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**NUCLEAR ENERGY AGENCY
RADIOACTIVE WASTE MANAGEMENT COMMITTEE**

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Forum on Stakeholder Confidence (FSC)

**FSC Topical Session on Experience with Electronic, Web and Internet Platforms for Communicating on
Radioactive Waste Management**

NEA Headquarters 8 June 2006

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FOREWORD

The Forum on Stakeholder Confidence (FSC) was created under a mandate from the OECD Nuclear Energy Agency's Radioactive Waste Management Committee (RWMC) to facilitate the sharing of international experience in addressing the societal dimension of radioactive waste management. It explores means of ensuring an effective dialogue with the public, and considers ways to strengthen confidence in decision-making processes. NEA member countries nominate participants. The FSC today includes representatives of national regulators, implementing agencies, policy makers, and R&D scientists from 15 OECD countries and two international organisations. Each has experience in and/or responsibility for stakeholder interaction.

The Forum was launched in August 2000, in Paris, and convenes a series of alternating regular meetings and workshops. Subgroups suggest and follow up specific study areas, often resulting in Topical Sessions. The proceedings of National Workshops and of Topical Sessions are published and may be consulted on line¹ or ordered from the OECD.

At its informal meeting in Spain in November 2005, the FSC Media and Communication Group suggested the organisation of a questionnaire study and Topical Session on the theme of electronically supported communication, as part of the FSC meeting to be held in Paris, 7-9 June 2006. This activity addressed the following objectives:

- To take stock of the development, use and impact in NEA member countries of **electronic, Web, and internet platforms**, as ways of informing stakeholders and the public at large on radioactive waste management, and improving their knowledge in this area.
- On the basis of the information collected during this topical session, **to identify specific methods and tools** particularly suitable to member countries' RWM information dissemination and communication programmes.

These Proceedings include:

- a) An introduction including a summary of the questionnaire findings, of the topical presentations, and of the discussion they sparked within the FSC;
- b) Documents provided by each speaker at the Topical Session.

¹. [<http://www.nea.fr/html/rwm/fsc.html>]

INTRODUCTION AND SUMMARY FINDINGS

At the Topical Session held in June 2006, FSC delegates presented the status and impact of electronic, Web or internet technologies in their respective organisations. External guests spoke as providers or receivers of e-based information concerning radioactive waste management.

In addition, short written contributions from FSC members, in answer to a Secretariat questionnaire on their current experience and expectations for these new technologies, were received ahead of the Session from 12 FSC organisations in 7 member countries. The questions selected for this informal survey are reproduced below:

- Does your organisation use electronic, Web, or internet tools to communicate with stakeholders on RWM? Have these tools been recently introduced in your communication operations? Do they now represent a major resource as compared to more “classical” instruments? Has your organisation set up a special structure /team to operate these tools? Do they require new skills and competences to use them? Does their routine use involve an extra cost as compared to the costs of classical tools?
- From the viewpoint of efficiency in conveying information, and establishing robust and confident relations with stakeholders, what are the pros and cons of electronic, Web, or internet tools? Which criteria apply in making this judgment?
- Have you analysed the motivations of stakeholders with whom you communicate, in respect to their expectations about your electronic communication tools?
- On the whole, do you believe that these new tools constitute a major breakthrough in communications in the area of RWM which will become (or are already) a “must”?
- Should the FSC, on the basis of the results of this Topical Session, notably the experience collected, perform a more in-depth analysis of the potential of these new technologies, and try to identify specific approaches and methods to maximise their value to our member countries?

In the following, the Secretariat summarizes FSC practice in e-communication and the choice of methods and tools, based largely on the questionnaire responses. Examples are then provided of typical experience, drawn from Topical Session presentations and discussions. Conclusions and future perspectives for FSC work in this area are stated.

TAKING STOCK OF THE DEVELOPMENT, USE AND IMPACT OF WEB AND INTERNET PLATFORMS TO COMMUNICATE ON RWM IN MEMBER COUNTRIES

Pros and cons of these technologies from the viewpoint of efficiency in information communication and confident relations with stakeholders...

E-technologies are a powerful tool to convey large amounts of information in an efficient way, and to provide in real time (subject to developing appropriate instruments) up-to-date information to wide audiences. They offer a potential for establishing direct dialogue with stakeholders, most often more cheaply than with conventional information tools. NAGRA, of Switzerland, mentions that in part because electronic applications (such as flash films) can transport the spoken word and visual imagery, giving a sense of immediacy, the emotional aspects of communication can be better addressed. USNRC notes that effective use of electronic and Web communication is very important for reaching the print and broadcast media. Reporters will frequently visit an accurate, current website, even before contacting agency representatives.

On the other hand, these technologies for conveying or sharing information will never replace face-to-face interactive communication, nor “traditional” means. The USNRC mentions that some rural stakeholders do not have telephone service, much less access to a computer. Electronic media are not primary trust-building tools, but offer support when trustful relations have already been established through direct interactions with individual or small groups of stakeholders (USNRC; SKB, Sweden).

The opportunity for two-way communication via internet is rarely used (as pointed out by BFE, Switzerland and other respondents) but NUMO, Japan, is developing a more effective use of electronic devices such as cellular phones to prepare for a direct dialogue with residents of host communities. However, at local level, most people acquire information (e.g. on disposal) through local media, printed information bulletins, etc. The contents of a website have to be easy to read for average users without oversimplification, with the risk of downgrading the specialist contents. Frequent checks and updating are necessary, which may mobilize time resources; the same is true of the “overflow” of information arriving daily in the organization through electronic means. Other forms of information must continue to be produced in parallel. “Blogs” or free-access forums on which readers may post comments and dialogue mean that the hosting organization loses some measure of control. The electronically-based communication system is mainly suited to professionals and younger audiences (admittedly a very important stakeholder in view of long term governance). It may best be an information channel for the people most interested in—or already acquainted with—the RWM issue (Posiva, Finland).

Resources involved and organisation...

