



NUCLEAR ENERGY AGENCY  
RADIOACTIVE WASTE MANAGEMENT COMMITTEE

NEA/RWM/FSC(2004)4  
Unclassified

**Forum on Stakeholder Confidence (FSC)**

**Belgian Workshop (November 2003) - Executive Summary and International Perspective**

**JT00164103**

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**Belgian Workshop (November 2003) –  
Executive Summary and International Perspective**

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## EXECUTIVE SUMMARY

### Introduction

The fourth workshop of the OECD/NEA Forum on Stakeholder Confidence (FSC) was hosted by ONDRAF/NIRAS, the Belgian Agency for Radioactive Waste Management and enriched fissile materials. The central theme of the workshop was “Dealing with interests, values and knowledge in managing risk” within the Belgian context of local partnerships for the long term management of low-level, short-lived radioactive waste.

The four-day workshop started with a half-day session in Brussels giving a general introduction on the Belgian context and the local partnership methodology. This was followed by community visits to three local partnerships, PaLoFF in Fleurus-Farciennes, MONA in Mol, and STOLA in Dessel. After the visits, the workshop continued with two full-day sessions in Brussels.

One hundred and nineteen registered participants, representing 13 countries, attended the workshop or participated in the community visits. About two thirds were Belgian stakeholders; the remainder came from FSC member organisations. The participants included representatives of municipal governments, civil society organisations, government agencies, industrial companies, the media, and international organisations as well as private citizens, consultants and academics.

The four-day meeting was structured as follows:

Day 1 morning was devoted to introductory presentations. Information was given on the general radioactive waste management context in Belgium. Regarding the management of LLW, and in particular the search for a disposal facility site, the workshop heard about the local partnership methodology developed by university researchers of the University of Antwerp and the Fondation Universitaire Luxembourgeoise (FUL). These partnerships between the potential host municipalities and the radwaste agency have the mission to develop an integrated facility proposal adapted to local conditions.

Community visits took place on Day 1 afternoon and Day 2. Visits offered an opportunity for delegates to learn about the history, the natural environment and the socio-economic circumstances of potential host communities, as well as the day-by-day experiences of local people, involved in the local partnerships. Visits also provided for interactions and exchange between local stakeholders and the FSC community.

During Day 3 the central theme of the workshop was addressed. Invited plenary speakers including local stakeholders and social scientists gave presentations on how to integrate multiple interests, values and knowledge into joint risk management. Presentations provided a background to subsequent round table discussions, which allowed local stakeholders and international delegates to interact and exchange in detail.

On Day 4 morning a panel discussion took place which focused on the design of a repository and investigated how it could reflect a plurality of interests, values, and knowledge. The rest of Day 4 was

devoted to the feedback by two thematic rapporteurs. They evaluated the meeting from two distinct perspectives: that of urban and regional development, and of participatory decision making.

This Executive Summary gives an overview of the presentations and discussions that took place at the workshop and the community visits. The structure of the Executive Summary follows the structure of the workshop itself. Complementary to this Executive Summary and also provided with this document, is a NEA Secretariat's reflection aiming to place the main lessons of the workshop into an international perspective.

### **General introduction to the Belgian context**

**Jean-Paul Minon**, Acting General Manager of ONDRAF/NIRAS, opened the introductory session. He welcomed the participants of the fourth FSC workshop, dedicated to stakeholder involvement within the Belgian context of local partnerships. He stated that, in his view, long-term management of radioactive waste is possible only if every key stakeholder is included in the decision-making process. Mr. Minon pointed out that in the case of the local partnership model, developed and applied in Belgium, the stakeholders take part as equal partners in every important decision.

Mr. Minon briefly outlined the program of the following days. In the morning of the first day, the participants would attend a session on the history and the current situation of low-level short-lived waste management in Belgium. Then, in the afternoon, they would visit the PaLoFF local partnership established between ONDRAF/NIRAS and the municipalities of Fleurus and Farciennes. On the next day, they would visit the MONA local partnership in Mol in the morning, and the STOLA local partnership in Dessel in the afternoon. Mr. Minon expressed his hope that the meetings and discussions between the participants and the local partnerships would be beneficial for both parties.

**Yves Le Bars**, Chairman of the FSC, welcomed the participants on behalf of FSC. He recalled that this workshop was the third to deal with stakeholder discussion within the framework of the specific radioactive waste management processes of a given (host) country. In 2001, the central theme of the workshop organised in Finland was stakeholder involvement and confidence in the context of stepwise decision making. In 2002, the meeting held in Canada focused on identifying and addressing social concerns. The central theme of the present workshop concerns ways of dealing with diverse interests, values and knowledge in risk management.

Mr. Le Bars said that similarly to the preceding FSC workshops, this meeting too has four main components. The first is the presentation of the national context, followed by a visit to affected local communities. Round-table discussions are the third, the aim of which is to focus the dialogue between local stakeholders and FSC members on certain questions, first in small groups then in plenary sessions. Finally, thematic rapporteurs analyse, according to multiple perspectives, the radioactive waste management processes discussed within the framework of the workshop.

**Sharon Baillie-Malo** from Natural Resources Canada, speaking on behalf of the organisers of the 2002 FSC workshop, recalled that the workshop had been held at a very opportune moment. On the one hand, in 2001, the Canadian government launched a new community-driven process to manage historic waste, and, on the other, in the same year, it passed the *Nuclear Fuel Waste Act* which is a milestone in the management of spent nuclear fuel. The *NFW Act* was promulgated shortly after the workshop, in November 2002.

Ms. Baillie-Malo underlined that the 2002 FSC workshop had generated many thoughts on meeting social challenges and highlighted the importance of continuing to keep social and community perspectives a foremost consideration in RADIOACTIVE WASTE MANAGEMENT. The workshop

provided an opportunity for community stakeholders to interact directly with FSC participants and be party to international perspectives on the initiatives they are involved in. This was very well received by them and strengthened NRCan's relationship with them. In sum, the workshop served to reinforce confidence in the policy path chosen. Ms Baillie-Malo applauded the opportunity to learn now from the Belgian experiences, and hoped the Belgian workshop hosts would experience the same benefits as were found in Canada.

**Evelyn Hooft** from ONDRAF/NIRAS outlined the context of the long-term management of low-level, short-lived waste. She stated that in Belgium all key decisions related to nuclear power production and radioactive waste management come under the jurisdiction of the federal government. Today, two commercial nuclear power plants operate in the country. One is located in Doel, in the Flemish (Dutch-speaking) northern half of Belgium. The other plant is located in Tihange, in the Walloon (French-speaking) southern area of the country. In 2003, the federal government passed a law according to which the production of nuclear energy will be phased out as of 2015. In connection with short-lived, low-level radioactive waste management, the government – learning from earlier failures – had ruled in 1998 that a technical concept, which is final, yet flexible and reversible, must be elaborated. The ruling restricted potential sites to the four existing nuclear sites (Fleurus and Mol-Dessel as well as Doel and Tihange) and other possibly interested localities.

Ms. Hooft pointed out that the local partnership methodology was developed by the researchers of the Department of Social and Political Sciences of the University of Antwerp (UIA) and the research group on Socio-Economic Environment Development of the Fondation Universitaire Luxembourgeoise (FUL) based on consultations with ONDRAF/NIRAS. According to this methodology, the interaction with various interests and values take place in the form of public dialogues, and the local partnerships, representing the various stakeholders, serve as the framework for these dialogues. Local partnerships have been formed with four volunteer communities: Dessel (STOLA created in 1999), Mol (MONA created in 2000), and Farciennes and Fleurus (PaLoFF created in 2003).

