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NUCLEAR ENERGY AGENCY
RADIOACTIVE WASTE MANAGEMENT COMMITTEE

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Forum on Stakeholder Confidence (FSC)

**PUBLIC INFORMATION, CONSULTATION AND INVOLVEMENT IN RADIOACTIVE WASTE
MANAGEMENT**

An International Overview of Approaches and Experiences

This document updates RWM/FSC(2002)3/REV1. The document is now final and can be cited. It will be published by the NEA.

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FOREWORD

Institutions involved in radioactive waste management are facing a rapidly evolving environment stemming from societal changes, the new information technology, new roles for media, etc. This is taking place at the same time as some national programmes are transitioning from research and development to site selection and implementation, whilst others are reviewing and defining their policies in the waste management area. As in many environmental areas, a demand for public participation in decision making leads to a need for new approaches to involving stakeholders. This document benchmarks the stakeholder involvement practices by radioactive waste management institutions at the start of the 21st century.

The NEA Radioactive Waste Management Committee (RWMC) has identified Public Perception and Confidence as one of the strategic areas where progress would be most beneficial towards further development of radioactive waste management, and particularly disposal programmes. The Committee intends to promote common understanding amongst its institutional members and provide bases for enhanced dialogue amongst all interested parties. In this light, the RWMC launched the Forum on Stakeholder Confidence (FSC). The FSC is meant to keep under review the world-wide experience of its participating organisations in outreach programs, to identify and examine stakeholder confidence issues, and to help prepare the dialogue across institutional and non-institutional boundaries. The FSC has been in operation since August 2000.

As a first step in setting up the FSC a questionnaire on stakeholder involvement practice and experience was developed in 1999 and sent to the RWMC member organisations. The aim was to assist the NEA Secretariat in preparing a specific work programme and background material for the FSC group. An update of the questionnaire responses was provided later, within the FSC, by a subset of participating organisations. The compiled responses reflect a great variety of experiences from NEA Member countries, in some cases through Autumn 2002. A detailed summary of experiences from a number of countries is given.

The collected materials show that there is a fund of experience in waste management organisations and regulatory bodies, reflecting many methods and approaches, some more traditional and others more innovative. Such detailed, comparative information as is presented in this document has not been collected elsewhere. Important developments or events are taking place at a rapid rate, however, and the information reported in this survey constitutes, for each respondent, only a snapshot from a specific point in time. This document is thus published with the intention to provide both the practitioner and the non-specialist with a valuable baseline of self-generated, detailed information on stakeholder dialogue, consultation and information practices. It can be used to assess the state of the art in the field as well as to provide an historical perspective when assessing future progress.

EXECUTIVE SUMMARY

The Radioactive Waste Management Committee (RWMC) has identified Public Perception and Confidence as one of the strategic areas where progress would be most beneficial towards further development of radioactive waste management, and particularly disposal programmes. The Committee intends to promote common understanding amongst its institutional members and provide bases for enhanced dialogue amongst all interested parties. In this light, the RWMC launched the Forum on Stakeholder Confidence (FSC). The FSC is meant to keep under review the worldwide experience of its participating organisations in outreach programs, to identify and examine stakeholder confidence issues, and to help prepare the dialogue across institutional and non-institutional boundaries. As a first step in developing the new group a questionnaire was developed in 1999 and sent to the RWMC member organisations. The aim of the questionnaire was to assist the NEA Secretariat in preparing background material for the FSC group, including a basis for a more specific work programme. An update of the questionnaire answers was provided later, within the FSC, by a subset of participating organisations (from France and Spain in Spring 2002; from Belgium, Canada, Sweden, Switzerland and the UK in Autumn 2002).

The waste management organisations are facing a rapidly evolving environment stemming from societal changes, the new information technology, new roles for media, etc. This is taking place at the same time as some national programmes are transitioning from research and development to site selection and implementation, whilst others are reviewing and defining their policies in the waste management area. As in many environmental areas, a demand for public participation in decision making leads to a need for new approaches to involving stakeholders. The responses that have been collected reflect a great variety of experiences from NEA Member countries. Indeed, these collected materials show that there is experience, and that there are many methods and approaches, some more traditional and others more innovative, that are being used by waste management organisations and regulatory bodies.

Section 2 of this document covers general approaches to public participation in member countries. In general, there are legal requirements in force on public consultation, often under the umbrella tool of an Environmental Impact Assessment (EIA). In most countries, the local communities have a strong position with respect to the siting of a repository, sometimes with a right to veto. A number of international conventions also in force require certain procedures for public participation.

One particularly important factor is the attitude of the regulators with regard to their own participation in public dialogue. Experiences have shown that active regulator involvement is very much appreciated by the public, and that this can be achieved without endangering the regulator's independence and integrity as licensing body. A gradual development can be seen from a "passive" regulator role to an active role as the "people's expert".

Formal requirements by national legislation and international conventions are only a necessary but not a sufficient condition for the creation of procedures that can build trust and confidence. Such procedures must include dialogue amongst stakeholders as a lead principle. This is

discussed in Section 3. Effective communication requires the ability to discuss all issues of interest to the public, including social and philosophical concerns.

Section 4 summarises public information and involvement initiatives by waste management organisations specifically. A wealth of different experiences exist, especially with respect to the siting programmes. Only in a few countries have radioactive waste management programmes evolved more or less according to early intentions. In other countries, site selection programmes have been delayed or halted due to public opposition. There are also a few examples where severe problems have resulted in a complete re-evaluation and a new approach in the national programme. The outreach initiatives described are concurrent with these situations, or in some cases constitute direct responses. Questionnaire informants reveal what went well and what went less well with different approaches. There is less analysis, however, of possible reasons behind the good and less good experiences. A detailed summary of experiences from a number of countries is given in Appendix 2. Note that in some countries, important developments or events are taking place at a rapid rate; the information reported in this survey constitutes a snapshot from a specific point in time.

Section 5 summarises perceptions, values and interests among stakeholders, as reported by the respondents. Much of the material comes from opinion surveys and research projects. Issues covered are e.g., the NIMBY syndrome versus the responsibility to take care of the waste, the challenge of long time frames and retrievability. There are also some insights into how implementers and regulators can perceive the interests of other stakeholders. This section raises the question of how perceptions, values and interests among stakeholders should be included in the decision-making process, and how this could be achieved in a transparent way.

The initiative of the RWMC to create the new Forum and the commitment shown by those responding to the questionnaire suggest high expectations for what may be achieved by the FSC. The responding organisations also provided a substantial amount of advice for the programme of the FSC, summarised in Section 6. One suggestion is for the FSC to engage in the development of methods and techniques for communication, as well as addressing policy issues. It is emphasised that alongside the traditional experts in the field, non-technical experts and stakeholders should certainly take part in the work of the FSC. Regarding possible tangible outputs of the FSC work, position papers, opinion surveys and fact sheets are mentioned in the responses.

At the time of publication of this survey, the FSC has been in operation for almost three years. Section 6 thus reviews the actual programme of work accomplished and to come.

1. Introduction

The Radioactive Waste Management Committee (RWMC) of the NEA is a forum of senior operators, regulators, policy makers, and senior representatives of R&D institutions in the field of radioactive waste management. The Committee assists Member countries by providing guidance on the solution of radioactive waste problems, and promotes safety in the short- and long-term management of radioactive waste. The cross party representation of industry, safety authorities, and governmental policy bodies and the wide range of expertise it musters amongst the NEA Member countries, make the RWMC a uniquely placed international forum to address issues in radioactive waste management.

Since its inception in 1975, the RWMC has addressed both strategic and technical issues in waste management, especially disposal in the more recent years, and RWMC documents have proved valuable in the NEA Member countries at both policy and technical levels. In a 1999 document¹, the RWMC identifies and describes strategic areas where progress would be most beneficial towards further development of radioactive waste management, and particularly disposal programmes. Public perception and confidence is identified as one of the strategic areas where the Committee intends to promote common understanding and further dialogue.

Issues of public perception and confidence have been most critical in gaining approval for development of repositories for long-lived radioactive waste at specific sites², which raises the question of how best to achieve confidence regarding the ethical, economic, political and technical aspects of a waste management strategy, and disposal in particular. The “public”, however, is not a homogeneous group, and its various components and the concerns they have need to be better identified and understood.

An important aspect is that stakeholders should be afforded opportunities to interact as early as possible in the process of repository development. In addition, the process by which proposals are brought forward must be trusted, and decisions made with sensitivity to local concerns. Thus, an additional, specific issue for consideration is how to elicit more meaningful public involvement in the decision-making process. In particular, the needs of these audiences may not always be anticipated and dialogue with stakeholders should be sought.

In its effort to assist its members in their obligation to take into account the input of various audiences in their respective countries, the RWMC created the Forum on Stakeholder Confidence (FSC). The latter is meant to keep under review the worldwide experience of its participating organisations in outreach programs, to identify and examine stakeholder confidence issues, and to prepare the dialogue across institutional and non-institutional boundaries.

As a first step in developing the programme for the new group a questionnaire was produced and sent to RWMC members for response. The questionnaire is reproduced hereinafter as Appendix 1. The aim of the questionnaire was to assist the NEA Secretariat in preparing a basis for a work programme for the FSC and as background material to the work of the FSC group. Later, the FSC

¹ OECD/NEA 1999 *Strategic areas in Radioactive Waste Management. The Viewpoint and Work Orientations of the NEA Radioactive Waste Management Committee.*

² OECD/NEA 1999 *Geologic Disposal of Radioactive Waste - Review of Developments in the Last Decade.* In this report referred to as the “NEA ten-year study”.

updated the answers to the questionnaire, which now reflects the experience of the member organisations in a number of cases through Autumn 2002. The aim of the questionnaire was to gather, in a timely way, if not a comprehensive then a sufficient body of experience and materials to share and to build upon. Accordingly, it was understood that the questionnaire responses do not necessarily represent the official position or a complete coverage of the official position of the organisations responding to the questionnaire.

This report is based on both a review and analysis of the 1999 questionnaire responses (and the sample of updates through September 2002) and on RWMC documents. The structure is as follows:

- Section 2 covers general approaches to public participation in Member countries
- Section 3 summarises insights about generic elements for credibility and effective means of communicating
- Section 4 summarises initiatives to inform and involve stakeholders
- Section 5 reports perceptions, values and interests that are most important to stakeholders
- Section 6 summarises the responses concerning the FSC work programme and modes of operation, and reports the actual development of the Forum, which has operated, at time of publication, for almost three years.

These sections are supported by three appendices providing more detailed information:

- Appendix 1 reproduces the NEA questionnaire and lists the responding organisations (identifying those who provided updates in 2002)
- Appendix 2 gives an overview in table format of experiences from information and stakeholder involvement activities in a number of Member countries
- Appendix 3 lists complementary sources of information cited in the responses to the questionnaire.

2. General approaches to public participation

Over the last decade the awareness of the necessity for the nuclear waste programmes to become more communicative, rather than relying on one-way release of information, has increased worldwide. This reflects advances in national programmes to the phase of site selection and the necessary involvement of regional and local bodies as well as concerned citizens, but it is also due to the introduction of legal requirements for public consultation, often under the umbrella of the Environmental Impact Assessment (EIA).

The questionnaire responses describe the general approaches to public participation, risk communication and public confidence in Member countries. In general, they focus on the formal requirements for public involvement and the role of EIA.

International and national requirements for public involvement

In general, a license for a repository for radioactive waste needs not only a technical or regulatory decision but also a political decision, which in turn requires broad public consent. In most countries, members of the public have the opportunity to respond or object to a proposed nuclear installation at certain phases in the decision process. In Germany, for instance, any person has two

opportunities to object to a project during the general licensing procedure: one at the time of the request itself and one when the statements by the States (Länder) and federal offices and the expert reports have been published.

In some countries, e.g. Finland and Sweden, it is stipulated that the local municipality council has a right of veto over a siting proposal (although in Sweden a veto may in principle be overruled by the government under certain conditions). Gaining public acceptance is, therefore, a prerequisite for implementing the final disposal solution. In Sweden, the siting process is based on voluntary participation and the feasibility studies take place only in municipalities that have given their consent. There often also exist explicit requirements for consultations with affected parts of the public, especially those living close to a potential repository.

In Canada, the *Nuclear Safety and Control Act* that established the Canadian Nuclear Safety Commission (CNSC) imposes requirements for public notification and participation. Following in the footsteps of its predecessor, the Atomic Energy Control Board (AECB), the CNSC has maintained an active public participation programme, especially with respect to public hearings and the provision of opportunities for public comment.

In France, a 1999 decree authorises the implementation of a Local Information and Monitoring Committee to be chaired by the Prefect of Department where an underground research laboratory (URL) project is implemented. That committee shall be responsible for ensuring that all information concerning the evolution of the URL project is freely accessible. In particular, it shall be entitled to commission hearings or independent audits by certified laboratories. Furthermore, its members shall be granted full access at all times to the installations of the underground laboratory.

Switzerland, with its federalist structure, has a long tradition of involvement of the public in decision-making at all political levels. The public decides in a binding fashion on factual questions through communal, cantonal and federal referenda. The licensing procedure for each licence (even for exploratory drillings, shafts or galleries) includes two public consultations, which give opportunity for the public to comment on or object to the project applied for. In other countries referenda at the local level are also used even if they are not always obligatory.

An interesting form of public participation is in place in the Czech Republic, where representatives of the public sit on the Radioactive Waste Repository Authority (RAWRA) Board. The latter supervises RAWRA activities and approves plans, budget, etc. In this way, representatives of the public participate directly in the decision making process.

In the U.S., the Nuclear Waste Policy Act (NWPA) of 1982 as amended directs that the U.S. Department of Energy (DOE) study Yucca Mountain, Nevada, as the single site to be characterised for a repository for deep geologic disposal. The NWPA also requires interaction with, and financial assistance to, the various States, local governments, and Native American tribes. Furthermore, the NWPA requires an open, public process for the establishment of standards and regulations.

International Conventions are international legal instruments, binding for countries (States) which have ratified them. For these countries such Conventions often form the basis for the development or amendment of other national legislation or regulations as well as supranational legislation (e.g. EC Directives in the case of EU Member States). There are a number of International Conventions relevant for policies with regard to public information and consultation, three of which are given in Table 1.

The role of Environmental Impact Assessment (EIA)

Requirements for information to or consultations with the affected or concerned public are often a part of EIA legislation.

The European Union Directive 85/337/EEC as amended by Directive 97/11/EC requires the concerned public to be informed as part of the EIA process for certain projects, including disposal facilities and facilities for long-term storage of radioactive waste. This information must be provided in good time, thus allowing the public to express their opinion before a decision is taken on whether to grant development consent.

In Finland such a procedure has already taken place in the site selection programme. In 1997–1999 the EIA process provided a framework for a particularly intensive period of communicating with the public (and other stakeholders)³.

In the UK, EIA requirements are addressed in 1999 regulations on environmental assessments to be undertaken before planning permission is granted for projects with significant potential environmental effects.

In Sweden EIA requirements are part of the Environmental Code which stipulates extended consultations with the government agencies, the municipalities, the citizens and the organisations that are likely to be affected.

In Canada, federal EIA requirements, outlined in the *Canadian Environmental Assessment Act*, allow for three types of assessment, each calling for a specific level of public participation during the project planning phase. The Canadian Nuclear Safety Commission must satisfy these EIA requirements before certain licensing decisions can be made under the *Nuclear Safety and Control Act*.

³ This experience is reviewed in several papers and discussions at an FSC Workshop that was held in Turku, Finland in November 2001, reported in: OECD/NEA (2002) *Stepwise Decision Making in Finland for the Disposal of Spent Nuclear Fuel. Workshop Proceedings, Turku, Finland, 15-16 November 2001*. Paris: Author. (152 pages; NEA#03616, ISBN: 92-64-19941-1, OECD Ordering reference number: 662002161P1.)

Table 1 Three examples of international conventions relevant to public involvement in decision-making⁴

UN Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters (Aarhus Convention)

This requires that provision be made within the framework of national legislation for environmental information to be made available to the public on request. Projects for which this requirement is mandatory include disposal facilities and facilities for long-term (>10 years) storage of radioactive waste. In the EU, the requirements of this Convention affect all environmental legislation, and in particular there is currently a project for amendment of the EIA Directive to bring it into line with the provisions of the Convention, which entered into force on 30 October 2001.

UNECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention)

This requires that there should be notification and consultation with adjacent countries where projects are likely to result in environmental impacts across boundaries. It states also that there should be promotion of public information in relevant decision-making processes. Complementary requirements were implemented in the EU with the 1997 amendment to the EIA Directive (97/11/EC), which reinforced the role of public information introduced in the original EIA Directive (85/337/EEC) and presented provisions for cross-border consultation within the EU Member States.

UN Conference on Environment and Development

The Rio Declaration (included here in spite of the fact that it does not have the status of convention) and an associated action plan (Agenda 21) recognise that sustainable development can only be achieved if there is broad public participation in decision making.

In Norway, the Planning and Building Act requires environmental impact assessments for all new repositories and other large installations. Public hearings must be performed in such cases. Even at existing sites, environmental impact assessments with public hearings may be required.

Through legislation, the principles in EIA such as openness, broad involvement of stakeholders, early participation, and description of alternatives including the “zero” (do nothing) solution, become part of the decision making process. However, one can also see EIA with these principles as part of a methodology for public participation.