Resources involved in the operation of these technologies are generally modest in terms of manpower and budget. There is usually a small, specialised team to run the website, often in close cooperation with the media and communication department and with technical units, but the technical implementation of electronic tools may be outsourced. Large national organisations, such as the US Nuclear Regulatory Commission, have agency-wide computer support and a structured format for that part of the website which aims at communicating specific RWM information. It is important not to underestimate the time resources needed to update electronically presented information. While it is technically simple to effect modifications online, the task of reviewing the available information and providing appropriate updates must be added to RWM professionals’ workload. Perhaps for this reason, several organisations describe as significant or even “huge” the resources needed to maintain a high-quality information offer.

A number of FSC member organizations refer to research and surveys they have performed to evaluate the impact of e-communication and the usage patterns among stakeholders. This research may be

partially or entirely out-sourced. Running the surveys and also, adapting outputs to the research findings should be counted into the estimation of effort.

A major breakthrough in communication in the area of radioactive waste management?...

First of all it should be noted that not every institution involved in RWM is using electronically-based information technologies. For instance, while Sweden's SKB notes more and more emphasis is given to these media within their organisation, the regulator SKI at this time does not have any substantial experience using Web-based tools for communicating with stakeholders involved in the Swedish localisation process for spent nuclear fuel. This said, the safety authority, like all public administrations in Sweden, has received the mission to recognize the public's growing use of and sometimes preference for such means of informing themselves. It should be noted as well that some organizations offer what might be called minimal e-resources to the user—a homepage containing institutional information—while others have seized the opportunity (and accepted the load) of diversifying their information offer through the whole range of innovative e-media available today.

There is broad consensus among RWM organisations in member countries that the development of internet platforms and tools represents an important step in the way of supplementing other means of communication. Not every topic can be covered with new information technologies, but, with them, the access to up-to-date information is greatly improved. E-communication technologies are developing fast and becoming more user-friendly, providing a whole new palette for communicators. However, the internet technology cannot be a stand-alone tool. It is an impersonal way of communicating. Attitudes of those who communicate are crucial. In the RWM field in particular, communication demands people-to-people contacts and two-way communication in order to build confidence, e.g., hearings, round tables, and discussions with stakeholders.

Several organisations participating in the Topical Session (notably SKB, of Sweden) have emphasized that while interesting opportunities are emerging with the electronic, Web and internet platforms, it is necessary to determine clearly the strategic objectives of communication prior to identifying the most appropriate tools to achieve them.

IDENTIFYING PARTICULARLY SUITABLE METHODS AND TOOLS

Organisations represented at this Topical Session are all different and pursue different objectives when using electronic platforms or the Web. This ranges, *inter alia*, from providing information about the organisation itself, its objectives, institutional aspects, products, and so forth, to communicating in order to build knowledge; exchanging data with their pairs; seeking to establish a dialogue with identified stakeholders; communicating for confidence building, etc. Similarly, there is an impressive diversity of stakeholders, individuals, institutions or associations, with their perceptions and specific needs, age group, education and localisation. Obviously, for each individual case, the information and communication modes will be different or complementary. For example, the mass media will seek quick access to short, accurate information. Local institutions having their own Web site will appreciate building a link with RWM organisations' sites. Young people will prefer searching your site to assembling and reading paper literature. Other individuals or groups will look for ready answers to frequently asked questions (FAQ) or reassuring information as to "what would happen if...".

The examples below, drawn from the Topical Session presentations, show how different organizations have analysed their context and communication needs, how they selected the corresponding e-tool, and the success or obstacles encountered.

- A research project by the Scottish Executive was carried out in 2004 to assess effective ways of engaging with young people in the debate on RWM using information technologies. The study shows that young people with an interest in using the Internet value on-line tools that meet their needs to access information from various sources and perspectives, and to exchange views with their peers. Main barriers to young people's effective use of such tools lie on the side of the organisation's management of the site: coordinating the use of the tools and their content, ease of use and accessibility are important. Different combinations of tools are required for different circumstances. The active support of the education and community sectors will be required to provide young people with real opportunities to use the tools to take part in the RWM debate. RWM specialists and decision makers should be directly involved in the e-engagement as well as non governmental stakeholders and environmental organisations. A "one-size-fits-all" product may jeopardise the success of a future exercise aimed at all population groups.
- The Website of ANDRA (France) was reviewed recently, focussing on "reactivity" and "completeness" in order to be able to support the public debate which was launched in the country prior to the review of the RWM Act of 1991 by the Parliament. Another objective of this review was to meet outreach needs of the Agency, and give visibility to its international dimension. A questions forum was created for stakeholders, as well as a Science corner, constantly up-dated. The strength of this new approach to communication includes immediacy (fast data production and posting), and its interactivity (surfers can chose search tools, read whole articles, delve deeper into the issue, save data and images).
- NUCNET, an authoritative international service for news and emergency information for the nuclear community, the media and the general public, forms a network of member organisations in more than 40 countries. The network is supported by electronic/Web platforms. As an emitter or communicator of information, NucNet uses internet tools and devices primarily to help give a true account of radwaste management issues and projects. To achieve this, the language, terminology and approach used to explain an issue is important; the goal is to pass along a positive message. Equally important is the choice of the most credible spokespersons to address radioactive waste issues, i.e. citizens' groups and medical personnel (politicians are rarely effective spokesmen). The problem remains that radioactive waste continues to have a negative

image in the general public. In the RWM field, those who are antinuclear are frequently better at using the internet and other tools to get their messages across than are proponent organisations.