**Anne Bergmans** from the University of Antwerp introduced the local partnership methodology. A key feature of the methodology is that it would allow the potential host community to engage in negotiations with ONDRAF/NIRAS and to investigate all – technical, economic, environmental, social and aesthetic - aspects of hosting a repository, without committing itself to more than considering the possibility. The aim is to create a decision process that stakeholders consider fair, representative and transparent. The output of the local partnership is a project proposal integrating the social and technical aspects discussed and meeting safety requirements for the long-term management of LLW (or, a decision not to propose). The local partnership ceases upon remit of a proposal and/or a recommendation to the municipal council.

Ms. Bergmans described the organisational structure of local partnerships. The general assembly is the decision-making body comprised of the representatives of local stakeholder groups and organisations, and one representative delegated by ONDRAF/NIRAS. Local partnership management is the task of the executive committee. Working groups are organised to develop ideas on specific issues (including e.g., siting and design, environment and health, safety assessment and local development), and their members consist of representatives of local organisations (political, social, economical) as well as individual citizens. The working groups take into consideration the available data and research results, and may invite independent experts to support their work. While each of the above bodies is composed of volunteers, project coordination is carried out by two persons employed by the local partnerships on a full time basis ONDRAF/NIRAS delegates one member each to the general assembly and the executive committee and provides for the annual budget of the local partnerships. Following a dialogue within the local partnership, as well as with the broader community, the general assembly has

to decide whether or not to propose an integrated repository project, integrated in a broader local development project. The municipal council then has to make a formal decision, based on this proposal, to continue or not as a site candidate. These projects and decisions are handed up to federal government through ONDRAF/NIRAS. If there are multiple candidatures, it falls on the federal government to make the final decision.

The questions and comments after the two presentations concerned the following issues: (i) the involvement of neighbouring communities, (ii) the role of anti-nuclear groups and other critics; (iii) the legal framework for the local partnership, especially as regards the right to veto; and (iv) the expected balance between the needs of the local partnerships (e.g., local development projects) and the financial means of the federal government. According to Ms. Bergmans' and Ms. Hoof's answers, the local partnerships consist of representatives of the local community life, though neighbouring municipalities or non local organisations can be invited to participate as an observer or expert.

As a local partnership is intended to represent the local community life, anti-nuclear groupings or opponents can participate in the local partnership if they are active locally. In fact, representatives of local environmental NGO's are actively involved in some of the local partnerships.

The operation of the local partnerships has no legal constraints, but is covered by a governmental decision (1998) This provides for great flexibility Although municipal councils are not formally guaranteed the right to veto (Belgian law contains no such provision), the model works on the basis of a "gentlemen's agreement", which is a fundament of confidence and legitimacy. As regards local requests and federal possibilities, the federal decision will probably be preceded by a prolonged negotiation process.

### **Visit to the local partnership of Fleurus-Farciennes**

In the afternoon of Day 1, the delegates were taken by bus to Fleurus and Farciennes (two French-speaking communities in Wallonie), where they visited the site of the planned disposal facility. Afterward, the participants attended a series of short presentations held in an auditorium on the Institut des Radioéléments (I.R.E.) site. This was followed by a reception at which FSC visitors were able to taste traditional and new local specialties and talk with members of the local partnerships.

First, **Henri Bonet**, Director of I.R.E. welcomed the participants of the FSC workshop. He noted that I.R.E., the Institute of Radioelements, a nuclear medicine production company, with some waste conditioning activities, has been operating in Fleurus for the past 30 years. Therefore, he argued, low-level short-lived waste disposal would be in line with the company's day-to-day activities. He also pointed out that most people in the nearby communities had not been aware of the presence of nuclear industry until a few years ago when the federal government included the area among the four nuclear candidate sites. This information caused anxiety among the people. The local partnership is very useful because it gives people a chance to hear also the answers of independent experts to their questions on safety issues.

Mr. Bonnet recounted that this had been a coal-mining district until about 30 years ago when the mines were closed because production became unprofitable. This marked a turning point in the region's economy as coal-mining was gradually replaced by hi-tech industries, e.g., biotechnology and the nuclear industry. The waste disposal facility would fit into this direction of development.

**Pol Calet**, the Mayor of Fleurus and President of PaLoFF, welcomed the participants on behalf of the local partnership. He said that setting up PaLoFF was preceded by a four-year period of exploratory

work. After the 1998 governmental decision, due to strong local opposition the two communities did not give a positive answer regarding the acceptance of waste, nor did they reject it. Between 1998 and 2002, ONDRAF/NIRAS carried out a technical feasibility study in the area, the validity of which was also verified by independent experts. During this period, the site investigations were followed up by a local information committee. Then in 2003, the municipal councils of Fleurus and Farciennes decided to set up the local partnership PaLoFF

Mr. Calet highlighted that today there are 80 volunteers who work in four working groups, and it is expected that in 18 months all major questions will be answered. People expect an answer to the question not only of whether or not the facility would be safe, but also what socio-economic benefits they can expect from the project. The municipal governments will approve the siting of the facility only after having obtained the population's consent.

**Gwenaëlle Verjans** from FUL introduced the socio-economic characteristics of the two municipalities. She said that earlier Fleurus had been a wealthy community whose main source of income was from the coal mine, but since its decline it has struggled with high unemployment. Farciennes' economy was more diverse, and is, therefore, in a better position today. Then, Ms. Verjans recalled the implementation of technical feasibility studies, which in the beginning was accompanied by distrust between I.R.E. and the local opposition, but which was subsequently replaced by a dialogue. In this dialogue local knowledge was taken into account, new technical evaluation criteria were introduced, and a mutually agreeable concept of long-term safety and acceptable risk has emerged.

Ms. Verjans presented the main steps of the establishment of PaLoFF. The decision to create a local partnership was made by the two municipal governments in October 2002. Since then, the organisation has been set up and working groups have been created that deal with Technical Concept and Safety, Land Use, Health and Environment, Local Development in Fleurus, and Local Development in Farciennes. Ms. Verjans suggested that the key conditions for an effective dialogue include a combination of local official representation and voluntary commitment, continuous active involvement from the very first stage, and the possibility for local authorities to stop or continue at any stage of the process.

The paper by **Barbara Weis and Franco Delvecchio**, project coordinators of PaLoFF described the functioning of the local partnership. Besides working out the concept of the repository and planning the local development project, the local partnership's main aim is to facilitate an exchange of knowledge between ONDRAF/NIRAS and the local residents. Key elements of this approach include informing the public and letting them develop their own opinion, taking local knowledge (e.g., on the location of galleries in the coalmines, or on cracks) into consideration, integrating public concerns, and restoring trust between the residents and the decision makers.

According to **Marie-Chantal Nicaise**, chairperson of the Working Group on Technical Concept and Safety, most members of her working group have no expertise in nuclear matters, nor in safety matters. What speaks in their favour, however, is that they know the place where they live. Up to now, their meetings have been devoted to the definition of aims, the clarification of concepts, the study of possible sites, the selection of the potential site, the definition of the technical concept, and the question of safety. Together with the Land Use, Health and Environment working group, they have studied the various transport possibilities, i.e., transport by water, rail, road, and air.

**Bernard Jonckers**, chairperson of the Working Group on Land Use, Health and Environment, pointed out that his working group has compiled a list of environmental impacts for every decision-making and implementation phase-study, construction, operation, closing, monitoring, abandonment. A similar



procedure was followed in the case of health impacts. The latter is all the more important as in this region many people are suffering from the long-lasting health effects of coal-mining. The working group proposed that in the future, in addition to nuclear safety, the health condition of the residents also be monitored.

**Carine Thiry**, chairperson of the Working Group on Local Development in Farcennes, described the two local development projects proposed by her working group. One deals with the rehabilitation of an ancient mine tower, the so-called Roton tower, the other with the restoration of the 17<sup>th</sup>-century castle in Farcennes. The working group will prepare feasibility studies for these projects, estimate investment costs, and plan the steps of implementation. The group's other task, which it plans to carry out together with other working groups, is to forecast socio-economic impacts that may be expected if and when the disposal facility is put into operation.