In Sweden, EIA procedures have been developed before the EU legally binding requirements have entered into force. One particular example is the EIA process in Kalmar County and the municipality of Oskarshamn (often referred to as the “Oskarshamn model”). In this case the EIA

⁴ Since compilation, another relevant convention has been ratified: The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. <http://www.iaea.org/ns/rasanet/conventions/jointconven.htm>

process includes a number of activities at the County and local levels, with the municipality politicians and the “general public” participating within a structured framework. The use of EIA as an umbrella process for a number of specifically designed public involvement activities is also explored in a recent research study⁵ carried out at the county and local level.

The role of regulators

The regulatory and licensing bodies have a very important role to play during the entire decision process for new nuclear facilities, which is reflected in several parts of the responses. The independence and public accountability of the regulators are vital to public confidence in the national high-level waste (HLW) programme. The success of public outreach programmes hinges, in large measure, on the extent to which regulators effectively make their presence and role known, and communicate their independence – showing capacity for their own evaluations and the integrity to put forward their requirements.

Especially when the nuclear waste programmes enter a phase of site selection, the issue arises of whether the regulators can take an active role with involvement in the community processes while maintaining independence for later licensing actions. The traditional policy worldwide has been that the regulators should not be too intensely involved, if at all, since that might put their independence into question.

Now, however, the regulators seem to take a more active role, although the approaches and the extent to which this is done vary. Experiences have shown that active regulator involvement is needed and can be achieved without endangering independence and integrity as licensing body. An active role is important to gain trust and confidence in the communities that the regulator fulfils its protective function in the management process.

3. Insights about generic elements for credibility and effective means of communicating

In general, implementing and regulatory organisations have a stated policy of openness and transparency⁶ vis-à-vis all potential stakeholders. Such a policy includes that the results of investigations are made publicly available within a short time period.

A basic condition for public dialogue is information (early, understandable, credible, consistent, related to all issues of public interest). To provide easy access to information, the organisations issue booklets, provide internet sites, and set up information centres near existing facilities or exhibitions in regions of interest, organise meetings and discussions, etc.

Policies also reflect the increasing awareness that public dialogue must be based on two-way communication rather than one-way information. An important task allocated to meetings, information centres and internet sites is, indeed, to obtain feedback from the public in order to identify and later address issues of public and social interest.

⁵ Andersson, K., Balfors, B., Schmidtbauer, J. & Sundqvist, G. 1999. *Transparency and public participation in complex decision processes*. Pre-study for a decision research institute in Oskarshamn, KTH, TRITA-AMI Report 3068.

⁶ There can be many possible meanings of the concept of transparency. In the RISCOM project, initiated by SKI and SSI, now a EU research project, transparency means that it must be possible to evaluate factual claims, value-laden issues and the authenticity of experts and stakeholders.

The communication process can only be effective if all parties of the process are interested in communicating and if the dignity and the roles of all parties are acknowledged. One pitfall of earlier communication approaches was the emphasis by waste management experts on technical issues and issues of natural sciences to the detriment of the wider social issues. Effective communication requires ability to discuss all issues of interest to the public. Controversial social or philosophical issues must be addressed.

There is, however, often a problem to involve the public to the extent that nuclear waste organisations may wish. A questionnaire on public views in UK on radioactive waste management in 2002 can illustrate this. The responses supported greater public involvement in the debate about the future management of radioactive waste. Two thirds of those interviewed believed that the general public should be closely involved in the debate. However, being realistic, only a quarter of them would actually wish to be personally involved themselves.

Table 2 summarises the respondents' views on what is required to foster and maintain credibility of waste management organisations as well as communication elements that harm credibility.

According to CNSC, lack of credibility of waste management organisations and regulators seems to reflect a lack of credibility in governments and "big business" as a whole. For waste management implementers and regulators, this translates not to a lack of confidence in their competence, but to scepticism about their integrity and intentions. CNSC concludes that little can be done directly to change this attitude, other than to maintain a high degree of integrity in dealing with the public. This means, inter alia, clearly defining where public opinion can affect decisions and what decisions public opinion cannot influence, showing the use of public opinion in the decision-making process, and honouring all commitments made to the public.

Relations with the mass media are important in modern society. Openness and availability are always required. It is also useful to make acquaintance with journalists and media editors so that they can identify the face and the personal characteristics of the company spokesman as well as of the media interface officer.

Some organisations note that the NGOs' impact on the media and the public may create credibility problems for institutions. Information from operators and regulators is often mistrusted when the media and NGOs put forward alternative experts who dramatically dispute official information. However, total openness and availability are the only means to deal with such problems.

Technical means, information activities, meeting formats, etc.. are specified in questionnaire responses, and general behavioural advice is suggested. These are summarised in Table 3.

Table 2 Insights regarding generic elements that may favour or harm credibility

Elements that favour credibility	Elements that harm credibility
<ul style="list-style-type: none"> • The highest possible level of openness and transparency will eventually help to show that the implementer and the regulator have nothing to hide • Procedural equity (acknowledgement and adequate representation of all viewpoints) • The decision-making processes should be highly accessible. Local governments and citizens should be involved in the processes from the beginning • Credibility is based on confidence in institutions, which depends on their long-term behaviour and actual actions • Recognising that alternative views may be valid, that the organisation "does not have all the answers" • In communicating the final decision, it is shown where and how stakeholder views have been taken into account • Objectivity (consideration of information from a variety of sources, no apparent vested interest) • It is difficult, if not impossible, to heal early mistakes affecting credibility. These mistakes can only be corrected by going back to a point before the mistake was made • Comprehensive and stringent disposal strategy, technical concepts and assessment methodology. Changes must be convincing and discussed prior to implementation • Leadership, and therefore involvement, of the national government is necessary • Demonstrated technical competence of the implementer and the regulator • National and international reviews by independent experts • Clear separation of roles of the implementer and the regulator • Stay uninvolved in the more general debate concerning the energy choices and the place of the nuclear power • Willingness to give the process time 	<ul style="list-style-type: none"> • Lack of transparency in the messages, secrecy, reactive approach • Over-representation of particular viewpoints or interests • Minimisation of the importance of public opinion and social movements • Lack of designation of a spokesman per field of activity • Appearing arrogant or dismissive of stakeholder viewpoints, "we are the experts" • Limited consideration of the results of participation in the final decision • Apparent lack of objectivity (seen to be too closely associated with interest groups) • Accidents or incidents occurring anywhere in the world • Unclear strategies and decision making processes • Lack of political consensus. Political use of the radwaste issue • Unconvincing technical competence • Unwillingness to have one's own work subject to review • Unclear roles – the public cannot separate implementer and regulator • Mixing energy policy with waste management safety debates • Giving deadlines higher priority than communication

Table 3 Effective means of communicating

Organisational

- Local information and monitoring committees are very valuable to convey the information and to discuss and debate all related issues. They should be established at a very early stage, as soon as the project is mature enough to be thoroughly explained. Local authorities, members of political parties and social organisations should be represented
- A structure of open and participative collaboration
- Integration of technical-scientific aspects and social aspects
- Within the framework of the site selection procedure, taking care that the local population regards the project as *its* (own) *project* and not as an imposed (from outside) project
- Seminars, hearings and public interviews with high credibility personalities, leaders and university professors can convey solid and convincing messages to the general public through the media
- Visits to facilities are an important means for building knowledge and understanding. “A real 3-D image is worth more than one million words”
- If a site is selected: local embedding of the implementing organisation
- No discrimination against “amateurs”—the concerned public's expertise and knowledge may lie elsewhere than in RADIOACTIVE WASTE MANAGEMENT, but they can be valuable to the project
- Neutral mediation in case of conflict
- “Focus Group” discussions and Local Liaison Committees

Technical

- Information centres should be attractive, equipped with interactive models, suitable not only for students but for persons of all ages
- Web sites should be user-friendly and preferably in two modules: one designed for the broad public and one designed for children and youngsters
- Publications, CD-Roms, videotapes, etc. must be easy to read and/or use, avoiding too many technical details

JNC advice for “face to face” communication:

- Walk don't run: work to a local time scale, don't push your schedule
- Make sure whom you are facing: he might not be the person you think he is
- Speak to what they want to hear about, don't just tell what you want to say: in many cases what they want to know about disposal is “why dispose of the waste” instead of “how to”
- Don't promise what you can't maintain: never choose a temporary solution to get out of a difficult spot
- Face them: a single contact with your counterpart provides more trust than preparing 100 responses to “frequently asked questions”.

4. Experiences and initiatives to inform and involve stakeholders

The responses to the RWM questionnaires reflect a great variety of initiatives and attendant experiences. Table 4 gives an overview of the activities reported in the responses.

Table 4 List of activities described in the 1999/2000 questionnaire answers

REPORTING ORGANISATION(S)	ACTIVITIES ⁷
Department of Industry, Science and Resources, Australia	<ul style="list-style-type: none"> • Communication with local community including Aboriginal groups
CNSC, Canada	<ul style="list-style-type: none"> • Modified licensing procedures • Workshops for new licensees of legacy uranium mine sites • Development of a formal 'Outreach Programme'
RAWRA, Czech Republic	<ul style="list-style-type: none"> • Early communication initiatives towards local population and media
POSIVA, Finland	<ul style="list-style-type: none"> • Visit of M/S Sigyn in Helsinki in 1998 • The EIA process in 1997-1999 • Public education activities
ANDRA, France	<ul style="list-style-type: none"> • Moratorium, the new law in 1991, mediation mission, and Government decisions • Local Information and Committee (CLIS) • Granite site selection
BMU, Germany	<ul style="list-style-type: none"> • Gorleben experiences • Konrad experiences
HAEA, Hungary	<ul style="list-style-type: none"> • Site selection for a LLW/ILW repository
JNC and STA, Japan	<ul style="list-style-type: none"> • Description of various information activities
Statens Strålevern, Norway	<ul style="list-style-type: none"> • Himdalen waste repository • Spent fuel storage at the research reactors
CSN and ENRESA, Spain	<ul style="list-style-type: none"> • Underground research laboratory - IPES project • Dismantling of lightning rods • El Cabril LILW repository • Vandellós I decommissioning project and Andujar uranium mill decommissioning project

⁷ The activities reported include both national initiatives and those launched by the reporting organisation.

REPORTING ORGANISATION(S)	ACTIVITIES⁷
SKB, SKI and SSI, Sweden	<ul style="list-style-type: none"> • The Dialogue Project 1990-1993 (SKI and SSI) • The RISCOP Pilot Project 1997-1998 (SKI and SSI) • The RISCOP II project (2001-2003) • The EIA process for siting a spent fuel repository, with strong involvement of municipalities • Reviews of the SKB research and development plans • Public hearings in conjunction with regulatory review of SKB's proposal for site investigations • The VALDOR symposiums in 1999 and 2001 • The Oskarshamn model
NAGRA and HSK, Switzerland	<ul style="list-style-type: none"> • Guideline on the Protection Objectives for the Disposal of Radioactive Waste • Site selection for the repository for low and intermediate level waste • Licensing process for the Wellenberg repository project • Wellenberg working groups • Restart of the Wellenberg project • Consensus discussions on radioactive waste management • Spent fuel transports • Expert Group on Disposal Concepts for Radioactive Waste (EKRA) • Energy Dialogue • HSK's initiatives to enhance its presence • Establishment of a national agency for technical safety • Debate on the new Nuclear Energy Law • Information meetings Germany – Switzerland
NIREX, UK	<ul style="list-style-type: none"> • The Way Forward • Nirex Liaison Group • Nirex Transparency Policy • Use of Internet to discuss issues • Preview • Future Foundation work • Consultation about consultation • Stakeholder review • Workshop on partitioning and transmutation • Partitioning and Transmutation Citizens' Panel Report 2001 • RISCOP-II, Work package 4

Changes in overall programme

In France and the UK, earlier negative experiences in site selection have led to re-evaluation and redirection of the overall national programmes. In France a period of successive crises resulted, in 1991, in a law that instituted a new approach to waste management in general, and site selection in particular, with responsibility, transparency and democracy as lead principles. The new approach to site selection looks for consensus with, and involves actively, responsible territorial communities. The Law institutes a local information and monitoring committee on each underground laboratory site. A mediation mission by Mr. Christian Bataille, Member of Parliament, led to the appointment of one site for an underground laboratory - a second site is still being sought. Important for the French approach is the responsibility taken by Parliament, which will debate the state of research in 2006 and eventually decide whether or not to continue with a repository in the vicinity of one of the laboratory sites. A key element in the French programme is that other options (near surface storage and transmutation) are kept open until the Parliament decides otherwise.

In the UK, the refusal of the Nirex Rock Characterisation Facility at Sellafield in 1997 led to a complete reappraisal of radioactive waste management policy. A Parliamentary enquiry recommended in 1999 that the Government go ahead with underground disposal but that its policy must be comprehensive and must have public support. The Government replied that it would seek public views but that it would look at all waste management options before endorsing a particular one. After consultation, Ministers announced the creation in 2003 of a new independent body to oversee the review and to recommend the best option, or combination.

The events of 1997 also led Nirex to adopt a new Transparency Policy (1999) with a dialogue on the future long-term management of wastes. A number of dialogue processes are now being tested and used. Although it is too early to evaluate, the new approach has received initial positive response. In Spain, a delay in the programme allowed for a strengthened educational programme, which met with a very favourable response.

Table 5 Changes in overall programme

REPORTING ORGANISATION(S)⁹	EVENT or ACTIVITY	EXPERIENCE
ANDRA, France	Moratorium, the new law in 1991, mediation mission, and Government decisions. The new approach to site selection looks for consensus with, and involves actively, responsible territorial communities. The Law institutes a local information and monitoring committee on each underground laboratory's site.	A mediation mission by Christian Bataille led to the appointment of one site for an underground laboratory –to study the deep geological disposal option; a second site now sought. Other options (near surface storage and transmutation) are kept open and are subject of research until such time as Parliament may select preferred method(s).
NIREX, UK	<p>The Way Forward (1987). Questionnaire supported by factual information – 50,000 copies circulated to target stakeholder groups; supporting presentations on request, independent analysis of responses.</p> <p>Nirex Transparency Policy (1999). Publication of Code of Practice on Access to Information, Publications Policy, Formal Requests for Feedback on Information and Future Programme.</p>	<p>Over 2,000 independent responses; clearly identifiable trends capable of being addressed; marked differences between “nuclear” and “non-nuclear” communities.</p> <p>Initial response highly favourable, stakeholders seeking dialogue with Nirex on the future long-term management of wastes.</p>
CSN and ENRESA	In 1999 the geological disposal programme was delayed to allow for a broader public understanding of the nature of the technical solution proposed including P&T in the research development effort	A strengthened educational information programme has been triggered with a very favourable response from various stakeholders at national level

⁹ The reporting organisation, or questionnaire respondent, is not necessarily the initiator of all events or activities mentioned in column 2. For instance, the moratorium reported by Andra was decided by France's Prime Minister.

Regulatory approaches

As already emphasised, the approaches of the regulatory organisations are very important for credibility and success of nuclear waste management programmes. Table 6 summarises the specific activities reported in the survey.

Table 6 Regulatory approaches

REPORTING ORGANISATION(S)	EVENT or ACTIVITY	EXPERIENCE
CNSC, Canada	<p>Modified licensing procedures, including open licensing meetings, active participation of staff in public meetings.</p> <p>Workshop for potential licensees of legacy uranium mine sites that must be brought under licence control as a result of the implementation of the <i>Nuclear Safety and Control Act</i> in 2000.</p>	<p>Little response from the “general public”. Public confidence or apathy?</p> <p>The workshop was considered a success by the attendees: familiarizing the potential licensees with their legal requirements under the <i>Act</i>; establishing a dialogue and working relationship with the CNSC and with each other; enhancing the credibility of the CNSC with these stakeholders as a fair and open regulator; and encouraging them to work with the CNSC to voluntarily move forward with licensing the legacy uranium mine sites.</p>
SKB, SKI and SSI, Sweden	<p>Reviews of the SKB research and development plans. Comments from about 45 organisations.</p> <p>Regulations of radiation protection (SSI) and safety (SKI) for disposal of nuclear waste. New activities, such as focus groups, to get public input.</p>	<p>This process is much appreciated by communities and organisations that otherwise do not take an active part in the nuclear waste programme.</p> <p>The initiative has been much appreciated. Although it is too early to evaluate, early experience indicates that public input will give substance to the regulations.</p>
HSK, Switzerland	<p>Guideline on the Protection Objectives for the Disposal or Radioactive Waste. Information meetings, e.g. with opponent organisation.</p> <p>Initiatives to enhance knowledge</p>	<p>The guideline has been well accepted by the stakeholders, including some opponents.</p> <p>The publications and press</p>

	on existence of HSK and of its functions: broadly distributed publications (annual report, information brochures), internet site, press releases and conferences, public information meetings.	releases were well accepted by politicians, journalists and the general public. HSK becomes better recognized as a separate entity from implementers and policy makers.
U.S. NRC, USA	Enhancement of public outreach with measures such as risk communication training to technical staff, plain language posters, flyers and fact sheets, restructured format for public meetings.	Positive local reactions, better press coverage, greater satisfaction in the NRC staff.
CSN, SPAIN	Strategic Plans since 1995 have given strong preferences to promote a closer contact with the general public, the media and other key stakeholders by a proactive attitude increasing the presence of CSN in public forums and widening the dissemination of information.	Better interaction with key stakeholders e.g., media and local representatives, including municipalities. A set of tools to increase public interest and knowledge on nuclear safety matters.

Site selection experiences

An important phase in any waste management programme is site selection. The responses cover a wide range of public interaction experiences related to site selection. This is summarised in Table 7.