- The UK Nuclear Decommissioning Authority's Web strategy is to maintain the site as a primary vehicle for communication with stakeholders, recognising different audiences, namely, local stakeholder sites, contractors, employees, Non Governmental Organisations, politicians, and press/media. The Web serves also as an electronic record and library of Portable Document Files (pdf) of all corporate information. As a news channel, the site runs a news alert service to stakeholders, who can subscribe on-line and be reached by e-mail and access press releases. The website also aims at offering a community platform in various ways such as Web chats or a NDA panel responding to stakeholders' questions online in real time. Independent site stakeholder groups are able to publish information on the NDA site or to establish links to it.
- The Ecology Institute in Urban Areas (IDEMU) is a French non-profit association contributing to the development of training and information on know-how related to the environment and energy in urban areas. An internet monitoring system tracks evolutions in relevant domains: technological, commercial, legal, social/societal, institutional/political, computer news and contents to be found on the Web. Information is collected through "active" or "passive" means. Classification and archiving, using Web navigators, client mail, pdf-generating software, and intranet archiving are necessary to perform and draw benefits from information monitoring.
- A large part of the general discussion during the Topical Session was devoted to an assessment of the actual profile of stakeholders in the RWM area. Is the general public really using the internet to find information or to be convinced? What role does it really play in building confidence? The importance of carefully targeting your stakeholders was highlighted. Clearly, the media are a key stakeholder, which, in turn, can contribute to confidence building in the general public. Likewise, younger generations are far more interested and skilled in using the Web and electronic tools than the elderly. The US NRC, as a regulatory organisation, has developed relationship with affected local counties, most of which having their own websites, and a link with the NRC site. This appears to be an excellent way of sharing information, especially in very remote areas.
- One important step in building confidence using the internet is to make all information available in an open way. However, selecting information relevant to targeted stakeholders is essential. Tools need to be available to get feedback from the stakeholders- who may also be decision makers- about the relevance and value of the material put on the internet. Conversely RWM webmasters should have available the tools to evaluate the impact and efficiency of selection by the surfers of the material proposed on their sites. From a practical point of view, it is important to make the information accessible through a choice of tools such as pdf, html..., which in turn, has implications for internal resources, and direct relevance for the interested stakeholders. As noted earlier, increasing accessibility might lead to simplification, but oversimplification entails a risk of being seen as trivialising a complex and serious issue, and also might impair impressions of your own competence.
- The internet doesn't operate in isolation. Information on the Web can-and should- be combined with other modes of communication. Confidence building ultimately depends on people having trust in the emitter of information, often following a personal contact. In respect of two-way communication, the initial step is the provision of information, evolving into consultation and ultimately a dialogue with your stakeholders. In the field of regulation in the United States, for example, the visibility of the regulator (USNRC) and its perception as an honest broker of information are very important, and the Web can be a useful tool in this respect in building confidence.

CONCLUSIONS AND FUTURE PERSPECTIVES

When addressing the issue of electronic and Web communication in the field of nuclear energy, and more specifically radioactive waste management, three fundamental observations must be recalled:

- First, the use of this new communication technology is expanding rapidly in many sectors of society activities, and is *de facto* challenging traditional communication practices. It is therefore not surprising that it has inevitably entered the realm of nuclear energy communication.
- Second, electronic communication technologies can only be a tool, among a range of others, to sustain strategies and the achievement of broad-ranging objectives which condition the satisfactory development of radioactive waste management policies and programmes; and
- Third, stakeholder confidence building rests upon many communication practices among which the Web and electronic platforms can play a very useful role, but will never substitute for people-to-people exchanges.

The rapid development of dedicated websites in RWM organisations, although recent, or fairly recent, stems from the recognition that stakeholders, be they the citizens, the general public, the media, or the organisation's staff, have new demands in terms of communication in this field which must be addressed. RWM organisations themselves seek to create trust and stable relations with various parts of society and need therefore to be proactive in their information and communication strategies towards stakeholders. In this respect, internet technologies appear to be a prime tool, and interactivity a major asset of Web technology.

The experience of RWM organisations on the use of electronic and Web platforms highlights the diversity of stakeholders and their perceptions and needs: media, institutions or local associations, young people, other individuals or groups of different generations and different locations..., but also the diversity of communication objectives RWM organisations seek to achieve: publicizing their corporate identity and area of expertise, informing the public at large, and the media, seeking to establish a dialogue with identified stakeholders on a specific issue.

Part of stakeholder confidence building rests on having at hand on your website all the information: transparent, open, and clear. This too requires trade-offs between exhaustive and complex information and oversimplification, but in any case socially contentious issues must be addressed.

The electronic, Web, and internet platform technologies are expanding rapidly, becoming more user-friendly, but also more sophisticated and complex. They have their pros and cons, touched upon in the Introduction to these Proceedings. Whatever the final evaluation, there is an increasing choice of electronic tools to adjust to communication needs. It is therefore useful to share good practices among organisations for making the best use of these technologies.

There is a consensus among the RWM organisations taking part in this Topical Session that exchanges of experience among them on the use of these technologies will continue to be of value. Discussion in the context of the FSC will allow members to assess the desirable degree of involvement and amount of human and financial resources to be invested, always keeping in mind the whole range of other communication tools, and that it is the strategy which conditions the choice of the tool and not the reverse.

This Topical Session was intended to be the first step in a series of future activities to explore, among interested RWM organisations of NEA member countries, the multiple facets of this topic and pursue the exchange of experience they have developed in using these technologies for the development of respective

radioactive waste management programmes. Annual presentations by RWM organisations of an event which has involved the use of Web and Internet technologies in communication with stakeholders, and informal evaluations of the outcome are planned by the FSC, starting in 2007 with presentations by two organisations.

FSC TOPICAL SESSION

**EXPERIENCE WITH ELECTRONIC, WEB AND INTERNET PLATFORMS FOR
COMMUNICATING ON RADIOACTIVE WASTE MANAGEMENT**

TEXT OF PRESENTATIONS

MAIN TRENDS IN FSC MEMBER ORGANISATIONS' USE OF ELECTRONIC COMMUNICATIONS TECHNOLOGIES: RESPONSES TO THE QUESTIONNAIRE

Michael Aebersold, Deputy Head, Swiss Federal Office of Energy

As of 2 June, the following contributions had reached the Secretariat :

- Finland (POSIVA)
- Japan (NUMO)
- Sweden (SKB; SKI; SSI; KASAM)
- Switzerland (BFE; HSK; NAGRA)
- United States (NRC)

MAIN POINTS

Use of electronic, web, and internet platforms to communicate with stakeholders on RWM; have they become a "major resource" for communicating? Do they require a special structure and new competences? Cost incidences?

