put up by Government and affiliated to the Ministry of Environment.

CH

See C-6. KFW, the Cantonal Expert Group Wellenberg, was the advisory body to and appointed by the Cantonal Council of Nidwalden (dismissed in Sept. 2002 after the second negative vote on the potential site). There was a host of other (temporary) bodies, e. g., the mentioned EKRA.

Local liaison committee(s): bodies at the potential sites (Wolfenschiessen in the case of Wellenberg, Benken in the case of the HW programme) with representatives of the Federal Administration, the respective canton and the municipality (no special technical competence, mandated for the duration of the projects, nominated by the Office of Energy), no power.

The affected communities around Benken (see B-9) unified to the "Forum Opalinus" and forced the Office of Energy and Nagra to commission a study on socio-economic development, at their own terms but at Nagra's expense (released in 2006).

UK

The Committee on Radioactive Waste Management (CoRWM) was set up in 2003 to oversee an evaluation of long-term waste management options for IW and HW. Its ToR focus on recommending the option or combination of options, that can provide a long-term solution to radioactive waste providing protection for people and the environment. It is an independent committee but advisory to ministers for Environment in England, Scotland and Wales. It is a short-life committee (2003-2006). Members were selected on basis of interview. Membership of 13 (now 11) covering a wide range of disciplines/interests. The committee will be reconstituted with new terms of reference to provide advice on RWM and 'other matters'. It will, therefore, replace the Radioactive Waste Management Advisory Committee (RWMAC) which was placed in abeyance in 2003. RWMAC was a scientific expert committee with members nominated by the Secretary of State for the Environment. It provided advice on a wide range of matters relating to radioactive waste. It was a standing committee. – There are also bodies representing specific stakeholder groupings, notably local authorities. These include the Nuclear Free Local Authorities (NFLA) and the Nuclear Legacy Advisory Forum (NuLeAF).

CII

Societal stakeholders

C-8

Contentiousness of issue

What is the overall attitude towards nuclear energy? (source of information)

BE

50 % yes, 48 % no to nuclear power according to the Eurobarometer 227 of 2005.

CZ

According to the Eurobarometer No. 227 of June 2005 it is 61 % of the inhabitants that support nuclear energy.

FR

90 % of MPs are in favour. The public is generally passive but some defiance exists (52 % in favour, 41 % opposed according to the Eurobarometer 227 of 2005).

DE

According to polls there is a rather stable anti-nuclear attitude among the German population (e. g., 59 % in the Eurobarometer 227 of 2005, 38 in favour).

HU

More than six out of ten citizens support this type of energy in Hungary (65 %), Sweden (64 %), the Czech Republic (61 %) and Lithuania (60 %). It should be noted that these countries follow a different nuclear policy (Special Eurobarometer 227, 2005, pp. 27/28). Around two-thirds of respondents consider that the deep burial of HW represents the best solution in Finland (68%), Estonia (67%) and Hungary (64 %) (*ib.*, p. 75).

On the territory of the planned HW repository 38 % of the population is pro and 45 % against the new investment.

In Bataapáti region, where the new LIW repository is going to be built, 60 % of the population is pro and 18 % against the new site.

NL

There is a majority, although declining from 90 % in 1986 to 65 % now against the building of new NPPs in the Netherlands (opinion polls). It is 44 % according to the Eurobarometer 227.

RO

Favourable (mass media review).

SI

Neutral. Information for the public provided by ARAO, NPP, and a special information centre for nuclear energy at the Institute Josef Stefan. It is 54 % against and 44 % in favour of nuclear power according to the Eurobarometer 227.

ES

71 % are against and 16 % in favour of nuclear power according to the Eurobarometer 227, the most extreme figures among the COWAM 2 countries.

SE

Polls now show a moderate pro nuclear attitude (it is 64 % for, 33 % against according to Eurobarometer 227). Earlier the attitude was generally against.

CH

As shown in regular polls predominantly negative, albeit with decreasing vigour. According to surveys NGOs and independent technical and university institutions receive the highest degree of trust. The opposition culminated around the planned site of Kaiseraugst near Basel (1970s) and after the Chernobyl accident in 1986 – 1990.

UK

For a period it has not really been an issue. Assumed opposition and lack of commercial interest has taken it off the agenda. There has been a period of relative calm on the nuclear front. However, the nuclear lobby is flexing its muscles perceiving an opportunity in the global climate change debate. The political environment is perceptibly shifting towards a more favourable attitude to nuclear. New build, at least to replace existing capacity, is back on the agenda and it is unclear how much resistance there will be. Radioactive waste is one of the key drawbacks to nuclear at present. According to a Eurobarometer 227 poll in 2005 44 % are in favour of, whereas 41 % opposed to nuclear power with a relatively high share (15 %) of “don't knows”. However, there are strong preferences for solutions other than nuclear power promoting renewables, changes in lifestyles and energy efficiency.

C-9

Political parties against nuclear? Political weight?

BE

French speaking and Flemish speaking Green Parties (share typically around 5 %). The Flemish Green Party is currently member of the national coalition. The Socialist party is “officially” against nuclear but opinions vary among the member politicians. Christian Democrats speak out in favour. Liberals are in favour but do not say it openly. Of course, also here, opinions vary among the members of the parties.

CZ

The Green Party, is a member of Government from June 2006 when the parliamentary election took place. But there is new process of forming a new government. It is not clear in what position the Greens will participate.

FR

Green party (with a share of between 5 and 10% depending of the election, not so important unless it participates in a unified leftist government).

DE

Yes, Green Party and Social Democratic Party. Changing, Greens and Social Democrats formed the former Federal government. Social Democrats member of actual Federal government coalition. Political parties pro nuclear are opposing a new siting process according to the AkEnd proposal.

HU

Hungarian Green Democrats (not represented in Parliament).

NL

Social Democrats, Greens, Socialist Party, Party for the Protection of Animals, and Christian Union. Resulting from the election of November 2006 they count 76 of the 150 seats in Parliament. The new government of Social Democrats, Christian Union and Christian Democrats, that was formed in February 2007, states in its Coalition programme that the next 4 years no new nuclear power plant should be build in the Netherlands, but that the Borssele NPP will stay open until 2033. No word on nuclear waste disposal or storage is mentioned in this Coalition programme.

RO

None.

SI

No. The Green Party is not very strong at the moment. There is no tradition of opposing nuclear energy, and previous attempts to use nuclear for political lobbying failed.

ES

Socialist Party, PSOE (165) (against); (Conservative) Popular Party, PP (148) (in favour); Catalan Party Convergència i Unió, CIU (10) (in favour); Catalan left-winged party Esquerra Republicana de Catalunya, ERC (8) (against); Basque party EAJ-PNV (7); United Leftist Party, IU (5) (against); Canarian Coalition, CC (3); Grupo Mixto (against).

SE

For the moment only the Green party and the Left party are clearly against. It is a delicate matter to judge the degree of pro or against nuclear energy within the other parties. Formally almost all claim that nuclear power should be phased out.

CH

The Social Democrats and the Green Party are opposed. Many followers of Christian Democrats are also against nuclear. This is about one third of the population. In this factual issue political parties do not play an eminent role.

UK

There are no official positions. Traditionally, the Conservatives are broadly pro-nuclear although this is no longer clear. Labour, too, is divided. The Government is prepared to give a green light to replacement nuclear stations provided there are private investors willing to put up the funds. The Liberal Democrats tend to take an anti nuclear line. Nuclear energy is not a major issue but may well become so. The previous anti-nuclear discourse has shifted but it is unclear whether it has shifted sufficiently to favour nuclear. Anti-nuclear groups have declined but a proposal for a new nuclear facility may revive their interest in the issue.

C-10

Associations/NGOs opposed to nuclear? Degree of opposition (fundamental, incremental, etc.)?

BE

BBL ("Bond Beter Leefmilieu"), Greenpeace Belgium and several smaller groups ("fundamental" in the sense of "principal").

CZ

Greenpeace and some smaller NGOs (Calla, Rainbow (Duha), South Bohemian Mothers ...).

FR

Totally against are Greenpeace and Sortir du nucléaire. Many NGOs consider the information not to be sufficient and the level of trust in authorities is low.

DE

Yes. The attitude of associations depends on their aims and values, and, thus, is different for different associations, but major environmental NGOs strictly opposing nuclear.

HU

Hungarian group of Greenpeace. They have not a long tradition in Hungary. They organised some demonstration against Paks NPP. They are not participating in the professional debate about the nuclear issues. – Energia Klub (Energy Club) is one of the oldest NGOs in Hungary. They are the discussion partner of the official nuclear policy makers. They have some good specialists in this field.