Positive experiences

One example is Finland¹⁰ where a site has been proposed recently by Posiva for detailed investigation in view of underground disposal of spent fuel, and the municipality has given its consent. This is the result of a long-term programme consistent with the “Decision in Principle” on the national political level and with Environmental Impact Assessment (EIA) as the key tool for communication with concerned municipalities and the general public. The site has now been approved.

In Sweden, the EIA (in parallel with requirements on a three-year R&D programme) also has been a key tool for the dialogue between SKB, the authorities, municipalities, counties and the public. Here the regulators (SKI and SSI) have taken an active role in the process, supported by a series of research projects. Also the municipalities themselves have taken new initiatives. Especially, the municipality of Oskarshamn has further developed the EIA methodology within the framework of representative democracy (the “Oskarshamn model”). The SKB presented in the year 2000 a proposal

¹⁰ Detailed information on the Finnish process, including stakeholder viewpoints, may be obtained in OECD/NEA 2002 *Stepwise Decision Making in Finland for the Disposal of Spent Nuclear Fuel* (see footnote 3).

for three sites for site investigations. The proposal has been subject for review and approval by the authorities and the government. Two of three proposed municipalities have approved and one has denied site investigation.

The progress made in site selection in Finland, Sweden and France (subsequent to the 1991 law) seems to be the result of a proactive programme for public involvement. Other positive experiences reported include (a) the site selection for a LLW/ILW repository in Hungary where a majority of the local public is supporting the site selection process, (b) the Vandellos decommissioning project and Andujar uranium mill decommissioning project in Spain, where a firm proactive attitude was adopted towards all range of authorities, political parties and the media. Another example is Belgium where the earlier site selection approach based on purely technical criteria has been replaced by local partnerships. The new principle is that any party that could be directly affected by a collective decision, should have a say in it. So far two local partnerships have been formed with promising results in terms of appreciation and participation; a third is in formation.

Negative experiences

Negative experiences reported in the responses include the Sellafield case in UK for an underground laboratory, where technical discussions did not address the real concerns of the local community, the Gorleben case in Germany where distrust in “officials” grew and there was “no real participation”, and the negative cantonal referenda on Wellenberg in Switzerland in 1995 and 2002.

The response from Spain includes a case from September 1995 when an antinuclear organisation spread through the press two maps of Spain showing 35 zones that had been investigated according to the HLW site selection programme conducted by ENRESA. This generated considerable concern in the vicinity of those areas and paved the way to demonstrations and to the creation of local anti-repository organisations. The communication profile of ENRESA in this case is described as reactive rather than proactive.

After the successful change in the French approach to site selection and the establishment of a laboratory site in clay, a new siting project followed for a granite site. Although within the same legal framework, the new process, paradoxically, was more technocratic. The response of anti-nuclear movements gave rise to refusal reactions from the local populations and civil society organisations. The local political representatives preferred not to engage themselves in favour of the project.

Table 7 Site selection experiences

REPORTING ORGANISATION(S)	ACTIVITY	EXPERIENCES
POSIVA, Finland	The EIA process in 1997-1999. Interaction on the local level between the implementers, residents, entrepreneurs, politicians, officials of the municipal government, members of associations.	A major break-through in bringing about discussion of merits and disadvantages of alternatives in nuclear waste management.
BMU, Germany	Gorleben experiences. Lectures by scientists and technicians. Meetings to allow for controversial discussions under broad participation. Konrad experiences. Public inquiry to ensure that all public interests were considered.	Extended controversial discussions between the "officials" and the audiences. No real participation - decision on next step of investigation was not open. Opponents trusted the licensing procedure. Confirmation of the applicant's plan.
HAEA, Hungary	Site selection for a LLW/ILW repository. The public was asked whether they would agree or disagree to exploration activities	A majority of the local public is supporting the site selection process.
SKB, SKI and SSI, Sweden	The EIA process in Kalmar County and the municipality of Oskarshamn. Laymen among the politicians, the municipality employees and citizens take part in the work. The competent authorities are visible throughout the process. SKB's proposal for three candidate sites for surface based investigation using deep bore-holes has been reviewed by SKI with major input from SSI and other organisations.	Considerable impact on the siting studies (which issues should be given emphasis). Influence on the programme to meet municipality conditions and to ensure the local perspective. The local competence has increased to a considerable degree. The process is now being adjusted to handle the site investigations. The proposal has been endorsed by the Government based on SKI's recommendations. Two municipalities have agreed to site investigations while the third declined.

<p>NAGRA and HSK, Switzerland</p>	<p>Site selection for the repository for low and intermediate level waste. Licensing process for the Wellenberg repository project.</p> <p>Actions to restart the politically blocked Wellenberg project. Fulfilment of the conditions set by the Federal and Cantonal Governments. Communication of the actions taken (public reports, media conference, information brochure, etc.).</p> <p>Swiss/German information meetings for officials from both sides of the border related to concerns on a possible repository for high level waste close to the German border. Independent appraisal of the site selection procedure by German experts (AkEnd).</p>	<p>Acceptance of the Wellenberg site selection. Then rejection of the mining concession in view of a repository by referendum in June 1995.</p> <p>A mining concession for an exploratory gallery was granted by the Cantonal Government. This decision was however rejected in a public referendum on 22 September 2002, putting a complete end to the Wellenberg project.</p> <p>The information meetings are appreciated, but the concerns are not yet satisfied.</p>
<p>Statens Strålevern, Norway</p>	<p>Himdalen waste repository. Process following the Planning and Building Act.</p> <p>Spent fuel storage at the research reactors</p>	<p>The public acceptance is high.</p> <p>Renewal of the license for the operation of the research reactors.</p>

CSN and ENRESA, Spain	<p>Underground research laboratory – IPES. The project was accepted by the central and regional governments.</p> <p>Dismantling of lightning rods. Negotiations with many municipalities. A few of them agreed to host the storage.</p> <p>El Cabril LILW repository. Three year of dedicated communication including meetings with the Andalusian Government and Parliament, meetings with local authorities, information campaigns, technical visits etc.</p> <p>Vandellos I decommissioning project and Andujar uranium mill decommissioning project. Local information and monitoring committees with labour unions, NGO's neighbourhood associations, political parties, etc., and chaired by a university professor</p>	<p>Social rejection and abandonment of the project.</p> <p>Opposition to the project. The strategy was changed to recycling the americium sources abroad</p> <p>Local acceptance and construction permit</p> <p>A firm proactive attitude was adopted towards all range of authorities, political parties and the media.</p>
NIREX, UK	Nirex Liaison Group (1991-1995). Preparation of documents in response to issues raised; discussions with officers and scientific consultants of local government body; records of all information exchanges placed on public record.	Valuable discussion of technical information and ideas; adverse criticisms in reports by scientific consultants; approvals of borehole planning permissions; refusal of Rock Characterisation Facility
ANDRA, France)	<p>Selection of the underground laboratory site in Meuse. Installation of the CLIS. See Table 5.</p> <p>Site selection for a granite site</p> <p>Centre de stockage de l'Aube for LLW</p>	<p>The CLIS is a new part in the process which must demonstrate its capacity for managing the debate and influencing the process - its success or its unsuccess will influence the future of the project</p> <p>Local refusal of the project</p> <p>Good relations maintained with the local elected representatives and population</p>

<p>ONDRAF/NIRAS Belgium</p>	<p>In the beginning of the nineties ONDRAF/NIRAS carried out studies aimed to assess the technical feasibility of the construction of a surface repository on various types of favourable geological formations. A site selection approach based on purely technical criteria.</p> <p>ONDRAF/NIRAS has developed the idea of local partnerships. Any party that could be directly affected by a collective decision, should have a say in it. Independent (University/research – based) mediators work with local stakeholders in the development of increased understanding. Another innovative aspect of this new methodology is that of integration: an integration at the local level enabling the development of draft repository projects creating new perspectives for the regions concerned.</p>	<p>The report was rejected unanimously by all the local councils concerned by the 98 zones and caused a general outcry.</p> <p>So far two partnerships have been formed: in the local communities of Dessel and Mol. There are currently four working groups in each partnership. Although, it is too soon to draw conclusions, it is felt that the concept is highly appreciated by the local politicians as well as the interested local associations. There is a high level of participation.</p>
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Public consultation experiences outside site selection

Some of the reported consultation activities, which have no direct connection with site selection, are summarised in Table 8.

In the U.S., the wide range of information access points encourages members of the public to view the Yucca Mountain Project as a primary source of information about nuclear waste issues. The DOE's responsiveness to requests for information and increased stakeholder interactions have resulted in enhanced credibility. As a result of an enhanced approach to public outreach, the NRC as well has witnessed improvements in the accuracy and tone of press coverage, positive reactions from local government officials, and greater satisfaction on the part of the NRC staff. However, the Yucca Mountain project continues to be seen as controversial. As reported by the DOE, many Nevadans believe that Nevada was singled out to take the radioactive waste for the entire nation because it lacked powerful representation in the United States Congress.

Table 8 Public consultation initiatives

REPORTING ORGANISATION(S)	ACTIVITY	EXPERIENCES
Department of Industry, Science and Resources, Australia	Communication with local community including Aboriginal groups. Briefings, site inspections, discussion papers, reports, newsletter circulated in the central north region of South Austria.	Diverse opinions, from accepting to opposing. Aboriginal groups continue to refuse waste disposal facilities.
RAWRA, Czech Republic	Early communication initiatives towards local population and media.	The outcome seems positive, especially repository visits are useful. About 20 articles and radio reports.
NAGRA and HSK, Switzerland	<p>Consensus discussions on radioactive waste management.</p> <p>Setting of requirements on radioactive waste management and disposal according to internationally agreed principles and to the recommendations of expert groups in the new Nuclear Energy Law.</p>	<p>Conclusions and recommendations had a good response in the media.</p> <p>The debate on the law in the Parliament is still ongoing. The technical requirements on disposal have been well accepted.</p>
SKI and SSI, Sweden	<p>The Dialogue Project. Seminars were held on critical issues in order to build a common knowledge base between participants. A hearing was arranged for a simulated license application.</p> <p>A model for enhancing transparency in decision making has been developed through the RISCUM pilot project and the on-going RISCUM II project</p>	<p>A successful effort for improving stakeholders' pre-understanding of how issues will arise in a real licensing process.</p> <p>The RISCUM model has been tested both with the EIA-process in Oskarshamn and when designing the public hearings which were part of the regulatory review of SKB's proposal for site investigations</p>
U.S. DOE U.S. NRC	<p>A large number of activities including meetings with counties and State of Nevada, tours to Yucca Mountain, exhibits and conferences, co-operative scientific research, media packets, information centres, web site, public hearings and meetings, interaction with tribes.</p> <p>Enhancement of outreach activities concerning public input into regulation. Public meetings, hearings, individualized follow-up; staff training in risk communication; checking and revamping of information materials.</p>	<p>The DOE's responsiveness has resulted in enhanced credibility. However, the Yucca Mountain project continues to be seen as controversial.</p> <p>Improvements in the accuracy and tone of press coverage, positive reactions from local government officials, and greater satisfaction on the part of the NRC staff.</p>

The Swedish Dialogue project, conducted by the regulators, was a successful effort for improving stakeholders' pre-understanding of the issues that would arise in a real licensing process. By simulating a future real decision process, the focus of stakeholders was on understanding the issues,

the decision process and arguments rather than on building strategic positions for future involvement in the decision making process.

In the UK, the 2001-2 consultation on *Managing radioactive waste safely* was backed up by a number of initiatives¹¹ (see Appendix 2). These are continuing in the run-up to the 2003 appointment of the new independent body to oversee the review of management options. The new body will be expected to engage with the public and stakeholder groups in a more varied and dynamic way compared to the traditional consultation approach, in which the Government draws up detailed proposals then invites people to react to them. A public engagement workshop was planned for Spring 2003 to help define the process and methodology.

Information initiatives

The responses also cover some more “traditional” types of information activities; see Table 9. From the Finnish examples it may be observed that initiatives giving a more active role to participants seem to be more successful than purely passive information.

Table 9 Public information initiatives

ORGANISATION(S)	ACTIVITY	EXPERIENCES
POSIVA, Finland	<p>Visit of M/S Sigyn in Helsinki in 1998. Exhibition on nuclear waste management. The advertisement campaign related to the visit was noted by some 1.5 million people.</p> <p>Public education activities: brochures, advertisements and public meetings</p>	<p>4000 visitors, about ten news spots on the television, more than 200 newspaper articles were published. After the visit (and the ad campaign) Posiva was considerably better known on the national level than before.</p> <p>Much of the technical and scientific contents of the EIA report is still dismissed by the public at large.</p>
JNC, Japan	<p>Development of new technology-based information tools: “virtual repository system”, websites, audio-visual aids, etc.</p>	<p>JNC has a wealth of experiences in the particular sites for underground research laboratories. It is too early to define what has been successful and what has not been, in particular concerning the nation-wide public relations programme.</p>

In summary, the questionnaire responses show that there exists a large spectrum of initiatives directed towards public information and involvement. Therefore, a valuable source of information exists, in principle, on experiences from siting programs, research projects, events, information campaigns, identification of stakeholders, etc. The questionnaire responses provide little analysis of what went well and/or what went wrong, although general conclusions are drawn elsewhere in other parts of the questionnaire. The overall conclusion from the NEA ten-year study still holds: “there is an

¹¹ Details of this work and the reports are on the Defra website at <http://defra/environment/radioactivity/waste/index.htm>

acute awareness in the waste-management community of this lack of public confidence; efforts are needed by both implementers and regulators to communicate effectively to decision-makers and the public their consensus view that safe disposal can be achieved”.

5. Experiences in learning about perceptions, values and interests that are most important to stakeholders

Much of the material reported by the respondents dealing with experiences in learning about perceptions, values and interests among stakeholders comes from opinion surveys and research projects.

Obviously different stakeholders have different interests with regard to nuclear waste management. But all stakeholders share an interest in protecting man and nature against possible harm from radioactive substances. Values in favour of health, environment protection and safety are progressively gaining importance in our society, but risk perceptions exist concerning radioactivity, nuclear energy and radioactive waste that view these value objectives as being threatened.

According to questionnaire responses, the risk perception of the layman is led by:

- Little knowledge about nuclear energy;
- Severe accidents such as Chernobyl;
- Nuclear weapons;
- The imperceptible nature of radioactivity: it cannot be seen, smelt or touched.

Many can see the value of centralised purpose-built waste disposal facilities; however, they don't want the installations in their region.

In Japan, JNC has conducted a number of opinion surveys in order to observe the societal climate on the relevant issues. A survey reported in the 2000 questionnaire response from JNC revealed that more than 45% of the respondents feel some kind of responsibility for the management and disposal of HLW. More than 75% of the respondents had the opinion that the HLW problem should be solved by present generation, hence not leaving undue burdens on the future generations.

At a similar period, a survey showed that the great majority of Finnish people were in favour of a positive Decision-in-Principle (which means continuing research, development and site investigations towards implementing the final disposal at Olkiluoto)¹².

The questionnaire responses give a picture of the implementers and the regulators think about the interests of other stakeholders. Examples are that some NGO's and some politicians may have public relations and image interests to protect. NGOs may use the waste problem in their wider struggle against nuclear power. Local politicians work for the best solutions for their own community (including economic compensation), and sometimes reject on principle the idea that a "noxious" facility should be built in their region. The local and regional population desire the possibility to participate in the decision-making process. These baseline views of stakeholder interests, it may be mentioned, have evolved through the subsequent Forum on Stakeholder Confidence programme of

¹² Since that time, the Finnish Parliament did indeed deliver a positive Decision-in-Principle. In November 2001, the Forum on Stakeholder Confidence held an interactive workshop in Finland, reported in: OECD/NEA (2002) *Stepwise Decision Making in Finland for the Disposal of Spent Nuclear Fuel. Workshop Proceedings, Turku, Finland, 15-16 November 2001*. Paris: Author. (152 pages; NEA#03616, ISBN: 92-64-19941-1, OECD Ordering reference number: 662002161P1.)

activities and exchange. A more complex vision of shared and conflicting interests will be reported in the FSC Outcome Document, to be published at the end of the current FSC mandate (expected 2004).

Numerous surveys, described in the U.S. response, have been performed to explore attitudes in Nevada concerning the proposed repository in Yucca Mountain as well as transportation and on-site storage. A general picture of strong opposition against the proposed facility, but also in favour of compensation, remains. Respondents were concerned about health and safety impacts from a proposed repository. They were also concerned about seismic conditions, transportation, and water quality impacts. Scientists and environmental interest groups scored high in questions relating to trust. Trust levels for the University of Nevada, Las Vegas scientists and Nevadans working for and with DOE were relatively high.

It has been recognised that there is great fear in the general public against nuclear installations and especially disposal facilities. A central concern of many stakeholders is to avoid irreversible decisions and actions. The reason for that concern seems to be mistrust in the judgements of the authorities and the scientists. This has resulted in the request for active control of a disposal facility.

One encounters then the problem of time frames. It appears that the general public has difficulties comprehending the very long time periods associated with radioactive waste disposal. The far horizon of spontaneous views of the long term appears to go no farther than a few generations (for instance 100 years). Waste managers see the need to explain that a waste management solution based uniquely on active control is adequate for a limited period of time but cannot be viewed as the sole long-term solution.

