

NUCLEAR ENERGY AGENCY

Radioactive Waste Management Committee

DELIBERATING TOGETHER ON GEOLOGICAL REPOSITORY SITING: EXPECTATIONS AND CHALLENGES IN THE CZECH REPUBLIC

Synthesis and International Perspective of the 9th Community Visit and National Workshop of the OECD Nuclear Energy Agency Forum on Stakeholder Confidence (FSC)

Czech Republic, 24-26 October 2012

The 9th OECD Nuclear Energy Agency "Forum on Stakeholder Confidence" Community Visit and National Workshop was held in Karlovy Vary, Chyše and Blatno in the Czech Republic in October 2012. Entitled "Deliberating Together on Geological Repository Siting", the workshop focussed on the process for siting an installation for the final management of spent nuclear fuel, and the expectations and challenges raised by this process. Three themes were examined: developing confidence in a participatory process; local and regional partnership and added value; and expectations for safety assurance by national, local and regional authorities.

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**DELIBERATING TOGETHER ON GEOLOGICAL REPOSITORY SITING:
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SYNTHESIS AND INTERNATIONAL PERSPECTIVE

**9TH COMMUNITY VISIT AND NATIONAL WORKSHOP OF THE OECD NUCLEAR
ENERGY AGENCY FORUM ON STAKEHOLDER CONFIDENCE (FSC),
CZECH REPUBLIC, 24-26 OCTOBER 2012**

FOREWORD

The 9th OECD Nuclear Energy Agency "Forum on Stakeholder Confidence" Community Visit and National Workshop was held in Karlovy Vary, Chyše and Blatno in the Czech Republic in October 2012. Entitled "Deliberating Together on Geological Repository Siting", the workshop focussed on the process for siting an installation for the final management of spent nuclear fuel, and the expectations and challenges raised by this process. Three themes were examined: developing confidence in a participatory process; local and regional partnership and added value; and expectations for safety assurance by national, local and regional authorities.

The workshop was held under the patronage of the Minister of Industry and Trade of the Czech Republic. It was hosted by SÚRAO, the state-controlled Radioactive Waste Repository Authority, in cooperation with the pluralistic Working Group for Dialogue on the Site Selection Process for a Deep Geological Repository (including representatives from directly concerned municipalities and civil society, as well as from the national authorities, technical organisations; the group is chaired by a professor of sociology from the Czech Academy of Sciences). A large number of mayors and community representatives attended the full workshop.

The international FSC contingent was made up of 49 delegates from 14 countries as well as the European Commission. Several citizens attended from municipalities across Europe, of which all had hosted FSC workshops in the past.

For the first time in an FSC event, the Community Visit took the form of a public meeting. This was created as a neutral platform to enable debate about Czech and international siting experience. About one hundred residents of communities concerned by the Czech siting process attended this 2-hour meeting hosted by a mayor and chaired by the FSC Secretariat. A small panel of Czech stakeholders from both the national technical level and local civil society presented their positions and concerns. Then, local leaders from Belgium, Hungary and Sweden informed about how their home communities approach the potential hosting of radioactive waste management facilities, and answered questions from their Czech counterparts. The debate was concluded by the Chair of the Working Group for Dialogue. This public meeting enabled a rich expression of views and resulted in substantial learning on all sides.

This 9th FSC Workshop also innovated with the final session addressing safety assurance. At the request of the Czech program committee, a broadly diverse panel was composed with representatives of authorities at national, local or regional levels, from the Czech Republic but also from the United States, the European Commission, and from European municipalities with nuclear facilities. The workshop closed with feedback and advice from a highly experienced field manager of large waste management and construction projects.

The present document presents the Czech repository development situation as of October 2012. A synthesis of the full workshop is then provided. This includes summaries of all speeches, and the conclusions from the round tables in which Czech stakeholders and international visitors discussed the

workshop themes. The public debate is also reported. Finally, an essay by the NEA Secretariat gives an international perspective on what was observed and learned during the FSC Czech Republic Workshop.

The slides presented by workshop speakers can be consulted online at: <http://nea.fr/download/fsc/fsc-13/>.

ACKNOWLEDGEMENTS

The FSC was entering its 13th year of existence at the time of the 9th Workshop. The FSC-13 was the first Regular Meeting organised outside of OECD NEA headquarters based in France: it was held in Prague immediately prior to the workshop and was also successfully hosted by SÚRAO. These events provided the occasion to celebrate Janet Kotra who had long served as the third Chair of the FSC, and to initiate the fourth Chair, Holmfridur Bjarnadottir.

Acknowledgements are due to the workshop patron Minister Martin Kuba, and to:

- Workshop hosts SÚRAO, in particular Deputy Director Jiří Slovák, the staff of the Communications Department, and special advisor Ivo Kaplán,
- The Working Group for Dialogue, in particular Zdenka Vajdová, Chairwoman.

Together with Claudio Pescatore of the NEA Secretariat, they formed a Programme Committee which consulted mayors of the communities concerned by the siting process and set the themes for the workshop.

Lucie Steinerová of SÚRAO and a member of the FSC, was particularly responsive during the development of this synthesis. Claire Mays, consultant to the FSC, wrote the synthesis with input from several senior members of the FSC, Claudio Pescatore and Holmfridur Bjarnadottir.

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BACKGROUND INFORMATION ON RADIOACTIVE WASTE DISPOSAL IN THE CZECH REPUBLIC – DEVELOPMENT OF A DEEP GEOLOGICAL REPOSITORY

The principal host of the Forum on Stakeholder Confidence (FSC) National Workshop and Community Visit, SÚRAO¹, provided this introduction to the radioactive waste management situation in the Czech Republic as of October 2012. The text represents a “snapshot” of history, figures and the context in which the Workshop took place. It was checked but not updated for this publication.

Role of nuclear energy

In 2012, over one third of the electricity produced in the Czech Republic is generated in the two nuclear power plants: Dukovany nuclear power plant (NPP) consists of four 440 MW nuclear reactors, while Temelín NPP has two 1000 MW units. Long-term utilisation of nuclear energy, including construction of at least 2 new nuclear units at the Temelín site, is the core of the energy policy approved by the government coalition (*Atomic Act on peaceful uses of nuclear energy and ionising radiation*, update of 9/2011). Support for nuclear power is common to all major political parties. Decisive support (between 60-70 %) for nuclear electric production is also a steady result of all national public opinion surveys carried out in this field.

Status of radioactive waste handling

Spent nuclear fuel is currently stored in the interim facilities situated within the NPP sites. According to the 1997 Atomic Act, spent fuel is considered as waste only after it is declared as waste by its owner; otherwise it is seen as a secondary raw material. All other radioactive waste including waste generated in health care, research and industry is safely managed and the low level and intermediate level waste is being disposed of at three operating repositories. The Richard repository for so-called institutional radioactive waste, having been in operation from 1964 is one of the longest operated repositories in Europe. The Dukovany repository holds waste generated by Czech nuclear power plants and the Bratrství repository is used for the disposal of waste containing only naturally-occurring radionuclides. According to the Atomic Act the waste is owned by the state and it is the responsibility of the state to ensure the safe disposal of all radioactive waste. To meet this and related tasks a state organisation – Radioactive Waste Repository Authority (SÚRAO) – was established in 1997 and has been fully state-controlled since 2000.

¹ Formerly known in English as “RAWRA”.

Long term policy on RWM centred on a deep geological repository

The long-term policy for radioactive waste management is stated in the document Concept (or Plan) on Radioactive Waste and Spent Nuclear Fuel Management, approved by the government in 2002. According to this policy a deep geological repository situated in suitable host rock is considered the only feasible option for final management of spent fuel. Complementary options – disposal in an international repository and disposal of high level waste generated in reprocessing and further utilisation of its products in advanced nuclear reactors including reactors designed for waste transmutation – are also given attention, in case they become feasible in the future. The Concept (Plan) also determines the important milestones for the repository development – the selection of the final and reserve sites was set for the year 2015, while construction is to be completed only in the year 2050 and operation reached in 2065. Due to the moratorium on geological works observed in 2004 -2009 the final site selection target date was moved to 2018.

History of repository development and local response

The development of a deep geological repository started already a decade before the Concept (Plan) was approved. A first screening of the whole territory of the Czech Republic, primarily according to geological criteria, was carried out in 1991. In the later screening on geological and other criteria carried out by SÚRAO and completed in 2002, 11 potentially suitable sites were identified. From among these 6 sites, all those underlain by a granitic formation were selected for further investigation. These sites share quite similar characteristics in that the outcropping granite bedrock over the centuries had significant influence on the landscape, land use and way of life of their inhabitants. The sites are relatively remote from regional centres, without large industrial enterprises, with no nuclear facilities, and relatively low population density, but with a beautiful hilly landscape, unspoilt nature and hence rather high recreational potential. As the density of villages and municipalities in the Czech Republic is elevated, each site consisted of 3-9 municipalities, considered by SÚRAO to be the natural potential partners and privileged interlocutors. The area of the sites was narrowed down in 2005 after the first geological investigations, which consisted mostly of aerial and surface measurements.

The beginning of geological works was met by severe opposition from the local people. Petitions against a repository were signed, demonstrations were organised, but mainly local referenda were carried out, resulting always in clear rejection of the repository and all activities related to the potential construction of the repository. Geological works at preselected sites were soon interrupted by governmental moratorium and although the moratorium is lifted, works have not yet been resumed. SÚRAO considers that reasons behind local rejection may very likely include: insufficient advance communication with local stakeholders (shortage of time due to geological work schedule and resources); potential benefits too uncertain and distant in the future whereas threats to potential development were perceived as immediate; insufficient transparency of the siting procedure; etc.

In the meantime SÚRAO in response to the task given by the Ministry of Industry and Trade investigated the potential suitability of the five military training areas owned by the state. In 2011 the list of sites widened to include a new one – Kraví Hora. This site is close to both the uranium mine and to the reserve site for the central interim storage facility; due to long experience with radioactive materials and a history of related employment in the sector, the inhabitants seem to be more open to discussing a potential geological survey.

A new start for dialogue

The current 7 sites represent a total of 39 villages counting 18,300 residents. In the 2 years prior to the FSC workshop, SÚRAO as organisation responsible for the siting project devoted efforts to establishing a new fair, transparent and open siting process. The role of municipalities and all other stakeholders was made more meaningful and strengthened, and added value for the involved communities was set to be provided from the beginning of geological works. An amendment to the Atomic Act ensures annual payments to all municipalities where geological works related to the repository are carried out.