**Francis Piedfort**, chairperson of the Working Group on Local Development in Fleurus, recalled that the starting point of their work was a survey determining the socio-economic situation of the community and identifying the most vulnerable social groups. On the basis of the survey they came to the conclusion that it would be important to design projects that would improve the situation of people under 25 and over 50 and the underskilled. Before deciding on the specific projects, the working group tries to determine the needs of these groups through various methods, including questionnaire surveys and meetings.

The presentations were followed by questions and answers. Questions included the following:

1. How did two communities with very different socio-economic characteristics manage to cooperate? How will the results be integrated?
2. On what basis will municipal governments decide whether or not to support the proposals prepared by the local partnerships?
3. Is there a competition between PaLoFF and the two other local partnerships? Do they consult with each other?
4. Has PaLoFF interacted with the regulator? What interactions have taken place between the local partnership and the NGOs?
5. Was there any communication between PaLoFF and the neighbouring communities?
6. Currently the waste is stored in Mol, which is far away. Aren't the transit communities protesting against the transportation of waste?
7. Benefits affect the outcome of the popular referendum. What benefits are expected?
8. What are the perceived disadvantages? Has anyone tried to quantify them? Are property values expected to decrease?
9. Is there any moral concern about the consent of people who are yet to be born?

The answers were briefly:

1. It is hard to integrate the plans for the two communities since they are very different. They have different histories and only few contacts with each other. However, in both communities there are similar political majorities, and this helps integrate the proposals.
2. The municipal government of Fleurus announced that a public consultation would be organised, but in Farcennes no official statement has been made yet.

3. There is a good relationship between PaLoFF and the two other local partnerships. PaLoFF's work has not yet reached the phase that the other two local partnerships have.
4. The local partnership is in daily contact with the new safety authority. The NGOs have also been invited to join the local partnership and contribute their suggestions, but they do not wish to take part.
5. The local partnerships are open to the residents of the neighbouring settlements, who may participate in the debates as observers without the right to vote. Currently, only Charleroi is sending regularly an observer.
6. Various methods have been investigated for the transportation of waste. Transport by water (using the extensive Belgian canal system) is considered the best way. Transit settlements are not expected to protest, since even today nuclear materials arrive here daily.
7. As far as benefits are concerned, they mean more than just money. The partnership would like to inject new life into the communities and encourage people to create something new. Participation is very important, because people outside the partnerships should know what they are saying "yes" or "no" to.
8. It's very hard to quantify economic impacts. For example, it's possible that the development that accompanies the building of the repository will exert a positive influence on real estate prices. It's also possible that the value of land will increase in some locations and decrease in others.
9. The partners do not want to shift the burdens of waste management on to future generations. On the other hand, they believe that some risks may cause greater anxiety for future generations than this repository (e.g., military nuclear installations).

### **Visit to the local partnership of Mol**

The visit to Mol (a Dutch-speaking community in Flanders) in the morning of Day 2 began with a series of presentations, which were followed by questions and answers with the members of the local partnership.

**Paul Rotthier**, the mayor of Mol, gave an overview of the community. The large municipality has about 32,000 inhabitants of 66 different nationalities and consists of 12 settlements. Its most important economic sectors are sand excavation, the glass industry where the sand is processed, and tourism that shows dynamic development due to the fact that the municipality is rich in green areas, ponds, rivers, and historic monuments. Nuclear activity first came to Mol in 1952 with the establishment of the Belgian nuclear research centre (STK; now SCK•CEN). Both high- and low-level waste have been stored in Mol. In 2000, the MONA local partnership was established between the municipality and ONDRAF/NIRAS to investigate the possibility of establishing a disposal facility for low-level and short-lived waste. The MONA local partnership will submit its report to the municipal government in 2004.

**Liesbet Vanhoof** and **Bert Meus**, project coordinators of MONA, outlined the structure and operation of the local partnership. The General Assembly membership includes, besides the ONDRAF/NIRAS delegate, the representatives of the municipality council, business, and civil society organisations, including anti-nuclear groups. Four working groups operate within the framework of the local partnership: one deals with Siting and Design, the second with Environment and Health, the third with Safety Assessment, and the fourth with Local Development questions. The concepts for both surface

and deep geological disposal have already been designed, sites have been selected, impact studies have been completed, and the socio-economic study is nearing completion.

Ms. Vanhoof also explored the issue of communication with the local population, which, in the case of a community of this size, is a difficult task. She mentioned a number of communication tools which have been used by MONA, including an information counter, a newsletter, a website, a calendar, and a game. (The game has been implemented 50 times, and each time allows a group of players to learn about MONA and LLWM and to discuss and express themselves afterwards.) She acknowledged the big effort volunteers were willing to put into this exercise, the smooth cooperation between individuals of diverse backgrounds, and the open and direct dialogue with ONDRAF/NIRAS. At the same time, she mentioned some weaknesses of the process, for example, the considerable time and effort required of volunteer members and the difficulty of finding independent experts.

The questions raised by the participants concerned the following main subjects:

1. Why are women so underrepresented in the General Assembly?
2. How can it be ensured that the repository design will contain a solution that is also acceptable to the regulators?
3. On what grounds will the municipal council decide whether or not to accept the report submitted by the local partnership?
4. What are the guarantees that ONDRAF/NIRAS would respect the local partnership's decision should Mol reject the repository?
5. Does the local partnership know what the local public sentiment is regarding the repository? How are contacts created and maintained with the people of Mol?
6. Has the creation of the local partnership polarised the pro- and anti-nuclear groups? Will the strife between these groups continue after the decision?
7. What about the possibility that a deep geologic facility could become a high-level waste repository?

The answers were:

1. The University of Antwerp conducted a study that identified the main actors of the community, and the members of the General Assembly represent these actors. Since most issues that have been investigated by MONA are perceived as of a technical nature, men have been more interested in participating in this work. A look at other voluntary organisations in Mol shows that women are similarly underrepresented.
2. In order to find a licensable design MONA has been advised by the regulator (Federal Agency for Nuclear Control) and other experts.
3. The municipal council agreed to accept the report of MONA as it is, including all of the proposals.
4. There is a "gentlemen's agreement" between MONA and ONDRAF/NIRAS that if Mol says no to the repository, ONDRAF will respect this decision.
5. In the past year, MONA spent significant efforts to address the question of how close they are to the local pulse. The local partnership investigated in a baseline public opinion poll what ratio of the residents are aware of the existence of MONA, what ratio has its communication efforts reached, and what the public attitude is concerning the local

partnership and the questions of radioactive waste management. They also plan to conduct follow-up research to examine the changes in public opinion. The representative structure of MONA means that individual members carry messages to and from their “home” socio-cultural associations.

6. Anti-nuclear groups were protesting earlier, now they are a part of MONA. There is some confidence that because of this inclusiveness, the broader population will recognise that a democratic decision has been taken, whatever the outcome.
7. A “cautious” answer was given. MONA is limited to tackling only the LLW issue, but there is thought now about how to continue the local partnership in some form. After the decision on LLW, it is the problem of HLW disposal which is likely to come to the fore. All partners wish to have a say in the HLW decision, but today they are convinced that that discussion will take place on a “very different level”.

### **Visit to the local partnership of Dessel**

The participants were taken by boat from Mol to the neighbouring Dessel. During lunch, served on the boat, they had a chance to converse informally with the local partnership members. Lunch was followed by presentations in Dessel.