In this context some see the need to incorporate monitoring and retrievability into the concept for permanent disposal. On the international arena, the concept of retrievability has been given increasing attention in recent years, and in several countries retrievability is considered important for public acceptance of a repository. In France, the view is that reversibility must neither have effects on long-term safety, nor involve intolerable overcosts although the principle of reversibility plays an important role in building public confidence. However, experiences in the Swedish communities do not support the conclusion that the public sees retrievability as the main safeguard against possible shortcomings in the disposal method. Citizens focus their demand on clear statements from the regulators and the government that the proposed disposal method is safe.

The experiences and perceptions on retrievability thus differ between countries. The following statement in the NEA ten-year study seem to be good summary of the situation: "In order to promote and communicate confidence in geologic disposal to a wide audience, it is necessary to openly discuss the pros and cons of longer-term monitoring, reversibility and retrievability, and to be willing to again evaluate the case for geologic disposal vs. the case for other suggested waste-management options."

Another issue which was recently given much attention in the international arena is the possibility of international and/or regional repositories. Some reason that the construction and operation of a geological facility in one country could lead to its transformation into an international repository. This may have an undue effect on site selection, i.e., a local population may no longer be willing to accept a site if a suspicion exists that the repository may one day serve for wastes from other countries.

In Sweden, a map of factors in value-laden arguments about the industry programme, more specifically with regard to 1) waste management method, 2) site selection of a repository and 3)

criteria and safety assessment, has been presented¹³. The aim was to demonstrate the importance of values so that they can be given proper place in the decision-making process together with expert assessment. The current initiative of SSI with community involvement may give practical input to the regulations in this respect.

As complement to the questionnaire responses, surveys carried out by the European Commission^{14,15,16}, to determine the interest, knowledge and feeling of European citizens about radioactive waste and its management, contain additional valuable information.

The question arises of how perceptions, values and interests among stakeholders should be included in the decision-making process, and how that can be done in a transparent way. This is an area subject for research in e.g. Sweden and Canada. According to the European RISCOP project, transparency means an open and understandable process whereby laymen are able to test for truth, legitimacy and authenticity. In Canada, the CNSC has funded a research project that examined general views about nuclear energy/facilities in Canada, as well as knowledge, perception and expectations of the CNSC's public processes. It is intended that the results of this project will be used in the CNSC's overall public communications programme.

6. The FSC work programme and modes of operation

The 1999 questionnaire responses included comments on how the FSC programme could support RWMC member organisations in the area of stakeholder confidence. In general, the proposed programme of work as described in the draft was supported. The draft mandate was seen as an appropriate framework to start the activity of the Forum. There were a number of recommendations both with respect to issues that the FSC should deal with and the methods of work. These recommendations are summarised in Table 10.

At the time of publication of this survey, the Forum on Stakeholder Confidence has effectively operated for almost three years. In the following, we review the identity, work accomplished and projects of the FSC.

The Forum was launched in August 2000, in Paris, with an international workshop. This addressed a variety of topics ranging from evolving stakeholder identity, evolutions in participatory democracy, stakeholder identity, and trust in the institutional framework, to the role of open dialogue in all aspects of radioactive waste management. During the three-day meeting, world-wide experience in the field of stakeholder confidence and radioactive waste disposal was reviewed by participants with backgrounds spanning both the technical and social sciences. Affiliations included universities, national academies, technical oversight bodies, safety authorities, implementing agencies and advisory bodies to government. A mayor from Sweden and a parliamentarian from France were amongst the inauguration speakers.

¹³ K. Andersson, A map of values in nuclear waste risk assessment, in *Foresight and Precaution, Proceedings of ESREL 2000, SARS and SRA –Europe Annual Conference*, pp 779-784, Edinburgh 15-17 May 2000.

¹⁴ EUROBAROMETER 50.0 *Europeans and Radioactive Waste*. Report by INRA (EUROPE) for the DG: XI (Environment, Nuclear Safety and Civil Protection) managed and organised by DG X (Information, Communication, Culture, and Audiovisuals Media), 29 January 1999.

¹⁵ D.Taylor and S. Webster. - Public opinion on radioactive waste management in the European Union, in *Proceedings of the ENS Topseal '99*. Antwerp, October 1999.

¹⁶ A more recent Eurobarometer performed in 2001 (report published 2002) has been discussed in the FSC and may be consulted at: http://europa.eu.int/comm/energy/nuclear/pdf/eb56_radwaste_en.pdf.

Table 10 Expectations/suggestions regarding the FSC

Development of methods and techniques

It was suggested that the FSC should address the development of:

- “objective” techniques to identify stakeholders and to assign appropriate weight to their opinions
- processes to identify areas, policies, procedures, programmes, decisions, etc. where stakeholder input can have an influence
- the role of the “Environmental Impact Assessment ” as a basis for a participation process
- methods for a third party to evaluate public interaction programmes objectively
- techniques to communicate with non-technical audiences, especially how to make accessible the results of safety assessments.
- ways to integrate the waste management programme in the regional development plans

Policy level and strategic issues

The responses also include recommendations that FSC should address approaches at a policy level and on strategic issues:

- how to position disposal as “part of the solution” for environmental protection, not part of the problem
- how to take into account the legal, cultural and historical context of each country involved
- how to relate long-term management of radioactive wastes to the future of nuclear energy
- long-term institutional control of the repository, including monitoring, retrievability and reversibility

Methods of work

Some of the responses have suggestions on the FSC modus operandi:

- Seminars and workshops are suggested, especially annual workshops/conferences for those responsible for stakeholder involvement and confidence with regard to high-level radioactive waste
- "study cases " as starting points for exchanges and/or discussions about the practical experience of each FSC member country
- Comparison of research programs financing
- Comparison of local debate practices
- Comparison of public image of regions in which there is an existing site
- It is emphasised that others than the traditional experts in the work, e.g. non-technical experts and stakeholders should take part.

Specific Work Products

There are also expectations for specific results of the FSC work:

- a position paper destined to the appropriate decision-makers of the countries, providing guidance for the subsequent steps to be made
- scientifically based surveys in countries with high-level radioactive waste to gauge stakeholder confidence
- a set of FSC-sponsored multi-language fact sheets for use in educating the public.

Working methods, programme and outputs

The Strategic document of the FSC was adopted at the 2001 annual meeting and is reviewed and updated periodically. Nourished by the input received in the questionnaire responses, it outlines priorities and expectations for the Forum, as well as *modus operandi*.

The FSC convenes a series of alternating regular meetings and workshops. The latter are held in a national context.

Three annual meetings have been held so far. They include topical sessions on specific issues of interest and are used to elaborate further on the lessons learnt. A recent topical session focused on the EIA as a tool for stakeholder involvement. Case studies are also discussed, as for example the organisation and evolution of the public debate in the UK, the AkEnd German working group on selection procedures for final disposal of RW, etc.

The workshops - also held annually - focus on stakeholder involvement in waste-management issues in a host country. First a site visit enables FSC delegates to gain direct understanding of the specific situation at hand and acquaintance with a community affected by radioactive waste management issues. Then, in a formal workshop, a wide spectrum of stakeholders from the host country are invited to express their views on the nature of their involvement and the process by which they are involved. A highly interactive format allows FSC delegates and country stakeholders to compare experience and deepen the discussion. Thematic rapporteurs, invited by the NEA Secretariat, give feedback to the workshop participants from their own disciplinary perspective. Two workshops have been held to date, in Finland and in Canada. Workshop proceedings are (or will be) published and may be consulted on-line or ordered from the OECD.

Besides the workshop proceedings and the present survey, two other FSC documents will be published in 2003:

- ❑ An overview of the lessons learnt by the regulators;
- ❑ A theoretical and practical review of stepwise decision-making.

This latter document in particular will provide opportunities for dialogue with researchers from various disciplines and practitioners in fields outside radioactive waste management. Additionally, a document outlining the overall lessons learnt through the FSC activities is being augmented and reviewed iteratively. It will be published at the end of the current mandate, in 2004.

The programme is prepared in twice-yearly meetings of the FSC Core Group. This group, assisted by the NEA Secretariat, has gathered representatives of the FSC institutional “constituencies”, that is, implementers, regulators, policy makers and scientists in research and development. Among the events planned at the time of publication were a topical session on stakeholder involvement tools, and a national site visit and workshop in Belgium.

The Finnish and Canadian Workshops

The first FSC workshop held in a country context was organised in Finland, in November 2001. Representatives from all stakeholder groups – from the local to the national level – reviewed the sequence of decisions that ultimately led to the Parliament’s approval, in May 2001, of siting a spent fuel repository in the municipality of Eurajoki. The workshop was preceded by an encounter with the Eurajoki municipality, where the values as well as the policies and the economic standing of the

community were discussed. Feedback was provided to the workshop by experts in public management, strategic decision, community development and social psychology.

Workshop participants found that two structural aspects of the Finnish process were key factors of success. These were:

- the parliamentary Decision in Principle as part of a transparent, stepwise procedure;
- the Environmental Impact Assessment as a framework and guide for public involvement and participation.

The role of the regulatory body STUK in building confidence by responding to stakeholder health concerns also stood out. For the local municipality, the right of veto was a significant confidence factor.

The second national site visit and workshop was held in Canada, in October 2002. The preceding two years were a defining period for radioactive waste management in Canada. In March 2001, an agreement was reached between the Government and three communities in southern Ontario to clean up and locally manage radioactive waste from past uranium refining and conversion activities. In June 2002 the *Nuclear Fuel Waste Act* became law, enabling Canada to move effectively towards a solution for the long-term management of “spent fuel waste”. The Act frames the selection of technical approaches to be implemented by waste owners, financial responsibilities of waste owners and government oversight processes.

At the FSC workshop, three key areas of inquiry were examined: what are the social concerns at play in radioactive waste management; how can these concerns be addressed; and development opportunities for local communities. The site visit gave FSC delegates the opportunity to meet actors in the decision process for the final clean up and disposition of mill tailings in Port Hope, Ontario. The workshop enabled an analysis and appraisal of the Port Hope solution and the longer- range term spent fuel disposal programme and allowed a wide range of Canadian stakeholders to meet and exchange, in some cases for the first time. Experts in radiation protection, community governance, ethics, and stakeholder deliberation provided feedback. The discussions brought insight into Canada’s situation and should assist Canada in undertaking the next steps. The workshop is currently being documented; an executive summary will be posted on the NEA website shortly.

Main lessons learnt so far

As in any international endeavour, the question has been posed in the FSC of how universal are the lessons learnt. To what extent is experience tightly bound to national culture? To what extent may experience be transferred to other contexts?

These questions were particularly felt and explored in the Finnish workshop. Although the Finnish decision-making culture played an important role, elements of broader cross-cultural significance emerged from the discussions. For instance, the Finnish workshop provided further positive evidence of the applicability of criteria that had been identified, mainly by social scientists in analysing successful siting of hazardous and radioactive waste facilities in different countries. This discussion is documented in the workshop proceedings and executive summary, both now available for consultation.

The Canada workshop confirmed that:

- Mission, organisational and behavioural changes are being implemented world wide within waste management organisations. In particular, the regulator's role is the one that has been the most restyled the most in recent years.
- Local communities and municipalities will play a very important role in significant radioactive waste management decisions; that needs to be recognized, encouraged and facilitated.
- The municipalities already hosting nuclear sites have a special interest in seeing solutions to be brought forward. They are especially receptive to dialogue and are already active to that effect.

In regard to the lessons learnt throughout the FSC programme of work, some aspects that seem to have wide international applicability are as follows:

1. Despite an emerging new dynamic of dialogue, the technical specialists, the environmentalists, and the general public still have widely divergent opinions on the status, feasibility and desirability of radioactive waste management methods.
2. Factors that can contribute highly to stakeholders' confidence are:
 - ❑ *an open, transparent, fair and participatory decision making process.* This should be decided on a national level, and national actors must demonstrate commitment to the process;
 - ❑ *clear roles and responsibilities* for different actors including local authorities;
 - ❑ *main actors' behaviour reflecting values* like openness, consistency, desire for dialogue, as well as demonstrating technical competence;

These needed factors form the framework for stakeholder dialogue and discussion.

While identification of stakeholder involvement methods and practices is ongoing in the FSC, some major requirements for dialogue are seen today:

- ❑ Sufficient time and resources must be devoted to outreach, consultation, and deliberation;
- ❑ A range of tools is needed for involving different publics — not all points of view will be expressed in written format;
- ❑ Stakeholders should be allowed to participate from the very early stages of a siting process;
- ❑ Public interest in participation can be maintained only if stakeholders believe that they can have an influence on key decisions;
- ❑ Information on management options and alternatives is needed to create a balanced deliberation.

In principle a stepwise decision making process is a preferred choice in order to allow for dialogue and awareness in participation. When designing a stepwise process, however, trade-offs between social sustainability of the process and efficiency should be considered, as with every increase in the number of steps or the intervals between them, the costs and duration of the process may also increase.

Alongside the lessons learnt, important issues have been identified and may be addressed in future FSC work. These include:

- ❑ How to guarantee the fairness of the decision making process for siting a facility?
- ❑ What financial arrangements must be made for stakeholder participation? What type of legitimate contribution can be made to local communities hosting a national facility?
- ❑ How to bring about a shared understanding of the phenomena underlying societal and technical risk in RW management?

Evaluation and outlook

Exchanges between institutions involved with nuclear energy and civil society are no longer confined to rigid mechanisms provided by the law. A more complex interaction is now taking place amongst players at national, regional and especially at local levels, and a broader, more realistic view of decision making, in steps, encompassing a range of actors in civil society, is emerging.

In their 35th meeting, the NEA Radioactive Waste Management Committee acknowledged the positive outputs of the Forum on Stakeholder Confidence. Alongside the goal of distilling in concise, published form the lessons learnt about stakeholder involvement, the expectation had been to provide a forum for direct exchange in an atmosphere of mutual respect and learning. These expectations are being met. The FSC is one of the rare fora where technicians, civil servants and social scientists can interact; it provides unmatched opportunities to analyse field experience in close co-operation with the local and national stakeholders. The FSC is proving to be an effective tool to stimulate a new approach to RW management and decision making. It is helping promote a cultural change in the participating organisations, through the active involvement of their members.

The activities and free publications of the FSC can be consulted on the NEA Web site at the address: <http://www.nea.fr/html/rwm/fsc.html>.

Appendix 1: The NEA questionnaire and responding organisations

The following organisations responded to the NEA questionnaire in 1999 (certain organisations later provided updates):

COUNTRY <i>(Update received)</i>	ORGANISATION(S)
Australia	Department of Industry, Science and Resources
Belgium <i>(Summer 2002)</i>	ONDRAF
Canada <i>(Summer 2002)</i>	Canadian Nuclear Safety Commission (CNSC)
Czech Republic	RAWRA
Finland	POSIVA
France <i>(Spring 2002)</i>	ANDRA
Germany	Bundesministerium für Umwelt (BMU)
Hungary	Hungary Atomic Energy Agency (HAEA)
Japan	JNC Science and Technology Agency (STA)
Norway	Statens Strålevern
Spain <i>(Spring 2002)</i>	Consejo de Seguridad Nuclear (CSN) ENRESA
Sweden <i>(Summer 2002)</i>	Swedish Nuclear Fuel and Waste Management Co. (SKB) Swedish Nuclear Power Inspectorate (SKI) Swedish Radiation Protection Authority (SSI)
Switzerland <i>(Autumn 2002)</i>	NAGRA Swiss Federal Nuclear Safety Inspectorate (HSK)
UK <i>(Autumn 2002)</i>	DEFRA NIREX Ltd.
USA	U.S. Department of Energy (U.S. DOE) U.S. Nuclear Regulatory Commission (U.S. NRC)

QUESTIONNAIRE:

1. General approaches in Member countries

Describe the *general* approach to public participation, risk communication and public confidence used so far in the long-lived waste management programme in your organisation.

Please keep a broad perspective covering, on one hand, at high level, legal requirements and, on the other hand, at a lower level, some details, e.g. public document rooms.

2. Information on successful and unsuccessful experiences in enhancing public confidence

Please provide particular examples of initiatives to enhance public involvement and/or confidence, identifying:

- the target stakeholder group(s);
- the aim of the initiative;
- the approach taken;
- the response and outcome; and
- your evaluation of what went right and what went wrong and why.

Please identify two or three (but possibly more) examples from your country or organisation, and indicate your willingness to describe any of them at the start-up workshop of the FSC.

Please take into account that giving short responses with the key points is better at this stage than longer descriptive responses. References are appreciated.

3. Insights about generic elements required to gain credibility of waste management organisations and effective means of communicating with technical and non-technical audiences

Here we ask for respondents' views on what is required to gain and maintain credibility (or alternatively what harms credibility) providing evidence wherever possible to support your views.

We also ask for your views about effective means of communication with supporting examples and experience.

It is important to get as broad perspectives as possible. Please describe also those of other stakeholders, such as NGOs and communities, as well as information on key research results about trust in experts and risk communication. (See also next question.)

4. Experiences about perceptions, values and interests that are most important to stakeholders.

We ask for the respondents' views. If you have information that support your views from, for example, relevant opinion surveys or other research results – please provide summaries and/or references.

5. Other sources of information

If there are other sources of information than given under items 1-4, which you regard as key documents within the area of the FSC - please give references.

6. FSC programme

Please give your comments and ideas about how the FSC programme could support RWMC member organisation in the area of stakeholders' confidence in disposal programmes of long-lived nuclear waste, e.g. specific issues to address, products, etc.