The existence of dedicated websites on RWM in most of the responding Organisations is recent or very recent (one to eight years). In Sweden, government instructions to regulatory administrations to recognise that citizens have new demands in terms of communication have led to develop web based tools for informing about the activities of the Organisation and communicating with the general public and the media. The website serves also to publish media releases in real time and contains information to answer a range of inquiries, thus creating trust and stable relations with various parts of society (Swedish SKB; Swiss BFE)

All responding organisations indicate that ideas and plans involving electronic media are in constant active development.

There is usually a small, specialised team to run the web, often in close cooperation with the media department of the Organisation and technical units, but the technical implementation of electronic tools may be outsourced. Large national Organisations such as USNRC have agency-wide computer support and a structured format for that part of the web site which aims at communicating specific RWM information.

NUMO (Japan) mentions that the running cost of their site is less than 0.5% of the total publicity budget. NAGRA web team resources are limited to about 40% of their working time.

Pros and cons of electronic platforms and web from the viewpoint of efficiency in information communication and confident relations with stakeholders.

PROS: Powerful tool to convey rapidly large amounts of information and establish direct conversation with stakeholders, subject to developing appropriate instruments; increased availability; wider and easier reach to a large audience; transparency; up-to-date info in real time; cheaper than conventional info material. NAGRA mentions that access to stakeholders can best be achieved emotionally with electronic tools. USNRC notes that effective use of electronic and web communication is very important for reaching the print and broadcast media.

CONS: Web and electronic platforms for conveying or sharing information will never replace interactive face to face communication. At local level, most people acquire information (e.g. on disposal) through local media, information bulletins, etc...Contents of the site has to be easy to read for average users, thus downgrading the specialist contents. Frequent check and updating is necessary and other forms of information have to be produced in parallel. This communication system is mainly for use of younger people and professionals.

On the whole, the use of web systems is seen as very efficient, as an instrument for passing information and maintaining a link with active stakeholders, but less appropriate to create the confidence you can develop in a person to person communication.

What are the stakeholders' expectations for the use of electronic communication tools?

Members answers did not address this specific point or have not yet studied this question. SKB, Sweden, analyses first who needs information, and evaluates then whether internet might be an option in order to meet the needs of stakeholders. USNRC has experienced that the better you get at using electronic tools, the more the stakeholders come to rely on them.

Do these new tools constitute a major breakthrough in communication in the area of radioactive waste management?

There is a large consensus in the replies to this question that the development of internet platforms and tools represents an important step in the way of supplementing other means of communication. Not every topic can be covered with new information technologies, but with them, the access to up-to-date information is greatly improved. However, internet cannot be a stand alone tool; Attitudes of those who communicate are crucial; in the RWM field, in particular, communication demands people to people contacts and two-way communication in order to build confidence, e.g., hearings, meetings, round tables, with stakeholders.

One reply (SKB, Sweden) notes rightly that while there are interesting opportunities with the new tools, it is necessary, first, to determine the strategic objectives of communication, and then identify the most appropriate tools to achieve them.

Should the FSC, on the basis of this Topical Session, try to identify specific approaches and methods to maximise their value to our members?

Three kinds of reactions are noted in respect of the above question:

- It is important to go on with this work, for example by collecting research data such as on approaches and methods in different member countries, and exchanging information about them. Which are the target groups Differentiate between the needs of project partners and those of the general public. How various kinds of stakeholders find the information about RWM; What are

their preferred sources (policy maker; regulator; implementer); What is the quality of the information; and, what makes a site attractive?; How significant could be the role of electronic applications in comparison to traditional means of communication?

- The opportunity of further work in the FSC should be discussed after reviewing member countries' experiences. Make sure this item meets FSC tasks.
- Risk of money wasting if the strategic approach (of RWM communication) is not right. Must be discussed.

ELECTRONIC ENGAGEMENT ON RADIOACTIVE WASTE MANAGEMENT: THE EXPERIENCE OF THE SCOTTISH EXECUTIVE

Elizabeth Gray, Head of Radioactive Waste Team, Scottish Executive

INTRODUCTION

Radioactive waste management policy in the UK is the responsibility of each of the four administrations: England, Scotland, Wales and Northern Ireland. This follows from devolution of powers from the UK Parliament in 1999. The Scottish Executive is the devolved government for Scotland. We are currently working jointly on development of long term policy for the management of long lived and low level radioactive wastes. This presentation briefly outlines our Scottish Executive activity and advises on a specific radioactive waste project on engaging with young people.

GENERAL EXPERIENCE

Scottish Executive has its own external website as well as an intranet site for use by staff. The website covers all aspects of the Scottish Executive's responsibilities. It is a corporate asset and the design, presentation and content are centrally determined and controlled. As with other organisations we have to maintain security controls on access to data. The range of information is extensive and it is a single gateway to Scottish government. The system has to meet the needs of a wide variety of users and has been adapted over time to reflect experience.

There are links within our website to other websites such as the Scottish Parliament. On specific topics, such as radioactive waste there are also links to the websites of other bodies who are involved in the subject matter, for example, the Scottish Environment Protection Agency, the Nuclear Decommissioning Authority and the Committee on Radioactive Waste Management.

RESEARCH PROJECT

The project titled *Continuing the Dialogue on Radioactive Waste Management: Engaging Young Scotland Innovatively* was a study to assess effective ways of engaging with young people (14-21 years) living in Scotland in the debate on radioactive waste management using information technologies. The summary of the study is attached. It can be accessed at

<http://www.scotland.gov.uk/Publications/2005/10/2591021/10216>

and the full report can be accessed at

<http://www.scotland.gov.uk/Publications/2005/12/19160046/00469>

The study was undertaken for the Scottish Executive by the International Teledemocracy Centre (ITC), Napier University, Edinburgh, UK in 2004: www.teledemocracy.org and which can be contacted by email at: itc@napier.ac.uk. The Centre is involved in work in Scotland and internationally including for OECD and in collaboration with universities overseas including Canada. In the following, we reproduce a research summary prepared by ITC and published by the Scottish Executive on 8 June 2006.