After greeting the delegates, **Michel Meeus**, Dessel’s mayor, introduced the municipality of Dessel. The municipality has 8,500 inhabitants. Its most important sectors include construction, excavation of white sand, and the nuclear industry. Recreation and tourism are also important, since Dessel has large green areas, paths for cycling and walking, lakes, rivers, and historic buildings. Nuclear industry activities started here in 1952, and currently 7 nuclear companies operate here. They are involved in research on nuclear energy (SCK-CEN), research on reference materials and measurements (IRMM, Geel), treatment and storage of nuclear waste and dismantling of installations (Belgoprocess), production of fuel elements (FBFC International), production of MOX fuel (Belgonucleaire), services in nuclear companies (Tecnubel), and transporting nuclear materials (Transnubel). In 1999 the STOLA local partnership was created to investigate the possible disposal of LLW in Dessel.

**Katleen Derveaux**, project coordinator of STOLA, addressed the question of the involvement of the local population in STOLA. The local partnership has 70 members (1% of the adult population), including interested inhabitants and representatives of various political, socio-cultural and economic organisations. In order to find out what people know and think about the nuclear activities in the region, the possible disposal of low-level waste in Dessel, and about STOLA, a public inquiry was carried out. The study concluded that people are used to the presence of nuclear facilities but are concerned about the risks. According to the inquiry, the low-level waste disposal facility would be accepted if it is safe and compensated. The study also revealed that people know STOLA and consider it a useful initiative, but suspect that it represents the interests of the nuclear industry.

Ms. Derveaux reviewed the communication activities of STOLA, which included a newsletter, media coverage, a web site, an office, an exhibition and school competition, and a series of other local events. She emphasised the importance of future communication and indicated that a communication centre on nuclear energy matters would be set up. Finally, she pointed out that two 3D animated films had been prepared to make the STOLA-concept for both surface and deep disposal understandable for the local public. After Ms. Derveaux’ presentation, the two films were shown.

The most important questions of the participants were as follows:

1. Which concept will the local partnership choose in the end, surface or deep disposal?
2. Which local development projects will they propose to finance?
3. Since both Mol and Dessel plan to site the disposal facility close to their common boundary, shouldn't they work out a joint proposal?
4. Are there any risks, and how will they be communicated?

The answers were:

1. The local partnerships will work out both concepts and propose them as alternatives. The federal government will make the final decision.
2. Two local development projects are proposed. One is a communication centre and themepark on nuclear energy matters, which is expected to increase the community's touristic value. The second is establishing a fund for a sustainable Dessel which will address the needs of future generations.
3. Since the two communities differ greatly in size, and they also have had political differences, they have decided to submit separate projects at first. It's possible that later on they will start negotiations about sharing both the burdens and the benefits of waste disposal in building a joint facility.
4. The risks are examined by the Working Group on Safety, which has investigated a number of scenarios, even extreme ones like a terrorist attack. It does not deem the repository to be risky.

The questions and answers were followed by a site visit and sightseeing tour in Dessel, then a reception and informal conversation with the members of the STOLA and MONA local partnerships.

## **Workshop opening session**

In the morning of Day 3 the second part of the workshop started. **Jean-Paul Minon**, Acting General Manager of ONDRAF/NIRAS called to order the opening session. He expressed his hope that the community visits had created a platform for in-depth interaction and exchange on day-by-day experience of local involvement in the decision making process on LLW management. He explained the structure of the workshop and wished participants an interesting learning experience.

**Hans Riotte**, head of the Radiation Protection and RADIOACTIVE WASTE MANAGEMENT division of OECD/NEA welcomed participants on behalf of NEA. He spoke of NEA activities related to stakeholder dialogue, with special emphasis on the FSC. Mr. Riotte stressed the importance of the fact that in addition to practical questions, theoretical concepts (e.g., who is a stakeholder?) are also discussed within the framework of FSC workshops.

**Yves Le Bars**, Chairman of the FSC summarised the program of Day 3. First, brief feedback on the community visits would be given by three FSC rapporteurs. This would be followed by Sessions 1 and 2, both including invited plenary presentations and round table discussions. Mr. Le Bars explained the organisation of round tables and the role of moderators.

**Elisabeth Gray**, Scottish Executive, UK presented her observations regarding the PaLoFF local partnership. She emphasised that a lot has been done in the short time the local partnership has been set up. By involving local politicians, unions, individuals, and the affected nuclear company, significant local knowledge has been brought into the process.

Ms. Grey observed that some conflicts are likely to emerge. For instance, it may be a source of conflict when two communities with rather different approaches and interests join the same local partnership where one may agree to a site while the other may not. It may also cause a conflict that in Fleurus people who live very close to the site have not yet been involved in the local partnership, or that some NGOs have not been participating. One of the fundamental questions to be resolved in the future is how working groups could enlist new members and get other communities involved.

There are some unresolved issues related to the decision making mechanism and communication. For example, it is not clear if all working groups have equal status, or if the General Assembly can override the views of the groups and reject their proposals. Also, there is no evidence of the regulator's active involvement. The public communication strategy of the local partnership is not apparent, although it will be critical to the decision process.

**Timo Seppälä**, Head of Communication of Posiva, Finland summarised the main lessons learned in the course of the visit to STOLA. He observed that in Dessel – similarly to Eurajoki, the host municipality for Finland's future spent nuclear fuel repository – people are accustomed to living near nuclear facilities and there is a strong reliance on nuclear industry, and therefore, the majority of the inhabitants seem to be willing to accept the waste. Regarding the achievements of the local partnership, he judged the strong involvement of local people and the big variety of the applied communication tools (events, seminars, exhibitions, newsletters, etc.) as most important. It is problematic, however, that safety has not been an issue and has not been much discussed, and the role of the regulator has been unclear throughout the process. Another problem is that two alternative concepts for disposal have been developed and displayed and this may cause confusion among the broader public.

Mr. Seppälä commented on the benefits and drawbacks of the disposal facility for the community. Benefits include a communication centre, the real estate tax revenue for the local government, and an

annual compensation from the government. The main drawback is that acceptance of the low-level waste repository maybe the first step in a process aimed at siting also the high-level waste repository in Dessel.

**Carmen Ruiz López** of CSN, Spain provided feedback on the visit to MONA. She acknowledged that the work program has been effective and a lot of progress has been made towards final objectives. Two work zones for surface disposal and one for deep geological disposal have been selected, with a preference for one work zone for surface disposal and one for deep disposal. The disposal concept has been developed by modifying the ONDRAF/NIRAS design. Among other strengths of the local partnership she emphasised that group members have been highly motivated, and confidence in technical experts has significantly increased.

Ms. Ruiz López spoke about the difficulties of achieving broad outreach and pointed out that earlier surveys showed little awareness of MONA activities among the broader population. She noted that the absence of gender balance and the conflicts between the supporters and opponents of the repository represent further problems. Finally, Ms. Ruiz López pointed to several open issues. For example, the results of the ongoing socio-economic studies, particularly the potential impacts of the repository on the development of tourism, are not known yet. On the other hand, the local development project needs to be better defined. She also emphasised that in case the repository project is accepted, the future role of MONA needs further exploration.

### **Workshop session 1: Dealing with interests and values in managing risk**

**Marc Mormont**, Professor, University of Luxembourg described how the local partnership methodology is helping handle conflicting interests and values. He recounted that this methodology is based on the assumption that interests and values are not pre-defined but are generated by the exploration of future scenarios related to a new technological object. Professor Mormont showed that the methodology has three key components. The first component is the simultaneous investigation of the technological concept and the site, which may bring new ideas, unknown values and interests to the surface. The second component is opening a discussion on knowledge and technical issues, i.e., moving from the rhetoric of fear to a dialogue on risk. Finally, the third component is integrating the siting process in a development process, preferably in such way that the repository project itself serve as a tool for development.