Appendix 2: Details of initiatives and relevant experiences reported by questionnaire respondents

Australia

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right / Wrong? – Why?</u>
<ul style="list-style-type: none"> - Local community including Aboriginal groups and pastoralists. 	<ul style="list-style-type: none"> - To promote an understanding of the project and co-operation from stakeholders. - Provide accurate information to the community concerning Australia’s current and intended radioactive waste management practices. 	<ul style="list-style-type: none"> - Technical experts provided briefings to Aboriginal groups and their advisers. - The Government is providing the opportunity for Aboriginal groups to undertake site inspections as part of the process to seek to ensure areas of Aboriginal heritage significance are avoided during field investigations. - Discussion papers, reports, newsletter circulated in the central north region of South Australia. 	<ul style="list-style-type: none"> - There were diverse opinions, from people who accepted the prospect of the repository being located in the central-north region through to those who strongly opposed the proposal. - A few people expressed an interest in opportunities for involvement in the construction and ongoing management of the repository. - Some South Australian residents considered it was unfair that the repository be located in South Australia given that most of the waste was generated in the eastern states. - Aboriginal groups continue to refuse waste disposal facilities. They have delayed the project by a reluctance to undertake heritage clearances of sites and to clear the sites for investigation. 	<ul style="list-style-type: none"> - Delays in clearing the sites have led to a break in consultation with other groups. These groups have now accused the Government of poor consultation. - Market survey showed people in the region are aware of the project, but Pangea’s proposal for an international repository and the ‘Greens’ anti-nuclear campaign made people reluctant to accept the usefulness of the repository, linking it with the store and international repositories.

Belgium (ONDRAF/NIRAS)

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right/Wrong? – Why?</u>
<p><u>- local partnership</u></p> <p>Local stakeholders : local politicians and administrators, representatives from social and cultural organisations, environmental organisations and from economic organisations</p>	<p>Since public involvement is crucial in reaching an acceptable solution in the development of a disposal facility, as many stakeholders as possible – from as different backgrounds as possible – should be invited to participate in the process. By creating local partnerships in interested communities the decision making process is brought closer to the public.</p>	<p>Creation of local partnerships to ensure that the low-level waste disposal siting problem is addressed through technical research and development as well as through interaction with the local stakeholders</p> <p>A local partnership is both the arena and facilitator for an open dialogue between all stakeholders on the possible siting of a low-level waste repository in a well-defined community. This implies that the partnership is an active organisation, imbedded and clearly visible in the local community, properly equipped to serve as a platform for the interaction between ONDRAF/NIRAS and the local stakeholders.</p>	<p>So far, four municipalities have participated in the work programme of ONDRAF/NIRAS: the municipalities Dessel and Mol in Flanders, on whose territory several nuclear facilities are located, and the Fleurus and Farciennes in Wallonia, on whose territory the facility of IRE, specialized in production of radio-isotopes, is located. In the neighboring municipalities of Mol and Dessel, the dialogue with NDRAF/NIRAS was formalized by founding a local partnership. In Dessel the local partnership, STOLA-Dessel, a non-profit association, was founded in September 1999. In Mol, the non-profit association MONA was created in February 2000. Both partnerships are still investigating all possible options, so final decisions have not been made.</p> <p>In Fleurus and Farciennes, a kind of informal structure was created in which representatives of all interested local actors can participate in the ongoing research programme. Once the feasibility of disposal has been demonstrated, both municipalities will have to decide whether they wish to establish a local partnership with ONDRAF/NIRAS, with the mandate to work out plans for a local integrated disposal project. This decision is foreseen for autumn 2002.</p>	<p>Currently, it is too early to evaluate the whole of the process. Both partnerships are still investigating all possible options, so final decisions have not been made. Nevertheless, the partnership approach indicates to be a promising one. In the technical working groups, plenty of information was gathered and discussed. Concerning both the concept and the location of the repository facility, several options were considered and preferences expressed. In the fourth working group, different options for the repository facility to bring added value to the community are being discussed. Over the next months, the pro's and con's of possible projects will be weighed one against the other and a suggestion will be put before the general assembly.</p>

Canada (CNSC)

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right / Wrong? – Why?</u>
<ul style="list-style-type: none"> - General public 	<ul style="list-style-type: none"> - The former AECEB had in the past modified its licensing procedures to allow greater public visibility and interaction. This is now legislated for the CNSC under the <i>Nuclear Safety and Control Act (NSCA)</i>: 	<ul style="list-style-type: none"> - holding open licensing meetings, at times within the licensees' community to allow the most affected public better opportunity to intervene; - active participation of staff in public meetings of Environmental Review Panels (established under the Canadian Environmental Assessment Act) dealing with licensees' projects; - participation by staff at other public meetings ("town hall" information meetings, municipal council meetings, etc). 	<ul style="list-style-type: none"> - The interventions resulting from the paid advertisements inviting public comment and participation in each licensing hearing have almost exclusively been from special interest groups (both pro and con). 	<ul style="list-style-type: none"> - There has been very little response from the "general public". It is not apparent whether this reflects public confidence in the regulatory process, or apathy.

<ul style="list-style-type: none"> - General public 	<ul style="list-style-type: none"> - to identify the public's expectations regarding participation in the licensing process 	<ul style="list-style-type: none"> - funded a research project to survey public understanding of the regulatory process and expectations for their participation 	<ul style="list-style-type: none"> - The public demonstrated a low level of concern and a low level of knowledge about the nuclear industry in Canada, and about its regulation. Expectations of involvement in regulatory processes varied (in order of decreasing frequency) from a desire for information-sharing, to a desire to be consulted, to a desire to be involved in the licensing decision-making process 	<ul style="list-style-type: none"> - This was exploratory qualitative research (based on only 14 focus groups across Canada), to provide direction for further research and programme development. It provided a richness and depth of response that reflected, among other things, a general impression among interviewees that an individual's opinion is not of consequence and that the public is not generally well-informed on nuclear and regulatory issues.
<ul style="list-style-type: none"> - New licensees 	<ul style="list-style-type: none"> - To inform potential licensees of the legal requirements of the <i>NSCA</i> and to develop a working relationship with them. 	<ul style="list-style-type: none"> - The CNSC has sponsored one workshop (and another is scheduled for September 2002) to initiate a dialogue amongst owners of legacy uranium mine sites which have to be newly licensed under the <i>NSCA</i>. 	<ul style="list-style-type: none"> - Workshop participants achieved an understanding of their legal obligations under the <i>NSCA</i> and the regulatory process of the CNSC. They developed a working relationship with the CNSC to the extent of voluntarily moving forward with the licensing process. 	<ul style="list-style-type: none"> - bringing several potential licensees together in this forum gave them the opportunity to 'network' and to observe that they were not in a unique position regarding licensing. This enhanced the credibility of the CNSC as an impartial and open regulator, and established a framework for continued dialogue.

Finland (Posiva)

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right / Wrong? – Why?</u>
<u>Visit of M/S Sigyn in Helsinki in 1998</u> <ul style="list-style-type: none"> - The public at large, especially the people living in the Helsinki metropolitan area, media 	<ul style="list-style-type: none"> - to make Posiva known to large audiences - to present the spent fuel disposal concept to different target groups - to help the media disseminate positive information on nuclear waste management - to illustrate technical details of the disposal concept for technical and scientific audiences - to inform about the technical co-operation between the Swedish SKB and Posiva. 	<ul style="list-style-type: none"> - M/S Sigyn, the nuclear waste transportation vessel of SKB, called at Helsinki Harbour with her exhibition of nuclear waste management. The exhibition was partly adapted to Finnish circumstances. 	<ul style="list-style-type: none"> - During four days some 4000 visitors saw the exhibition. About ten news spots were shown on the television and more than 200 newspaper articles were published. Two seminars were arranged during the visit. The advertisement campaign related to the visit was noted by some 1.5 million people. 	<ul style="list-style-type: none"> - Most of the news coverage was positive or neutral. After the visit (and the ad campaign) Posiva was considerably better known on the national level than before. It appears that the exhibition also managed to bring through messages of technical contents to wide audiences. - The main negative critiques came from some environmentalists who felt that the advertisements treated them incorrectly.
<u>The EIA process in 1997-1999</u> <ul style="list-style-type: none"> - EIA stakeholders and professionals and professionals on the national level 	<ul style="list-style-type: none"> - Interaction within EIA framework - To bring to light a spectrum of issues and concerns. 	<ul style="list-style-type: none"> - Interaction was especially sought on the local level between the implementers, residents, entrepreneurs, politicians, officials of the municipal government, members of associations 	<ul style="list-style-type: none"> - The process resulted in a relatively good consensus on the national level that R&D towards implementing the disposal concept should be continued and in a relatively wide local acceptance in two municipalities of the potential siting of the repository in their home community. 	<ul style="list-style-type: none"> - The interaction between various stakeholders during the EIA process was a major break-through in bringing about discussion of merits and disadvantages of various alternatives in nuclear waste management

<u>Public education</u>				
- The public at large	- to inform different audiences about the waste disposal concept and its safety	- brochures, advertisements and public meetings	- Much of the technical and scientific contents of the EIA report are still dismissed by the public at large. For instance, despite lengthy discussions of various subjects in the EIA documentation a common complaint still has been that these things lack discussion. The importance of technical information for public opinions may, therefore, be rather restricted in comparison with other messages the different stakeholders of the process send out.	- Most of these activities reached only minor audiences and did generally little in convincing anybody of the soundness of the disposal concept. The interest in these matters grew considerably as the discussion was brought to the level of actual choice between alternatives in the context of EIA and the Decision-in-Principle. At this point the focus was on comparisons of the benefits and disadvantages of different alternatives.

Germany (BMU)

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right / Wrong? – Why?</u>
<p><u>Gorleben experiences</u></p> <ul style="list-style-type: none"> - Not very clear. Probably the local and general public and the local politicians. Possibly that part of the scientific community that was not involved in the investigations. 	<ul style="list-style-type: none"> - To reduce the opposition against the Gorleben site. 	<ul style="list-style-type: none"> - Lectures were held by scientists and technicians belonging to the organisations involved in the “Gorleben process” and scientists from universities and environmental organisations. The meetings' schedules were designed to allow for controversial discussions with broad audience participation. 	<ul style="list-style-type: none"> - During all meetings there was an extended controversial discussion between the "officials" and the audience - People saw a discrepancy between the real geological situation at the salt dome and the expected future results of safety analyses. - Many local people distrust the "officials" which was provoked by the politically motivated but scientifically justified decision for Gorleben. 	<p>Right</p> <ul style="list-style-type: none"> - Presentation of controversial meanings, semi-participation of the public (through the representatives of selected stakeholder groups), funding of “non-official” speakers, locality of the meetings within the area of concern. <p>Wrong</p> <ul style="list-style-type: none"> - No real participation: decision on next step of investigation was not open, funding of “non official” speakers was not sufficient to prepare for intensive discussion on the results of investigations.

<p><u>Konrad experiences</u></p> <p>- General public</p>	<p>- Targets of the public inquiry are to ensure that all public interests are considered in the decision of the approval authority, to improve the trust in the decision of the authority and in the proponents' competence.</p>	<p>- As a result of the large amount of objections, the proponent started a very intensive preparation for the public inquiry. No question should be left open or avoided in the discussions. Discussion about topics which were of great public interest and relevance but not important to the licensing procedure were admitted.</p>	<p>- Despite the difficult political discussion, the public and even opponents trusted the licensing procedure. This was a result of the well-prepared discussions about topics of great public interest, even when the topics were not significant for the formal licensing procedure. Nevertheless, no opponent changed his opinion.</p> <p>- The licensing proceedings resulted in a confirmation of the applicant's plan. No new issues were raised by the objectors and no fatal mistakes which could hamper the authorisation were made.</p>	<p>Right</p> <p>- Well prepared discussion of topics of great public concern, even when topics were not significant for the licensing procedure.</p> <p>Wrong</p> <p>- An open discussion about the justification of the project was not possible anymore. Public participation has to start in a very early phase of a project with a discussion about the benefits and the justification of the project.</p>
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Spain

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right/ Wrong? Why?</u>
Representatives of the surrounding municipalities, environmental groups, trade unions, citizen groups and industry leaders	<ul style="list-style-type: none"> - To promote clear understanding of the dismantling project of Vandellos I Nuclear Power Plant by local stakeholders - Provide accurate information regarding the project, resolving doubts and question of public concerns 	<ul style="list-style-type: none"> - Local information Committee was set up at the an early stage of the project chaired by the mayor of the Vandellos municipality and assessed by a local university professor with prestige 	<ul style="list-style-type: none"> - High degree of credibility was built from the very beginning of the dismantling activities. - NGO's and journalists recognised the quality of the work being done 	<ul style="list-style-type: none"> - Good perception of the general public and social leaders. - The programme is progressing without delay

Sweden (SKI, SSI, SKB)

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right / Wrong? – Why?</u>
<p><u>The Dialogue Project</u></p> <ul style="list-style-type: none"> - Target stakeholder groups: Regulators, Key municipality representatives, Environmental groups. The aim of the initiative 	<ul style="list-style-type: none"> - The project aimed at pre-understanding between key stakeholders about crucial issues in a licensing situation. By simulating a future “real” decision process the focus was more on understanding issues, the decision process and arguments, than on building strategic positions. 	<ul style="list-style-type: none"> - The project was accomplished in two phases: first seminars were held on critical issues in order to build a common knowledge base between participants. - Secondly, a hearing was arranged for a simulated license application, which led to insights into how arguments would be used in a real application, and how the existing legal procedures worked. 	<ul style="list-style-type: none"> - Initially it was assumed that transparency could be achieved through dialogues on scientific and technological matters. However, it was not possible to explain all technical details, nor would such explanation be enough to create transparency and trust, even if it had been possible. - The participating organisations in agreement wrote a letter to the Swedish Government with recommendations about how procedures should be changed. This initiative contributed to improved procedures in Sweden. - The project was a successful effort for improving stakeholders' pre-understanding of how issues will arise in a real licensing process. 	<ul style="list-style-type: none"> - Dialogue efforts, informal meetings, simulated procedures etc. – are suitable means for building knowledge and confidence between stakeholders.

<p><u>The RISCOP Pilot project</u></p> <p>This research mechanism was financed by SKI and SSI but targeted also stakeholders like SKB, municipalities and the public.</p>	<p>The project aimed primarily at exploring procedures for enhancing transparency in decision making with focus on nuclear waste management, and to explore mechanisms for enhancing public participation.</p>	<ul style="list-style-type: none"> - Interviews with representatives for some key organisations, e.g. SKI, SSI and SKB. - A special workshop (Team Syntegrity) was arranged in the UK with participation of stakeholders from Sweden and the UK. 	<ul style="list-style-type: none"> - The results demonstrated ways to improve transparency and public participation. The RISCOP Model was developed - The outcome has contributed to the development of the EIA process in Oskarshamn. - Furthermore, the public hearings arranged by SKI and SSI when reviewing SKB's proposal for site investigations in three municipalities were designed according to the RISCOP model. 	<ul style="list-style-type: none"> - The project in itself was successful since some of the results have been implemented in the actual siting and EIA-processes. - The project emphasised the need to clarify both facts and values in decision making. This work is partly considered in the on-going RISCOP II, which is co-funded by the EC.
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<p><u>RISCOM II project</u></p> <ul style="list-style-type: none"> - This project, which is supported by the EC, has participants from Sweden, Finland, France, Czech Republic and the UK. The participants include regulators, implementers, universities and independent consultants. - NGOs are involved in some activities. 	<ul style="list-style-type: none"> - To support the participating organisations and the European Union in developing transparency in their nuclear waste programmes and means for a greater degree of public participation - To test and further develop the RISCOM Model of transparency 	<ul style="list-style-type: none"> - Value- laden issues in performance assessment (PA) are explored by review of existing material, group discussions focus groups etc - Field studies on the organisational systems are done in UK and France. Then the systems in Sweden, UK and France are compared with respect to how transparency can be achieved. - Team Syntegrity is used as a unique method for a group of stakeholders to discuss controversial issues and to understand each others arguments. - The Swedish hearings on site selection are evaluated with respect to transparency. - A large number of processes for public participation are tested - Workshops are held 	<p>It is too early yet to see the full outcome of results. However, certain results already emerge.</p> <ul style="list-style-type: none"> - The nuclear waste management organisations should explore further how PA can be integrated into a process of dialogue by undertaking a more detailed consideration of its role in the decision-making process - Key organisational elements of importance for transparency have been clarified - The understanding of how public participation processes can be used has increased. - A web site has been produced in UK for dialogue with schools 	<p>It is too early yet to see the full outcome of results. However, certain results already emerge.</p> <ul style="list-style-type: none"> - The methods used is RISCOM-II have addressed different angles to the issues involved in public participation and transparency: 1) substantive issues 2) procedures in decision-making and 3) the organisational context of nuclear waste programmes - The RISCOM model is used in the practical design of public participation processes in countries both inside and outside the OECD - The RISCOM-II approach, as well as the RISCOM Model itself, should be valuable for implementation in other areas of complex societal decision making
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<p><u>The EIA process</u></p> <ul style="list-style-type: none"> - SKB, authorities, counties, municipalities, citizens 	<ul style="list-style-type: none"> - The aim of the EIA process is the development of a basis for decision by all parties (the industry, the authorities, county, municipality with its citizens) together – the decisions will be taken independently by each one of them. - In particular, the EIA process should give real influence to the municipality citizens, so that their issues of concern are included in the decision process. 	<ul style="list-style-type: none"> - In Kalmar County with the municipality of Oskarshamn, a EIA forum was formed early. The municipality council is a reference group for the process. Laymen among the politicians, the municipality employees and citizens take part in the work - The competent authorities are visible throughout the process. 	<ul style="list-style-type: none"> - The EIA work has considerable impact on the siting studies, how they are conducted and which issues should be given emphasis, especially in the socio-economic domain. - It has been possible to influence the nuclear waste programme to meet certain municipality conditions and to ensure the local perspective. - Local competence has increased to a considerable degree. 	<ul style="list-style-type: none"> - Local competence building and public participation takes time to develop. However, it will then contribute to the stability of the process thus making it more efficient in later phases. Confidence is built in interaction and dialogue between the citizens on one hand and the implementers and regulators on the other hand. Both the implementers and the regulators must be prepared to be “stretched” in public fora. This will compensate for the difficulties association with informing on technical details
<p><u>Reviews of the SKB research and development plans</u></p> <ul style="list-style-type: none"> - SKB, authorities, counties, municipalities, R&D organisations 	<p>To evaluate SKB’s programme with respect to legal requirements and to gain as much input as possible to the review and the subsequent government decisions.</p>	<p>The R&D programmes are sent for comments to the target stakeholders. The comments are then taken into account by SKI in its recommendations to the Government.</p>	<p>About 45 organisations give their comments to SKI. These comments represent a large variety of the Swedish society and the affected parties. SSI reviews the programme from the radiation protection viewpoint, and submits its comments to SKI.</p>	<p>This process is much appreciated by the communities as a complement to the EIA process and by a number of organisations that otherwise do not take an active part in the nuclear waste programme.</p>