RESEARCH SUMMARY 2005/04²

Angus Whyte, Ella Smith, Inge Alberts, Ann Macintosh,

International Teledemocracy Centre, Napier University

The views expressed in this report are those of the researchers and do not necessarily reflect those of the Scottish Executive Environment and Rural Affairs Department or Scottish Ministers

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The International Teledemocracy Centre carried out research between February and June 2004 to develop and test appropriate online tools and mechanisms to engage young people in dialogue on Radioactive Waste Management. Interviews and a literature review informed the research which also involved three focus groups of young people from across Scotland. They assessed a range of "e-engagement" tools on ease of use, appeal, and suitability for purpose; i.e. to help find information, decide, and express their own point of view, whether acting on their own accord or through a school or youth group meeting. The findings will inform plans to engage young people in Scotland on this and other complex policy issues.

MAIN FINDINGS

- The study found interest and enthusiasm in using information and communication technology (ICT) e-engagement tools, to take part in the debate on Radioactive Waste Management (RWM) through groups that also meet face-to-face, i.e. school classes or youth groups. This is despite lack of awareness and mistrust of information on this issue and the challenges it is seen to represent for engaging the young. However there was little appetite for sustained involvement by individual young people acting on their own accord.
- The study shows that young people with an interest in using the Internet value online tools that can address their need to access information drawn from various sources and perspectives, and exchange views with their peers. Young people were motivated to become actively involved partly as a novel way of using ICT within organised group activity.

2. ISBN 0 7559 2611 0

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- The main barriers to young people's effective use of such tools are likely to be organisational: coordinating the provision and use of the tools and their content. The tools themselves should be designed with an emphasis on ease-of-use and accessibility
- Rather than seek one best approach, different combinations of tools are required for different circumstances. A 'one-size fits all' product may detract from the success of any future engagement exercise, since differences in language and culture (if not technical skill) are likely to exclude younger children on the one hand and older people on the other.
- It will require the active support of the *education and community sectors* to provide young people with realistic opportunities to use the tools to take part in the RWM debate.
- RWM *specialists and decision-makers* should be directly involved in the e-engagement. There is a need for *non-government stakeholders* including environmental organisations to provide their input.
- There is a need for *facilitators* to lead discussion, face-to-face and online, as well as contributors of position statements and background facts. Some of these should be willing to be interviewed for online publication of their views or experiences, and may themselves be young people.

INTRODUCTION

Radioactive Waste Management is, perhaps more than any other, an inter-generational issue. Decision-making is therefore grounded by ethical issues about burdening future generations to any current decision. This factor, together with the Scottish Executive's commitment to principles of involving young people in decision-making, underlines the importance the Executive attaches to young peoples' participation in the ongoing debate on radioactive waste management.

In December 2003 the Scottish Executive Rural and Environmental Affairs Department commissioned the International Teledemocracy Centre to identify appropriate ways to engage young people in the debate.

OBJECTIVES AND METHODOLOGY

There were four phases to the research to address each of its objectives.

Phase 1 consisted of a literature and practice review, firstly of electronic participation, and secondly of best practice in engaging young people in Scotland and elsewhere. Interviews with leading participants in previous consultations complemented this review.

Phase 2 involved developing alternative tools for e-engagement to a prototype stage that illustrated their role and intended uses. These were to assist and encourage young people to *find out* about Radioactive Waste Management, *decide their own point-of-view* by appreciating others, and *have their say* by expressing and exchanging ideas or views on the issues and options raised, the decision-making process or its outcomes. The tools are described in Table 1.

Phase 3 piloted the tools with three groups of young people aged 14-21 across Scotland.

Table 1. ICT tools for e-engagement

<p><i>Blog</i>: A web site organised in diary form, where messages by the author are listed chronologically. Often others can add comments, but the page is focused on the author's point of view.</p>
<p><i>Live question-answer panel: streamed video</i>: A panel of specialists and others involved or affected answer questions live on video, which is 'streamed' or broadcast on a website.</p>
<p><i>Video Interviews</i>: Similar to the above but using pre-recorded video that may be downloaded on a website or from CDROM, to help get over facts and opinions about a subject.</p>
<p><i>Live question-answer panel: chat room</i>: Similar to the streamed video but in this case the panel are represented by the text they type into a chat 'room' that can simultaneously be seen by others online</p>
<p><i>Game</i>: A website with a <i>quiz</i> format for testing background knowledge, or <i>decision-making game</i> with graphic presentation of interviews with stakeholders, information, and questions on preferences for RWM options.</p>
<p><i>Discussion Board</i>: A website showing a list of questions or topics, from which users can pick a topic and see a "thread" of messages and replies about it, and add their own.</p>
<p><i>Questionnaire/opinion poll</i>: A website showing a list of questions where users can pick from the options given, and send their responses.</p>
<p><i>Issue Map</i>: An interactive screen displaying a 'map' that shows questions or issues, and the associated arguments for and against different options. Users can trace paths through a debate to assess the various arguments for and against the alternate positions on issues and options for change.</p>
<p><i>Frequently asked questions (FAQ)</i>: A website showing a 'tree' of questions and answers that can be explored or searched to find answers that are closest to the user's questions.</p>

Scenarios were developed to describe how the tools might be used in two situations; *facilitated* through school or youth groups, or *self-directed* by individuals acting on their own accord, but with online support.

Phase 4 was the assessment of the ICT tools. With the scenarios for reference, the focus groups gave structured feedback on their 'hands-on' testing of each tool, commenting on their ease of use, appeal, and suitability - firstly for finding information, then for deciding and expressing their own point of view.