NE

All environmental organisations are against nuclear energy. The level of opposition is rather low, there are no large demonstrations.

RO

Terra Millennium III: fundamentalist opposition, ARIN (Romanian Association of Nature Friends): ecological organization with mild anti-nuclear attitude.

SI

There are some local civil initiatives while the siting is going on very actively. They have local characteristics and are bound to the local area involved mainly through the local media. They are focused against mayors of local communities which applied in the siting process and are heading for local elections in 2006. They are very small in number – basically 5 very active persons, some with police records for violent actions.

ES

Environmental groups; trade unions. Ecological associations.

SE

All environmental NGOs oppose nuclear power. There are all levels of resistance from immediate stop to relatively slow phase out. The latter dominates.

CH

All major environmental NGOs are opposed to nuclear (*i. a.*, WWF, Greenpeace, Swiss Energy Foundation) as are major regional movements. They advocate a stepwise phase-out of nuclear power.

UK

The main campaigners against nuclear are Greenpeace and Friends of the Earth. Opposition is less intense since numbers of campaigners have declined though there are signs of some revival in the present climate. Opposition tends to be mobilised around 'live' issues e.g. THORP [mixed-oxide fuel plant], proposals for shallow repositories etc. Opposition is a broad coalition of cross-cutting alliances with different values uniting on one goal. Site specific issues generate local citizens' action groups, for example Cumbrians opposed to a Radioactive Environment (CORE) and Scotland Against Nuclear Dumping (SAND).

C-11

Local/regional level

Municipal associations: Scope? Role institutionally recognised?

BE

In Belgium stakeholder engagement is primarily focused on the siting of a LIW repository and realised through the setting up of local partnerships in volunteering communities. The decisions taken in the partnerships are related to a specific locality. The municipalities involved have a right to veto (but this is not legally rooted). The decision on the siting issue is first taken by the partnerships, followed by the municipal councils. The final decision rests with the federal government.

CZ

No.

FR

No.

DE

Without a siting procedure, there are no active municipal associations. Some local/regional associations are participating in the general debate about future of nuclear. The attitude of existing associations depends on their aims and values, and, thus, is different for different associations.

HU

There are Information Associations in four affected regions, organised by local municipalities: Isotope Information Association in Püspökszilág (existing LIW), Social Control and Information Association in Bataapáti (planned LIW), Social Control and Informative Association inn Paks (NPP and ISFS), West-Mecsek Social Information Association Boda (planned HW). The roles of the local stakeholders are the following:

- collect and backup the relevant information

- communicate with people
- organize topical talks for public understanding.

NL
No.

RO

AGIA: local organization fighting for the development and environmental improvement in Černavoda town.

Černavoda Zone: NGO representing the interests of the municipalities surrounding Černavoda NPP and the Saligny site in the dialogue with national authorities regarding the siting of new nuclear facilities in this area.

SI

Local committees are established and tailored according to their needs. The process foresees the possibility of new committees if there is interest or need. The local municipality will have a major role in the decision for or against the repository on their territory.

ES

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SE

The municipalities have a possible legal right to veto against a nuclear waste disposal, but that can be overridden by Government. The two municipalities pointed out, Oskarshamn and Östhammar, cooperate, but at the same time they compete to get the repository. Recently the social democrats in Oskarshamn have declared that they want the repository in Oskarshamn.

CH

The local level has no say in this federally regulated issue. The cantonal (state) level, nevertheless, can be quite powerful because its rights are protected by the Constitution (see position of Nidwalden in the Wellenberg case). Due to the small size of the country, in terms of citizen-friendliness cantonal interests may be compared to municipal interests in large countries.

UK

Local government has a key role. Local authorities are planning authorities and proposals are made to them. The minister has powers of 'call in' and decision on appeal. In the past, local government has been at the forefront of local opposition, e.g. against repository proposals in 1980s and in opposing the Sellafield laboratory in the 1990s. Local government has both an institutional and a political role. Local government representatives, of both nuclear and non-nuclear communities, have formed a Special Interest Group (of the Local Government Association) to ensure a coordinated response on radioactive waste and decommissioning issues. The group is now called NuLeAF: The Nuclear Legacy Advisory Forum. There is also the Nuclear Free Local Authorities (NFLA) group which is made up of representatives of local governments who are opposed to nuclear energy. Both groups act as a resource to local authorities and coordinate inputs from local authorities to national debates.

C-12

Industrial associations?

BE

The utility Electrabel speaks out in favour of nuclear again in debates and conferences. Although they own seven NPPs, they refrained from doing in the past because of the political "link" to the Belgian government. Recently, Electrabel announced the construction of a new NPP on French territory.

CZ

The operator of the NPPs provides quite a huge amount of information and other sources to promote nuclear and also supports some pronuclear groups (South Bohemian Fathers).

FR

There are only big public industrial companies which build a common position without the need of formal associations.

DE

There are industrial associations opposing the implementation of a new siting process.

HU

No.

NL

No.

RO

ROMATOM: organization representing and sustaining the Romanian nuclear industry and its interest.

SI

In December 2006, the nuclear industry joined the Nuclear Forum.

ES

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SE

Generally the industry organisations promote nuclear power.

CH

Swissnuclear (formerly Swiss Association for Atomic Energy), the Association of Swiss Electricity Companies (Swisselectric), and the Swiss Employers' Federation are most influential in (promoting nuclear) energy policy.

UK

The nuclear industry and relevant associations (e.g. British Nuclear Energy Society) play a prominent role in promoting the case for nuclear energy.

C-13 Others?

BE

The Federation of Enterprises in Belgium has been a pro-nuclear advocate throughout the debates on the nuclear phase-out.

CZ

No.

FR

No.

DE

Without a siting procedure, there are no specific associations being active.

HU

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NL

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RO

AREN: professional association, promoting nuclear energy.

SI

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ES

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SE

NGOs of different kinds, mostly national or local.

CH

There is a plethora of regional and local citizens' groups whose activities depends on the topicalities, *i. e.*, whether site debates take place.

UK

Other stakeholders are less engaged but are consulted (e.g. environmental conservation groups). At times when specific proposals are being considered there is widespread consultation with citizens' action groups and other stakeholders.

D

DECISION MAKING

DI

Substantive principles and goals

D-1

Types

Are there defined overall principles and goals/objectives of DM? *E. g.*: Problem formulation? Protection, of whom, what? Type of option? Domestic/international? Others? On what grounds?

BE

Safety and the creation of societal support through public involvement have been the central principles of the DMP in Belgium. According to ONDRAF/NIRAS, "... [t]he solution had to consist of a disposal facility (surface disposal and/or deep disposal), integrated in a broader societal project, consisting of a set of associated conditions, that offered added value to the municipality and/or region concerned".

CZ

Protection of man and environment, safety, transparency, public information.

FR

Protection of man (including future generations) and environment, safety and reversibility, transparency, public information.

DE

Yes, for the site selection procedure. Based on German radioprotection legislation and considerations of AkEnd. Final Disposal of German waste in Germany.

HU

No.

NL

No.

RO

No.

SI

Consensus on site selection (other decisions also during the repository construction and later operation) should be agreed by all stakeholders (given earlier in this text), based on the Aarhus Convention and the EIA process.

ES

[Goal:] Increase probability of success.

The methodology must assure participation, clear steps to be followed and freedom to decide.

SE

These questions could probably be answered, but not by the respondent.

CH

- Protection of man and environment, “at any time”, *i. e.*, of present and future generations (according to the NEAct, the Radiological Protection Act, and the Guideline R-21 on protection goals);
- “Safe and permanent [final] disposal” (NEAct);
- Causality (Polluter pays) principle (NEAct), so no “state solution” should be envisaged except for the case below;
- Domestic solution, *i. e.*, to enforce such a programme even if – in the worst case – the waste producers were not willing or able to do so (Radiological Protection Act, IAEA Waste Safety Convention preamble);
- Oversight and, if needed, correction of the disposal programme (NEAct);
- Validation of safety analyses (Guideline R-21);
- Long-term monitored geological disposal (so-called “EKRA concept”, to reconcile passive safety with – limited – *in situ* monitoring) (NEAct);
- Effective separation of functions, independent regulatory body (Nuclear Safety and Waste Safety Conventions);
- Adequate and competent staff and resources (Nuclear Safety and Waste Safety Conventions)
- Public participation (NEAct, Aarhus Convention).

The concept of the site selection procedure is currently under broad public discussion.