Professor Mormont used the existing local partnerships as examples to illustrate the difficulties of implementing the methodology. For example, in Fleurus and Farciennes, the simultaneous discussion of the technological concept and the site led to significant changes in the project. PaLoFF also exemplifies that it's simpler to design development projects that would compensate for general socio-economic weaknesses than projects that would enhance the value of the repository and could be integrated into the socio-economic fabric of the community.

**Catherine Zwetkoff**, Professor, University of Liege, Department of Political Science and Public Administration analysed the difference between the concepts of legality and legitimacy, and focused on the role of the latter in policy making. She made three important propositions. First she pointed out that although legitimacy has been a fundamental and constant preoccupation since the formation of the modern state, it is more frequently present on the political agenda than ever before since the decision making context has become more complex, interdependent and uncertain. Second, Professor Zwetkoff highlighted that although the essence of legitimacy of public policies remains the same, the conditions and criteria evolve. She showed that most criteria of legitimacy, including those of procedural fairness and distributive justice are highly context-sensitive. Third, she demonstrated that the evolution of the

conditions and criteria for legitimate decision, modify the decision making mechanisms of representative democracy and put participatory decision making on the political agenda.

Finally, Professor Zwetkoff raised a few critical questions related to public involvement. She reflected on a number of issues, such as representativeness, faithfulness, level of involvement, degree of stakeholder influence, and flexibility vs. control. She concluded that in the case of a specific policy decision, a combination of theoretical questioning and empirical studies is needed to define the conditions for legitimacy.

**Anna Vári**, Professor, Hungarian Academy of Sciences Institute of Sociology spoke of fairness issues in waste management decisions. She highlighted the difference between the fairness of a decision process and its outcome. There exist multiple legitimate views and ethical principles concerning outcome fairness and there is no meta-theory that could help decide which of the competing views should be considered valid in a concrete case. Experience suggests that decision outcomes meeting multiple ethical principles – so-called robust outcomes - have a better chance for getting broad societal support than those which meet only one principle. On the other hand, Professor Vári demonstrated that views on process fairness are less ambiguous: a fair process is seen as equivalent to a pluralistic, deliberative process. Since in fair processes it is the stakeholders who are seeking a compromise between divergent ethical principles, such processes may be key to identifying robust strategies.

Professor Vári pointed out that since the local partnership methodology follows a deliberative approach, it is likely that a robust waste management strategy (concept, site, and benefit package) will be agreed on. She also observed that this methodology has been instrumental in strengthening relations between the implementer and the potential host communities and suggested that this community relations approach be maintained during the whole lifecycle of the facility.

**Jacques Helsen**, Chairman of the Board of MONA, explored the main factors of perceived fairness and legitimacy of the decision process. He claimed that a balanced composition of the General Assembly and the working groups, acceptance of the technical concept by members of the local partnership and local inhabitants, independence from the nuclear sector and politicians, and an appropriate budget and time frame are key factors in the public perception of the decision process as fair and legitimate. It's similarly important for the local partnership to have access to good and objective information, to hear the pros and cons, to be able to communicate with scientific experts without knowledge of technical jargon, and to be able to explain scientific issues to the broader public. In addition, Mr. Helsen emphasised the importance of clearly specifying the limits of the mandate of the local partnership, for example, that it does not extend to tasks related to HLW siting.

In connection with the future, Mr. Helsen observed that people will find it fair and legitimate if the work of MONA will lead to a decision by the community council, ONDRAF/NIRAS, and the federal government within a short time. In his view, it's advisable for members of the local partnership to carry on the dialogue even after the termination of MONA's mandate. He stressed the need for community monitoring and control of subsequent phases in the LLWM process. Finally, he recalled that good leadership, high-quality information, and effective communication are key components of a fair and legitimate process.

Session 1 round table discussions (moderator: **Michael Aebersold**, Federal Office of Energy, Switzerland) addressed the following questions:

- Accepting or refusing a person, an institution or a grouping as a legitimate stakeholder - who makes the decision and how?



- How are the local partnerships built and organised?
- How to obtain community support for the local partnership's legitimate decisions/findings?
- Experience teaches that no decision is reached solely by formal and legal processes. What role do informal processes play?
- How can the informal procedures be accepted? Do they need to be made explicit?

Participants agreed that, in principle, everyone who could be affected by the decisions, should be allowed to participate in the debate. The only exclusion criteria should be the disrespect of the local partnership rules or of other participants.

Members of the round tables emphasised that the structure and organisation of the local partnerships has been based on the recommendations of a university group. Professional organisation, a high degree of autonomy and intensive interaction with ONDRAF/NIRAS have been key features of this arrangement. A number of speakers commented on the absence of federal policy makers, which may have advantages and disadvantages alike. On the other hand, some elected local representatives are members of local partnerships, which raises questions on possible tensions between the local partnership methodology and the institutions of representative democracy.

Most were of the opinion that in order to reach legitimacy, different interests and groups should be represented in the local partnerships and their views should be reflected in the outcomes. Processes should be transparent while outcomes should be clear and understandable to all concerned. Information, communication and dialogue are key to legitimacy. To avoid that local partnerships be seen as a "club of experts", a rotational arrangement was recommended.

Participants agreed that informal procedures, being outside the "political framework", can help facilitate public involvement and build trust. It was pointed out, however, that even in case of informal procedures a clearly defined framework is needed. As the local partnerships function outside the formal legal procedures, they can function in a more flexible way. On the other hand, local partnerships can be instrumental in building confidence for taking legally binding decisions at the local level.

It was again noted that although the local partnerships make recommendations, it is not clear what the government will do with these recommendations. It was also argued that the process may cause conflicts between neighbouring communities. The importance of the right of veto of the community was stressed, although this may cause a conflict between technical suitability and social acceptance. It was repeatedly emphasised that access of the community to the local partnership is necessary. Finally it was accepted that time is needed to explain the recommendations to the community before any decisions are taken.

## **Workshop session 2: Dealing with knowledge in managing risk**

**Karin Knorr Cetina**, Professor, Sociology Department of the University of Konstanz, introduced the process in the course of which the natural and technological sciences drew away from laboratory science and became a so-called interface science. The main characteristics of interface science are: the main objective of research is problem solving, the social structures of knowledge production are unstable, research is transdisciplinary, a contextualisation of research takes place, the academic monopoly on the assessment of the quality of research no longer exists, and there is a diversification and de-institutionalisation of knowledge diffusion activities. Professor Knorr showed the reciprocity between the transformation of science and social changes. In today's so-called knowledge society, knowledge is generated in the context of immediate application. The result of accelerated innovation is that society is used as a testing ground for uncertain knowledge, and the immediate application of scientific results has a number of undesirable effects.

Professor Knorr pointed out that under these circumstances society is not only a recipient of research results, but it must actively participate in the production of knowledge. Legitimation of science comes from its active engagement with society. The main challenge facing knowledge society is to find the institutional arrangement within which experts and the public may enter into a dialogue.

**Hugo Draulans**, Chairman of the Board of STOLA spoke of the experiences of his local partnership on the dialogue with experts. He described STOLA as a structured study group which represents all actors of the community of Dessel. Most members of STOLA are highly trained and/or have a technical background, but have no specific knowledge on disposal technologies. Since they had to evaluate the alternative disposal concepts offered by ONDRAF/NIRAS, they needed basic knowledge about technologies, radiation and safety, and the socio-political context. To meet these needs, transfer of knowledge from experts (in-house experts of ONDRAF/NIRAS and independent experts) to STOLA members has been taking place over the last four years.

Mr. Draulans described the main difficulties of this knowledge transfer. For local actors it has often been difficult to understand the technical jargon used by the experts. On the other hand, experts were often insufficiently informed on STOLA and its tasks, and most of them were not sufficiently skilled in communication. However, the most serious problem was that the perception of local actors on a waste management facility is radically different from that of technical experts. In spite of these problems, Mr. Draulans judged that cooperation between local actors and experts has improved, confidence in nuclear experts has increased, the experts' influence on the selection of the technical concept has diminished, and social impacts of the facility are taken more into account.