<p><u>Public hearings</u></p> <p>SKI and SSI arranged public hearings of SKB with participation primarily from municipalities, local NGOs and the local public.</p>	<p>The hearings were part of SKI's and SSI's review of SKB's proposal to start site investigations in three municipalities. The aim was primarily to identify and clarify issues of interest to the municipalities and thus to deepen and broaden SKI's and SSI's review.</p>	<ul style="list-style-type: none"> - The hearings were designed according to the RISCOM model for transparency. The municipalities were involved in the planning from the beginning. - The hearings were evaluated using questionnaires and interviews. This revealed that awareness and knowledge had increased. The questions raised were reflected in the regulatory review and in the recommendations submitted to the Government by SKI. 	<ul style="list-style-type: none"> - It was shown that hearings can be designed without creating too much confrontation and polarisation of views. 	<p>The main conclusion is that the hearings were quite successful. However, there is room for improvements. For example, hearings in two phases might be advantageous (more time for reflection and easier to separate different issues).</p>
<p><u>The Oskarshamn model</u></p> <p>The municipality of Oskarshamn and its citizens</p>	<ul style="list-style-type: none"> - To achieve the best possible basis for decisions in the municipality about possible new installations in the Swedish nuclear waste management programme - To empower the community with its citizens to be a competent actor in the programme, able to stretch SKB and the authorities 	<ul style="list-style-type: none"> - The organisation and all activities take place within the normal framework of representative democracy. The municipality council is the reference group. - A wide range of working groups, public meetings, seminars, hearings etc. are organized. Special emphasis is given to the local population. The neighbouring municipalities are involved. - Much of the methodology developed in the RISCOM projects (the "three pillars of transparency", the "stretching" concept) is practically applied in the Oskarshamn model. 	<ul style="list-style-type: none"> - The municipality council accepted in March 2002, with a 49-1 vote, that SKB can start site investigations in an area within the municipality. - The working methods and the basis for decision have been endorsed by all political parties in the municipality. - The municipality council, the working groups and, to a certain extent, the interested public have now developed such competence that they have the capacity to stretch SKB to a considerable degree in many areas. 	<p>The municipality involvement has been successful in several aspects, e.g.:</p> <p>It has been possible to influence the programme, to a large extent, to meet certain municipality conditions and to ensure the local perspective.</p> <p>The local competence has increased to a considerable degree. The activities generated by the working groups have generated a large number of contacts with various organisations, schools, mass media, individuals in the general.</p>

Switzerland

Stakeholders	Aim of Initiative	Approach Taken	Response/Outcome	What Went Right / Wrong? – Why?
<p><u>HSK's initiatives</u></p> <ul style="list-style-type: none"> - Political authorities - Media people - General public 	<ul style="list-style-type: none"> - Enhance knowledge of existence of HSK and of its functions 	<ul style="list-style-type: none"> - Broadly distributed publications, for instance annual report and information brochures - Internet site - Press releases and conferences - Public information meetings 	<ul style="list-style-type: none"> - The publications and press releases were well accepted by politicians, journalists and the general public - The existence of HSK and HSK's functions are better known, but further efforts are needed - HSK becomes better recognized as a separate entity from implementers and policy makers 	<ul style="list-style-type: none"> - HSK thinks that the initiatives are going right - HSK will continue in this way
<p><u>Agency for technical safety</u></p> <ul style="list-style-type: none"> - Federal and cantonal governments - Political parties - Industrial and economical associations - NGO's 	<ul style="list-style-type: none"> - Establishment of a national agency for technical safety grouping all safety regulators in the fields of energy and transport 	<ul style="list-style-type: none"> - Elaboration of a specific law - Broad consultation (normal procedure for a law) 	<ul style="list-style-type: none"> - Negative consultation results, strong criticisms from most consulted parties - The idea is felt to be good for safety of energy production (especially nuclear), but not for safety of transports (persons and goods) - Higher cost would be expected 	<ul style="list-style-type: none"> - Too ambitious a project - The present situation regarding the safety and its control is felt to be good and should not be changed (exception: nuclear safety)
<p><u>Nuclear Energy Law</u></p> <ul style="list-style-type: none"> - Federal and cantonal governments - Parliament - Interested Organisations - NGOs - General public 	<ul style="list-style-type: none"> - Setting of requirements regarding radioactive waste management and disposal according to internationally agreed principles in the new Nuclear Energy Law - Financing of RWM 	<ul style="list-style-type: none"> - An independent expert group (EKRA) was contracted to compare the final waste management options and to propose a preferred option - The concept proposed by EKRA was not integrated one to one into the law, but the principles developed by EKRA were introduced 	<ul style="list-style-type: none"> - The debate on the law in the Parliament is still ongoing - The technical requirements concerning radioactive waste disposal have been well accepted - Parliament changed other dispositions of the law relating to waste management, e.g. the ban of reprocessing and the cantonal veto for a repository 	<ul style="list-style-type: none"> - The technical requirements on disposal were well founded and were accepted - Other requirements were not as well founded and were rejected

<p><u>Restart of Wellenberg project</u></p> <ul style="list-style-type: none"> - Federal and cantonal authorities - Cantonal population - Media 	<ul style="list-style-type: none"> - Restart of the politically blocked project of a repository for low and intermediate level waste - Gain acceptance of the local authorities and population for an exploratory gallery 	<ul style="list-style-type: none"> - Discussions of the Federal Government with the Cantonal Government to set the conditions for the restart of the project - Fulfilment of the conditions by the implementer and the regulator - Communication of the actions taken to the cantonal government and to the local public (e.g reports available to the public, media conference, information brochure) 	<ul style="list-style-type: none"> - First step successful, the project was restarted - A mining concession for the exploratory gallery was granted by the Cantonal Government 	<ul style="list-style-type: none"> - The public referendum on that concession took place on 22 September 2002 - The referendum (22 September 2002) resulted in a no to the concession
<p><u>Swiss/German information meetings</u></p> <ul style="list-style-type: none"> - German and Swiss authorities (mainly those of local communities) 	<ul style="list-style-type: none"> - Take into account the concerns expressed by German municipalities about a possible repository for high level waste close to the German border - Transparency of the process - Eliminate or at least reduce the expressed fears 	<ul style="list-style-type: none"> - Organisation of information meetings for officials from both sides of the border - Independent appraisal of the site selection procedure by German experts (AkEnd) 	<ul style="list-style-type: none"> - The information meetings are appreciated, but the concerns are not yet satisfied - The German-Swiss Commission for the safety of nuclear installations (DSK) is preparing a statement on the selection procedure 	<ul style="list-style-type: none"> - Answer only after publication and presentation of AkEnd report and DSK statement

United Kingdom

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right / Wrong? – Why?</u>
<u>The Way Forward (1987)</u> - Local Government; Government Departments; Environmental Groups; General Public.	- Obtain widest possible views on attributes to be considered in site selection.	- Questionnaire supported by factual information – 50,000 copies circulated to target stakeholder groups (using public libraries for general public in addition to local government offices); supporting presentations on request; Independent analysis of responses.	- Over 2,000 independent responses; clearly identifiable trends capable of being addressed; marked differences between “nuclear” and “non-nuclear” communities.	- In isolation a highly successful exercise, recognised as such by many stakeholders. Absence of follow-up with more detailed consultation and of traceability of feedback into decision-making.
<u>Nirex Liaison Group (1991-1995)</u> - Local Government officials and politicians; local communities at potential repository site.	- Make accessible the developing site investigations and evaluation of Sellafield as a basis for decision-making.	- Preparation of documents in response to issues raised; discussions with officers and scientific consultants of local government body; records of all information exchanges placed on public record.	- Valuable discussion of technical information and ideas; adverse criticisms in reports by scientific consultants; approvals of borehole planning permissions; refusal of Rock Characterisation Facility.	- Established mutual respect at working level; legalistic approach and project “deadlines” prevented full and open discussion of issues; basis of decision-making remained unclear to local communities; technical discussions did not address real concerns of local community.

<p><u>Nirex Transparency Policy (1999)</u></p> <p>- Full range of stakeholders.</p>	<p>- Fostering openness as a core value</p>	<ul style="list-style-type: none"> - Listening as well as talking to people who have an interest - Making information readily available - Making key decisions in a way that allows them to be traced so that people can see and understand how they were arrived at 	<ul style="list-style-type: none"> - Enabling people to have access to and influence on our future programme - Publication of Code of Practice on Access to Information, Publications Policy; Formal Requests for Feedback on Information and Future Programme. 	<ul style="list-style-type: none"> - Initial response highly favourable, stakeholders seeking dialogue with Nirex on the future long-term management of wastes. - Too early to give an evaluation.
<p><u>Use of the Internet to discuss issues – Leeds University (1999 - 2000)</u></p> <p>- Public</p>	<p>- To evaluate the effectiveness of the internet as a medium for establishing and developing stakeholder dialogue on spatial information relevant to the issue of radioactive waste management.</p>	<ul style="list-style-type: none"> - Literature review - Develop a web site based on the literature review and past experience - Test the web site with a limited audience of lay public. 	<ul style="list-style-type: none"> - The anonymous nature of the Internet may encourage participation as it avoids face-to-face exchanges that could lead to conflict. However, anonymity makes it difficult to verify the responses - Internet access is very flexible as it is available 24 hours a day, 7 days a week and is not restricted to a particular location - Using tiered information allows users to engage in the debate at the level they feel comfortable with and avoids overloading them with information. 	<ul style="list-style-type: none"> - Internet is a useful tool, but that it should be used in conjunction with other consultation mechanisms. - The information presented on a site must represent several perspectives, be easy to understand and be unambiguous. Stakeholders are deterred from engaging with an issue if they feel it is being presented in a biased way

<p><u>Preview – started 2000 and is ongoing</u></p> <p>- Full range of stakeholders.</p>	<p>- Preview is the process by which opinion is sought about a research project, or a research programme, before the research is carried out. The purpose of preview at Nirex is to allow internal and external stakeholders to make inputs to the research programme at the planning stage and to increase the transparency of decision making.</p>	<ul style="list-style-type: none"> - Internal review - Placing documents on the web (and circular e-mail to known interested parties) - Sending out documents to named individuals for comment - Holding an open meeting or workshop - Inviting a panel of named individuals to a meeting - Asking a third party to distribute documents to anonymous reviewers 	<p>- Initial response favourable, stakeholders seeking dialogue with Nirex on the future long-term management of wastes.</p>	<p>- Too early to give an evaluation.</p>
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<p><u>Future Foundation Work – Investigating Public Understanding of Nirex (April – September 2000)</u></p> <p>- Public</p>	<ul style="list-style-type: none"> - To obtain a benchmark of awareness levels about Nirex and the issue of radioactive waste management - To obtain input to the design of future communication initiatives - To identify issues and concerns that people have about waste management - To identify information requirements and guidance about its production. 	<ul style="list-style-type: none"> - 8 focus groups, (with 6-8 members of the general public) 3 in London, 2 in Newcastle, 1 in Manchester and 2 in Edinburgh - 1035 face to face interviews with people with various demographic details around the country. 	<ul style="list-style-type: none"> - Knowledge about peoples perceptions of Nirex - Knowledge about peoples questions with regard to nuclear waste - People wanted more information and wanted to be involved in the debate about radioactive waste management - People felt that all stakeholders should have an input into the decision making process - Participants suggested ways to provide information. Some thought that Internet was exclusive because not everyone has access and people may not know that the site was available. 	<ul style="list-style-type: none"> - A good benchmark of public knowledge about Nirex and indications on ways to develop Nirex material
<p><u>Consultation about consultation. Centre for the Study of Environmental Change, Lancaster University – (July 2000 – February 2001)</u></p> <p>- Public</p>	<ul style="list-style-type: none"> - To clarify issues and concerns that the public have in relation to radioactive waste management 	<ul style="list-style-type: none"> - 11 focus groups, (with 6-8 members of the general public) around the country, each group having different demographic characteristics. 	<ul style="list-style-type: none"> - People understand the issues very differently to the way institutions understand them. There is a need for institutions to learn to understand public concerns and the ways in which the public understand issues, as well as for the public to understand the institutional positions better. 	<ul style="list-style-type: none"> - People were very positive about the opportunity to discuss the issue and felt that more should be done to engage with the general public, including the provision of more information.

<p><u>Stakeholder review of Nirex work and proposed work on monitoring and retrievability (2000-02)</u></p> <p>- Full range of stakeholders.</p>	<p>- To preview Nirex work programme on monitoring and retrievability.</p>	<p>- A paper was sent to stakeholders Nirex already had contact with and was also placed on a web site asking for comments. Two workshops were held, one with a mix of stakeholders including regulators, academics, NGOs, local authorities and the public and another with nuclear industry representatives and contractors.</p>	<p>- The workshops provided valuable input and feedback on Nirex's work programme, this will be incorporated into the Nirex forthcoming programme.</p>	<p>- The workshops were very successful and most of the participants asked for further opportunities to meet together and discuss the issues. Some stakeholders declined the invite, so some views were not obtained.</p>
<p><i>Managing Radioactive Waste Safely</i> - the UK policy programme headed by the UK Government and devolved administrations for Scotland, Wales and Northern Ireland</p> <p>- full range of stakeholders including citizens and organisations outside the UK</p>	<p>- to reach and implement a decision on how to manage the UK's solid radioactive waste - to involve the public and other stakeholder groups actively in the decision-making process, and to win their confidence in the process, the decisions that result from it, and the way in which these decisions are implemented</p>	<p>- Public consultation <i>Managing Radioactive Waste Safely</i> from September 2001-March 2002 - national and local events organised by national and local government & industry -social research carried out by government - re-convening of UK Consensus Conference on radioactive waste</p>	<p>General support for the Government's proposals to review all long-term options through a process of active public engagement - Many detailed suggestions about how this should be undertaken e.g. how the public and stakeholders should be involved - Many detailed criticisms and comments on Government policy e.g. in relation to nuclear power and waste - Announcement by UK Ministers on 29 July 2002 that the review would go ahead, overseen by a new independent body including not only technical experts but also people with a wider perspective on environmental, health, social or ethical issues</p>	

<p><u>Workshop on Partitioning and Transmutation (P&T) (2001)</u></p> <ul style="list-style-type: none"> - Experts on P&T and those with an interest in the subject. 	<ul style="list-style-type: none"> - Consider the issues arising from the investigation by Nirex of ‘The Applicability of Partitioning and Transmutation to UK Wastes’ - Explore any differing views of the benefits of P&T as a waste management strategy 	<ul style="list-style-type: none"> - Produce a report that could be used as an input to future discussions on the key issues for P&T with a wider audience. 	<ul style="list-style-type: none"> - Workshop held at Nirex. Participants were paid for their time and expenses. The workshop has been written up by a facilitator and has been sent to the attendees for their comment before completion. - Participants found it useful to come together and discuss the issues and share ideas and opinions. This workshop allowed participants to increase their understanding (of the views of others and technical knowledge) and identify issues where there was consensus. 	<ul style="list-style-type: none"> - The discussions were very useful and provided a good forum for clarifying issues. However, the use of a professional facilitator and reporter could have helped to turn around the report more quickly
<p><u>Partitioning and Transmutation Citizens’ Panel Report 2001</u></p> <ul style="list-style-type: none"> - The general public 	<ul style="list-style-type: none"> - The aim of the panel was to discuss partitioning and transmutation as a waste management option, and to consider Nirex’s review of this technique. The panel also provided the opportunity to experiment with this form of consultation on a issue involving complex science and technology. 	<ul style="list-style-type: none"> - A citizens’ panel on partitioning and transmutation with 12 members of the general public over two weekends. - During the second weekend the panel interviewed 4 witnesses about partitioning and transmutation 	<ul style="list-style-type: none"> - The Panel concluded that Nirex should maintain and develop a watching brief over this technology and be well networked internationally, but that it appeared to offer very little at present in terms of providing a solution to managing UK radioactive wastes, particularly legacy wastes. - During their discussions the panel prepared a list of 30 questions that highlighted the panel’s concerns and interests. 	<ul style="list-style-type: none"> - The work showed that given time and resources people were able to engage with a very technical topic and to ask relatively sophisticated questions. It also demonstrated how the general public considers the ‘wider picture’ in assessing a particular technology.