UK

The authorities establish a set of regulatory principles and criteria which must be met by the industry. These may be advisory or mandatory. CoRWM has set five fundamental principles which underlie its process and DM. In brief these are:

- to be open and transparent;
- to uphold the public interest by taking full account of public and stakeholder views in our DM;
- to achieve fairness with respect to procedures, communities and future generations;
- to aim for a safe and sustainable environment both now and in the future;
- to ensure an efficient, cost-effective and conclusive process.

Nirex and the NDA both have Transparency Policies in which they commit to being open and transparent and engaging with stakeholders.

D-2

Authors

Who defined them? (see ) Was there a public debate?

BE

ONDRAF/NIRAS, on request of the Belgian government, outlined the principles for the site selection (mainly based on the negative experiences with the past “technocratic approach” – see A). There has only been a public debate with the local population of the candidate communities. A public debate on a broader level (*e. g.*, national) has never been considered.

CZ

Parliament and government: Atomic Act, the Governmental Concept on radioactive waste management.

FR

Parliament and government. A public debate limited to 4 months was organized by the National Commission of Public Debate (for the first time) in 2005/6.

DE

As far as not fixed in legislation: AkEnd. Yes.

HU

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NL

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RO

None.

SI

Conventions:

- Convention on the Physical Protection of Nuclear Material, Off. Gaz. RS/92
- Convention on Early Notification of a Nuclear Accident, Off. Gaz. RS/92
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, Off. Gaz. RS/92
- Convention on Nuclear Safety, Off. Gaz. RS/96
- Treaty Banning Nuclear Weapon Tests in the Atmosphere in Outer Space and Under Water, Off. Gaz. RS/92
- Treaty on the Non-Proliferation of Nuclear Weapons, Off. Gaz. RS/92
- Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction in the Sea-Bed and the Ocean Floor, Off. Gaz. RS/92
- European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR), Off. Gaz. RS/92
- Convention on International Railway Carriage (COTIF) including Appendix B (RID), Off. Gaz. RS/04
- Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Off. Gaz. RS/99
- Comprehensive Nuclear Test Ban Treaty, Off. Gaz. RS/99
- Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as Amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982,
- Convention of 31 January 1963 Supplementary to the Paris Convention of 29 July 1960, as Amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982,
- Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention.

EU directives, national legislation (accepted by Parliament).

ES

Towns Council (AMAC); Associations: companies, NGOs, farmers, neighbours, trade unions, politicians, journalists, church at Local, Region, Autonomy, and National level.

SE

These questions could probably be answered, but not by the respondent.

CH

The predecessor of the final disposal passage in the NEAct of 2005 was the Federal Decree of 1978 supported by the majority in a national vote. The demand for a domestic solution is regularly endorsed according to public surveys. The modified final disposal concept is based on discussions among the regulators, the proponents, and national NGOs. With the exception of the Aarhus Convention, other international treaties (see entry under SI) were ratified by the Swiss Parliament. The Guideline R-21 is a technical document and was not submitted to public consultation. The sectoral plan (with the site selection procedure) will be decided by the Federal government in mid-2007.

UK

Regulatory principles are subject to consultation. Nirex's and the NDA's Transparency Policies were developed through dialogue. CoRWM set its own principles to establish how it intended to approach its whole work programme. CoRWM's Terms of Reference and principles were influenced by the outcomes of Stage 1 of the MRWS programme.

D-3

Have they been pursued? Have they been adhered to since the *beginning* of the process?

BE

Generally they have been pursued, since the beginning.

CZ

RAWRA has generally applied them during all the process.

FR

Stated since the beginning, but without public participation.

DE

Not yet. AkEnd process not yet implemented.

HU

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NL

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RO

No.

SI

The process has just started. In the First spatial conference that mode was used.

ES

Yes. They will be adhered to from the beginning of the process.

[ENRESA has technology and experience based on the intermediate SF storage facility at the Trillo NPP. Criteria are being developed.]

SE

These questions could probably be answered, but not by the respondent.

CH

“Technical” and traditional issues under D-1 have been, in principle, adhered to from the start. Strategies how to involve the public, however, have not been openly discussed yet.

UK

N. B. The following comments relate to organisations principles not to regulatory principles.

Yes. CoRWM’s principles were intended to underlie every aspect of its work and its relationships to the public, stakeholders and decision makers. They are also fundamental to the implementation process. Nirex undertakes regular stakeholder reviews to check whether and how it is adhering to its principles and fulfilling its Mission and the feedback has always been positive. NDA has just started so it is too early to say.

D-4

Scope

Just technical issues or also “compensation”/regional development?

BE

Also compensation through regional development.

CZ

Regional development is considered at a general level.

FR

Both technical and development issues.

DE

Also societal and socio-economic issues, regional development.

HU

Both.

NL

–

RO

At the beginning, it was just the technical aspect that was investigated. Recently, the Government has approved the allocation of a part of the radioactive waste disposal Fund for a development program of the zone surrounding the disposal site (Governmental Order 32/2006).

SI

Both.

ES

Certain flexibility in the project definition may be allowed. The waste facility may be completed with a Research and Development Centre so that the resulting industrial complex can provide a wide range of activities.

SE

The open debate handles only “technical” questions, widely defined. “Compensation” is not discussed openly, but probably behind the curtain by SKB and the municipalities.

CH

“Compensation” is considered indecent and – officially – left to the proponent’s discretion. It is conceivable to pull compensation and regional development together in the envisaged sectoral plan. In day-to-day business compensation was paid by proponents to local and regional stakeholders.

UK

CoRWM’s Principles are statements of fundamental principle about the DMP and social and environmental objectives (see D-1). A key principle is that of fairness. These principles are embodied in the Implementation Strategy which also provides some key principles. These include a willingness to participate on the part of communities. This will be supported by Involvement and Community Packages which will include resources to enable communities to enhance their well-being now and in the future. These will be negotiated through partnerships. This approach is rather different to providing compensation for harm or risk.

D-5

Learning

Is there a systematic reconsideration of substantive matters? (recourse, feedback)

BE

MONA and STORA both did an evaluation exercise. The results will be taken into account in the next stages of the process.

CZ

Yes, the provisional process.

FR

It should be possible but nothing systematic.

DE

No. AkEnd compared different waste management options during the development of the AkEnd procedure.

HU

No.

NL

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RO

No.

SI

Yes. Is part of the revision process of the National program on radwaste and SF management.

ES

Being developed.

SE

This questions could probably be answered, but not by the respondent.

CH

Partly yes, with regard to technical matters (exploratory shafts with intermediate decisions whether to proceed or abandon a site). The fundamentals are mentioned in D-1 and D-2.

UK

All aspects of the DMP are subject to scrutiny and subject to revision. It is expected that partnerships will have a role in evaluation and reconsideration of proposals. And there will be a right to withdraw from the process up to a pre-defined point.

DII

Procedural principles and rules

D-6

Types (see E-6)

Are principles and rules defined, e. g.: Transparency? Traceability? Openness? Equity? Effectiveness? Others?

BE

See D-1.

CZ

Transparency and openness are declared in RAWRA's documents.

FR

See D-1.

DE

Yes, for the suggested site selection procedure. Not for the overall DMP.

HU

No.

NL

No.

RO
No.

SI
Yes. All of them.

ES
A committee of social representatives may be elected to monitor the whole process (proposal by AMAC and COWAM Spain). In particular, this committee shall evaluate the completeness and availability of the information, the degree of participation at all steps and the possibility of the local communities to obtain an independent assessment from third-parties' expertise. This will be laid down in information transparency. That is according to the COWAM Spain project.

SE
Not in the respondent's opinion.

CH
In addition to the conventional management (left to the proponents) and licensing procedures (with the opportunity for objections, *etc.*) there are no "modern" principles in operation yet. See D-3. There is one exception: the process at Wellenberg from 2000 to 2002, where communication rules, *etc.* were initiated by the Cantonal advisory board KFW. The following requirements all have a bearing on procedures in so far as they underline an adaptive and stepwise process:

- Restriction of the concession to the exploratory gallery;
- Definition of clear negative (exclusion) criteria for gallery results, leading to either continuation or abandonment of the project;
- Adaptation of the repository concept to monitored long-term geological disposal as proposed by EKRA;
- Clear definition of the waste categories to be emplaced (with an emphasis on the "short-lived" character of the repository).

(Comment: Other historical principles are not documented here. Possibly the mentioned sectoral plan will cover related issues.) For the equity issue see below.

UK
All these points are covered in the principles which are summarised above in D-1. Openness and transparency and the need to achieve procedural, intergenerational and intragenerational equity are fundamental to the whole process.