SÚRAO initiated the establishment in 2010 of the Working Group for Dialogue on Deep Geological Repository, which is a kind of advisory group to the Minister of Industry and Trade. The creation of the group was supported by the Ministry of Industry and Trade and the Ministry of the Environment. It is composed of approximately 27 representatives of the various communities concerned (mainly mayors of the villages), environmental organisations (local and national NGOs), state administration, Parliament, academic institutions and other experts. The aim is to strengthen the role of the local players in the siting process and to increase the transparency of the siting process. The establishment of the Working Group was perceived on all sides as a major step towards better understanding of views of all stakeholders involved. The working period was originally set for 2 years but the continuation of work was supported by most members. The group considers its priority to be the promotion of legal measures, mainly to introduce into the Czech legislation the right of the municipalities to effectively participate in decision-making during the deep geological repository preparation process.

SÚRAO aims to establish partnership with municipalities willing to be involved in the siting process. It has repeatedly declared that it will not apply for the permission to start geological works without approval of the local elected councils and the signature of agreements regarding the conditions placed on the geological survey works, including involvement of independent experts nominated by the local municipalities. At the time of the FSC workshop, SÚRAO stated that the siting process should continue to grow in transparency so as to support open communication with all parties interested.

Local situation at Čertovka site

This site is mentioned in this introduction because Day 2 of the FSC National Workshop included a “debate with the local public of Blatno and neighbouring villages”, hosted by Blatno’s mayor at the village House of Culture. The Čertovka site consists of 4 municipalities – Lubenec, Blatno, Tis u Blatna, and Žihle. In February 2012 the Lubenec Council granted preliminary approval for geological works within their territory. But this step aroused high opposition of some inhabitants, resulting in a referendum in June 2012, which rejected the research.

SYNTHESIS

OPENING OF THE WORKSHOP

The 9th Community Visit and National Workshop of the Forum on Stakeholder Confidence (FSC) took place in October 2013 under the patronage of the Minister of Industry and Trade of the Czech Republic Dr. Martin Kuba.

The ceremonial opening of the workshop in Karlovy Vary was performed by principal host **Jan Prachař**, Director of SÚRAO, the Radioactive Waste Repository Authority of the Czech Republic. Mr. Prachař welcomed both Czech and international delegates and recalled the long-time membership of SÚRAO in the OECD Nuclear Energy Agency Radioactive Waste Management Committee. He acknowledged Mrs. Vera Sumberová of SÚRAO, who was a founding member of the Forum on Stakeholder Confidence. Mr. Prachař confirmed the utility of the previous FSC workshops and predicted that similar learning would benefit the Czech national and local stakeholders and international delegates during the present workshop. He also thanked the many representatives of the Czech siting communities for their presence, as well as for their vital role of partner in the search for an appropriate site for a deep geological repository to manage the Czech Republic's spent fuel. Mr. Prachař pointed out that as part of the workshop, a public meeting would take place at Blatno, providing an opportunity for a very large number of local people to participate directly in the international event.

František Pazdera, Consultant to the Minister of Trade and Industry on Nuclear Energy, then welcomed international delegates to the Czech Republic and acknowledged the local elected representatives who had travelled to Karlovy Vary for the workshop. He explained the importance of nuclear power for the Czech economy and also the high degree of support given to this energy production mode by the full political spectrum as well as by the citizens of the Republic. Mr. Pazdera pointed out that the siting process for a deep geological repository is noteworthy not only for the strategic importance of its objective, but also, for its innovative character. The siting process has already endured for several decades and became enriched in recent times with a participatory aspect. Mr. Pazdera confirmed the approval of the Ministry for SÚRAO's action as workshop host, and thanked the mayor of Blatno for opening the House of Culture to the enlarged international exchange.

Claudio Pescatore, Principal administrator on radioactive waste management (RWM) of the OECD/NEA, thanked the Ministry and the host on behalf of the Director of the OECD Nuclear Energy Agency. He recognised the important participation of local representatives from the Czech municipalities and Working Group for Dialogue on the Siting Process, and briefly explained the objectives and modus operandi of the workshop. Plenary presentations by Czech and international stakeholders, alternating with round table

discussions and a public meeting, all contribute to building a multi-stakeholder vision of the Czech siting process, expectations and challenges.

Holmfridur Bjarnadottir, FSC Chair by interim, expressed appreciation for the warm welcome offered by the Czech national and local hosts. She remarked that 49 delegates travelled from 14 countries as well as the European Commission to learn about the Czech context and share their own experience. Some represented local communities in Belgium, Hungary and Sweden, who all received FSC workshop and community visits in the past. These local leaders would participate in all sessions and speak and answer questions from their Czech counterparts during the public meeting. Ms. Bjarnadottir noted that this is the first time the FSC has used a public meeting/debate format during a workshop. On behalf of the entire FSC she thanked the hosts for their careful preparation and for providing the opportunity to meet with Czech stakeholders in a relaxed and productive atmosphere.

The opening of the scientific program took place the next day in the nearby town of Chyše. Ms. Bjarnadottir as Chair explained the basic rules of the workshop.

Anna-Lena Söderblom of Östhammar Municipality (Sweden) then took the floor. Representing the local hosts of the 2011 FSC workshop and community visit, she recalled the positive international cooperation when discussing steps, roles and issues arising for the actual implementation of a repository for spent nuclear fuel. Ms. Söderblom then expressed sincere wishes that the Czech Republic workshop and public debate would be similarly fruitful for the local people and national hosts.

SESSION 1 : LEGISLATIVE AND TECHNICAL BACKGROUND IN THE CZECH REPUBLIC

The first session of the workshop was chaired by Mariano Molina of Enresa (Spain).

Radek Šula from the Ministry of Industry and Trade of the Czech Republic presented the National Plan for Radioactive Waste Management and its milestones. The Czech Republic's Plan or Concept on Radioactive Waste and Spent Fuel Management, promulgated in 2002, deals with:

- Legislative framework
- LILW management
- HLW and spent fuel management
- Economic resources to finance RWM, in the so-called Nuclear Account
- Risks.

Considered risks include the possibility that local authorities might not approve siting plans. Mr. Šula stated that it is necessary to gain approval and that this step in the repository development process would not be bypassed.

More recently Europe has passed *Council directive 2011/70 /EURATOM establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste*. In this light the Concept is being updated as of 2012 with governmental agreement planned to be achieved in mid-2014. The update should address:

- Implementation of the Euratom Directive principles;
- LLW management, to include the new element of a solution for very low level waste;
- Closure of the Bratrství repository for LILW in 2020 (10 years earlier than projected);
- Siting milestones for the deep geological repository (two candidate sites in 2018, pushed back from 2015 to allow more time to gain local approval; the Ministry does not disagree with the principle of further postponement if necessary to enjoy approval);
- Transparency of the processes and public information and involvement;
- Impact of Temelín extension with two new reactor units (planned by 2030) and resulting influence on LILW production and disposal capacity.

Mr. Šula highlighted three important factors in site selection: safety as the key factor; technical feasibility; and participation of all involved institutions and citizens.

Jiří Slovák, Deputy Director and Director for R&D, SÚRAO, then presented technical and safety aspects of deep geological repository development in the Czech Republic. He outlined SÚRAO's role and responsibilities under Czech law, before considering the safety criteria driving the development of a repository.

The 1997 Atomic Act defined radioactive waste and guarantees state responsibility for safe disposal of all waste generated in the Czech Republic. Financial responsibility is set on the producers. SÚRAO has, since 2000, been responsible for the management of all the radioactive waste repositories in the Czech Republic: the Richard repository near Litoměřice which is used for the disposal of institutional waste, the Dukovany repository for waste generated by Czech nuclear power plants and the Bratrství repository for the disposal of waste containing only naturally occurring radionuclides. SÚRAO is further responsible for the coordination of work associated with the development and construction of a deep repository for the disposal of high-level waste and spent nuclear fuel which is scheduled to be put into operation by 2065. It is recognised that spent fuel is also a potential commodity but recycling plans are not expected to be made before the 2065 repository milestone.

SÚRAO is currently behind the set schedule for identifying candidates because it is judged most important to communicate and discuss plans with the public. The 2015 milestone is judged unrealistic, with 2018 a more reasonable date for securing final and reserve sites. However, the target date of 2065 for operation of the repository remains valid. The Nuclear Account covering waste management established by the Atomic Act receives 50 Czech crowns per kWh generated, and by 2012 had collected 17 billion crowns.

Mr. Slovák pointed out that the Czech repository safety concept rests on the three pillars seen throughout the world: a safe waste container, durable for ten to one hundred thousand years with correct protective barriers; a bentonite barrier, assumed to be stable over the same term; a natural rock barrier. Any repository on any Czech site needs these three complementary components. He noted that the Czech Republic is capable of building a repository thanks in part to its long experience in mining.

A geological desk study in the 1990's narrowed dozens of potential sites to 11 in 2002, and subsequently to 6 crystalline granite locations. Technical surveys in 2003-4 were met with tremendous local resistance which led the government to add former military training areas to the list and then declare a moratorium in 2004. The moratorium on all siting activities lasted until 2009. By 2018 two sites should be retained. It should be proved that they meet strict technical and safety requirements. Feasibility studies must also focus on the municipalities' interests regarding the site and whether local conditions can be met. SÚRAO has published a Development Policy which stipulates the need to discuss and agree with the involved stakeholders. The siting strategy includes the principles of voluntariness, clear advantages and benefits for host candidates (the Atomic Act was amended in 2011 to include incentives), involvement of the local public and respect for their opinion. An agreement must be signed with the municipality before geological survey work is undertaken. Robust safety remains the key technical criterion.

Kjell Andersson (Karita Research, Sweden) then addressed informal procedures for repository siting. Mr. Andersson first illustrated the process in Sweden. This built on the following principles outlined by the local stakeholders at the start in 1993:

- Municipality autonomy;
- Being active and influential in the process;
- Building knowledge, competence and openness;
- Using environmental groups as a resource; and
- Extracting clear answers from the waste management operator SKB and regulators.