The groups' comments were analysed to assess the suitability of each tool for self-directed or facilitated use, and consider how their use for engagement should be planned, also taking into account the best practice review. This informed development of the specification for a toolkit integrating the various tools tested.

WHICH TOOLS FOR E-ENGAGEMENT?

The feedback we received from young people who tested the prototype tools and materials identified both the strengths and weaknesses of each tool for the purposes and contexts we considered, as shown in Figures 1 and 2.

Factual information presented for example in *Frequently Asked Questions* (FAQ) form is essential but not sufficient to communicate the relevance of RWM to young people. A *storytelling* approach is critically important for this purpose, which *blogs* and *video interviews* may serve by giving personalised accounts of how lives are affected by RWM issues. This is also dependent on individuals from stakeholder groups contributing suitable material.

Figure 1 E-engagement tools fit to purpose

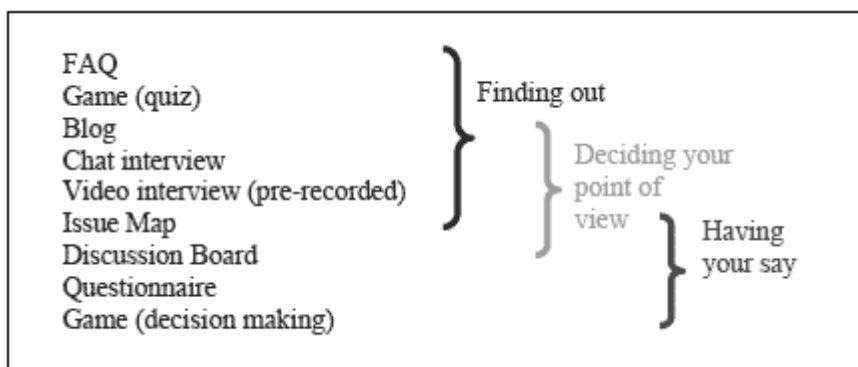
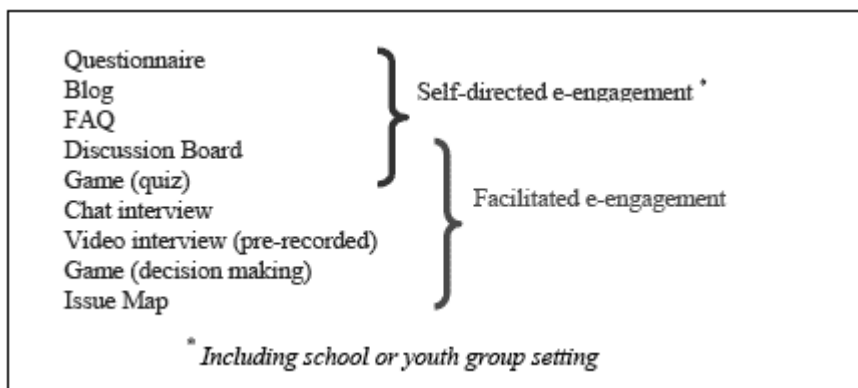


Figure 2 E-engagement tools fit to context



The *issue map* tool is well suited for showing the arguments for and against the options available for RWM when used for 'facilitated' e-engagement in organised group settings.

The *discussion board* is appropriate following similar threads of online discussion when used by individuals acting on their own accord, to exchange points of view. It also helps users form opinions and to make these known.

The *game* formats are very appealing to young people, even the 'look and feel' of a game being enough to convey an element of fun. A strong gaming element is needed to keep young people engaged in debate, using 'hooks' to engage attention such as point scoring and advancement through levels. The *game*

and *questionnaires* formats are both structured approaches to obtaining responses to closed questions. Such questions can also be embedded in the more open-ended *discussion board* format.

Each approach has complementary strengths: -

- Questionnaires as a 'quick and easy' option;
- Games as the 'fun way to learn and take part' option;
- Discussion board for 'other people to get back to you' and exchange views.

The live question-answer panels provided by *chat* and *streamed video* help young people to appreciate other perspectives, as do *blogs* focusing on the experiences of individuals.

IMPORTANT CONSIDERATIONS

Despite their appeal to young people, the *chat* and *game* tools in particular would require acceptance by educational authorities, given the norm of discouraging their use in school or community education contexts.

The *chat* tool also must be designed and supervised/ moderated to ensure safe use by young people.

A 'one-size fits all' product may detract from the success of any future engagement exercise aimed at all population groups, since differences in language and culture (if not technical skill) are likely to exclude younger children on the one hand and older people on the other. Relevant groups should be consulted on how the tools may best be used to support the participation of younger and older age groups.

The participants were already members of groups engaged in discussion of current political issues, and the results may therefore not be representative of young people who (a) do not find face-to-face discussion appealing; or (b) do not find the internet appealing. The next stage should establish the extent of any such bias.

RECOMMENDED NEXT STEPS

We believe the current study provides a sound basis for further developing and piloting an e-engagement package complemented by further work to assess that pilot as outlined below.

- Before further work is undertaken a *Youth Reference Group* representative of young people in Scotland should be established to help enlist the support of their peers and relevant stakeholder groups. The input of on-going initiatives such as the *Commissioner for Children and Young People*, *Scottish Youth Parliament*, *Young Scot*, *Dialogue Youth* and *Highland Youth Voice* would be highly desirable.
- *Extensive discussion of the content and evaluation* of a pilot e-engagement is needed, to secure the *necessary partnerships* with government, industry and non-government stakeholders (local as well as national). These would further develop the content, facilitation, success criteria and incentives for young peoples' continued involvement.
- The tools and content should be designed to *cater for the widest possible age group*, by finding an appropriate balance between accessibility and wide appeal. There is a trade-off between accessibility and using multimedia elements to enhance the general appeal of the tools.

- The toolkit should also be designed to *avoid duplication of effort* on the part of contributors.
- Translations to minority ethnic languages may also be desirable.
- Given rapid change in technology the *selection of tools for e-engagement should be reviewed* and there is a need for further research on the use of the *issue map* format. Although well established, this has not been previously applied in e-engagement with young people.