<p>D-7 Authors Who defined them? (see ) Was there a public debate?</p>

BE
See D-2.

CZ
RAWRA.

FR
Parliament and government.

DE
BMU, AkEnd.

HU
-

NL
-

RO

They will be defined by ANDRAD.

SI

ARAO and local communities where mediator talked to people. Included in legislation.

ES

See D-6.

SE

See D-6.

CH

See above. As for the legal procedure and possibilities to intervene the Federal Parliament issued the laws, Government the ordinances, and the safety authority the guidelines.

UK

CoRWM's principles were influenced by the national dialogue that took place before they were set up. But they are CoRWM's principles and for the committee to formulate as its statement of purpose. All aspects of CoRWM's work are subject to processes of public and stakeholder engagement. – As outlined above the NDA's and Nirex's principles have been developed through stakeholder dialogue.

D-8

Point in time

WHEN were they defined? (before/during the DMP?)

BE

Before. The partnership model was designed in cooperation with the Dept. of Social Sciences of the University of Antwerp.

CZ

In the beginning of the deep geologic repository project.

FR

The first national public debate on RWM was held between September 2005 and January 2006 (but no guarantee about influence on the future law).

DE

Before.

HU

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NL

–

RO

They will be defined during the DMP.

SI

Before the DMP started.

ES

See D-6.

SE

See D-6.

CH

For the late Wellenberg phase they were defined in the beginning of KFW work. For the LW programme to be revisited as well as the ongoing HW programme they still need to be defined.

UK

At the outset. The Principles were established by CoRWM and were not subject to public debate.

D-9

Have they been pursued? Have they been adhered to since the *beginning* of the process?

BE

There is a general feeling among both the partnership members themselves and people who worked with them that the partnership concept has proven to be a success. However, some analysts (e. g., of SCK•CEN/PISA) state that the issue of (local) representativeness needs more careful consideration.

CZ

No.

FR

See D-3.

DE

Not yet. AkEnd process not yet implemented.

HU

–

NL

–

RO

No.

SI

Yes, but we are still at the beginning.

ES

–

SE

See D-6.

CH

Not in the case of the (former) LW programme, to be seen with the specification of the sectoral plan.

UK

Yes. They underpin DM both in terms of process and purpose.

D-10

Elements

Is there a clear structure with milestones and interim decisions? Programme/project management?

BE

Yes for the first part of the process (site selection). This structure is now subject of the current work of the partnerships together with the local communities and ONDRAF/NIRAS.

CZ

Milestones are specified in the Concept, procedures are given by relevant acts (Construction Code, EIA Act, Atomic Act. *etc.*).

FR

The 1991 LAW asks for a review and a new law in 2006. No other milestones are foreseen.

DE

Yes, for site selection procedure proposed by AkEnd.

HU

Yes, mid-term planning for the site selection process for the LIW disposal facility.

NL

–

RO

No.

SI

Yes. ARAO manages the informal part of DMP. The formal part of DMP (EIP, spatial planning procedure, *etc.*) is managed by the authorities.

ES

Being defined in COWAM Spain. The problem has been recognized by the Congress and the affected municipalities. It's a concrete project, but subject to discussions.

Spain has a deadline with regard to the construction of a centralized temporary storage for the SF and HW management (2010) because the vitrified wastes of Vandellòs I will come back from the fuel reprocessing process in France. In addition to that, in 2012 the storage in the pools of Cofrentes and Ascó NPPs will be completed and, if there is not any storage system, it would cause the shutdown of these NPPs.

SE

Yes, if the presentation and consideration of R&D plans is accepted as such. The legal process to get a permit is decided by the law.

CH

See B-14. To be determined.

UK

Yes. The MRWS programme has 4 stages: 1) framing; 2) option assessment and DM; 3) discussion on site selection; and 4) implementation. CoRWM undertook Stage 2 and divided it into 3 phases: framing, shortlisting, option assessment followed by recommendation. Decisions were subsequently confirmed after deliberation (e.g. the shortlist of options). There were four public and stakeholder engagement phases. Where necessary DM was facilitated. CoRWM had both a secretariat and a programme manager responsible for ensuring objectives of the process are successfully met. With the government's acceptance of CoRWM's proposals the stages of site selection and implementation will commence. The LW review has taken a different approach for Stage 2.

D-11

Level

What is the subject of the DMP: energy policy options or concrete (siting, *etc.*) projects?

BE

Siting project for final disposal plus follow-up (building, operation and closing of the site, compensation). The process has never been officially connected to the debate on the national energy policy.

CZ

Interim storage facility: opened in 2006.

Deep geologic repository: siting process interrupted by Government.

FR

Currently DMP on the selection of one or more RWM options.

DE

Siting of one repository for all types and amounts of German radioactive waste.

HU

Projects.

NL

–

RO

Concrete projects.

SI

Site for LIW repository.

ES

The concrete project is a Centralised Interim Storage (ATC). Just before the termination of COWAM Spain, developed in parallel to COWAM 2, the Spanish parliament (Congreso de los diputados) requested Government to build the ATC facility for the Spanish SF and HW. This petition was approved by all the political parties in Parliament.

For the reason given in D-10, the municipalities of the nuclear areas, through AMAC, promoted the COWAM Spain project and decided to take part actively in the European project COWAM 2. The aim is to search for a DM system in order to reach a solution for the centralized waste storage, avoiding 7 individual storages.

COWAM Spain defined some recommendations in order to avoid any *fait accompli* and to ensure that the local level participates in a democratic, transparent and participative DMP from the very beginning (published in Feb. 2006).

SE

The goal is a legal permit for the repository.

CH

For the subtask “Demonstration of disposal feasibility” (for HW) the subject is to show the feasibility in a defined geological setting but not at a specific site. The further procedure should lead to a decision on narrowing down siting regions to one site so that the facility (for HW) can be operational from 2040 (see B-14).

UK

The subject for CoRWM was to identify the option or options for the long term management of the UK’s solid radioactive wastes (IW and HW). Another consultation and decision-making process by the NDA is under way for low-level radioactive waste. The NDA is also consulting on site clean-up options (time-scales and site endstates).

D-12

Phases

Does the DMP cover all phases of the *national RWM strategy*? (problem identification – development – selection of option – decision; duration?)

BE

No. The approach is national but the waste at stake is only LIW.

CZ

No entry.

FR

No. But the future law will define a national plan for RWM (including all types of waste).

DE

No. AkEnd procedure is - by AkEnd mandate - dedicated to site selection only. Some specific aspects of the actual national waste management strategy are part of the mandate (e. g., one repository for all quantities and types of waste).

HU

No.

NL

-

RO

No.

SI

No. DMP is foreseen only to find a site. For the acceptance of National program on LIW and SF management public involvement and participation is foreseen.

ES

DMP covers all phases of the management of SF by means of a centralised storage.

SE

Most of the decisions have already been taken, if the process is not to be restarted.

CH

The history of RWM is quite old (dates back to the late 1960s) and thus covers all phases, albeit not in adequate order of DM. Nagra narrowed down the potential LW as well as HW sites too quickly. The Federal government commissioned a report on HW alternatives only in 2004 because respective considerations were missing. In 2002 the proponent GNW, a spin-off of Nagra, did not have a fallback strategy when their second application was turned down (even though KFW had advised them to consider such). For the future it is recognised to include the public and stakeholders to a greater extent: See B-14.

UK

The CoRWM process is concerned with the selection of a management option. It has also made proposals for how this may be carried forward to the subsequent stage of implementation, including site selection. The MRWS programme covers all stages of the RWU strategy.

D-13

Stages

Are all relevant stages of *siting* considered? (*id.*, applied to the siting proper: investigation, general licence, *etc.*, including long term)

BE

Yes (again, only for LIW).

CZ

Yes.

FR

Not for the moment. The site selection for geological disposal will be considered in ten years but there is only one laboratory where research is done.

DE

Yes.

HU
No.

NL
–

RO
Yes.

SI
Yes.

ES
Being developed in COWAM Spain.

SE
SKB and generally the regulators and the authorities claim that. NGOs have the opposite standpoint.

CH
They are laid down in the Nuclear Energy Ordinance of 2005. As for the long-term, a so-called “observation period” to monitor the pilot facility is envisaged. Its duration will have to be determined by upcoming generations. For the pre-licensing period: See B-14.

UK
The CoRWM process only considered generic siting issues. A national debate on criteria for screening will take place and subsequently communities who are willing to participate in a siting process will be sought.