In June 2009, SKB announced Östhammar as the chosen site, following which a licence application was submitted. An “added value” agreement was signed according to which SKB divided two billion SEK

between the two finalist municipalities, with 25% going to Östhammar and 75% going to the second-place candidate Oskarshamn. Overall the history shows that it is possible to have an informal process without binding decisions which is nonetheless meaningful and useful, wherein key issues become clarified and all parties retain autonomy.

Mr. Andersson then went on to present the so-called RISCOS model and its implementation in Sweden, the Czech Republic and Poland. A Reference Group established in the Czech Republic was involved in restarting siting investigations and performing follow up at the national political level. This was assessed by participants as “a very suitable tool for initiation of dialogue among all stakeholders in the area of RWM”.

Hana Vojtěchová, Secretary of the Working Group for Dialogue on the Site Selection Process for a Deep Geological Repository, then spoke in more depth about the informal procedures in the Czech Republic. Ms. Vojtěchová stated that public opposition to deep repository siting led to governmental moratoria at the original six sites, but the initial mistrust by communities was overcome by the increasing transparency of the site selection process and strengthening the role of communities.

The European Commission part-sponsored ARGONA project ran from 2007-2009, comprising a preparatory phase (establishment of the RISCOS Reference Group, identifying means of inciting stakeholder interest and meaningful dialogue, etc.) and a learning phase which involved a public hearing bringing about the resumption of geological survey of localities pre-selected for repository siting.

The Working Group for Dialogue was established in 2010, following the ARGONA project, an international conference and a roundtable discussion. The Working Group is now in contact with all parties involved in RWM in the Czech Republic. Its objective is to define acceptable criteria for selecting a site for a deep geological repository and to establish a transparent process that caters to the public interest.

Since its inception the multi-stakeholder Working Group has held a seminar in the Parliament on deep geological disposal, public debates, hearings, international workshops and conferences and participated in the “Aarhus Convention and Nuclear” initiative. Implementation of the RISCOS model and the Working Group is ongoing.

SESSION 2: DEVELOPING CONFIDENCE IN A PARTICIPATORY PROCESS OF SITING

Session 2 was moderated by Stefan Jordi of the Swiss Federal Office of Energy (Switzerland).

Zdenka Vajdová, Institute of Sociology of the Czech Academy of Sciences, spoke as Chair of the Working Group for Dialogue on the Site Selection Process of a Deep Geological Repository. She gave a transversal national perspective on criteria and citizen expectations for the siting process, two years after the inception of the Working Group. Ms. Vajdová delved into the issues of trust and confidence, asking: what or who must be trusted in negotiations on deep geological disposal? Has the Working Group succeeded in building trust, and if so, between which parties (the state and the local level; involved localities)?

The ARGONA Reference Group public hearing of 2009 concluded that there is:

- A need for deep disposal of radioactive waste in the Czech Republic;
- A lack of trust in central authorities and politicians; and
- A call for the renewal of siting negotiations in which localities would receive equitable treatment.

Ms. Vajdová observed that actual negotiations always come down to two persons trying to influence the other's opinion, or to a mayor facing the community. Several rules and principles are then important. The process of communicating means: having an opportunity to speak, a right to understand, the obligation to consider ideas and points of view, a right to be respected and an obligation to respect other participants. Deliberation requires mutual trust. Participants must:

- Carefully examine a problem and arrive at a reasoned solution;
- Not be led by ulterior motives or manipulative intentions; and
- Avoid personal attacks and intimidation.

Mrs. Vajdová reflected that small municipalities are asked to carry the societal burden of radioactive waste disposal. Especially as all agree that the disposal is necessary, Czech citizens at large should acknowledge the difficult effort made by the siting communities. The Ministry and SÚRAO should consider that earning well-founded trust is a major objective. Because waste disposal is a long-term proposition, the Working Group considers that added value, if offered to communities, must be adequate also for the future; the conditions of agreement between the state and municipalities must be durable and valid for decades.

The pluralistic Working Group itself in two years has managed to stay at the table and to understand some of the issues at hand. Mrs. Vajdová believes that its duty is to transfer this information to the communities and to consult the residents; the Working Group therefore wrote to the municipal councils, asking that the information be circulated broadly to the local populations and the NGOs. The Working Group seeks today to influence national legislation to establish local rights in the repository decision making process. An improved siting process can then be introduced not only to directly affected people, but also to all of Czech

society. This might foster a statement that it is important for the localities to hear: *“Yes, you have our appreciation, and we are thankful for your care”*.

Edvard Sequens of Calla presented a national environmental NGO’s expectations on establishing trust when scouting for suitable sites. Recognising the threat posed by radioactive waste, NGOs see the important site selection criteria to be: a realistic solution, long-term safety, and acceptance by the public and especially those affected. He insisted that the nuclear industry must not transfer liability for solutions to municipalities and citizens. Right now we do not know if deep repositories constitute a real solution, but right now they seem the most practicable. Mr. Sequens questioned the wisdom of planning more reactors when the question of where to dispose of the waste they generate remains unanswered.

In regard to long-term safety, with reference to geological transformations over relatively short periods (10,000 years) Mr. Sequens also questioned how long isolation properties of the barriers can be realistically guaranteed. The late addition of Kraví Hora to the candidate communities raises the question of how much weight should respectively be given to acceptance by affected communities or to the technically best and safest design.

Mr Sequens’ discussion of public acceptance began with the necessity for public participation based on exhaustive, open information. The empowerment of municipal and public rights should be a prerequisite for the selection process, and there should be adequate compensation for the negative impacts of repository prospecting on municipal and regional life.

Mr. Sequens then reviewed perceived shortcomings in the formal national arrangements. The Ministry of the Environment issued an unusual “disapproval” for Czech radioactive waste handling plans in the Environmental Impact Assessment of 2001. By 2015, the policy’s goal is to have chosen two sites for deep repository. Despite SÚRAO’s assertion that the selection of two sites is to take place only in 2018, there are already efforts to include existing sites in the regional land-use plans, thus infringing on the municipalities’ development. The Working Group has proposed numerous legislative changes which have all been refused by the Ministry of Industry and Trade. SÚRAO is the body of public control; however, it provides censored minutes. Mr. Sequens closed by suggesting that now may be the time for a change in the Czech system.

Jaroslav Zvěřina then offered a view on the “rationality and emotionality” of approaches by various stakeholders. A former Member of European Parliament, Mr. Zvěřina is a trained psychologist. He explained that human beings are fundamentally irrational. Our behaviour is driven by paradoxical motivations (aggression, self-destruction, iniquity and evil in the name of “right”: all are unsuccessful strategies producing the very opposite of the primary aim). Rational decision making and opinion also have their limits:

- We are unable to process all the information that bombards us today;
- Irrational ideas are often considered more plausible than are rational ideas (myths, superstitions, pseudo-scientific theories).

Mr. Zvěřina labelled trust in speculative and unverified arguments as the pathology of the “information society”.

Irrationality seen in public opinion surveys stems from:

- Biased perception, we appreciate better the data supporting our opinions than the opposite;
- Selective attention, we devote more time to information supporting our a priori ideas;

- Information source selection, depending on the source's support for our a priori judgments.

Mr. Zvěřina offered to those present the following advice on managing irrationality:

- Permanent availability and presentation of valid information based on verified facts;
- Involvement of trustworthy and credible public opinion makers;
- Steady and sustained effort.

ROUND TABLE DISCUSSIONS ON DEVELOPING CONFIDENCE IN A PARTICIPATORY PROCESS OF SITING

Following the plenary talks about building confidence in the participatory process, the Czech stakeholders and international FSC delegates broke up into eight mixed discussion groups. They were invited to discuss the following questions:

- *In a repository siting process, how are phases, roles and commitments clarified and guaranteed to municipalities?*
- *How can the public monitor the work of institutional experts in each phase of the siting process?*

Each round table selected a rapporteur, who later shared in plenary the group's discussion and conclusions. The groups were reminded that the phases of the Czech deep geological repository siting process are:

1. Geological surveys, drilling and the evaluation of these research works;
2. Selection and determination of the protected area;
3. Final selection decision;
4. Territorial and building approvals and permissions.

According to the countries farther along in repository development, roles, commitments and appropriate guarantees are different in each stage. Likewise, impacts on the public are different at each stage but it is not always clear exactly how they are or will be affected. To ensure confidence, formal aspects should be clarified and written down. Monitoring is needed for several reasons but in particular, to help recognise the impacts on communities and find appropriate responses.

At the round tables, Czech stakeholders explained cases in which their trust had already been broken, by withdrawn promises or disagreement at different decision levels, or by information provided to the national press without talking to the villages first. Fears spread quickly when fifteen years ago, pre-selection of sites was simply announced in the press, or in 2008 when the national land use plan was published with the sites outlined. For these reasons, some stakeholders feel that only what is explicitly stated in law can be trusted. In communities where there is familiarity with mining operations or a favourable attitude to geological testing, SÚRAO's current commitment is viewed by local officials as sufficient; in contrast, where civic movements express opposition and referenda expressed refusal for drilling, SÚRAO's commitment to communities is viewed to be an insufficient guarantee.

Foreign delegates at the round tables pointed out that there are several steps needed before looking for agreement on starting geological works. In fact, rules and steps in the overall participatory process must be worked out first, and this requires action at national level. For instance, in the UK, a White Paper was developed through consultation and it shows the siting process with which the central government must comply. In Spain, the association of nuclear host municipalities AMAC discussed the siting process with Enresa for 3-4 years before any official call for candidates was issued, and when passed to central

government 95% of their agreed participatory design was adopted into national law. In Switzerland, the regional level also was taken carefully into consideration. Belgian delegates warned that compensation, in particular, should be regarded as the cherry on the cake – “more important at the beginning is the cake itself”, meaning, a robust, fair process agreement.

Different emphasis can be found in different contexts. In the US and the Czech Republic, people seem to prefer strong laws to settle the process. In Sweden and Canada, there is an emphasis on developing relationships between the implementer and the municipalities (but local people have the ultimate guarantee of veto power). The UK system lies between these two models. It was advised that Czech communities should benefit from money, time and expert resources, to review their process and the site selection criteria.