**Peter De Preter** of ONDRAF/NIRAS analysed the impacts of the local partnership methodology on the organisational culture of his agency. He compared the former technical-authoritarian approach taken by ONDRAF/NIRAS with the recent local partnership approach and emphasised that the agency had to develop a fundamentally different mode of operation. Recently ONDRAF/NIRAS representatives play three different roles in the local partnerships. In the General Assembly they are a partner amongst other partners, in the Board of Management they help integrate various aspects of the project, while in the working groups their primary role is to provide technical information.

Mr. De Preter observed an evolution from a closed and defensive attitude towards a very open-minded one in the ONDRAF/NIRAS team. However, this evolution has been accompanied by new challenges. One challenge is to find a balance between an approach where all technical choices are made by nuclear experts and the other extreme where everything is open and can be changed by the local community. Another challenge is that technical experts have to acquire skills of dialogue and

communication. A third challenge is to maintain a high degree of flexibility but avoid chaos. The latter requires a strict organisation with clear and well defined responsibilities and a strong coordination team.

**Pieter De Gelder**, division head of AVN spoke of the role of the safety authority in the local dialogue. He recalled that in Belgium a safety authority in the modern sense of the word was only founded in the mid 1990s. The safety authority is a federal agency (FANC), while AVN is a private company, a contractor of FANC.

Mr. De Gelder highlighted that the regulators are not formal members of the local partnerships and do not attend meetings in a regular manner. However, from time to time, local partnerships invite experts from FANC and AVN to give presentations on specific topics. In particular, they have provided information on their roles and activities in the process, on legal and authorisation procedures, and on the evaluation of ONDRAF/NIRAS dossiers. Mr. De Gelder observed that they found a very motivated local audience and they have committed themselves to continued interaction with the local partnerships. Finally, he stressed that this type of interaction is totally new to the regulator.

Session 2 round table discussions (moderator: **Saida Engström**, SKB) addressed the following questions:

- Do local stakeholders have, internally or externally, all the expertise they need in order to address the issues raised by radioactive waste management projects?
- Do institutional stakeholders have all the expertise they need to take local impacts into account?
- What kinds of expert input are sought and attained by the different stakeholders?
- Were any formal methods used to aid local partnerships perform technology assessments? Or other types of assessment?
- How to maintain the knowledge and expertise achieved by the stakeholders?

Participants pointed out that radioactive waste management is multi-dimensional and that therefore, very different types of knowledge and expertise are implied. This is especially clear in the Belgian approach, where it is required that both technical and socio-economic factors be taken into consideration.

Round tables found that in general, local stakeholders do not have all the expertise they need in order to address all relevant issues, but the local partnership process enables them to get it. The main sources of technical expertise include ONDRAF/NIRAS, the regulator, and independent experts. Also, there are many community members who are professionals in relevant fields (e.g., nuclear industry, civil engineering).

It was also found that institutional stakeholders do not have the expertise they need to take local impacts into account and this is one of the main reasons why local partnerships were formed. Local stakeholders provide knowledge on socio-economic circumstances, interests, and priorities of the communities, but sometimes also on physical characteristics (e.g., local hydro-geology). It is not only the lack of specific knowledge, but also the predominantly technical orientation of the institutions that can be a barrier to understanding local concerns. Therefore, a willingness to learn and a commitment to address local impacts is necessary on the part of all local partnership members.

Stakeholders have sought expert input in a variety of fields (e.g., technical, social, economic, cultural, political, legal, procedural, communicational, local development, safety), but it is not clear if satisfactory expertise was received in each case. It was noted that local members of partnerships perceived health risk to be relatively low, and therefore, expertise in radiation protection and public health were not the most solicited.

In certain cases “interface experts” are needed to “translate” technical language and help local stakeholders understand the impacts of RADIOACTIVE WASTE MANAGEMENT projects. The importance of the capability to audit technical issues by using “independent expert” support was also emphasised.

It was observed that it is difficult for local stakeholders to find technical experts outside the nuclear industry. More generally, the question was raised about how to get truly independent, unbiased information. Even university experts are sometimes funded by corporations which may create pressure towards certain conclusions. It was suggested that sufficient resources be provided for verifying information, e.g., by requesting multiple opinions.

Few formal methods for technology or other assessments appear to have been applied by local partnerships (only scenarios were mentioned). Typically, working groups formulate questions and invite experts to give their opinion. Partners felt that the use of group decision-making methods would have facilitated working group discussions, and training in this area would be useful.

It was recognised that maintaining the knowledge and expertise achieved by local partnerships would be very important. A number of methods were mentioned, for example, oral history, information technology, cataloguing, and mentoring. Documents will be archived and a computerised knowledge management system will be developed. MONA points to the need to establish a knowledge centre near a repository site for future generations.

Round tables agreed that community involvement should continue in the subsequent stages of the RADIOACTIVE WASTE MANAGEMENT programme. Some suggested that local partnerships should be mandated to continue, or at least an advisory board consisting of several local partnership members should be set up by the communities. It was felt that, in any case, communities should benefit from the large investment placed in the local partnerships.

### **Workshop session 3: Building a relationship to a concrete waste management project based on interests, values and knowledge**

The final day of the workshop started with Session 3. This session was aimed at exploring the artistic and aesthetic aspects of the waste management process and the relationship among the stakeholders, particularly the affected local communities and those who might help develop both the products and processes associated with implementation. The session, which was moderated by **Thomas Isaacs** of Lawrence Livermore National Laboratory, U.S., included two presentations followed by a panel discussion.

**Cécile Massart**, Professor and Artist has been focusing on issues associated with the management of radioactive wastes for some period of time. She operates from the understanding that a proper role for art in such projects can help change the view of waste disposal by stakeholders and the broader public. She has investigated both the artistic aspects of waste management facilities themselves as well as artistic visions of themes associated with radioactive waste.

For the past ten years, Professor Massart has been working on a project titled, “An Archived Site for Alpha, Beta, Gamma.” Working with computer graphics, Professor Massart has been obtaining access to appropriate radioactive waste sites, making photo and video reports and leaving copies of documents and exhibit projects with those in charge of the sites she visits.

Professor Massart explored three separate topics in which using art as a vehicle for communication offers an alternative and perhaps improved method for communicating over the more “traditional” verbal and written communications almost always favoured by technical and programmatic individuals. The first was to portray radioactive decay not by measurements or comparisons to other risks, but to use the gradual lightening of colours to depict the gradual and natural decay of radioactivity with time in an artistic piece. Second, she demonstrated the possibilities for art to help maintain archives for the future, a key knowledge preservation activity for a program that will span generations. Third, she showed the possibilities for art to influence markers that would ultimately be placed at waste management sites, preserving the continuity of knowledge regarding such sites. Finally, Professor Massart showed examples of how art can influence the look and feel of waste management facilities, helping to reflect and then realise the vision of the local population.

**Erik Van Hove**, Professor of Sociology (retired) spoke of the valorisation of a repository in an added value project. He pointed out that though local stakeholders may lack technical expertise, they consider their personal interests very carefully and projects affecting such interests are taken quite personally. This provides caution but also opportunity for such projects to be conducted in ways that can help, though not guarantee, better acceptance by local stakeholders. Professor Van Hove mentioned three attributes. First, while engineering projects tend to be thought of as mono-functional (e.g. dispose of waste), building flexibility into the project to reflect the interests of the local stakeholders can measurably improve stakeholder satisfaction. What the implementer may see as a single-purpose project may indeed provide additional, desirable capabilities to a creative local population. Second, while engineering projects, particularly waste management projects are often designed and built in uninteresting, utilitarian ways, a more creative design and implementation can add a sense of enjoyment and pride on the part of the local stakeholders. And third, while engineering projects are often conducted a manner closed to their environment, a more transparent, inclusive process may draw local stakeholders more intimately into the project. All of these features can help by providing inviting borders, by valuing the beauty and aesthetic dimension of the project and by building the project so that it has an appropriate place in the memory of society.