D-14

Formalisation (see Bill)

Is the DMP based on the procedure described in a specific regulation? (e. g., Strategic Environmental Assessment (SEA), EIA, spatial planning)

BE
Technical conditions were formulated in the decision of the Council of Ministers of January 1998. An EIA will be executed once the construction permit will be issued. The partnerships’ work has of course been inspired by the way an EIA is normally done.

CZ
Yes: SEA, EIA.

FR
See D-10.

DE
Not yet. Probably there will be a specific regulation on site selection.

HU
EIA is part of the process but other steps are not prescribed by law, except for the final decision by Parliament

NL
–

RO
Yes.

SI
Yes. Strategy of Spatial development (2004). SEA, EIA, ...

ES

The DMP methodology must be developed at the same time as the specific regulation of the management radioactive waste. EIA and licensing process are tied to DMP.

SE

The process up to now has generally only been carried out according to the Nuclear Technology Act. SEA, EIA *etc.* are included in the procedure to get a permit according to the Environmental Code.

CH

It is foreseen to set out the procedure in the sectoral plan on the legal basis of spatial planning. EIAs are restricted to non-radiological environmental issues. SEAs *per se* are inexistent.

UK

No. The CoRWM DMP is based on a government consultation paper and subsequent ministerial initiative. The MRWS programme, however, has been developed and implemented in line with the requirements of the SEA Directive even though this does not strictly apply to policy development.

D-15

Initiation

Who is the initiator of the process?

BE

ONDRAF/NIRAS, under the authority of the Belgian government.

CZ

Ministry of Industry and Trade.

FR

Parliament and government.

DE

Federal Ministry of the Environment, the ministry in charge of RWM.

HU

HAEA, PURAM.

NL

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RO

ANDRAD.

SI

ARAO (government agency) and Ministry of Environment and Spatial Planning.

ES

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SE

The nuclear industry (by SKB).

CH

As for the site selection process this is a matter of spatial planning, federal affairs in a federal issue like nuclear (Office of Energy). As for the concrete general licence application it is up to the waste producers and proponents to kick off the process. It is planned to establish a "Disposal Council", pluralistically composed, to be the guardian of the overall process (presumably the current Advisory Committee, see B-3).

UK

The Secretary of State for the Environment, Food and Rural Affairs (DEFRA) and the Devolved Administrations – the Scottish Executive, the National Assembly of Wales and the Department of the Environment in Northern Ireland.

D-16

Roles and responsibilities (see C)

Are there clear responsibilities and roles of diverse actors in the DMP (decision makers, process initiator; coherence/continuity)?

BE

Through their involvement in the partnership model, the roles of every public and private institution involved in the Belgian process to date were clear and unambiguous. The role and format of the partnership has of course to be revised for the future. Especially concerning the administration of the socio-economic part of the integrated project for the selected community, clear and transparent agreements on responsibilities and ownership between the waste agency, the partnership (or follow-up structure) and the municipality will have to be settled.

CZ

It is clearly at the national level.

FR

Yes, at the national level.

DE

Yes, regarding the AkEnd proposal on site selection. Not very clear regarding RWM in general.

HU

Actors of the licensing process (e. g., HAEA, local government, the Ministry of Environment, Parliament) are well defined.

NL

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RO

No.

SI

Yes. Formally known. Until the present, no politician has been interested or involved on the national level. In contrast, on the local level, there is some involvement (municipalities volunteering for possible site).

ES

ENRESA has the responsibility of radioactive waste management. The legislation process is clear in so far as it describes all phases of the process and responsibilities of DM. COWAM Spain is developing a DMP aiming at coherence of the needs to manage the radioactive waste, the official institutions and potential nesting communities. – Besides the legislative process there is another (informal) process and equally important. This informal process would be considered in the DMP methodology.

SE

Generally yes.

CH

Yes and no. There remains a tension: The issue being regarded as a “national task” (supported by the International Waste Convention) it is not sufficient to leave the leadership to the waste producers. However, the polluter-pays principle should not be undermined either.

UK

Yes. CoRWM is independent with a clear responsibility to make recommendations on the way forward. The UK government and the Devolved Administrations have accepted them. Government, in conjunction

with other relevant decision makers (e. g., local authorities), will now take the proposals forward. Government will set up organisational structures to enable implementation. It is envisaged that openness and transparency will underpin all the future process.

D-17

Learning

Is there a systematic reconsideration of procedures? (recourse, feedback)

BE

To be developed for the next stage of the process.

CZ

As to the needs of each process phase it is possible to start up a revision process but nothing is stated.

FR

Nothing is stated about that.

DE

To some extent: stepping backwards in case of unexpected / negative results of investigations. No systematic provision for reconsideration of general approach.

HU

No.

NL

–

RO

No.

SI

Yes. Described in the National program on radwaste and SF management.

ES

Wherever possible.

SE

Generally no.

CH

The state of mostly unpublished information was criticised by the geoscientific Sub-Group of AGNEB in 1980 already – in the meanwhile all documents are publicly available, at least at request, and there is extensive technical reviewing. A means of reconsideration has always been the public vote. The sectoral plan is expected to provide information on this issue.

UK

There is constant review and reconsideration as outputs from engagement processes influence the DMP. There is a full audit trail and all papers are available to the public. Lessons have also been identified from the previous site selection process that ended in 1997 and these are influencing the new processes that are being used now.

D-18

Monitoring (evaluation?)

Is there a process monitoring? Which institution is in charge? What is its legitimacy? Importance?

BE

The Federal Agency for Nuclear Control looks into the technical safety features of the proposed site de-

sign and will monitor the construction and operation. Except for the partnerships themselves, no process monitoring of the DMP by an "independent" institute as such is foreseen.

CZ

No monitoring process of DMP, only safety and technical issues of construction and operation. It is the duty of the State Office of Nuclear Safety.

FR

Yes. National (ASN and CNE) and international (NEA of OECD).

DE

No. But according to AkEnd a control committee should oversee the process.

HU

No.

NL

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RO

Yes. For National Repository Baita Bihor, the monitoring is ensured by its owner, IFIN-HH. For the Dry Storage Facility, the monitoring is assured by SNN, the owner of the NPP.

SI

Local partnership and different bodies foreseen. NGO are involved. They will have a right to be informed about the process and to decide in the decisions which are of no safety importance and prescribed by law (neither ARAO is in a position to decide on that). They will have the right to get a second opinion from experts they will select.

ES

Maybe the Committee of Social representatives.

SE

A lot of research has been done and is done concerning mostly the DM in municipalities.

CH

The process is not professionally monitored. Advisory bodies and NGOs have served as technical monitors. NEA was commissioned to carry out an international review on the HW feasibility study. The instrument of public vote as well has proved to be a check to actions (type of political reviewing).

UK

All CoRWM plenary meetings are held in public. There are periodic reports on progress to responsible ministers. CoRWM's work is has been independently evaluated by a contractor and the Government's Chief Scientific Advisor. The regulators are involved in monitoring ongoing waste management and packaging in the UK. There is no independent review of the LW programme.

D-19

Effectiveness, evaluation

Is there a periodic review? Is it inclusive? What are its status, relevance, and impact? How is quality assurance set up?

BE

To be designed for the next stage of the process. In the first stage, the partnerships did evaluations throughout the process themselves.

CZ

Yearly report of RAWRA (approved by Government). The programme is continuously reviewed by the Board of RAWRA, which has regular meetings held 4 times a year.

FR

A periodic review of the research has been done by CNE but without interaction with the public.

DE

No.

HU

Yearly report of the PURAM, which contains the evaluation of the cooperation with Associations.

NL

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RO

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SI

Periodic review is foreseen. The process will be reviewed by local stakeholders.

ES

See D-18.

SE

SKB's R&D plans are reviewed every three year. Government has to approve the plan, if the reactors will be permitted to operate. SKI handles the consideration of the plan before Government takes the decision.

CH

See D-18. Technical reviewing has gradually been amplified (to independent experts and international reviews). Public votes somehow serve as political ("inclusive") reviewing.

UK

CoRWM has established comprehensive arrangements for Quality Assurance. It has an extensive list of peer reviewers. Specialists were used for specific aspects of the programme. There is also an oversight body of scientists under the Chief Scientist of DEFRA. CoRWM's work has been subject to review by the House of Lords Science and Technology Committee.

D-20

Transfer to licensing

Are there regulations allowing for the "synchronisation" of the DMP and the regulatory/licensing process?
(input of DMP outcomes, link of local/regional/national levels)

BE

Yes, DMP (site selection) proceeds licensing process. Informal and formal steps for synchronisation: see B-12. Outcome of EIA is unclear. Licensing by regulator (FANC) will probably not generate major problems.