<p><u>Work Package 4 in RISCOM II – Joint Project between Nirex and the Environment Agency involving Galson Sciences and Lancaster University. (November 2000 – November 2003)</u></p> <p>- All stakeholders.</p>	<ul style="list-style-type: none"> - To identify and evaluate different processes and associated rationales for engaging the public in dialogue - To develop and test experimental versions of selected processes to assess their potential contributions to furthering the debate - To investigate the usefulness of the Internet for providing information and promoting discussion on nuclear waste issues among young people - To produce recommendations for the improvement of communication, transparency, and understandings of risk 	<p>Evaluation of processes for engaging the public, develop assessment and evaluation criteria. Three processes have been trialed to date:</p> <ul style="list-style-type: none"> - A discussion group with 8 members of the public and an EA site inspector, a Future Search process involving members of the public, regulators, and others, - A Future Search process involving members of the public, regulators, and other institutional stakeholders , - Scenario workshop involving a mixed group of public and institutional stakeholders. - A further process designed as a possible alternative to the traditional public meeting is being developed. <p>A web site for teenagers to investigate how to engage them with the issues has been developed</p>	<ul style="list-style-type: none"> - Preliminary findings highlight the difficulties of many institutional stakeholders in engaging in face to face dialogue (related to challenging expectations of their roles), the ability of the public to engage with the issues, and the need for a better developed understanding of what is meant by dialogue. - The web site work has generated considerable interest and the Scottish Executive and the Department of the Environment, Food and Rural Affairs are planning to continue with the website in the future as a way to engage with young people. 	<ul style="list-style-type: none"> - Whilst the public have been able to engage with issues, there has been little heated debate, possibly because the trial processes are not 'real'. This is being explored in the current phase of the project - The difficulties of introducing extra material into the National Curriculum have been noted in the web site project, and specific ways of achieving this identified. The need to work around the school year is also important. The students were interested and engaged in the project, but commented that better visuals and more personal contact would have helped.
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<p><u>HSE work on Public Consultation (1999-2000)</u></p> <ul style="list-style-type: none"> - Public 	<ul style="list-style-type: none"> - To understand key concerns people have about radioactive waste management - To explore the nature and extent of the concerns - To gain understanding of how waste is perceived in terms of risk, and to assess tolerability to risk - To ascertain perceptions of how the waste management industry is controlled - To assess how well informed people feel 	<ul style="list-style-type: none"> - The HSE hired a consultant to conduct 4 focus groups (each with 6-8 members of the general public) in London and Manchester and 1000 telephone interviews 	<ul style="list-style-type: none"> - Radioactive waste is not a top of mind issue for most people - People want more information - Attitudes and associations towards the nuclear industry are generally negative - People were generally in favour of current decommissioning plans - There was a degree of confidence in current waste management strategies - Regulators must have the power to exercise control over industry and be seen to use this power. 	<ul style="list-style-type: none"> - The study was very successful and showed that the public are able to engage with the issue and want to be involved.
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<p><u>Ministry of Defence – ‘Front End’ Consultation on the Decommissioning of Submarines (ISOLUS) February 2001-July 2001</u></p> <p>- Full range of stakeholders.</p>	<p>- To engage stakeholders at the front end of a process to find a way to manage and decommission nuclear submarines.</p>	<ul style="list-style-type: none"> - Overseeing panel to help to guide the consultation process - Workshops around the country with stakeholder groups to identify their issues and concerns - Several focus groups around the country with members of the public - A citizen’s panel with members of the public over 3 days - A consultation web site on the subject. 	<p>Initial response to the consultation paper came from ‘active’ stakeholders and not the general public, therefore a more interactive approach has been adopted. Main findings included:</p> <ul style="list-style-type: none"> - a strong antipathy to the use of private contractors, on the grounds that they are motivated primarily by profits, whereas the public view is that safety is the overriding concern; - a preference for intact storage of the submarine reactor compartments to avoid worker and environmental risks and to leave future options open; - a strong requirement for independent oversight . (the view that no further nuclear powered submarines should be built. 	<ul style="list-style-type: none"> - Reports of each of the consultation events, a final report containing 65 recommendations, and the MoD responses are available on www.nucsubs.org.uk. - The MoD have recently accepted most of the recommendations arising from this consultation, and further consultation is being planned. - The process is being held up as a good way to engage a range of stakeholders by using a variety of consultation processes and has been seen to be very successful.
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<p><u>BNFL Stakeholder Dialogue</u></p> <ul style="list-style-type: none"> - Groups affected by BNFL activities, including: NGO's Unions, local councils, regulators advisory bodies, consultants 	<ul style="list-style-type: none"> - To conduct dialogue to advise BNFL on the environmental implications of its work - Facilitated discussion groups. 	<p>The groups have looked at issues such as plutonium, spent fuel management options and transport issues.</p>	<p>The initiative has been running since 1998 and is carried out by the Environment Council.</p>	<ul style="list-style-type: none"> - Readers are advised to look at the BNFL web site to obtain the latest information about the dialogue process. - Readers are advised to look at the BNFL web site to obtain the latest information about the dialogue process.
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<p><u>Environment Agency Consultation on BNFL Magnox Authorisation (2000-2001)</u></p> <ul style="list-style-type: none"> - Local authorities, statutory consultees, members of the public, national and local public bodies, interested groups and organisations, the Agency's relevant Advisory Committees and Groups, and the Local Community Liaison Councils. 	<p>Consultation on applications from BNFL for authorisations for radioactive waste disposals, including discharges, from eight Magnox power stations in England and Wales, with the following aims:</p> <ul style="list-style-type: none"> - to enable stakeholders and the public in general to draw the Agency's attention to matters they would wish it to consider when reaching its decisions. - to increase the legitimacy of the authorisation process 	<ul style="list-style-type: none"> - Use of elements from the Agency's new consultation arrangements, including an extended consultation period, publication of an Explanatory Document and draft authorisation for each power station - A wide range of ways for people to access these consultation documents and make responses, and a programme of public meetings and surgeries during the consultation period. 	<ul style="list-style-type: none"> - Attendance at the public meetings varied between under 20 to over 600. Relatively few people attended the surgeries, the average being about 20 over a two-day period. The surgery discussions with individual people were often extended, a 2-hour discussion being commonplace. - A large number of individual responses were received, but most focused on one or two sites. 	<ul style="list-style-type: none"> - Some members of the public criticised the consultation package as being too detailed and too technical, while others asserted that it did not contain sufficient technical detail. It was difficult to provide a set of documents which would fulfil the needs of everyone. In retrospect, it might have been helpful to provide a layman's guide to the material. - While the full consultation was time-consuming, if the public is to be consulted in more than a token way, it may be inevitable that such exercises are protracted and resource-intensive.
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<p><u>Nirex Independent Stakeholder Review, 2001</u></p> <p>– All those who have an interest in Nirex or who are potentially affected by Nirex’s activities</p>	<p>To provide a snapshot of stakeholder views on Nirex’s Mission Statement, Objectives, policies on Transparency, Corporate Responsibility and the Environment</p>	<p>Face to face interviews with members of the different stakeholder groups</p>	<p>The work showed that:</p> <ul style="list-style-type: none"> - A large majority of interviewees stated that Nirex’s current ownership damages Nirex’s credibility with many stakeholders and limits its ability to carry out its mission and specific activities, such as providing credible endorsement of packaging proposals. - Many felt that a new independent organisation needs to be formed which retains Nirex’s expertise but is set up in a different way. - Nearly all interviewees felt that Nirex’s mission was too constrained and should refer to radioactive waste management options rather than just disposal options. - There is strong support for the Transparency Policy, Environmental Policy and Corporate Responsibility Policy. - There is widespread support for Nirex’s increased focus on dialogue with stakeholders, and most interviewees commented that Nirex are fairly open and transparent. 	<p>People appreciated being asked how well Nirex was performing and how they could improve. Some stakeholders did not participate because they did not have the time or resources.</p>
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<p><u>Questionnaire on Public Views of Radioactive Waste Management 2002</u></p> <p>The general public.</p>	<p>To benchmark the public's views of radioactive waste management and to compare with the results of the work undertaken in 2000</p>	<p>The Future Foundation conducted face to face interviews with over 1,000 people on behalf of Nirex to repeat the work they did in 2000 to evaluate the public's views of radioactive waste management.</p>	<ul style="list-style-type: none"> - Public awareness about the issue of radioactive waste is currently very low. When the issue is brought to people's attention, however, they recognise its importance - There is widespread support for the wider dissemination of information about radioactive waste. - There is also widespread support for greater public involvement in the debate about the future management of radioactive waste. However, being realistic, only a quarter of the interviewed would actually wish to be personally involved themselves. 	<p>The work ran smoothly and those interviewed were able to express their views. The work showed that public views on radioactive waste management have not changed since the first questionnaire. It also showed that Nirex's profile has not changed.</p>
<p><u>Discussion Groups on Issues Relating to the Phased Disposal Concept 2002</u></p> <p>The general public.</p>	<p>To identify the public's issues and concerns about the different phases of the Nirex Phased Disposal Concept.</p>	<p>The Future Foundation conducted 8 discussion groups with members of the public from various locations in the UK.</p>	<p>Many respondents expressed broad satisfaction with phased disposal 'in theory'. They were concerned, however, about what would actually happen in practice, once the concept was put into action.</p>	<ul style="list-style-type: none"> - Some people were un-nerved that the 'experts' were asking for their views and felt that this meant the 'experts' did not know what to do. This emphasises the importance of setting a clear context and framework for any discussions. - This type of engagement can take the public into a level of detail beyond general issues and that they could engage with complicated topics.

<p><u>Seminar on the Long-term Management of Waste Package Information and Records 2002</u></p> <p>The nuclear industry and its regulators</p>	<p>To consider the issues concerning the long-term management of waste package information and records.</p>	<p>Nirex organised a seminar for representatives of the nuclear industry and its regulators. The seminar was held in March 2002 and was attended by 49 people.</p>	<ul style="list-style-type: none"> - There is no UK strategy, policy or guidance that may be used to assist waste producers in developing systems for preserving key information over the long-term - The effective implementation of a robust information management system is vital to preserving information over the long-term. 	<p>The workshop was successful and stimulated interesting debate.</p>
<p><u>Workshop on Social Science Research 2002</u></p> <p>All stakeholders.</p>	<p>To obtain stakeholders' opinions about what social science research Nirex should conduct and how social and technical research can be integrated together.</p>	<p>The format of the workshop was brief presentations by Nirex staff on issues relating to social science research followed by syndicate group discussions and then plenary sessions. An independent report of the day was also produced.</p>	<p>The workshop identified themes that Nirex will consider taking forward in its work programme.</p>	<ul style="list-style-type: none"> - Some of the 'contractors' who were invited complained that this was just Nirex obtaining 'free consultancy' because they were not being paid for their time (travel and subsistence was covered). - Some groups who were invited to attend did not, for example, the nuclear industry.
<p><u>Workshop on Long-term Waste Management Options 2002</u></p> <p>Waste management organisations from around the world and officials from the European Commission and Government Departments in the UK working on radioactive waste management.</p>	<ul style="list-style-type: none"> - Discuss the scope of current research on options, timescales and cost - Discuss what factors determine how much research was/will be needed on options in order to make a decision on the preferred option(s) and support EIA and SEA process 	<p>There were a mixture of presentation sessions, syndicate group discussions and plenary sessions. The workshop ran over two days.</p>	<p>The report of the meeting provides a good record of where different countries are up to in their research and how they are planning to move forward.</p>	<p>The workshop was very successful and provided a good opportunity for participants to share information and understand each others' position.</p>

United States (U.S. DOE)

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right / Wrong? – Why?</u>
<p><u>“Affected” Units of Government</u></p> <ul style="list-style-type: none"> - Nevada and California counties - State of Nevada 	<ul style="list-style-type: none"> - Compliance with Federal Law - Open and reciprocal interactions with those most directly impacted by the Project - Project oversight by key stakeholders 	<ul style="list-style-type: none"> - Two formal meetings per year - Annual presentations to county commissions - Tours of Yucca Mountain - Exhibits at county fairs and at conferences for county officials - Response to requests for information - Co-operative scientific research on Project-related issues (Nye County) 	<ul style="list-style-type: none"> - Continued positive relationships with local governments, despite the nature of the Project - Counties and the State political leadership use this relationship to conduct and enhance oversight of the Project to the benefit of their respective communities and constituencies - Co-operative scientific research lends credibility to the Project’s scientific conclusions 	<p>The AUG Programme continues to be a positive approach to working with State and local governments impacted by the Project as it proceeds. County and state officials know they will have their questions and needs responded to despite different positions regarding the Project.</p>
<p><u>Media</u></p> <ul style="list-style-type: none"> - Print - Radio - Television 	<ul style="list-style-type: none"> - Educate local media and interact with them regarding the Project, seeking a balanced message to the public 	<ul style="list-style-type: none"> - Interviews (print, radio, television) - Tours of Yucca Mountain - Response to requests for information - Maintain updated media packets (fact sheets and B-roll) - One-on-one meetings with media representatives 	<ul style="list-style-type: none"> - Two-fold increase in media inquiries in past year - Repeat requests for updates/ information by reporters 	<p>Efforts to cultivate our relationships with the media have kept the relationships cordial and productive.</p> <p>Balanced reporting of Project-related issues is more frequent.</p>
<p><u>Nuclear Utilities</u></p> <ul style="list-style-type: none"> - Nuclear utility information centres 	<ul style="list-style-type: none"> - Educate the public about the Project through the utilities’ on-site information centres 	<ul style="list-style-type: none"> - Distribution of Project-related materials (fliers, pamphlets, fact sheets, videos, CDs) 	<ul style="list-style-type: none"> - Most information centres have expressed appreciation for the information - Reaches an annual audience in excess of 600,000 citizens 	<p>This initiative was the result of proactive efforts dealing with the information centres.</p> <p>We continue to be proactive with the intent of increasing the level of interest in our Project.</p>

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right / Wrong? – Why?</u>
<u>Regional Stakeholders</u> <ul style="list-style-type: none"> - Community leaders - Industry leaders - Union leaders - Citizen Groups - Universities and colleges - Environmental groups - Minority groups 	<ul style="list-style-type: none"> - Educate regional stakeholders about the Project - Interactions with local stakeholders and community leaders with likely Project-related interests 	<ul style="list-style-type: none"> - Project updates and interactions with them in groups and/or one-on-one with their leadership - Tours of Yucca Mountain - Funded co-operative research 	<ul style="list-style-type: none"> - Relationships with these stakeholders are cordial and productive despite the nature of the Project - Produced two requests for Discovery Days at which Project-related science is explained to local school children and the general public 	<p>Our increased stakeholder interactions have resulted in an enhanced credibility. However, the Project continues to be seen as controversial.</p>
<u>Members of the Public</u> <ul style="list-style-type: none"> - Local - National - International 	<ul style="list-style-type: none"> - Informing the public about Project activities and accomplishments - Educating students and teachers about concepts related to the scientific studies at Yucca Mountain 	<p>Provide numerous "access points" where people can get information, including:</p> <ol style="list-style-type: none"> 1. Tours of Yucca Mountain 2. Toll-free information line 3. Information centres around Nevada (Science Centres) 4. Internet Web site 5. Speakers' bureau presentations 6. Exhibits at community events 7. Workshops and educational events 8. Public hearings and public meetings 	<ul style="list-style-type: none"> - Tour programme builds trust and confidence in our efforts by inviting the public to see Yucca Mountain first-hand. - Quick and virtually effortless access to Project information through Internet site and toll-free information line enables audiences to stay informed. - Speakers' bureau presentations and staffed exhibits build visibility and credibility through recognition that DOE makes an effort to interact with audiences on their own turf. - Information centres and educational activities give the public a fundamental understanding of the issues surrounding nuclear waste disposal, and the activities at Yucca Mountain. - - 	<p>The wide range of information access points encourages members of the public to view the Project as a primary source of information about nuclear waste issues. The DOE's responsiveness to requests for information, as well as its openness, builds trust and credibility.</p>

<u>Stakeholders</u>	<u>Aim of Initiative</u>	<u>Approach Taken</u>	<u>Response/Outcome</u>	<u>What Went Right / Wrong? – Why?</u>
<p><u>Native American Interaction Programme</u></p> <ul style="list-style-type: none"> - 17 tribes and organisations with traditional ties to the Yucca Mountain area comprised of Southern Paiute, Western Shoshone, Owens Valley Paiute, and Shoshone people from Arizona, California, Nevada, and Utah 	<ul style="list-style-type: none"> - Compliance with Federal regulations regarding interactions with Native American governments as sovereign entities - Protection of cultural resources through preservation-in-place of artifacts - Keeping tribes informed and educated on YMP activities 	<ul style="list-style-type: none"> - Formal government-to-government interactions with the tribes - Semi-annual meetings with Official Tribal Contact Representatives (OTCRs) - Tours of Yucca Mountain, as requested - Response to requests for information 	<ul style="list-style-type: none"> - Tribal representatives take advantage of the Project’s cultural resources programme - Tribal representatives are able to keep abreast of the work being conducted at the Project 	<p>The tribes are staying involved with and being informed about the Project, despite their continued opposition to it.</p>

Appendix 3: Other sources of information cited in the responses

Belgium

The latest state of ONDRAF/NIRAS's work programme for the disposal of low-level and short-lived waste (category A waste) is presented in a progress report which gives a survey of the activities carried out by ONDRAF/NIRAS between 1998 and 2001 to find a safe, technically feasible and acceptable solution for the long-term management of this category of waste. It also presents an overview of the activities to be performed to conclude the research as well as a corresponding planning. This report (as well as the reports of the partnerships of Mol and Dessel) are available on the ONDRAF/NIRAS website : www.nirond.be

Canada

Reports on Canada's LLW Siting Study.