Many round tables viewed that the Working Group should continue to function as an advisory group, resourced to play the role of “watchdog” over the process and mediating between the municipalities and the authorities. Some round tables were puzzled by the fact that the safety regulator is not mentioned or involved in the process at this time. In Nordic countries, regulators were present from the start, acting as “the people’s expert”. Czech participants believe that the regulator will begin to play a role at the time of repository licensing.

Monitoring can be both informal and formal. It can look at physical parameters or it can look at behaviours, checking whether all actors play the role they are supposed to play.

Institutional or behavioural monitoring can be supported by making reports publicly accessible (both available, and sufficiently readable) and by issuing quarterly and/or annual reports from the implementer and, if possible, from the municipalities. Local communities should have expert support for reviewing technical reports and site activities and also for preparing their own public reports. These experts should be well-known, trusted persons and can come from different fields (including the media for assistance with communications).

The question of how to make information really transparent for all members of the villages also was discussed. It should be remembered that local citizens may be neither experts nor lawmakers. SÚRAO gained some positive evaluations during the workshop for their history of providing readable, detailed information. It was also recognised that SÚRAO officials were often willing to discuss and listen. At Kraví Hora, rules for good communications between the councils and the Diamo mining company have been established and respected, and mayors have the direct phone number of the company director. However, informing the full population of villages is inherently difficult. Councillors need good primary information and training. Low motivation is found among many populations with reduced turnout not only at public meetings, but also at elections. Some Czech stakeholders highlighted the need for “alternative” public meetings that would weigh risks and benefits in a more direct, critical way. They pointed out that visits to actual repository development sites in foreign countries are very useful because villagers can see everyday life and talk with their counterparts, learning things that cannot be transferred by glossy brochures.

SESSION 3: LOCAL AND REGIONAL PARTNERSHIP AND ADDED VALUE

The session was moderated by **Hermann Sannen** of STORA, from the local partnership in Dessel, Belgium, who also presented this partnership. The Dessel municipality, which comprises around 9,000 inhabitants, has hosted nuclear activities since 1952. There are seven nuclear companies, of which two are decommissioning, but there are no power plants. The population is familiar with the presence of nuclear installations and there are no protest groups active in the municipality.

In 1998 NIRAS/ONDRAF requested to study, in cooperation with local communities, the suitability of Dessel for the disposal of 70,000m³ of low and intermediate-level short-lived waste and in 1999 a partnership was formed called STOLA. The Dessel community was well represented in the partnership, whose mission was to advise the elected municipal council on a disposal plan that would integrate both technical and societal aspects. In 2004 STOLA delivered its conclusion that a disposal site in Dessel was feasible, under the following strict conditions:

- Health follow-ups and improved safety;
- Positive local impact;
- Open communication on all nuclear issues;
- Maintenance and development of nuclear know-how in the region;
- Funding for local projects.

The site was approved unanimously by the municipal council in 2005. From 2006-2012 there has been further elaboration of the concept and local conditions. There will be continued stakeholder involvement throughout the next stages of the so-called “cAt-project” as well as all other nuclear matters confronting the community. STOLA also carries out a mission of informing the local population via magazines, websites etc.

Mr. Sannen then detailed Dessel’s conditions with regard to maximising safety, open communication, growth and benefits to the community and a vision of the position of Dessel in the year 2300. A major instrument is a local fund created for better living and working conditions in Dessel. This is set to begin in 2016 and must benefit both current and future generations. The fund will spend approximately one million euros per year for the Dessel community.

Another means of maintaining community involvement and nuclear know-how is the communications centre, archiving information for all nuclear matters in the area, to open in 2016. There will be guided tours of the site, a science centre explaining radioactivity and an attractive environment.

DIGICAT is a community television project created by local volunteers. It provides videos on news, events, people and organisations in Dessel, including videos on the cAt-project. It is available on the internet and digital television.

Bernard Faucher from Andra, France presented lessons learnt by the public radioactive waste management agency from the French underground research laboratory siting experience. The first siting process (1987-89) was managed by Andra and conducted on solely scientific criteria. The lack of local participation and information was met with riots. In 1991 the parliament intervened for the first time in nuclear matters in order to address issues such as transparency and access to information. This resulted in the identification of 4 sites in 1993; the following years saw mounting tension between the projects' fans and detractors, with some violent demonstration and sabotage.

In 1994 the SIVU² resolution based on the 1991 national Waste Act provided the following principles:

- An R&D feasibility programme is to be carried out before any decision;
- Reversibility is compulsory;
- The environment must be protected and respected;
- There must be an independent evaluation of the siting district; and
- The local economic impact must be taken into account.

Mr. Faucher extracted the following lessons learned by the time of the 2005 report by the Parliamentary Office for the evaluation of scientific and technical choices (OPECST):

- Leverage is necessary for small municipalities;
- There are not enough corporate projects or new business to sustain local development; and
- Direct support from waste producers is required.

Mr. Faucher then moved on to the economic development scheme. He pointed out the importance of dialogue: you cannot arrive in a community with a national issue without listening to and addressing local issues as well. The scheme requires a transparent and clear legal framework, and project management and selection must be done at the local political level, and not by the facility operator.

Two mayors then shared the floor in order to present Czech municipalities' ideas, wishes and criteria for partnership and negotiating added value.

Jana Nožičková spoke as Mayor of Rudíkov, a municipality associated with the Horka site, and member of the Working Group for Dialogue. She expressed gratitude for the opportunity to share what she has learned, noting that local people appreciate their involvement in international activities (including in her own case the ARGONA project, excursions to waste facilities in Sweden and Finland, etc.).

Ms. Nožičková expressed disappointment that the invited Members of Parliament and Senators, originally scheduled to speak at the workshop, had cancelled at short notice. Their presence was expected by the local participants in the workshop to guarantee the state interest in and willingness to discuss matters such as the added value approach followed in many European countries.

Reviewing the experience of ten years of negotiations between the sites, the Ministry of Trade and Industry and SÚRAO, Ms. Nožičková acknowledged long-term distrust in the state institutions and the production of local referenda against siting activities. These referenda (already held in 6 out of 9 communities at her

² "Syndicat intercommunal à vocation unique" – in France, a cooperative grouping of municipalities whose statutes limit it to a single issue. The SIVU des Pays de la Saulx et du Perthois was such a grouping constituted in the Meuse département (one of the two host departments for the underground laboratory in the east of France) and deliberated on the cited principles in June 1994.

site) are considered as valid and binding by local councils. However, the votes against drilling do not prevent the councils from collecting information and building their competence.

A particularly important point for Ms. Nožičková is that municipalities statutorily are not responsible for radioactive waste disposal. In this context they ask for the right to disagree, and to be empowered at a higher level in the decision making process. The Working Group draft proposal for new legislation on public involvement in the decision-making process is intended to address this serious need. Ms. Nožičková called on the Ministry of Industry and Trade to clarify its relations with the Working Group, to commit to fair communication, and to accept that repository development is different from other construction projects and needs specific wording in dedicated legislation.

Zdeněk Jirsa, Mayor for 18 years of Dolní Cerekev, associated with the Hrádek site, then spoke. He recalled experience 15 years ago of negotiations on an interim spent fuel storage facility. The mayor then shared his reflections matured by what he had heard at the workshop.

As a starting point, Mr. Jirsa said that energy and repositories are topics for all of society. While opinions may differ on nuclear energy, agreement must be found on a solution for the waste. However, the local level has a problematic position in negotiations around repository siting. There are several municipalities within each site and each has a different economic situation, number of inhabitants, history, etc. Among these associated sites can be found very close positive, and also negative neighbourly relationships. These facts have clear influence on attitudes to “added value”. Moreover, the siting process impacts the local political process. Finally, decisions by local councils today could have impacts felt one hundred years from now.

Mr. Jirsa went on to explore the issues of democracy and equity inherent in this situation. There is recognition that dialogue is needed, and that the willingness of all involved stakeholders to move ahead in siting is a must. Still, if one, or five, municipalities out of eight express themselves as against geological works, does that respect the rights of those who agree to undertake research? He asked whether decision making should wait for total consensus, or should a more workable, sensitive approach be found instead? Mr. Jirsa concluded by stating that the only law that cannot be changed is a physical law, and called for mechanisms that could protect local villages from national political turbulence. He described radioactive waste disposal as a serious issue and urged that people act responsibly.

Before the delegates broke up into round tables, Mr. **Ivo Kaplán**, the workshop organiser from SÚRAO, briefly explained the immediate political turbulence that prevented the national representatives from attending. It was not clear whether the present government would continue to stand and all parliamentarians had been summoned to the Senate for a meeting with the president. Mr. Kaplán promised that in cooperation with the Working Group, workshop reports would be sent to both chambers.

ROUND TABLE DISCUSSIONS ON LOCAL AND REGIONAL PARTNERSHIP AND ADDED VALUE

After the session, Czech and international delegates returned to their mixed round tables to discuss:

- *What are the roles of the local and regional self-governments and national government in ensuring added value for the candidate and host communities? How can their respective roles be integrated?*
- *Throughout the phases of the deep geological repository siting process, how is accountability of the players ensured?*

Observations, conclusions and advice from each group were reported in plenary. Many round table rapporteurs mentioned that the Czech participants were glad to have the chance to talk directly with stakeholders from Belgium, Sweden, Spain, Hungary, France, and other countries to learn details of their experience.

The Czech siting process is not voluntary. Sites have been designated for possible geological investigation, and the surrounding villages are therefore obliged to become involved. Each pre-candidate site touches from 3 to 9 villages. The round tables learned that for the Czech communities, discussion and consensus building are not easy. Many frustrations are felt. It seems “impossible” to come to agreement. For example, a referendum held several years ago has blocked the process ever since. In one set of villages assembled around a single site, two councils are in favour of geological works and two are against. Certain municipalities send two representatives to the Working Group to defend different points of view, because there is disagreement within the council. During the round tables, some mayors also mentioned difficulty in sustaining dialogue between village councils and community NGOs. However, there is broad agreement that all voices should be heard in the siting deliberations.

Czech local stakeholders call on the Working Group to help bring the process out of these impasses. FSC delegates agreed that villages should be able to ask for help in adapting to the siting process. Moreover, they should be assured of the ability to hire their own experts to help with dialogue as well as with technical issues. Dialogue and deliberation are not simple tasks, and even more learning may be required in countries whose former political system excluded local communities from centralised decision making. Communities actually stand to gain from their involvement, by acquiring new skills and identifying their aspirations and interests. FSC delegates advised that communities should define the principles that they consider to be important conditions for entering the siting dialogue, like openness and transparency.