CZ

Not exactly. Licensing is a responsibility of the State Office of Nuclear Safety following several restrictions and the law.

FR

Until now the DMP is only considered at the national level with only one consultation at the local level of county councils; the licensing process asks for public enquiry but the procedure is very criticized.

DE

Not yet.

HU

No.

NL

–

RO

Not exactly.

SI

No clear rules.

ES

There are a regulations on that, but the methodology makes an effort with other stakeholders who don't DM [power] but they have a great influence [on] DMP.

Key variables for the DMP:

- Confidence of local stakeholders in the existence of a democratic process (There is the need to gain such confidence);
- Degree of confidence of local stakeholders in the neutrality of expert committees (Local actors are free to consult any expert);
- Criteria considered essential by stakeholders for a successful DMP (Respect for the capability of deciding. Benefits for the area development. Transparency of process);
- Criteria considered essential by stakeholders for the social acceptability of the decision to be taken by the decider (safety, labour, infrastructure, perception of success, no property losses).

SE

There is only one process.

CH

No, except if one considers parliamentary decisions and votes as such. The sectoral plan will show its added value in this respect.

UK

This is not really relevant at this stage. However, efforts are made to ensure that relevant decision makers (including local authorities) are involved in the process. There is a Memorandum of Understanding between the Nuclear Installations Inspectorate and Environment Agencies in relation to radioactive waste, so their work is co-ordinated. It is anticipated that the regulators will be fully involved in the implementation process.

E

INVOLVEMENT OF SOCIETY

E-1

Level

Is there a systematic public participation in the process? What is its level (information/consultation/collaboration/empowerment)? What is its relevance?

BE

Yes, advice by LC, local decision to host rests with the Municipal Council, site selection with the Federal government, licensing with the regulator FANC.

In Belgium stakeholder engagement is primarily focused on the siting of a LIW repository and realised through the setting up of local partnerships in volunteering communities. See C-11.

CZ

RAWRA's Board: The activities of the Board are set by the Atomic Act, and the Board mainly supervises the cost-effectiveness and purpose of the expenses made. The Board members, representatives of the State Administration, the generators of radioactive waste and the public (representatives of municipalities where the repositories are in operation), are appointed by the Minister of Industry and Trade in compliance with the Principles for the selection and appointment of the Board, usually for 5 years.

FR

The only continuous tool for public participation and information is the CLIS ... but without any power to influence the decision at the national level.

DE

Yes, in AkEnd process. Range from information to participation in DM.

HU

Information and consultation at local level.

NL

There is no process going on or planned.

RO

No systematic public participation in the process. Relative low level of information/consultation/collaboration. Very low relevance for the decision-making process.

SI

The local partnerships consider the characteristics and expectations of the individual local community (see B-14). Although local partnerships are formally agreements between ARAO and each of the municipalities they provide a framework for participation and co-operation with citizens in the site selection process. The general scheme foresees the establishment of local partnership through a steering committee which has the role to co-ordinate and facilitate the participation and involvement of citizens. To involve as many people as possible different tools can be chosen such as organizing different committees, working groups, presentations, round tables, workshops or any other appropriate way to involve locals.

The functioning of local partnership is formal in the administrative proceedings like the preparation of the National Location Plan for LILW repository, the EIA process and similar, and informal with discussions on field investigations, design solutions for the LILW repository, safety aspects of a nuclear facility, environmental impacts, development possibilities due to compensation for the limited land use, societal and health issues and all other aspects which are relevant or interesting for the individual local community. The work of local partnerships is public, therefore the invitations, minutes, and documents are published on the webpage or in a locally usual way. The local partnership has funds for its functioning, informing of public, expenses for work of reporters and reviewers and for independent expert opinions and studies. The funds are limited for individual years and defined by ARAO, but the decision on their use is taken by the local partnership itself. The DMP stays with the local council and other bodies of local autonomy; the local partnership has an advisory role.

ES

It is important to involve to the society from the beginning of the process (information, transparency, etc), independently of the public information in the administrative process.

Systematic approach being developed.

There exists a *de facto* veto power which can only be superseded by the National Interact Act. DMP and decisions are on a voluntary basis.

ENRESA's VI Radioactive Waste Plan, approved by the Cabinet on 2006-6-23, considers the participation of the local world only by means of an informative report on the project that is issued to the City council of the concerned location. In relation to that, the only point organized by the legislation is the announcement of the project in the Official Bulletin (BOE and BOCA) so that whoever is interested can present their allegations within a one-month term.

SE

The present process takes place mainly locally in the two concerned municipalities Oskarshamn and Östhammar. This process is connected to the EIA consultations prescribed by the Environmental Code. So far the process to involve the public has had a much higher ambition in Oskarshamn.

CH

Up to active parties, votes – on different levels – may be or may not be included in a process. Votes (the approval of the moratorium in 1990) forced the traditional stakeholders to include national NGOs in policy planning. The votes in Nidwalden induced major changes in the Wellenberg programme (1995: stepwise procedure, controllability, retrievability) or even brought it to a complete halt (2002). Other, “modern” participatory techniques are only sporadically utilised in Switzerland. The passage on participation of the

cantons (and “the neighbours abroad”) in the new law forces the official stakeholders to specify further engagement.

UK

The public and stakeholder engagement (PSE) programme CoRWM has developed has been referred to throughout this response. There is very strong PSE in the DMP. It includes intensive deliberation (Citizens Panels), round tables, open meetings, a Schools Project, Discussion Guide and written and website responses. There are extensive surveys of opinion, expert input, use of media and interactions with relevant institutions. The LW review has not taken the same approach.

E-2

Parties (see C)

Which “publics”, stakeholder groups, perspectives are involved? Are they actively sought?

BE

There is a need for continuous acceptance by the local community (the LC will carry on its mission). Four nuclear communities took an active stakeholder role in the siting of a LIW repository: 2 “highly” nuclear communities hosting different nuclear activities and temporary storage of LIW and HW (Mol and Dessel) and 2 “semi active” nuclear communities hosting small-scale nuclear activities (Fleurus and Farciennes). Two remaining nuclear communities (hosting NPPs and storage of SF) explicitly rejected an active stakeholder role.

CZ

Mostly oriented to local elected councils.

FR

At national level some inquiries have been carried out by the parliament in 1991 and 2006 but the only debate involving stakeholders was held in 2005. At the local level there is the CLIS (see C-7).

DE

No restriction. Diversity of stakeholders is an element in specific phases of DMP.

HU

Through the associations the needs and opinion of the local public are communicated to the implementer.

NL

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RO

Some NGOs (very active) and local representatives are involved. In the future an important increase in the number and quality of participation is expected.

SI

Foreseen. Local stakeholders forming the local partnership. On national level: regulatory bodies, ministries, institutions which provide consensus, implementer. NGOs and other associations involved through EIA.

ES

Systematic participation of stakeholders being developed. [Formation in seminars and in courses.] We have identified the different actors but it’s necessary to identify their principal values and interests. ENRESA wants to [tackle this issue] by information and transparency in all phases of the DMP.

SE

Especially in Oskarshamn local stakeholders have been actively sought. National NGOs have recently been given the opportunity to get grants from the Nuclear Fund to participate in the EIA process.

CH

The nuclear issue, and the radioactive waste issue in particular, has always raised the attention of a variety of stakeholder groups. With few exceptions (after “negative” votes and loud protests) they have not been actively sought by the official players. This may be about to change with the sectoral plan.

UK

A wide array of groups is actively involved in CoRWM's work. All known stakeholders are included both national and local. The public are involved especially through deliberative processes but also through extensive surveys. Bilateral meetings are held with key stakeholders in different parts of the UK. The LW review is consulting the National Stakeholder group and posting information on a website but there is no active involvement of the public.

E-3

Intergenerational equity

Are demands of future generations considered? How?

BE

The municipality that is selected needs to establish a citizens' representation for the monitoring of the site itself (construction, exploitation and post-closure monitoring) as well as for the monitoring of the socio-economic development projects. Related to these projects, obviously a body needs to be installed that will be responsible for the administration of the societal compensation (whether a development fund or any other kind).

CZ

The principle is stated to solve the problem today without deferring problems to future generations.

FR

Yes; the stated principle is to solve the problem today without deferring problems to future generations.

DE

To some extent. AkEnd arguments presented for final disposal refer to future generations.

HU

Not explicitly.

NL

–

RO

In principle yes, as an intention to fulfil the sustainable development requirements.

SI

Yes. Financial compensation for limited land use on the site of a LIW repository is assured. The repository will be technically safe and monitored.

ES

Yes. A sustainable situation is sought. There is a working group that studies compensation and Regional Development in COWAM Spain.