CONCLUSIONS

This study has usefully developed our understanding of the use of ICT to engage young people. The lessons learnt through this work are equally applicable to engaging young people on other complex issues. This 'wider application' of e-engagement is an important result of the study.

If you wish to receive further copies of this Research Summary, or have any enquiries about the study, please contact:

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ELECTRONIC, WEB, AND INTERNET PLATFORMS FOR COMMUNICATING ON RADIOACTIVE WASTE MANAGEMENT: THE EXPERIENCE OF ANDRA

Jacqueline Eymard, Communications Director, Andra, France

Andra has been using e-tools and has had its own website since 1997. The site has been through 5 major upgrades since then.

Last major changes were made to the site in 2005 to include news briefs:

- Regular news items
- A science corner
- Recent documents put online (Dossier 2005, National inventory 2006 ...)
- 2D and 3D animations, videos

All the Agency's documents can be consulted and downloaded

Thus, electronic or web communication play amore and more important resource as compared to classical instruments:

- 151,453 hits in 2005, that is 37% up on 2004 and 119% up on 2003.
- 774,794 pages visited, that is 31% up on 2004.
- 416 articles on line including 58 new articles and 117 updates.
- 197 articles posted to the new Science Corner.

One person, assigned from the communications division looks after the site. This webmaster's profile has both technical aspects - knowledge of html language, spip, and software such as Dreamweaver, and Flash and also calls for editorial skills.

As the decision has been made to run with different types of media for the time being, the Internet cost is additional to the costs of conventional tools.

There are fixed costs: site hosting charge from an access provider, referencing and the stats tracking. To this has to be added the specific site-related development cost. Andra has earmarked about 10,000 euros per annum for this.

Strength noticed for this new approach to communication are:

- its immediacy: fast data production and posting,

- its interactivity: surfers can choose their information, decide on the route they wish to take (search tools, reading whole articles, delving deeper into the issue)
- surfers can save data, images, print from the site
- availability of information, immediate at all times

Weaknesses have also been noticed:

- the bigger the site, the higher the risk of becoming outdated, hence reducing the credibility of other updates and in turn the number of hits
- audience targeting issue
- issue of public equipment level and quality

Assessments and analyses are performed, based on:

- dedicated studies,
- web surveys,
- online questionnaires,
- comments made by surfers.

A dedicated service provider is in charge of assessments and analyses; web surveys are conducted by Médiamétrie and responses to online questionnaires and comments are sent in through the site itself.

The analysis of interested parties' expectations is set in a more global context than through e-tools or the website.

These tools have already become standard and essential.

Further progress can be made by comparing international practices.

USE OF COMMUNICATION SYSTEMS BASED ON E-TECHNOLOGIES BY A RWM ORGANISATION: THE EXPERIENCE OF AN INFORMATION PROVIDER

William Hamilton, Nuclear Decommissioning Authority, United Kingdom

The Nuclear Decommissioning Authority is responsible for the UK civil public sector nuclear legacy, which concerns sites and facilities built from the 1940's onwards. Four regional offices cover 20 sites across the UK. NDA annual budget is 2Bn £.

Among its statutory duties, NDA ensures that the legacy is dealt with safely, securely, with care for the environment. It carries out research related to decommissioning, ensures development of decommissioning skills, promotes best practices and secure value for money, and gives support to the social and economic life of local communities.

The web strategy is to maintain the NDA's site as a primary vehicle for communication with stakeholders. The intranet and website are managed by a communications manager.

A dedicated software allows for approval process and alerts to needs of revision.

The website was developed specifically **for recruitment**, enabling candidates to apply online and ensuring a consistent format of applications for short listing candidates.

It is now also a tool **for stakeholder communication**, recognising different audiences, namely, local stakeholder sites, contractors, employees, Non Governmental Organisations, politicians, and press/media.

The website also serves as an **electronic record and library** of Pdfs of all corporate information.

As a **news channel**, the site runs a news alert service to stakeholders, who can subscribe online, and be reached by email and access press releases and the NDA newsletter issued in PDF.

The website also aims at offering a **community platform** in various ways. A web chat offers another means of engaging stakeholders, with an NDA panel responding to stakeholder questions online in real time. Independent site stakeholder groups are able to publish information on the NDA site, or to establish links to it.

Audits of stakeholder connexions to the NDA site, both quantitative and qualitative are performed regularly and statistics are produced.

EXPERIENCE OF AN ASSOCIATION AS “RECIPIENT” OF INFORMATION MATERIAL PROVIDED THROUGH COMMUNICATION SYSTEMS BASED ON E-TECHNOLOGIES

Cyril Roussel, Institut de l’Ecologie en Milieu Urbain (IDEMU), France

The IDEMU, or Urban Ecology Institute was created in 1995 as a non profit association to contribute to the development of training and information on the know-how related to environment and energy in urban areas. In this context, IDEMU assists communities, enterprises, and the public at large of the Ile de France district in mastering energy consumption. The staff of 50 is spread over 10 locations in the district, which requires e-technologies to coordinate the missions and distribute information. The Institute has had to set up a system of internet watch to keep up with evolutions in relevant domains.

Different watch types are being conducted on the web:

- Technological
- Commercial
- Legal
- Social / societal
- Institutional /political
- Computer

Information collection rests upon a documentation research system, or watch, which can be “active” or “passive”, the latter covering the reception of the information by a worker without his intervention, and the former consisting in an active approach led directly by him.

- Among the various tools used for **active research** :
- Research and meta research motors
- Specialised press (especially in energy and environment)
- General press (main daily press and news digests, and use of filters)
- Newsgroups (on specific research led by expert groups)
- Import of the full content of selected websites
- Forums with data exchange
- Events agendas (invitations, seminars, conferences)

As regards tools for **passive research**, i.e. the whole range of available means for a worker to get information or to keep aware of developments without a direct action, the following tools are identified:

- RSS flux (integration into specialised softwares of news from websites)
- Newsletters (regular information feed to IDEMU of news from its partners)
- E-mails (a source of information from exchanging mails at family, school, enterprise level,...)