The Czech local participants also pointed out that the repository development process turned into “their problem”. The State passed the task to SÚRAO, regional councils drew back, and no independent actor, for instance a safety regulator, provided any mediation. Foreign round table delegates explained that in several FSC countries, the local level began to have an easier time only when a national commitment was made to support the siting process. Because radioactive waste and spent fuel management are national issues, clear statements must be made by national leaders, and legislation should reflect commitment to accompany the

involved local actors in a step-wise process with defined milestones. Delegates agreed that some kind of veto power for local communities (“enhancing the ability to say ‘no’”) should be built into the Czech legislation. To foster accountability, the repository legislation (either a specific act, or an update of the Atomic Law) should define and clarify roles of each actor. Together, legal measures like these could help to counter Czech people’s lack of confidence in the State. All agreed that the requirement to transpose the EU Waste Directive into national law is an excellent opportunity that should be seized.

Czechs pointed out that even if SÚRAO makes promises, higher State leadership could change. How can national commitment be achieved? In Spain, for instance, the waste management agency was happy to partner with a strongly organised association of all nuclear host local communities and candidate municipalities. Together, they were able to lobby the federal level, and this resulted in more stability across different governments. Villages can consider various ways of increasing their power and influence, e.g. by grouping in a thematic association, or in territorial syndicates sharing resources. (In Spain and in France, the smaller villages moreover find that their incentives or compensation can purchase more useful services and infrastructure when these funds are pooled together.)

The Working Group is drafting proposed legislation replying to many of the aspects recommended to clarify roles and empower local stakeholders. One round table distilled advice to communities:

- Be proud of what you are.
- Create good relations with SÚRAO but keep some distance – ensure clear roles, respect, and the ability to be frank and critical towards each other.
- Maintain your integrity.

The round tables discussed the meaning of “added value”. Presently, the concept has been defined by the Ministry of Industry and Trade, by SÚRAO and by the Working Group. It includes not only financial aspects³ but also the notion of supporting sustained well-being. The FSC delegates encouraged each village to work out their local definition of added value⁴. Moreover, villages should deliberate about their definition of “acceptability” and also of “safety”. These three definitions and discussions should not be mixed up. But a broad and diverse section of the community should participate in the dialogue, to ensure a fruitful collection of ideas.

³ The Atomic Act specifies financial arrangements for sites that would accept drilling works. When the Ministry for Environment adds its green light, then each municipality can obtain 600,000 crowns per year plus 0.3 crowns per square metre of ground involved in the studies, to a maximum of 4M crowns per municipality per year. The Nuclear Account today has 17.4M crowns. At final and reserve sites to be designated in 2018, each involved village will receive 3M crowns per year. Government rules dictate how such funds can be spent, on village amenities. The Working Group is addressing how to ensure that the funding is not viewed as a “bribe”.

⁴ Some FSC delegates advised that the “added value” definitions should focus for now on what is needed to support communities to engage in the process, rather than thinking ahead to specific infrastructure. Professional planners should be engaged a little later on for that aspect. Others pointed out that basic amenities and investment in vital regional infrastructure, if they are missing today, form a common interest that could add value to large numbers of villages even beyond the sites.

DEBATE WITH LOCAL PUBLIC OF BLATNO AND NEIGHBOURING VILLAGES (CERTOVKA SITE)

The FSC workshop included a public meeting chaired by **Claudio Pescatore** of the OECD NEA Secretariat. The debate with local public took place at the House of Culture situated in Blatno, about 12 kilometers from Chyše.

Along with Lubenec, Tis u Blatna and Žihle, Blatno is associated with the Čertovka site. Preliminary approval for geological works within their territory was granted by the municipalities in February 2012. But this step aroused high opposition of some inhabitants, resulting in a referendum in June 2012, which rejected the proposed investigations.

Introduction and rules of the debate

Mr. Pescatore explained that the public meeting aimed to facilitate a neutral exchange around several presentations, both Czech and international. The House of Culture in Blatno was chosen as a convenient place close to the workshop venue. He noted that the international panellists come from countries that are far advanced in a repository siting process, or in an intermediate position. The debate should examine general questions arising in any siting context, and identify different means by which these questions can be dealt with in a national decision making process. He thanked the mayor of Blatno for opening the House of Culture to this learning activity, and acknowledged the approximately one hundred Czech citizens who chose to attend and participate.

Lucie Steinerová of SÚRAO introduced the panellists and the rules of the debate. The panel included Czech speakers and also local community representatives from Östhammar (Sweden), Dessel (Belgium) and Boda (Hungary). After these panellists explained how their townships handled multi-year deliberations on repository hosting, members of the local public were invited to express their questions and views, and to hear responses from the panel or from other Czech and international delegates. The conclusion of the debate would be given by Ms. Vajdová, the Chair of the Working Group for Dialogue on the Site Selection Process of a Deep Geological Repository. Simultaneous translation was provided so that all could participate.

Czech presentations

Václav Beneš, Mayor of Blatno, on behalf of the village and its Council welcomed all those who had travelled from near or far. Blatno joined the siting process in the 1990's. The mayor considers that different viewpoints whether expressed by central government or by NGOs are similarly invitations to reflect and debate.

Mr. Beneš recalled that in 2008, when a land-use plan and territorial development concept were under discussion, the 39 involved mayors came together to define three important points that should be considered in the law. Their letter at the time to SÚRAO obtained no response. As of 2010, the Working Group for Dialogue provided a platform for intensive debate. Mr. Beneš expressed gratitude to the Chair for her ability to keep the Working Group pragmatically focussed on the shared issues and to avoid conflict. At least five public meetings were held to provide as much information as possible to residents and hear their concerns. The Working Group managed to introduce an amendment to the Atomic Act to include compensation for municipalities. For example, Blatno receives 4 million crowns, and Lubenec receives 3.7M crowns. This is known to all citizens; radioactive waste does not concern only 39 communities, but should matter as well to the Senate, Parliament, regulatory authorities and citizens at large.

Jiří Slovák, Deputy Director of SÚRAO agreed that disposal and the site for a repository concern all citizens. He made a brief technical presentation, and confirmed that the state had decided to guarantee to all Czechs that radioactive waste and spent fuel would be disposed of safely. RWM is the responsibility of the state, which has to find the solution with the participation of local citizens who can be directly impacted. SÚRAO tries to implement this pathway and is striving for its success.

Petr Čechura, from SOS Lubenec, a local civic initiative for environmental issues, then took the floor. For him, the story of Swedish municipalities competing to host a repository is “a fairy tale”. The story is different in his community. “We were selected, and the authorities try to convince us we actually want it ourselves.” He views the financial compensation offered as insultingly small, and inadequate for the long term. Bore holes represent a sunk investment and he calls it unreasonable to believe that SÚRAO would subsequently leave the community. The legislative framework gives no veto power to municipalities. Mr. Čechura regretted that the mayor and council disregard the clear message from their citizens who voted by referendum to reject the works, and that those mobilised against are characterised as “a handful of hysteric warriors”.

Presentations by local communities from Sweden, Hungary and Belgium

Marie Berggren and **Bertil Alm** of Östhammar Kommun (Sweden) then explained that they have participated in a voluntary process since 1995. In 2001, the municipality was given the right to decide whether to allow waste operator SKB to conduct site investigations within its boundaries, even though this right is not stipulated by law. At present, their municipality has the power of veto over a licensing application to build a spent nuclear fuel repository within their territory at Forsmark. Ms. Berggren emphasised that the community has not accepted a repository. Instead, alongside the safety and land use authorities, and the government decision maker, the municipality accepts to review the licensing application, which is expected to require 5 years. In this objective the municipality has created an independent review organisation to decide whether or not to exercise their veto power at any time during the procedure, keeping in mind the best interest of the Östhammar citizens. The review organisation counts 40 persons and is made up of three committees (responsible for examining long term safety issues or environmental/health issues, or for organising consultation). Five civil servants are employed on the issue.

These examples illustrate how local empowerment is organised in Östhammar, Sweden. The municipality has access to the national Waste Fund (generated by a tax on each kWh) to build up knowledge, and politicians are empowered to take decisions for which they thus become accountable.

Mr. Alm, who chairs the Human Health and Environment committee, considers the principle of transparency to be important in this governance context. Transparency includes the right to public access to information from public authorities, and also the formal process of consultations required by Sweden's stringent environmental code. Mr. Alm advises that a balance of elected and other committed stakeholders should be included to prevent any feeling that there might be a hidden agenda. Critical voices must be respected as part of the knowledge-building process, without allowing the overall discussion of the process to be derailed.

Attila Kovács from the Settlement of Boda (Hungary) then explained that 9 settlements are located in the 120 km² investigation area for Hungary's future high level waste repository. If results from an underground laboratory are favourable a site could be chosen for a repository, but this would have to be authorised by a vote. The West Mecsek Information Association (NYMTIT) keeps residents informed about the underground exploration and research programme. As well, the Association maintains an environmental monitoring network and fosters the protection, restoration and replanting of areas affected by investigation activities. Every two years a public survey asks about residents' opinion of the research works and their level of satisfaction with NYMTIT's work, and also checks whether people know what kind of materials would go into a repository.

Mr. Kovács described some of the information initiatives taken by the Association, using funding guaranteed by the Act on Atomic Energy. The Association maintains a public information office and a road show once a year takes information directly to communities. "Information parks" display historic information on panels placed alongside walking paths. Schools visits to sites familiarise future decision makers with waste management activities, and a science competition challenges students and teachers. A quarterly published newspaper and a publication that is produced in every month in every settlement give information to the inhabitants about the local and scientific news. All the information about the Association is available online.

Finally, because civil society needs information from reliable experts to participate in waste management, the association contacted the Hungarian Academy of Sciences to provide input, including translation of the technical issues into everyday language and double-checking of environmental measurements.