SE

Yes, by all involved.

CH

Following the discourse in the international waste community, the demand for passive safety is explicitly statuted in the technical Guideline R-21 (of 1993) on (passive!) protection goals. The *ad hoc* body EKRA discussed ethical issues (in 2000) and introduced retrievability into the final disposal concept (now being the official concept according to the NEAct). It is foreseen to establish a body to oversee the siting and implementation activities (Disposal Council).

UK

Yes – the principle of equity requires this. Intergenerational equity is considered in many ways, including, the selection of ethical criteria for shortlisting and option assessment, the development of an intuitive element in DM, an ethical workshop and so on. The relationship of time to DM on options is also concerned with future generations. Retrievability is also considered in this context. The future is considered not just in terms of people but also of the whole environment. The above relates to CoRWM's work.

E-4

Intragenerational equity

Are demands of today's generations considered? How? Is compensation foreseen? (e. g., money, tax revenues, regional development, oversight, vetoes) How is it justified?

BE

Partnerships suggested the establishment of a fund structure that should be able to cover the local socio-economic projects over the longer term. None of them had (officially) put forward a suggested total amount this fund should contain. It is generally accepted that there is no clear and rational way to link an economical value to a "disadvantage" that comes with the disposal site. In this context, ONDRAF/NIRAS says that "it is rather difficult to stick an exact budget to the socio-economic component of the integrated project" but refers as an example to the European EXTERNE study in this sense. EXTERNE budgets "external costs" through an estimation of the "damage due to radiological impact" as 4,8 10E-6 EUR per kWh installed nuclear capacity (a critique to this approach is that the estimation does not take into account the characteristics of the site region). Assuming that all LIW would origin from nuclear electricity production and that all seven reactors would operate for 40 years, the agency estimates that this would lead to a total "damage cost" of 11.2 MEUR for Belgium. This represents 2.3 to 2.9% of the projected technical cost of the disposal site in the case of the surface disposal option. The agency says that the deep disposal option would be about twice the cost of the surface option, but in that case, the "radiological damage" to the environment would be significantly lower.

CZ

The legislation (Atomic Act) covers grants for municipalities with repositories in operation.

FR

Yes (funds allowed to the departments with laboratory).

DE

Yes. Some socio-scientific criteria are used for the introduction of values/interests without direct participation.

HU

The incentives are very important to the local public. The municipalities receive 5 –10 % of the total investment or research budget on the affected territory.

NL

–

RO

Yes. The need of energy in order to improve the life level. There is some compensation for the Černavoda inhabitants (indirect compensation – important contribution for schools, hospital, bridges construction in Černavoda, the location of NPP). The indirect payment is seen as a contribution to local development, near the NPP, not as a compensation.

There is also foreseen a social program for the zone surrounding the disposal site including public information, local development, and public health monitoring.

SI

Yes. The local community receives financial means for independent research and advice during the site investigations in potential location. Compensation is foreseen for limited land use during investigation, construction and operation. Volunteer approach is respected throughout the whole procedure so that the local community has the right to withdraw the proposal from further procedure at any stage. Financial compensation for limited land use on the site of a LIW repository is assured.

ES

Values and interests of different actors would be [considered] in the negotiation [as] the first point. There is a working group that studies compensation and Regional Development in COWAM Spain.

SE

Only considering safety and environment, not compensation.

CH

Economic impacts are dealt with by proponents; the authorities eschew. Public votes indeed can be considered veto rights and may go for an instrument of intragenerational equity. The so-called local Oversight Committees have no competences. Depending on the political will, cantons may exert considerable influence (see Wellenberg). A political Advisory Committee was installed to oversee the procedure to set up the sectoral plan.

UK

Yes – intragenerational equity is also considered in terms of local ‘host’ communities and the social and economic impacts of nuclear facilities upon them. Issues of incentives (Involvement Packages), volunteerism (willingness to participate), compensation (Community Packages) and veto (right to withdraw) are aspects of implementation and will be further considered during the implementation process.

E-5

Goal(s)

What is the (whose?) goal of public participation? *E.g.*: to achieve a collective decision according to the criteria of feasibility (social, economic, technical, political, *etc.*)? To reach a previously politically defined solution (acceptance of a non-negotiated solution)? To reach the acceptability of a solution defined by experts (negotiation only on the measures for accompanying the technical choice)?

BE

The key objective was to find a safe solution for the long-term management of radioactive waste. The technical design was provided by experts of ONDRAF/NIRAS but could be, and is, modified by the partnerships. As said before, the solution had to consist of a disposal facility integrated in a broader societal project, consisting of a set of associated conditions (defined by the local community) that offered added value to the municipality and/or region concerned.

CZ

–

FR

To reach the acceptability of a solution defined by experts. But we don't know what can happen

DE

AkEnd: A safe and sustainable solution that is accepted as being fair regarding different interests and values and the demands of future generations.

HU

Social acceptance of the planned investment.

NL

–

RO

To reach the acceptability of a solution defined by experts.

SI

Social acceptance of a site. It is equally as important as technical acceptance.

ES

Comprehensive analysis of options being developed.

SE

Different actors have different goals. The goal of the nuclear industry (SKB) is in reality to reach the acceptability of a solution defined by experts.

CH

The goals depend on the actors involved. A local vote may legitimise or delegitimise action. Votes in Switzerland are usually committal to other stakeholders.

UK

The DMP has no preconceived view. It is an open process covering the span of options and defining a shortlist for evaluation. The CoRWM process incorporates specialist input (on option definition etc.), stakeholder and citizen participation, deliberation, communication with stakeholders and decision makers. In other words, it is intended to be comprehensive, participative and interested in reaching conclusions that are fully supported scientifically, supported by the public and which can be carried into effect by decision makers. The LW review also spans the range of options and incorporates specialist input and stakeholder input.

E-6

Formalisation (see BIII)

Is there a specific legislation to explicitly include the public in the process?

BE

No national legislation.

CZ

Public hearing included in SEA and EIA, Aarhus Convention (ratified by the Czech Republic). There is no specific legislation yet, but in 2005 the debate started and the municipalities call for changes in the Atomic Law, especially for rules of their participation in the DMP and a veto right.

FR

No, except for the CLIS, whose influence on the DM is not defined.

DE

Not yet. Possible regulation on siting will probably include public participation.

HU

Aarhus Convention (ratified by Hungary), Atomic Energy Act.

NL

–

RO

When selecting a site, the future licensee has to consult the public (Public consultancy of the Environment Agreement issued by the Environmental Protection Authority, after the analysis of the Environmental Impact Study);

- Consultancy of Contracting Parties in the vicinity of the SF management facilities (any country, not only a Contracting Part, that could be affected by a SF management facility sited on Romanian territory will be announced, and will receive, upon request, the general data relating to the facility) - Espoo Convention;
- Aarhus Convention ratification (the free access to the environmental information).

SI

Yes. Strategy of Spatial Development (2004) and Act on Environmental Protection (2004).

ES

–

SE

Yes, the Environmental Code prescribing the EIA process.

CH

The public is always included in consultation procedures; voting rights are stated in laws. The envisaged sectoral plan (according to the Law of Spatial Planning) will specify participation as stipulated in nuclear legislation. The procedure on the chosen site will undergo regular general licensing, with the need for approval by the Parliament and, according to the new law, the possibility of an optional but, if taken, committal national referendum.

Switzerland has not ratified the Aarhus Convention due to a fierce political debate about the stated right of appeal for the national environmental NGOs. They are alleged of abuse by parties on the right of the political spectrum.

UK

The process is subject to the Aarhus Convention which requires early and continuous stakeholder involvement. No legislation is envisaged but Government has fully embraced the need to continue full participation.

E-7

Time frame

Is there an up-front/early involvement of local actors? Is it continuous? For how long is it conceived?

BE

See A-4. The involvement through a partnership is supposed to be continuous for the "safety time frame" of 300 years.

CZ

The Memorandum of Understanding of 2004 continues communication with 3 villages. It is not limited in time but by the interest to communicate.

FR

The county councils have been consulted to implement the laboratory and the CLIS was started in the beginning of the laboratory.

DE

Partially. AkEnd contacted local actors during elaboration of the new siting process. There is no "institutional" continuous participation of local actors during all the process.

HU

Yes. Associations are planned to operate during the whole lifetime of the facilities.

NL

–

RO

We are just in the design stage of the process of local actors involvement.

SI

Yes. Mayors and city councils, members of parliament of the region where NPP is located. Until the end of programme.

ES

Yes. A sustainable situation is sought.