Treatment and archiving is necessary to properly benefit from the information watch. Four sorts of tools are used:

- Web navigators (Firefox)
- Client mail (Thunderbird)
- Portable Document File (pdf)-generating software, and tags insertion
- Intranet archiving (via File Transfer Protocol- FTP)

WORLDWIDE EXCHANGE OF NUCLEAR NEWS AND INFORMATION: NUCNET AS A RECEIVER AND PROVIDER³

John Shepherd, Executive Director, NucNet, Switzerland

NucNet has been at the heart of the worldwide exchange of nuclear news and information since it was launched as an independent NGO 15 years ago.

Today, NucNet continues to be recognised as a reliable and authoritative service for news and emergency information by the nuclear community, the media and the general public. The network, which has member organisations in more than 4 countries who contribute to our information flow, has a duty to report all nuclear-related issues objectively and accurately.

My task today is to try to give you an overview of experience from NucNet as a receiver and emitter of information and news based on electronic/web platforms.

I would like to start by asking you to consider for a minute how some outsiders – the general public, media etc – have a picture in their minds of radioactive waste.

To do this, let's pay a visit to a site that is now a major, international decommissioning project and that was back in the spotlight again just a few months ago when the world remembered the 20th anniversary of the accident at Chernobyl.

Some of the activities said to be going on at Chernobyl have been the subject of intense interest via the Internet in recent months ... let me show you a very short video clip of what I am talking about:

(projects Stalker game video of Chernobyl – final minute)

What you have just seen is a promotional film for a video game, set in the future, which has as its theme mutants exposed to nuclear waste running around the Chernobyl site. Those of you, like me, who have been to Chernobyl will understand this video game can only be described at best as exaggeration beyond fiction.

However, although this game was not created for use by the anti-nuclear movement, the techniques it uses – dark settings and sounds, monsters, the shadows of the remains of the Chernobyl nuclear plant – is powerful imagery that can, if unchallenged, cause immense problems of perception among the general public (particularly the young generation) when it comes to dealing with waste management issues.

So how can news and information on waste management be best packaged and processed – who should receiving the information – in what format – and for what reason?

Perceptions of the media and the general public on nuclear power are largely positive at present. Concern for the environment and climate change has found its way onto political agendas too and nuclear is increasingly talked of as a “climate friendly” source of energy.

3. Transcription of speaker's notes accompanying his slide presentation.

But the same cannot yet be said of issues concerning radioactive waste. We frequently hear about the so-called “problem” of nuclear waste rather than the management “solutions” that are being investigated or put into place in a number of countries/

What do the general public know of radioactive waste and where do they get their information...? The internet is of course a key platform for promoting messages about nuclear waste just as it is with most other subject areas these days. As a journalist myself, I think it is fair to say that it is usually those who are anti-nuclear who are frequently better at using the internet and other tools to get their negative message across.

Pictures often say more than words ever can, like the photograph of rusting drums that our friends in Greenpeace use on their international website with reference to nuclear waste...

The caption with this picture, written by Greenpeace is: “Rusting barrels of nuclear waste dumped by the UK (in the sea) between 1950 and 1963.”

No wonder some members of the public and others start to believe the headlines that claim there are no “solutions” to dealing with nuclear waste (other than, of course, to close down nuclear power operations).

Let’s look at this issue from the perspective of an emitter or communicator of information... what tools and devices are out there to help give a true and positive account of radwaste management activities?

The internet has to be first on my list – and I have heard a number of you yesterday and today discussing how best to use websites to interact with the public and others about waste management projects. That’s good.

You should also look at the language you use and the approach you take to explaining an issue. For example, the media will hardly ever join you in using words such as “safe disposal” or “final storage site”. It is not usually in a journalist’s vocabulary and editors will often prefer the word “DUMP”. To be fair, it’s probably used in newspapers and so on because it’s a nice, short, dramatic word. I would not spend too much time worrying how to change that for the time being. Instead concentrate on getting a positive message across, in doing so, it is also useful to think about who best can help you put that message across, who is best qualified to do so.

For example, in a recent opinion poll here in France, only 10% of respondents thought that politicians were “credible” when talking about nuclear-related issues such as waste.

Those who were perceived as most credible were citizen groups and medical personnel.

So you may have to wine and dine your local members of parliament to inform them about a project, but that might not be the best person to have as someone to speak up on your behalf – think about it!

Of course, at this point I should also make an advertisement for my own organisation. NucNet is designed so that organisations such as those you represent do not only receive news and information (and by that I mean ‘key’ items of importance), but can also disseminate information through NucNet to your peers, the media and the public. NucNet is also an excellent tool for exchanging and networking information.

We also organise workshops/seminars at one or both of our two board meetings each year – the last was in May in Rome, and we were given an update on waste management and decommissioning activities in Italy by SOGIN and other agencies. This aspect of networking is an excellent way of learning from the

experiences of others. NucNet has wide access to a number of international organisations and often reports on the issues they face and the responses they receive.

Monitoring of our website shows increased interest by people looking for credible sources of information – and the search terms ‘waste’ and ‘spent fuel’ are increasingly used.

We also created a special, monthly electronic publication – Nuclear Waste Review- that summarises developments worldwide in the field of waste management (some copies of last month’s edition are here today if you wish to take one away with you). A number of institutions such as the IAEA, the European Commission and others subscribe to this publication in particular.

In conclusion, I would say that while there are bright prospects on the horizon for a rejuvenated nuclear new-build programme worldwide, attention will increasingly focus on waste management. The two go hand-in-hand, the greatest supporters of new-build will still find it difficult to ‘sell’ construction programmes and licensing extension programmes unless they can also say clearly how waste and spent fuel will be dealt with.

In this room, we all know that the horizon looks equally bright for an exciting and innovative future for tackling issues of waste management, but we need to communicate what we know beyond this room – using the best tools we can find. I hope this morning I have given you some ideas for how to proceed.