Katleen Derveaux spoke to the public meeting as Project Coordinator, Stola, Dessel (Belgium). Dessel is a municipality with seven companies that have undertaken nuclear activities for as long as 60 years. There is no power plant but spent nuclear fuel is in temporary storage at an industry site. Over several decades, work has been carried out to find a disposal site for low- and intermediate- level short-lived radioactive waste. Ms. Derveaux acknowledged that this Category A waste is not to be confused with high-level waste or spent fuel. In 1998 Dessel received a request from Niras-Ondraf, the waste management operator providing services to industry and the state, to discuss the feasibility of such an installation and refine and modify the original plan. Ms. Derveaux presented the partnership that was formed between the municipality and the operator in 1999 to consider an "integrated project" focussing on both technical and social dimensions. The municipality set the conditions for this dialogue and received funds to allow them to consider the hosting invitation in an autonomous manner. The veto power granted to the community is a very important factor in their participation. Dessel can withdraw from the siting process at any time.

More than seventy persons from all parts of the community participated in the partnership. In 2004 it was judged that a long-term disposal site in Dessel was appropriate, under certain conditions (health, safety, environment, positive local impact, etc.) and in 2005 the municipal council unanimously approved the

scheme. A motivation behind this community decision was to enhance safety, since the waste is held only in temporary storage at present. In recent years, continued stakeholder involvement has led to federal government approval, a further elaboration of the disposal concept (the “cAt-project” masterplan) and the beginning of construction. The repository is expected to be operational in 2017. Stola’s current tasks include following up on the cAt-project, including its socio-economic and local aspects, all matters relating to nuclear waste, and informing and educating the local population.

Debate with the Czech participants

The debate with the public then was opened to the floor. Participants stated their views out loud or sent written questions to the front of the room. Each foreign delegate on the stage replied to many questions, and Radek Šula (representing the Ministry of Industry and Trade) and Jiří Slovák (representing SÚRAO) also gave direct answers. Some foreign FSC participants stood to share their views and experience with the local people of Lubenec, Tis u Blatna, Žihle, and Blatno who were present at the House of Culture.

Empowerment of local communities: procedural advice

The first topic for debate concerned *the empowerment of local communities and how their decision autonomy could be guaranteed* within a legal framework that seems to favour those already in power. Czech communities are asked to “be responsible”, but before participating, communities want to see not only compensation, but also legal protections, openness, dialogue and honesty. The veto power, partnership arrangements and strong negotiating position enjoyed by Sweden, Belgium and Hungary were mentioned several times.

Part of the debate centred on the use of *local referenda*. One question highlighted that Lubenec citizens said “no” this summer to geologic works, and want to know if the referendum will be respected. Mr. Slovák confirmed that local agreement is needed before proceeding. Another resident pointed out that accepting a geological survey does not mean accepting to host a repository, and yet the summer referendum was phrased this way. A foreign delegate viewed that an early referendum, before sufficient facts were available, was not a sign of strong democracy. Two replies were given by concerned residents: in the first place, under current Czech legislation saying “yes” to a survey means that a community is allowed only to “comment”, not to decide, on any further stages in a permitting process. There is little confidence that even the courts can protect citizens from political will. In the second place, the early referendum was intended as a strong gesture to the state that even rural citizens should be respected and treated as equal partners; moreover, it was a signal to local elected councils that they should listen more closely to the population. Over the course of the public meeting at Blatno, several more persons spoke for or against the idea that democracy could be improved by holding a referendum in each village.

These exchanges brought forward the fact that no site has yet been evaluated to the extent necessary to learn whether it could possibly be suitable for hosting a repository. FSC visitors confirmed that a generically suitable site may not be acceptable when examined in greater detail; 2-4 years might be needed at a given step, for the operator to demonstrate research findings, and for the community to then decide whether to or not to proceed with further evaluations. It was advised that the Czech siting process should **identify the successive decision points at which communities can consider the facts and decide whether they wish to withdraw or to move forward one more step**. The Working Group already has identified the many steps which separate a geological survey from a geological repository.

Another theme concerned the *conditions under which residents might consent to dialogue*. In Sweden and Belgium, these conditions were carefully spelled out by the communities to their national partners. The arrangements reflect recognition that the issues and the decisions are complex and the communities require support, knowledge and time for their deliberations. It was advised that the **Czech communities could look more deeply into the conditions set by the foreign counterparts, and develop their own stipulations for entering dialogue**. Mr. Šula pointed out that Minister Kuba recently invited Working Group members and citizens to define their conditions, which would be considered by the Ministry.

Further stipulations were made for new stages (licensing review, operational lifetime of a repository...). Ms. Derveaux from Stola emphasised that the community had set, and obtained, firm conditions without which they would not host the cAt project, by no means limited to economic compensations: instead, the demand integrates what the community judges necessary to foster long-term safety, openness and transparency, knowledge preservation, health protection and development. In a slightly different approach, Ms. Berggren outlined the added value agreement that was signed between SKB, Östhammar and Oskarshamn before the final repository host municipality was known. Infrastructure investments will maximise good effects on education, culture, work, enterprise, and municipal services.

Territorial impact: risks and resources

Participants in the public debate called for the *preservation of their valued territory*. Should there be a buffer zone of several meters or kilometres between a repository and residential areas? Mr. Slovák explained that a strict risk analysis will determine safety perimeters for any geological investigation or facility site.

Real estate values also were discussed. Swedish studies including nuclear power plant host communities found that while there was a slight decrease in house and land value during the years of construction, normal levels were then recovered, sometimes with fast later growth. Here a Czech participant pointed out that construction could last for 20 years. The Canadian example of a “property value protection program” was mentioned (house owners recover any loss if they can show that their property sold less well than similar property elsewhere). It was advised that if Czech residents feel concerned they should **ask for a careful baseline study now, for property values monitoring over the years, and for a compensation mechanism**.

Residents expressed concern that community development may be blocked by the current listing of the potential investigation areas in the national land use plan. Mr. Šula of the Ministry of Industry and Trade explained that the spatial plan does not forbid construction nor does it remove community decision rights. However, the plan indicates that no underground activities like mining or the construction of underground reservoirs should be undertaken in the investigation areas. Mr. Faucher from France emphasised that any site should be eliminated from further consideration if it contains a risk or a potential. Future mining interests should not be “sterilised” by a repository project. He advised that **siting criteria should be settled in advance in a transparent way, published and clarified to the communities**.

Building knowledge and expertise: independent specialists, comprehensible information

In Sweden the municipalities and NGOs demanded studies on all aspects – technical, economic and social – related to the repository project, and these were paid by the Waste Fund. Mr. Alm commented that this long practice has a positive by-product: the role of each stakeholder has become largely clarified. The

implementer makes proposals, the safety and environmental authorities perform review, and the municipality protects municipal rights.

Czech participants were very interested by the concept of hiring experts to support the municipality. However, current Nuclear Account rules do not foresee this and three years of geological works must be achieved before any funds can be released. SÚRAO acknowledges the need to find a sustainable financing solution and refers the question to the Working Group.

A Czech village councillor called for plainer language in the printed information provided to the public by SÚRAO. He also praised the FSC international event as a good way to learn and exchange experience.

Real influence of geological investigation on everyday life and development of the community

The Östhammar survey took place in a remote area and according to the Swedish delegates the twenty boreholes had no everyday impact. They advised Czech participants that in a residential area with many wells a **ground water monitoring program** could be demanded.

Mr. Faucher advised communities to be on the lookout for unexpected impacts. In the small villages surrounding France's underground research laboratory, the influx of workers resulted in both a steep rise in property values and the need for a housing scheme.

Mr. Sándor from Hungary also pointed out immaterial effects. Inhabitants should **prepare to become involved, seek out information and make their own judgments**. In Sweden, Östhammar wanted to know what SKB, the operator, was doing and therefore had to resolve to become a part of the process and to understand technical reports (or at least a proper summary). Ms. Berggren said "It is really hard work. It has lasted 17 years and we have not yet finished." She advised the Czech communities to gain knowledge through all channels, to ask tricky questions, to be an asset to the process and "stretch" the other partners. Much applause was heard in the House of Culture when she stated: "The municipality, the implementer, the authorities and also the environment gain by that".

Cooperation for safety assurance

Mr. Čechura thanked the foreign delegates for sharing their inspiring examples. He asked whether cooperation is feasible in the Czech context and concluded that given the weak position of the Working Group, partnership could only be achieved with strong support from SÚRAO. Jan Prachař then came forward to state that SÚRAO wants to go the same way followed in the Nordic countries relying on strong involvement of communities through all phases of repository development. He repeated the willingness of SÚRAO to dialogue with municipal representatives defending community interests. Mr. Prachař called for good manners, vision, openness and shared information to dominate this relationship, in the goal of assuring safety for future generations.

Mr. Pescatore pointed out however that the repository development process should not be bilateral between SÚRAO and municipalities. Another important role must be fulfilled: safety regulators and other state authorities must participate if people are to feel fully protected. He asked when the Czech regulators would step forward as "the people's experts", in the same way as Nordic safety authorities did early in the process. The FSC has seen the importance of a visible regulatory "system". This often includes an advisory body, whose members, respected scientists and professors from technical and social fields, also keep an eye on the process and assess its quality.

Zdenka Vajdová then observed that although the Working Group for Dialogue on the Site Selection Process of a Deep Geological Repository had met almost 30 times, more effort was needed to strengthen Czech legislation. She proposed to bring the Working Group out into the field, to help siting municipalities to draw together and then to start discussing contractual conditions with SÚRAO. Ms. Vajdová concluded with the resolution that the group's next twelve months should be spent talking with local residents, finding out what is possible and what cannot be obtained, and looking for issues of united common interest.

Mayor Beneš closed the debate, stating that along with the FSC workshop it had provided many ideas to the Working Group. Noting that we have the means today to take responsibility for safe disposal of spent nuclear fuel, he called for improved cooperation between authorities and municipalities in the benefit of both current and future generations.

SESSION 4: EXPECTATIONS FOR SAFETY ASSURANCE, BY NATIONAL, LOCAL, AND REGIONAL AUTHORITIES

The final session of the FSC workshop addressed expectations for safety assurance by different levels of stakeholder. At the request of the workshop stakeholder programme committee, a panel was composed of both foreign and Czech delegates. It was chaired by **Karina de Beule** of the Federal Agency for Nuclear Control FANC (Belgium).