Professor Van Hove emphasised that people show great ingenuity in adapting uses and functions beyond those originally intended. The extent to which local stakeholders can help provide the vision and then the reality of such waste management projects can significantly improve their sense of ownership of the project and their ultimate acceptance.

Professor Massart and Professor Van Hove were then joined in a panel discussion by **Antoine Debauche** from PaLOFF, **Jacques Helsen** from MONA, **Frans Dumoulin** from STOLA, and **Jean-Paul Boyazis** from ONDRAF/NIRAS. Each made important remarks reflecting and reinforcing many of those made earlier as appropriate to their individual circumstance. This was followed by a discussion. One of the questions debated was whether a waste management facility should be highlighted as an artistic expression and symbol for the local population or whether it should be designed to blend in as much as possible with the natural environment and not call undue attention to itself. Many communities might see such a project as a mechanism to help revitalise the local area and may desire to create an artistic vision that will help bring a sense of interest and uniqueness to the local community. There was also the sense that the most important was to work intimately with the local stakeholders to help assure that whatever is developed reflects the vision and desires of that community.

A number of comments and questions followed from the broader FSC participants. Two common themes emerged. The first was that for the artistic and aesthetic aspects to succeed, there must be a sense of trust and responsibility among the partners, including those brought into the project to lend an artistic or aesthetic view. The second point was that to be successful, such a project must be transparent and that through this transparency, people must be able to see that the local stakeholders can indeed influence the project in meaningful ways.

### **Workshop closing session: Dealing with interests, values and knowledge in managing risk**

In this session, reports from two thematic rapporteurs observing the workshop were presented. These were followed by a discussion and feedback from participants.

**Detlef Ipsen**, Professor, University of Kassel, Department of Architecture, Urban- and Landscape Planning focused on issues of public participation and regional development. He introduced the principles for active and intensive public participation, which had been developed by the designers of the AkEnd process aimed at finding a solution for the radioactive waste disposal problem in Germany. These principles include an interactive approach, a transparent and strictly controlled process, a fair allocation of competence between the actors, the recognition that participation in siting a disposal facility means participation in shaping the region's future, and the assumption that participation means responsibility.

Professor Ipsen presented the organisational arrangement for participatory regional development, as suggested by AkEnd. The main components of this arrangement include a citizen forum designed to organise active citizen participation, a centre of competence which supports the citizen forum by providing expertise on technical, political, legal, social and communication matters, and a round table which brings together all relevant stakeholders to negotiate a mutually acceptable project. Professor Ipsen outlined several principles recommended for the realisation of a regional development concept. First, he stressed that financing of the concept should have a legal basis. Second, the concept should be developed by those living in the region. Third, benefits and payments should be within defined limits and funded by waste producers. Fourth, the development concept should be realised in a stepwise fashion, closely linked to the planning and implementation of the waste disposal programme.

Finally, Professor Ipsen emphasised that the success of a radioactive waste management planning procedure is contingent upon the population's active participation in all phases of decision making and implementation. On the other hand, intensive public participation is one of the most important prerequisites for ensuring that the siting of a disposal facility does not prevent sustainable development in the affected region.

**Thomas Webler**, Professor, Antioch New England Graduate School, U.S. evaluated both the workshop and the local partnerships from the perspective of analytic-deliberative processes and public participation. He judged that the workshop successfully diversified deliberation by drawing on a number of tools, including, for example, small group work (round table discussions), informal venues, stimulating short presentations, rapporteurs, and community visits. One shortcoming of the workshop was that it did not display sufficient continuity with previous workshops, while a second shortcoming was that it invoked a very singular dimension of risk (to human health) without spending adequate attention on the other dimensions.

Professor Webler drew a distinction between participatory democratic theory and pluralism in order to point out that local partnerships exemplify the latter. Therefore, he argued, this methodology is

susceptible to the main shortcoming of pluralism: namely, stakeholders may become a club of experts, distant from the individual citizens.

However, Professor Webler found that local partnerships performed well in many ways. He observed genuine commitment by local partnership staff and leadership to involve all stakeholders, some self selection of the participants, widespread education and outreach, a flexible timetable, genuine commitment from ONDRAF/NIRAS to see the process through, and a clear, capable, and respected leadership.

A handful of more critical observations were made about the local partnerships as well. First, the near absence of women indicates that women may not feel comfortable participating; when one societal group systematically does not participate, it suggests that more efforts must be made to facilitate their presence. Then, there was a single way to participate, discriminating against people who wanted to take part without committing to a high workload. Furthermore, the strong hierarchical leadership might discourage some forms of participation or input. Professor Webler suggested that future local partnerships might benefit from public involvement in the problem definition or the process design activities themselves. In regard to the solidly strong consensus about the positive nature of the local partnerships, he asked whether possible shortcomings are being ignored. Finally Professor Webler emphasised that the local partnerships are an extremely positive example of how experiments in democracy are necessary in order to deal with complex, non-routine technical risk decisions. The local partnerships can serve as teaching examples for future situations in which “social learning institutions” are needed.

Reports by the thematic rapporteurs were followed by participants’ feedback. It was concluded that the visits and the workshop were very useful for local stakeholders and the FSC community. Participants noted that Belgium’s case exemplifies that local communities, if suitably motivated, will act responsibly in facing the problem of waste management and that local teams are capable of highly creative work if allowed to design the facility and the local development projects themselves. Some pointed out that by building on the experiences of the previous workshop, this meeting also focused on community-based processes and ethical aspects. At the same time, this meeting offered other countries abundant experiences on the implementation of a community-based approach.

**Jean-Paul Minon** of ONDRAF/NIRAS responded to questions concerning the future of the local partnerships. In his view, the dialogue between the municipalities and the local partnerships should continue even after the formulation of the recommendations. In his words, the operation of the local partnerships is an “ongoing experience”. Responding to comments concerning the very low-profile activity of the regulator within the local partnerships, Mr. Minon noted that the regulator wanted to remain impartial.

**Yves Le Bars** of the FSC expressed his belief that the Belgian example may help resolve a number of pressing questions such as, for example: How can experts regain their credibility? How can the image of nuclear waste be changed? He talked about the importance of the fact that members of the FSC community and the Belgian communities were able to discuss such questions openly. Mr. Le Bars found the workshop very successful and expressed his thanks to the organisers.

**Hans Riotte** of the NEA deemed it a novel feature of the workshop that it dealt with the question of how radioactive waste and its management could be fitted into the everyday life of people. He pointed out that the analysis of the radioactive waste management issue from the perspective of community and regional development was another new and interesting theme of the discussions. Mr. Riotte also expressed his thanks to the organisers, and outlined the FSC’s plans for 2004.

## INTERNATIONAL PERSPECTIVE

### NEA SECRETARIAT

The members of Belgian local partnerships invited the delegates of the international community to participate as partners in the discussions and showed great openness in sharing their problems, achievements, and concerns. Similarly to the Finnish and Canadian workshops, the meeting in Belgium represented a highly instructive experience for the FSC community. The FSC workshop broadened mutual learning around the Belgian local partnerships to an international level.