European Commission

EUROBAROMETER 50.0 Europeans and Radioactive Waste. Report by INRA (EUROPE) for the DG: XI (Environment, Nuclear Safety and Civil Protection) managed and organised by DG X (Information, Communication, Culture, and Audiovisuals Media), 29 January 1999.

D.Taylor and S. Webster. - "Public opinion on radioactive waste management in the European Union" Proceeding of the ENS Topseal '99. Antwerp, October 1999.

(A more recent Eurobarometer performed in 2001 (report published 2002) has been discussed in the FSC and may be consulted at: http://europa.eu.int/comm/energy/nuclear/pdf/eb56_radwaste_en.pdf.)

Finland

Information about activities related to EIA in Finland can be found in the final report of the EIA, the summary of which can also be found on www.posiva.fi. The net pages also offer other information about Posiva's recent efforts.

(In November 2001, the Forum on Stakeholder Confidence held an interactive workshop in Finland, reported in: OECD/NEA (2002) Stepwise Decision Making in Finland for the Disposal of Spent Nuclear Fuel. Workshop Proceedings, Turku, Finland, 15-16 November 2001. Paris: Author. 152 pages; NEA#03616, ISBN: 92-64-19941-1, OECD Ordering reference number: 662002161P1.)

France

Presentation of the French radioactive waste management programme, Y Kaluzny, Chief Executive Officer, ANDRA, Conference in Tokyo, May 12, 1999

The IRSN "Barometer of risks and safety". Since 1988, IRSN (formerly IPSN) has performed regularly a public poll. A few parts of the questionnaire are maintained from one poll to another, allowing follow-up over time of some questions, such as : opinions on nuclear activities and the role of scientific experts, perception of risks linked to waste management, confidence in science.

Hungary

The Hungarian Paks Nuclear Power Plant has intensive public relation activity and is following closely any changes in the public opinion about nuclear energy and the nuclear power plant. The results are demonstrated and evaluated, and can be presented to the FSC.

IAEA

“Communication on nuclear, radiation, transport and waste safety: a practical handbook”, IAEA-TECTOC-1076, April 1999, IAEA

Japan

Special Committee on High-Level Radioactive Waste Disposal, Atomic Energy Commission of Japan (1998): “Basic Approach to the Disposal of High-Level Radioactive Waste”

The Netherlands

Van den Berg, R. & Damveld, H. (2000): *Discussions on Nuclear Waste. A survey on Public Participation, Decision-Making and Discussions in Eight Countries.* (It was prepared for The Dutch Commission for Radioactive Waste Disposal (CORA) in January 2000.)

Sweden

SSI and SKI have, together with EC DG-XI, sponsored an international symposium on issues related to risk communication (VALDOR) which took place in Stockholm in June 1999. A second VALDOR was sponsored by SKI, SSI, EC DG Environment, UK Nirex and UK Environment Agency in June 2001. The proceedings include a number of articles relevant to risk assessment and public confidence.

Kjell Andersson, Raul Espejo and Clas-Otto Wene, *Building channels for transparent risk assessment, RISCOP Final Report*, SKI Report 98:6

J. Andersson, K. Andersson K and C-O. Wene, The Swedish Dialogue Project. An attempt to explore how different actors may take part in the decision process related to disposal of radioactive waste, *High Level Radioactive Waste Management, Fourth Annual International Conference*, Las Vegas, 1993

Jensen M, Larsson CM, Westerlind M, Norrby S: The regulator’s stake in a multi-stakeholder process. In *Proceedings of the VALDOR (Values in Decisions on Risk) Symposium*, June 1999

Westerlind M, Wiklund Å. Implementation of hearings in the Swedish process for siting a spent nuclear fuel repository. In *Proceedings of the VALDOR Symposium*, June 2001

The SKI evaluation of SKBs RD&D Programme 98, SKI Report 99:31, Swedish Nuclear Power Inspectorate

SKI’s review statement on the SKB’s RD&D Programme 98: Supplement, SKI Report 01:32, Swedish Nuclear Power Inspectorate

SSI’s Review of RD&D Programme 98. SSI Report 99:15, Swedish Radiation Protection Institute

Harald Åhagen, Torsten Carlsson, Krister Hallberg and Kjell Andersson; The Oskarshamn model for public involvement in the siting of nuclear facilities; *Proceedings, VALDOR Symposium*, Stockholm, June 1999

United Kingdom

In the UK, the Department for Environment, Food and Rural Affairs (Defra) is responsible for policy on radioactive waste. This responsibility is shared with the devolved administrations for Scotland, Wales and Northern Ireland.

In September 2001 Defra and the devolved administrations published a consultation paper *Managing radioactive waste safely*, proposing an action programme for reaching and implementing decisions on managing the UK's waste over many thousands of years. In particular it proposed a review of the different waste management options and a new independent body to advise on this.

Ministers received 330 responses from within the UK and abroad. Moreover, both UK Houses of Parliament made recommendations. The House of Commons Environment, Food and Rural Affairs Committee called for progress reports by the end of each year. Ministers agreed to do this.

On 29 July 2002, Ministers published a summary of consultation responses and announced to Parliament the next steps they would take. In particular, they would go ahead with the review, and set up a new independent body to oversee it and to recommend the best option, or combination of options. They propose to advertise shortly in the national press for people who wish to serve on the new body.

Nirex - the nuclear industry radioactive waste management executive - is another of the main UK bodies responsible for radioactive waste management.

The work Nirex has undertaken to date fits broadly within three categories:

- Consultations;
- Theoretical research;
- Development of Company Policies.

These are discussed in more detail below. Most of the reports are available on Nirex's website or can be obtained by contacting them. A list of other reports are described in the last section.

1. Consultations with the Public and Other Stakeholders

The consultations Nirex have undertaken over the past few years are listed below. Generally speaking, these consultations have been undertaken to help us understand some of the issues of concern to stakeholders when considering radioactive waste management.

The Use of the Internet to Facilitate Stakeholder Dialogue, University of Leeds, 2000, Report to Nirex.

This work involved theoretical research and a literature review of work on risk perception and risk communication and using a web site to engage with members of the public. The work investigated how different presentations of information affected people's views and how people could engage with spatial information on a web site.

Establishing the value of wider public consultation, A report by The Future Foundation, November 2000.

Between April and May 2000 The Future Foundation conducted 8 focus groups, (with 6-8 members of the general public) 3 in London, 2 in Newcastle, 1 in Manchester and 2 in Edinburgh. They also conducted 1035 face to face interviews with people with various demographic details in August 2000. The work investigated people's views about radioactive waste, tested information Nirex had developed and what information people wanted on radioactive waste.

Workshops on the Monitoring and Retrievability of Radioactive Waste

Two workshops were held to discuss what people felt were important aspects of the concepts of monitoring and retrievability. The outcomes of the workshops are recorded in two reports. The workshops consisted of the same material, but different participants. The first was for members of the public, 'officials' and campaign groups and interested parties. The second was for industry and contractors.

Workshop on the Monitoring and Retrievability of Radioactive Waste, A Report for Nirex prepared by The UK Centre for Economic and Environmental Development (UK CEED) in association with the Centre for the Study of Environmental Change (CSEC) at Lancaster University, 2nd December 2000, Manchester Town Hall.

Workshop on the Monitoring and Retrievability of Radioactive Waste, A Report for Nirex prepared by The UK Centre for Economic and Environmental Development (UK CEED) in association with Sextant Consulting Limited, February 2001, Manchester Town Hall.

A further workshop was held in February 2002 to provide feedback to participants on the work done so far and to obtain their input on how the work should be developed. It brought together both of the previous groups of participants.

Workshop on the Monitoring and Retrievability of Radioactive Waste, A Report for Nirex prepared by The UK Centre for Economic and Environmental Development (UK CEED) in association with ForthRoad Limited and CSEC Lancaster University, February 2002, Manchester Town Hall,

The Front of the Front End: Mapping Public Concerns about Radioactive Waste Management Issues, Report to Nirex by The Centre for the Study of Environmental Change, Lancaster University, March 2001.

The CSEC at Lancaster University conducted 11 focus groups around the country between July and October 2000. The work investigated people's issues and concerns about radioactive waste and the way it is managed.

Nirex Independent Stakeholder Review, A Report for Nirex prepared by ERM, 2001.

The aim of the research was to provide a snapshot of stakeholder¹⁷ views on Nirex's Mission Statement, Objectives, policies on Transparency, Corporate Responsibility and the Environment. The work consisted of interviews with members of the different stakeholder groups.

¹⁷ Stakeholders were defined in this context as all those who have an interest in Nirex or who are potentially affected by Nirex's activities.

Partitioning and Transmutation Citizens' Panel Report, Independent Report to Nirex by Jane Hunt and Bill Thompson, Centre for the Study of Environmental Change, Lancaster University, November 2001.

This report describes a citizens' panel that was conducted with 12 members of the general public over two weekends on partitioning and transmutation. During the second weekend the panel interviewed 4 witnesses about partitioning and transmutation. The aim of the work was to discuss Nirex's work on partitioning and transmutation and investigate the public's views on it.

RISCOM II

Nirex is involved in an European Community project on Enhancing Transparency in Nuclear Waste Management (Project "RISCOM") with the Environment Agency, Lancaster University and Galson Sciences. In the UK work is particularly focussed in two areas:

Trialing up to five different dialogue processes to consider their strengths and weaknesses against a set of evaluation criteria. Reports describing this work can be provided by the project partners, or can be found on the RISCOM website www.karinta.konsult/riscom2.

Exploring the value of web moderated dialogue between schools. University of Lancaster are running a schools website (www.RISCOM2.com) at participating schools to see how well youngsters engage with the subject of radioactive waste within the national curriculum.

Public Attitudes to the Future Management of Radioactive Waste in the UK, A report to Nirex by The Future Foundation, 2002.

The Future Foundation conducted over 1000 face to face interviews on behalf of Nirex to repeat the work they did in 2000.

The work showed that public awareness about the issue of radioactive waste is currently very low. When the issue is brought to people's attention, however, they recognise its importance and they are surprised at how little the public knows about such an important topic. There is widespread support for the wider dissemination of information about radioactive waste and there is also widespread support for greater public involvement in the debate about the future management of radioactive waste.

Identifying Public Concerns and Perceived Hazards for the Phased Disposal Concept, A report to Nirex by The Future Foundation, 2002.

The Future Foundation conducted 8 discussion groups with members of the public to identify their concerns about different phases of the Nirex Phased Disposal Concept.

Many respondents expressed broad satisfaction with phased disposal 'in theory'. They were concerned, however, about what would actually happen in practice, once the concept was put into action.

Social Science Workshop Report, A Report for Nirex prepared by Manor Resources, 2002.

This paper reports a workshop that Nirex commissioned Manor Resources to facilitate on what social science issues Nirex should research, how it should integrate technical and social research and what issues it needs to address.

2. Theoretical Research

As well as undertaking consultations to identify stakeholder views on radioactive waste management issues, Nirex have undertaken basic social research into the theoretical foundations that are relevant to the work of Nirex.

Forums for Dialogue: Developing Legitimate Authority through Communication and Consultation, Lancaster University, J. Hunt and B. Wynne (2000), A Report to Nirex.

This paper looks at various mechanisms for engaging the public and developing legitimacy through stakeholder involvement in waste management.

Concepts That Could Aid a Site Selection Process, E. Atherton, A. Hooper and J. Mathieson (2000).

This paper outlines how the power of veto, volunteerism and community benefits have been used in other countries and how they might be applicable in the UK.

Ethical Issues in the Disposal of Radioactive Waste, K. Rawles (2001), A Report to Nirex.

This paper explores the ethical issues relating to radioactive waste management. It argues that radioactive waste management is an ethical problem and that the ethical issues need to be addressed.

Compensation in Radioactive Waste Management, K. Rawles (2002), A Report to Nirex.

This paper looks at the ethics and issues associated with offering compensation to local communities who agree to host radioactive waste management facilities.

Performance assessment as a vehicle for dialogue – a synthesis of recent developments A.K. Littleboy, Nirex Report N/037.

This report considers the problems of engaging a wide stakeholder audience in discussion of the technical issues addressed in a performance assessment.

Value judgements, performance assessment and dialogue. A.K. Littleboy, Nirex report N/038.

This report reviews recent performance assessments undertaken by Nirex for examples of value judgements applied during the performance assessment process.

Key Stages in the Step Wise Process, E. Atherton (2002), A Nirex Technical Note.

This paper outlines the steps Nirex believe need to be undertaken to develop a long-term solution to radioactive waste management and important issues relating to the various steps. It is based on UK and international experience and lessons learned from reviewing past events.

The Front End of Decision Making, E. Atherton (2002), A Nirex Technical Note.

This paper outlines the advantages of involving stakeholders at the beginning of the decision making process and various consultation techniques that can be used to achieve this.

Review of Consultation Techniques for Radioactive Waste Management E. Atherton and J. Hunt (2002), A Nirex Technical Note.

This paper outlines the principles that should underpin stakeholder involvement and the advantages of involving stakeholders in decision making processes. It goes on to review various consultation techniques and describes their various characteristics. This analysis is used to match the different

techniques against the various stages of the indicative programme set out in the DEFRA and Devolved Administrations' consultation paper *Managing Radioactive Waste Safely*.

Environmental Assessment and Consultation as Part of a Stepwise Process for Radioactive Waste Management, E. Atherton (2002), A Nirex Technical Note.

This paper outlines how consultation techniques can be used with the umbrella processes of Strategic Environmental Assessment and Environmental Impact Assessment to encourage stakeholder involvement in the decision making process.

Visual Language A.K. Littleboy and R. Western.

Visual Language is an ongoing project exploring the value of new theories about the communication of complex information for dialogue about radioactive waste management. Visual language – the tight integration of words and images – has been used to present the scientific knowledge affecting the safety of the facility in both electronic and poster format. These forms have been, and are being tested for their usefulness by internal focus groups and external peer review.

3. Nirex Policies

Nirex has been considering past experience in some detail, in order to develop a new approach to the future. For example, an Internal Inquiry into allegations against the Company has been undertaken and published¹⁸. The lessons learned have all been instrumental in developing new approaches in many areas, which have been captured within new company policies.

Nirex Transparency Policy (1998)

Nirex has developed a transparency policy. It commits Nirex to allowing stakeholders to have access to and influence on our forward programme.

Nirex Corporate Responsibility Policy (2001)

Nirex has a corporate responsibility policy that commits Nirex to being open, accountable and socially and environmentally responsible and actively engaging people in its work.

Raising and Sharing Concerns at Work, Nirex Company Management Procedure 09-00-14 (2001).

Nirex has a whistle blowers policy to enable staff to report issues through a supportive procedure.

4. Other UK Reports

Radioactive Waste – Where Next?, Parliamentary Office of Science and Technology (1997)

This report is a review of radioactive waste management in light of the decision to refuse planning permission for the rock characterisation facility in Sellafield in 1997. It looks at how to move the situation forward.

¹⁸ Nirex (2001), *Report on the Nirex Internal Inquiry January-December 2000*.

Setting Environmental Standards, Royal Commission on Environmental Pollution, 21st Report, 1998.

The report looks at scientific understanding, technological options, risk and uncertainty, economic appraisal, implementing environmental policies, articulating values, encouraging public participation and developing a robust basis for environmental standards.

The Radioactive Waste Management Advisory Committee's Advice to Ministers on The Establishment of Scientific Consensus on the Interpretation and Significance of the Results of Science Programmes into Radioactive Waste Disposal, RWMAC, April 1999.

The report looks at the role of science in policy decision-making, the limitations of science, the societal view of science, the precise meaning of the word consensus, the linking of scientific and societal debate and mechanisms by which scientific and ultimately, societal consensus might be sought.

Third Report of the Select Committee on Science and Technology: Science and Society, 2000.

The report looks at public attitudes and values, public understanding of sciences, communicating uncertainty and risk, engaging the public, science education in schools and science and the media and makes recommendations on how science should interact with society.

Evaluating Methods for Public Participation: Literature Review: R&D Technical Report: E135 of the Environment Agency, A Report by J. Petts and B. Leach, 2000.

The report reviews public participation and consultation techniques and evaluates different approaches to develop a framework for the evaluation of consultation processes for the UK Environment Agency.

Nuclear waste? No thanks!, Robin Grove-White (2001), A report for Nirex

This paper reviews what has happened in the search for a solution to radioactive waste management. It explores ways in which radioactive waste management could be viewed as a social problem requiring a societal solution.

The Nuclear Age: Cleaning up the Mess Andrew Stunell MP and Maria Menezes (2001), Centre for Reform paper number 21

This paper argues that the time is now right to develop new and more explicit policies on the management of nuclear waste.

Managing Radioactive Waste Safely: Proposals for Developing a Policy for Managing Radioactive Waste in the UK, Department of the Environment, Department of the Environment Food and Rural Affairs, The National Assembly of Wales, and the Scottish Executive (2001)

This is the consultation paper that the UK Government released in September 2001 to launch a national debate on radioactive waste management. It can be downloaded from the DEFRA web site, responses were requested by the 12th March 2002.

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