Ms. de Beule opened by explaining that a big transition in the safety authorities' role had been to start helping in site selection processes, giving advice on safety aspects and being present as a neutral support to all parties. In most countries, the regulatory agencies were restructured to ensure their independence from the nuclear industry and also from political leadership. Ms. de Beule pointed out that territorial agents of the authorities are often more accessible to local communities than are the main national actors. At present, regulators need to listen in order to understand what society expects in terms of safety assurance. She invited the panellists to consider the following questions formulated by the stakeholder programme committee:

- *What is or should be the role of the national nuclear safety authority before choice of site?*
- *What role in fostering safety is or should be played by local and regional authorities and administrations?*

Jiří Slovák, Deputy Director and director for R&D, SÚRAO, outlined the sequence of future decisions with direct bearing on safety in the repository development process. The State safety authority has a decision only in 2025, before a planned zoning decision on repository construction. Under current law this is the earliest involvement foreseen. He acknowledged that local stakeholders may wish the authority to provide advice and input earlier. In 2018, a first State decision on Area Protection should be made (formalising the choice of site and reserve site). A green light from the Ministry of Environment would place the site on the national landuse map with the expected consequences for local development and its funding. In particular, from that time forward all administrative matters concerning land use in the area must refer to SÚRAO, which must agree any mining or drilling and relevant construction activities at the site. There is no RWM-related safety limitation placed on surface structures, but SÚRAO sees the need for state authorities to give an opinion already at the zoning stage.

Petra Humlíčková, legal expert of the Working Group for Dialogue on the Site Selection Process for a Deep Geological Repository, then took the floor. Using the same table of decisions as had been presented by Mr. Slovák, she illustrated out that a repository cannot be built in the Czech Republic on the strength of a single administrative process embracing safety. Within the various parallel administrative processes that are activated, only a limited number of questions can be asked by the public, and decisions can be disputed only within a limited scope. Local elected authorities are entirely excluded from nuclear safety decisions. This is a holdover from the previous political regime. Ms. Humlíčková agreed that there is a need to multiply opportunities for the nuclear safety regulator to offer opinions and moreover, to expand public access to decision making. She judged that it had been a very bad error for the repository siting process to

start before such rules and guarantees were defined. Not only is the process subject to frustrating stops and starts, but local confidence is broken. Ms. Humlíčková affirmed that in the two years of the Working Group's existence, 12 months corresponded to an electoral period. The group's specific proposals have been pushed aside and have resulted in no actual legislative changes. Such lack of support at national level results in exhaustion among the volunteer members.

Peter Lietava, Head of radioactive waste handling at the Office of Nuclear Safety, represented the Czech national authority SÚJB. He reacted to the comment made at the preceding day's public meeting as to the need for regulatory visibility, asserting that the supervisory activities of his office were invisible in the context of the debate and therefore misunderstood. Mr. Lietava affirmed that Czech legislation has rendered the regulator as independent as possible. He reviewed the profiles of agency personnel noting that both senior and new persons are employed. However, in the current phase only two persons are attributed to waste management issues. Although the Authority remains neutral, the Office does communicate with nuclear applicants including SÚRAO. In this phase of the repository development process, Mr. Lietava stated, there is nothing to discuss with SÚRAO or others. The key safety document for regulation of any nuclear activity, which attempts to prove that a proposed installation presents no unacceptable radiological risk to workers, the surrounding population and the environment, is not yet prepared. While some basic features of a future repository are identified today, and exposed in public information documents delivered to both the regulator and the local public, an extremely detailed and site-specific dossier will be needed for the future safety review by the regulator.

Mr. Lietava remarked that it cannot be excluded that none of the Czech sites is appropriate but this cannot be known before geological works are completed. He emphasised that the 2065 operations deadline is psychologically very far away and therefore today's actors should focus on the more perceptible deadlines. His agency has no leverage to speed the process but he judges that SÚRAO needs to act soon, so that the 2025 licensing deadline can remain reasonable.

Vladimír Černý is Mayor of Rouchovany, a township in the neighbourhood of the Dukovany nuclear power plant and Dukovany repository. When the plant was constructed starting in 1976 there was no prior information and no public discussion. Residences in a 3-km zone were cleared and this was considered absolutely normal. The Velvet Revolution finally gave the opportunity to Czech people to comment on life-affecting events. However, although Dukovany villagers expressed themselves against hosting the LILW repository, it was built nonetheless without consultation. Prague officials explained why it was a such a good idea to have the repository, and eventually some development funds were agreed for the community. Mr. Černý complained of being "lectured" to by central authorities, subject in his view to lobbying by big energy interests, and stated that national policy was not sufficiently clear or responsive.

Having joined GMF, the Group of European Municipalities with Nuclear Facilities, Rouchovany understands that a local veto right is needed. History shows that no local villages in Europe are enthusiastic about repository works without that guarantee. Mr. Černý closed with a rousing critique of centralised power, its inability to listen to local citizens, its undue pressures upon SÚRAO and the resulting paralysis.

Petr Čechura, of a local civic initiative for environmental issues, stated that he had been glad to hear Mr. Lietava speak, as it was the first time information was delivered by other than SÚRAO. He called on the State Office of Nuclear Safety to consider the substantial changes that had occurred in Europe's fundamental topography in a relatively short geological period and to assess the likelihood that containers

built to last 1000 years could maintain their protective function. He also asked that the Office define basic technical criteria for siting.

Referring to an illustration by Mr. Slovák during the previous public debate, Mr. Čechura stated he was not reassured by anecdotes of unqualified workers safely moving around on nuclear sites. He insisted that safety perimeters around waste canisters and storage installations must be defined in kilometres, not metres, and called again on the national authority to guarantee this. Mr. Čechura closed by emphasising that local communities need funding to engage their own experts, and that to build confidence, they should have access to data that have not been prepared solely by SÚRAO.

Mariano Vila d'Abadal spoke as General Secretary of the Group of European Municipalities with Nuclear Facilities (GMF), and expressed his pleasure at meeting and listening to the Czech local stakeholders. He reflected that safety is a technical concept, but it is also a feeling or a perception. Safety must be sought on both dimensions. Mr. Vila d'Abadal stated that in some cases, technical safety may exist but no one believes it; without both types of safety, a local community cannot accept a project. If people feel something is unsafe this is as important as any technical test. Both types of safety affect local life and the economic situation.

A visible actor guaranteeing safety is necessary: in GMF experience, it is absolutely clear that regulatory authorities must assure that role. Waste management implementers and the nuclear industry are project promoters and an independent actor has to check whether the project is good or not. Mr. Vila d'Abadal agreed that the regulator cannot give an opinion when the project is not yet defined, but affirmed that the safety authority should already be present and replying to the questions of the local communities. In the discussions that must take place between promoters and villages, the local people need a reliable reference to give them a definite opinion on safety realities.

Safety relies on information and also on confidence in that information. Trust in those providing information can grow only in relationships built up day after day, in the local context. It is not important to memorise what “milliSievert” means, but local people must have a solid feeling of confidence that reliable, neutral information is available and that they know exactly where to get it. A pluralistic information body like the Working Group is a good gauge of independence, and panels or offices at local level are needed too. Mr. Vila d'Abadal closed by urging local authorities to work transparently and to group together to find common goals.

Inger Abrahamsson is a member of the Long Term Safety Committee, Östhammar Kommun (Sweden). She outlined the major demands that the local review organisation addresses to the safety authorities in the period of licensing review. First, in order to correctly play their role of assessor, the safety regulators must have proper competences and capacity. Therefore, Östhammar indicated that the agencies should first review their independence, their funding, and their staff. Second, Östhammar councillors are lay persons and volunteers serving the community in their spare time. They cannot understand all the data generated by the repository development process. They need to be able to ask questions, and also, to be convinced that the replies benefit from quality assurance by the regulator. Vague statements must be clarified. The municipality needs to know exactly on which basis decisions are being taken.

Ms. Abrahamsson remarked that the safety authorities' role as described in fact must be fulfilled at all stages. Therefore the regulator is needed by the community starting from site investigation and lasting beyond the construction permit if it is granted – through to the closure of an eventual repository.

Wolfgang Hilden, Head of Safety and Radioactive Waste Section at the Directorate-General for Energy of the European Commission presented the “Council Directive 2011/70/Euratom and Community framework for the responsible and safe management of spent fuel and radioactive waste”. Mr. Hilden stated that its primary principles are safety now and for the long term, relying notably on passive safety features.

The Community framework directs that a national framework is formulated by policy makers at the national level. This should cover matters of licencing, control, enforcement, and post-closure period measures for a repository. The national framework also specifies roles, legislative and regulatory powers, financing and measures taken in favour of transparency including public information, dialogue and decision-making. The transposition into national law is expected to be completed by Member States as of August 2013. Finally, actual implementation of the framework is to be achieved by August 2015 through issuing a national program, which should cover concepts, technical solutions, timing, and research and development needs.

Hilden highlighted the role in safety of:

- Independence, competence, resources;
- Responsibility, safety demonstrations by the operator, continuous improvement.

Janet Phelan Kotra, retired, formerly of the United States Nuclear Regulatory Commission and former Chair of the FSC, then took the floor. Ms. Kotra presented on expectations for safety assurance by regulatory authorities and the role of national authorities before site selection. She pointed out that the FSC identified many years ago an evolution in the role played by safety authorities in society’s confidence in nuclear waste management facilities. Before, regulatory organisations were seen as highly linked to the nuclear industry, acting as nuclear proponents. Now, structural and behavioural changes have taken place to respond better to societal expectations. Regulators now play the role of “safety communicators” and “people’s experts”. Because of them, regulatory oversight now enters the repository development process earlier and in a more step-wise fashion.

Authorities have adapted by interacting with players, providing guidance regarding choices available to the implementer and regulatory process information to broader audiences earlier in the process, even prior to site selection. They have begun making greater efforts to establish relationships of trust with local communities.

These changes are significant because they ensure that stakeholders:

- Understand the regulator’s role;
- Believe the regulators are fair and competent;
- See regulators performing the role regularly and often; and
- Expect that regulators will take all input into account when making safety decisions.

Safety authorities earn society’s trust not only through technical excellence, but also through a fair and understandable process. This process is as important as a good technical outcome and must be protected by the authority.

Before a site is chosen, the safety authority’s role should be to:

- Provide guidance on site selection criteria;
- Distribute reliable information and provide opportunities for discussion;

- Begin to develop and distribute materials to explain the decision-making process;
- Publicly question the implementer about how safety will be taken into account during site selection.