[Flexibility is sought.] [We should not forget that a final decision has to be made.]

SE

Local actors have been involved since the 1970s and will be involved at least until a repository has got a permit.

CH

Local actors have always come in, whether planned or not. Traditionally they were not invited but official views have changed and their stance will be dealt with in the sectoral plan.

UK

There is particular attention paid to local actors especially those in the areas of existing nuclear sites (e.g. Sellafield, Dounreay). This is an ongoing relationship. NDA have confirmed their intention to consult with local stakeholders in their strategy document. Involvement of local communities is envisaged throughout the implementation process which may take several decades.

E-8

Methods

What instruments and/or institutional assistance are applied for involvement? (from local committees to veto rights)

BE

Out of several participatory models (LCs, partnerships, focus groups, round tables, forums,...) Belgium has chosen the local partnerships model as the formal local participatory process tool. This is partly because the Belgian authorities asked ONDRAF/NIRAS to “concentrate their research on developing methods integrating existing local policy and deliberation structures”.

The idea behind the local partnership programme was that the potential host communities should be given the opportunity to be involved in the development of both the technical and the socio-economic part of the repository project and should be enabled to determine for themselves the conditions for accepting such a drastic intervention in their immediate surroundings. These “conditions” were regarded to be more than just technical and safety measures. Together they were to constitute the accompanying regional development project (in one way or another related to the disposal site) from which the entire community benefits.

CZ

There are no LCs established yet.

FR

The CLIS has been funded but is not really included in the DM; one consultation of local elected authorities before deciding on storage.

DE

Not finally decided upon. Instruments suggested by AkEnd: information platform, citizens` forum, centres of competent experts, round table. Forms of involvement: participation in fora and round tables, vote and orienting vote of the population on the willingness to participate to be polled in ballots.

HU

Exhibitions, Open days, cultural and information programs, publications, professional visits for mayors. Lectures, civil forums, negotiations with NGOs. Public opinion surveys.

NL

–

RO

None at the moment.

SI

Foreseen are local committees, veto right, independent consultancy and expert opinions. But the instrument can vary and will be chosen by the individual local partnership.

ES

There is “*de facto*” veto power which can only be superseded by the National Interact Act. DMP and decisions are on a voluntary basis.

SE

There are local committees both in Oskarshamn and Östhammar. Municipalities have a veto right concerning nuclear waste disposal, but may be overridden by Government.

CH

The local committees ("Oversight Committees") have not been instruments of local influence. Votes traditionally amount to veto rights.

UK

This will become relevant once implementation commences and sites are being investigated. Assistance to communities to participate is integral to the concept of Involvement Packages. A right to withdraw up to a certain point is provided.

E-9

Knowledge generation

Are there provisions to improve the competence of (local) actors?

BE

Objective of the local partnerships: work together on a integrated siting project (integrating socio-economic and technical issues). Critical reflection of technical issues in the working groups did not lead to a rejection of the basis NIRAS/ONDRAF proposals, but did provoke a number of changes to the projects.

CZ

Opening of info centres at the potential sites and meetings. According to Memorandum the municipalities are entitled to select experts participating in peer reviews. Costs are covered by RAWRA.

FR

The CLIS get an annual subvention of 305,000 EUR.

DE

Yes. Centre of competent experts to assist local actors suggested by AkEnd.

HU

Public forums, meetings, exhibitions.

NL

–

RO

None.

SI

Assured financial means for independent research and local partnership functioning.

ES

[Formation in seminars and in courses.]

SE

Yes, to some extent, more in Oskarshamn than in Östhammar.

CH

Local actors are not the centre of attention of the current national discussions.

UK

There is currently no explicit provision beyond ensuring that local actors are kept fully informed and involved. Local authorities have created special interest groups (NuLeAF, NFLA) to act as a resource to local government. In future Involvement and Community Packages should ensure provision of education, information, *etc.*, for local communities.

Abbreviations

–	No entry
AGNEB	Swiss Interdepartmental Working Group on Radioactive Waste Management
AKA	Swedish government committee (Spent Fuel and Radioactive Waste)
AkEnd	Arbeitskreis Auswahlverfahren Endlagerstandorte (German Committee on Site Selection Procedure)
AMAC	Spanish Association of municipalities with nuclear installations
ANDRA	French radioactive waste implementer
ANDRAD	Romanian implementing organisation
ARAO	Slovenian radioactive waste implementer
BfS	Bundesamt für Strahlenschutz (German Federal Office for Radiation Protection, regulator and implementer)
BMU	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, regulator)
BRGM	Bureau de recherche géologique et minière (France)
CIEMAT	public Spanish Research Centre for Energy, Environment and Technology
CNCAN	Romanian regulatory authority
CNE	Commission nationale d'évaluation (French research evaluation body)
CoRWM	UK Committee on Radioactive Waste Management
COVRA	Dutch radioactive waste implementer
CSF	Spanish Centralised interim Storage Facility
CSN	Consejo de Seguridad Nuclear (Spanish regulatory authority)
DBE	Deutsche Gesellschaft zum Bau und Betrieb von Endlagern (German implementer)
DEFRA	UK Secretary of State for the Environment, Food and Rural Affairs (regulator)
DETEC	Swiss Department of the Environment, Transport, Energy and Communication (energy regulator)
DMP	Decision-making process
EIA	Environmental impact assessment
EKRA	Swiss Expert Group on Disposal Concepts for Radioactive Waste
ENRESA	Spanish radioactive waste implementer
ERP	European Pressurized Reactor (Franco-German advanced light water reactor project)
FANC	Belgian nuclear regulator
FBFC	fuel assembly manufacturer (subsidiary to the French AREVA)
FZK	Forschungszentrum Karlsruhe (German Research Centre Karlsruhe)
FZJ	Forschungszentrum Jülich (German Research Centre Jülich)
FZR	Forschungszentrum Rossendorf (German Research Centre Rossendorf)
GRS	German Gesellschaft für Anlagen- und Reaktorsicherheit
GSF	German Gesellschaft für Strahlen- und Umweltforschung
IAEA	International Atomic Energy Agency
IFIN-HH	Romanian research centre with research reactor
ISAM/ASAM	improvement of Safety Assessment Methodologies Project on Application of Safety Assessment Methodologies (by IAEA)
HAEA	Hungarian Atomic Energy Authority
HAVL	long-lived high-level waste (France)
HW	high-level waste (sometimes including spent fuel, SF)
HSK	Swiss Nuclear Safety Inspectorate (technical regulatory body)
IW	intermediate-level waste
KBS	Swedish nuclear waste project (Nuclear Fuel Safety)
KFW	Swiss Cantonal Expert Group Wellenberg
KNE	Swiss geoscientific Commission on Radioactive Waste Disposal
KSA	Swiss Federal Nuclear Safety Commission
LC	local committee
LIL-SL	waste from nuclear research, medicine, and industry
LLIW	long-lived intermediate-level waste
LIW	low- and intermediate-level waste
LW	low-level waste
MIR	waste from medicine, industry, and research
MONA	LC in Mol, Belgium
MW _e	megawatt electric (power)

Nagra	Swiss radioactive waste implementer
NEA	Nuclear Energy Agency (of OECD, www.nea.fr)
NEAct	Swiss Nuclear Energy Act
NGO	non-governmental organisation
Nirex	UK radioactive waste implementer
NPP	nuclear power plant
ONDRAF/NIRAS	Belgian Agency for Radioactive Waste and Enriched Fissile Materials
PALOFF	LC in Fleurus-Farciennes, Belgium
PSI	Paul Scherrer Institute (Swiss energy, incl. nuclear, research institute)
PURAM	(Hungarian) Public Agency for Radioactive Waste Management
RAAN-SCN	Romanian research centre with research reactor
RAWRA	Czech radioactive waste implementer
RCEP	UK Royal Commission on Environmental Pollution
R&D	research and development
RSK	Reaktor-Sicherheitskommission (German Reactor Safety Commission)
RW	radioactive waste
RWM	radioactive waste management
SCK•CEN	Belgian Nuclear Research Centre
SEA	strategic environmental assessment
SF	spent fuel
SKB	Swedish radioactive waste implementer
SKI	Swedish Nuclear Power Inspectorate (regulator)
SNN	Romanian utility (Societatea Nationala Nuclearelectrica)
SSI	Swedish Radiation Protection Authority (regulator)
SSK	Strahlenschutzkommission (German Radio-Protection Commission)
STOLA	LC in Dessel, Belgium
STORA	Follow-up LC in Dessel, Belgium
ZWILAG	Swiss Central Interim Storage Facility, Würenlingen