#### **Stepwise approach with communities taking an increasingly more central role**

In Belgium, the management of low-level short-lived waste follows a stepwise approach implemented as an iterative process consisting of a series of reversible decisions. After the suspension of sea disposal, a decision was made on the interim storage of LLW and a centralised storage facility was established in Mol-Dessel in the 1980s. After a failed attempt aimed at finding a technically superior site outside the nuclear areas for a long-term radioactive waste management facility, in 1998 the government prescribed a new procedure to find a solution which would focus primarily on the nuclear areas and which would meet both technical and social requirements. Local partnerships between potential host communities and ONDRAF/NIRAS were established to formulate integrated proposals addressing at the same time technical safety and local development. The proposals by the local partnerships are non-binding and municipal governments will have the final say at local level. The ultimate decision on selection of a site, disposal option and design, and local development package will lie with the federal government. The latter may have to select one final candidate in case of multiple proposals.

In order to provide for additional flexibility during the implementation phase, retrievability of the waste was also prescribed in the 1998 government decision. This requirement is similar to that in other countries, including, for example, Finland, France, Sweden, Switzerland, the UK, and the USA

#### **Community-based methodology, fair and competent process**

The Belgian partnerships realize a bottom-up, community-based methodology, with similarity to the Port Hope (Canada) case studied by the 3<sup>rd</sup> FSC Workshop<sup>1</sup>. Activities in local partnerships successfully combine analysis and deliberation: the General Assembly, representing various local stakeholder groups, including politicians, frames questions for the working groups where interested citizens and experts from specialty fields carry out the necessary analyses together.

The local partnerships strive to create a balance between the requirements of process fairness (equal opportunity to participate for anyone who feels potentially affected) and competence (construction of

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1. NEA (2003) *Public Confidence in the Management of Radioactive Waste: The Canadian Context. Workshop Proceedings, Ottawa, Canada, 14-18 October 2002*. ISBN 92-64-10396-1. Paris: OECD.



the most valid understandings and agreements possible). Not everybody may actively participate in the discussions, but people may still listen and form their opinion on what they see and hear.

Process fairness - and also the legitimacy of decisions - is enhanced by the partnerships action plans aiming to carry on a dialogue with the broader community, to strive to measure acceptance by public opinion polls and/or local enquiries, and to base municipal government decisions on the acceptance by the broader public. The question of how and when to include in the decision-making process stakeholders from outside the host communities (e.g., neighbouring communities, transit communities) is also related to the problem of process fairness, and attempts have been made to involve those communities in the process.

### **Perception of no significant hazard**

One of the observations of the Secretariat is that, on the whole, the members of the local partnerships spoke very little about environmental or health hazards. Moreover, when asked specifically about them, they emphatically stated that they cannot perceive any significant hazards. Also, local partners encountered in Mol-Dessel are of the view that the disposal facility would be safer than the present interim storage facility. Similar perception of insignificant risks was noticed in the Eurajoki and Port Hope cases.

The low perceived level of health risk might be attributed to the combination of a number of factors. The first is an acknowledged familiarity with the hosted nuclear facilities in two of the three local partnerships. The second is that the good safety record of the Belgian nuclear industry has resulted in a certain level of trust in the institutions operating and supervising this industry. Third, the residents of potential host communities do not question the equity of hosting the disposal facility if it is safe and compensated by the benefits expected from local development projects. Fourth, and perhaps most important, the local partnership methodology greatly increases both the community's familiarity with the safety of the project – because the safety details are studied and decided together in technical working groups with participation of the local stakeholders –, and the community's control over the decisions – because it is only the partnerships' decisions that will be carried forward.

### **Other factors of sustainability of the decision making process**

As of today, the Belgian decision making process appears to benefit from support among the full range of stakeholders. This indicates that it is a sustainable process. Factors that may have played an important role in developing this support may be:

- In Belgium, a law phasing out nuclear energy production by 2015 was adopted in January 2003. This is expected to facilitate disposal or management-related decision processes, as it was observed in the case of the Dutch storage facility and the Swedish waste disposal programme for long-lived waste. On the other hand, the law is not influential on the functioning of the local partnerships, if one considers that the partnerships of Mol and Dessel were created before the phase-out law was discussed and voted in Parliament.
- During the community visits it also appeared that the population – or at least those living in the communities involved in the local partnerships – generally, do not question the importance of the problem of LLW management and the necessity of finding a long-term solution. Also worth of note is that during the discussions people acknowledged their responsibility for the waste both as beneficiaries of the nuclear industry and as consumers of electricity.

- Another factor that facilitates acceptance of a repository solution is that the aims of the LLW management program are clearly defined. For instance, it is explicitly stated that the current siting process is limited to the management of low-level short-lived waste.
- An important element of the support is that the communities themselves have been developing the proposals on designs, sites and local development projects. The proposals show great technical variety (deep, subsurface, and surface repositories each with their own specificities) and are adjusted to the special needs and character of the communities. For example, in Fleurus, which struggles with the problems of widespread unemployment, the aim is to invigorate the community. In Dessel, a nuclear industry centre, the partnerships aim is to establish a community centre that would show the public what nuclear research and production are about and would provide sustainable knowledge and local “memory” of nuclear issues.
- A further element of the Belgian process facilitating acceptance is that its goal is to identify a licensable technical design and a licensable site, both of which enjoy community support, rather than to try to find a technically best design or site. It is understood as well that optimisation of design will take place in the project phase, in interaction with the local partnership and safety authorities. This approach is recognised as legitimate by most local partners. It is worth to note here that there is a general international agreement that site and design are complementary to one another and that there is no one “best” site and design, but only a number of safe-enough and licensable sites and designs in communities that are willing to play host. The fact that the Belgian local partnerships are able to propose alternative designs at the same site is further confirmation that it is not fruitful to search for a “best” site and design.
- Community support appears to be improved by the existing, informal agreement according to which communities are allowed to withdraw from consideration at any time.

### **Mutual learning at different levels**

An important result of the local partnership approach is that it facilitated mutual learning between the various stakeholders and experts. The composition of the local partnerships meets an ideal of plurality, with the peer representation of many different interests and types of knowledge. The importance of this learning process, the need for mutual trust and for careful listening, were repeatedly emphasised by workshop participants. In both the mature and the new local partnerships, all participants express high satisfaction in the shared process of learning and building trust in which they have been engaged.

As highlighted in Session 2 of the workshop, dealing with different types of knowledge requires time. The MONA and STOLA local partnerships were originally planned to last two years, but had to be doubled in duration. Similarly, in the Finnish and Canadian communities visited by preceding FSC workshops, periods of several years were needed for deliberation, research, and also, changing attitude as the facts changed. Time spent preparing a decision is also time spent evolving towards an agreement.

### **A new community resource has been created**

In the view of also the local partners, the Belgian local partnership methodology has built up a new resource for communities. Some suggest that radioactive waste management would be well-served by extending the life of the local partnerships in some form, to deal with future phases. Others point out that the methodology can be adapted to any other controversial issues requiring community decision. One future issue to which this methodology might be applied is on finding solutions for the long-term

management of HLW in Belgium. Structure and organisation would inevitably have to be adapted in order to deal with timescales of decades for the disposal programme of HLW.

### **Mutli-functionality of engineering projects and the perspective of visual arts**

A novel and highly stimulating element of the workshop was that technical and social science perspectives were complemented by the perspective of building a relationship with the waste and the perspective of visual arts. While engineering projects tend to be conceived as being mono-functional (e.g. dispose of waste), building flexibility into the project to reflect the interests of the local stakeholders can measurably improve stakeholder satisfaction. What the implementer may see as a single purpose project may indeed provide additional, desirable capabilities to a creative local population. Also, waste management projects are often designed and built in uninteresting, utilitarian ways. A more creative design and implementation can add a sense of enjoyment and pride to the local stakeholders. Finally, while engineering projects are often conducted in a closed manner to their environment, a more transparent, inclusive process may draw local stakeholders more intimately into the project.