Ms. Kotra emphasised that the safety authority therefore has a legitimate public presence early in the facility development process. Moreover, the safety authority can and should use this early period to develop competence and actively prepare for its post-siting role. Ms. Kotra recalled for instance the significant effort that was required to develop good public information materials as well as skills for fruitfully interacting with the public in open meetings. The US regulator was well-served by allocating this effort during the earlier process stages.

After Ms. Kotra's presentation, Ms. de Beule opened the floor to discussion. First Mr. Slovák objected that conceptual documents have indeed been prepared by SÚRAO, and these benefitted as far back as 2004 from peer review by the International Atomic Energy Agency. He reiterated his analysis that earlier involvement from the Czech regulator is needed in the official process.

A UK environmental regulator commented from the floor that it is possible to be "so independent that you end up speaking to no one", and therefore, being of no help. He said that the UK learned from Sweden's experience in the 1980's that regulators can play a role without losing their neutrality. During the UK Managing Radioactive Waste Safely process, the regulators sent an observer to each local partnership meeting. This professional was enabled to answer occasional questions about topics like planning or transport safety as well as to explain the regulator's place in the overall process.

Mr. Andersson of Karita Konsult emphasised that a proper platform is needed for the regulator to enter a process which is officially stewarded by the implementer.

Mr. Hilden repeated that the Council Directive requires that each European Member state must work out a framework defining roles and also, providing explicit opportunities and measures for civil society to participate in repository decision making. The European Commission will carefully check all national proposals and citizens can do the same and communicate their comments and views to the Commission. This applies also in regard to the national implementation programme, whose European deadline is in Aug. 2015.

Mr. Hilden also clarified that the operator, as license holder, has primary responsibility for technical safety. The operator is required to be properly staffed, to present a safety case and to perform continuous improvement. Mr. Hilden ended by praising the method of peer review, which can be conducted on the national framework, programme, and projects, but also on any organisation. He felt that such review is a real public participation opportunity.

Finally, Mr. Lietava responded to questions by explaining that SÚJB will publish minutes of its actual discussions with SÚRAO. He declined to compare his Office's practice with the international experience presented by Ms. Kotra, emphasising that the Czech Republic complies with all international requirements, and mentioning such on-going activities as the development of accident preparedness plans. He also judged that the current Atomic Law and the 2002 National Concept meet the formal requirements of the Council Directive, although changes would be needed to rules on e.g. export of waste. He acknowledged that a transparency policy including public participation is missing. Mr. Lietava ended by stating that the Office is working on a new amendment.

RAPPORTEUR'S FEEDBACK TO THE WORKSHOP

Marcus (Joe) Williams, Bechtel National, Inc. (USA) acted as rapporteur to the workshop. On the basis of presentations, round table discussions, the debate with local residents, and personal contacts during the FSC Czech Republic National Workshop, he identified the following positive attributes of the Czech context:

Structural elements in the Czech programme:

- A legal and organisational structure for managing radioactive waste – the Atomic Act, the National Concept for Radioactive Waste Management, establishment of implementing and regulatory agencies, etc.
- Implementation of many of the available protocols and conventions for citizen involvement.

Values:

- Commitment to safety first and always.
- Attention to transparency of the process.

Adaptive mechanisms:

- Stopping the deep geological repository (DGR) siting process to allow for more citizen input and interaction.
- Implementation of Working Groups to support the process.
- Acknowledgement that the discussion in the Czech Republic must evolve from whether or not a DGR will be built into how to build the best DGR.
- Acknowledgement that the DGR process is a work-in-progress that will require revisions to the Atomic Act and that should benefit from continuous scrutiny.
- Use of internet for communication, including capturing and posting feedback to facilitate transparency.

The rapporteur also stated that the interest and energy of the Czech citizen representatives from the candidate host communities are assets to the process.

Based on his professional experience on projects with intense schedule pressure and scrutiny from regulators and external stakeholders (including site characterisation, construction of waste disposal facilities, waste transportation operations, etc.), Mr. Williams formulated the following recommendations. These were intended for Czech Republic agencies and citizens but also for the FSC delegates, as applicable:

Site selection and definition

- If possible, define the “affected zone” of the DGR in terms of an offset distance from the surface site boundary, offset from underground site boundary, or other definitive means. Those in the affected zone obviously have larger role in the process – compensation, potential veto power, more heavily weighted input. While the concept of "concerned stakeholders" may reasonably extend farther, it is in the interest of all parties to clearly identify this key affected population.
- Consider waste transportation during siting. Transportation affects many more stakeholders than DGR siting, albeit to a much lesser degree. Host communities should engage in the evaluation of waste transportation to the facility, as well.

Community interactions during siting phases

- Assign a SÚRAO project manager for each candidate host community to build a relationship and ensure continuity of communications.
- Use 3rd party moderators for public meetings. Moderators can keep the interaction focused and productive, ensure fairness, and intervene in escalating situations when necessary without forcing any other participants or stakeholders to incur wrath from doing so.
- Incorporate community planners into the siting process to assist candidate host communities in evaluating and optimising the effects of long-term jobs and government financial assistance. As the size of the workforce fluctuates across the project phases, so will the infrastructure necessary to accommodate them and their families. Having a master development plan at the outset of the project ensures efficient use of resources and sound management of the process.
- To overcome fear and mistrust in candidate host communities, pause the process to educate citizens about their rights and their roles, and then continually reinforce this.

Process features

- Czech regulators should participate in the process from the outset as protectors of public health and stewards of the environment. Regulations with protection standards and facility performance criteria should be established as soon as practical. The implementers need these to provide a compliant product.
- As much as possible, determine in advance how good is good enough for each step and decision. For some critical decisions, a very high level of confidence is required; for other steps and decisions, more uncertainty may be tolerable.
- Each participant should document objectives and expectations for each process step and share in advance. This facilitates accountability and trust.

Mr. Williams also commented on the organisation of the FSC workshop, finding that it incorporated a highly effective component of bringing in residents from communities elsewhere in Europe that are hosting or envisioning hosting waste repositories, in order to allow the Czech workshop participants to have a two-way dialogue. He highlighted the Round Tables that facilitated in-depth discussions among the citizens from candidate host communities for the Czech DGR with representatives of the implementing agencies, the regulatory agencies, the Forum, and counterpart citizens from other countries further along in their DGR projects.

CLOSURE OF THE WORKSHOP

Jan Prachař, Director of SÚRAO, affirmed in closing that the organisation's safety analysis work is carried out to the standards set by national legislation and the IAEA. He then praised the active participation of stakeholders in the current preparatory siting phase, notably in the Working Group. Mr. Prachař judged that the host country had taken full advantage of the Forum on Stakeholder Confidence workshop and public meeting, calling it a demonstration of how trust can be built through active involvement. He confirmed that it is useful for his agency to engage in direct discussion with local people and not to remain only on a national level. Mr. Prachař expressed SÚRAO's aim to cooperate on building closer understanding with the municipalities and all the stakeholders in the repository development process.

Claudio Pescatore, OECD/NEA, Principal administrator on RWM, then praised the open exchange that had taken place, judging that dialogue is always a good start to any complex process. Mr. Pescatore reflected that the FSC is in a position to pass on practical experience and also theoretical knowledge, for instance about the importance of a visible, strong regulator. Recognition of the vital role of all regulatory system actors came early in the FSC's history and has been confirmed ever since.

Urging the Czech stakeholders to read the FSC flyers translated and available on SÚRAO's website, Mr. Pescatore promised that all digital workshop presentations would be shared immediately by the NEA. Written proceedings would come later. He voiced the pleasure felt by all the visitors benefitting from Czech hospitality and witnessing the beautiful countryside.

The workshop was then formally closed by **Holmfridur Bjarnadottir**, FSC Chair by interim. She thanked the Working Group, local and national stakeholders, and foreign delegates for coming together in the Czech Republic to achieve the 9th Forum on Stakeholder Confidence Community Visit and National Workshop, and for creating the first FSC open public debate event.

INTERNATIONAL PERSPECTIVE

NEA Secretariat

The 9th FSC Community Visit and National Workshop in October 2012 focussed on the Czech Republic's process for siting a deep geological repository for the final management of spent nuclear fuel, and on the expectations and challenges raised by this process. The event was accessible to a broad range of stakeholders, representing different groups and interests in the Czech process. This contributed to openness at the workshop, giving a nuanced picture of the current situation and creating the opportunity for mutual learning. The hosts' excellent organisation enhanced the learning aspects with ample time for discussions and exchange of views and experience. The event included, for the first time in an FSC workshop, a large-scale public meeting and debate. This brought the residents of four municipalities directly concerned by one pre-candidate site into discussion with national and international delegates. The debate enabled a rich expression of views and resulted in substantial learning on all sides. Many of the lessons learnt by the FSC from previous workshops and studies were confirmed. Hereafter are a few observations that could be shared internationally.

- Lack of trust for, and confidence in the Czech state system (information and messages from implementer, authorities and decision makers) was evident. Regrettably, experience here was similar to what has been seen in some other countries: a lack of trust in levels of government; increased public distrust resulting from perceived attempts or from earlier attempts to impose a facility. Such factors counteract efforts to build the mutual trust and cooperation that are so important in a siting process. A more realistic time schedule, a more open approach and a more clearly described open process seem almost inevitable. The FSC has observed in earlier documents that sufficient time must be granted in the process for information, dialogue, transparency and reflection and that visible commitment by government to a fair process and visible role of the regulator are highly desirable. These ingredients are absolutely necessary for building and/or restoring trust and confidence.
- It is important to have strong national commitment in terms of stepwise decision making, siting process, stable guarantees, and regulatory commitment. This commitment will extend over decades and should have a foundation in law. Within this commitment the roles for the main actors – industry, waste management organisation, implementer, regulator, municipalities/sites and local stakeholders – in each stage of the process should be clear. These actors, in turn must leave each other enough space to play their distinct roles and to play them transparently. In the Czech context the evolution of the Working Group for Dialogue on the Site Selection Process for a Deep Geological Repository from an informal to an institutionalised advisory body was impressive. The FSC has maintained contacts with this group. SÚRAO is a member of the FSC and will facilitate the transfer of lessons learnt between the FSC and the Czech Working Group.

- Long-term management of radioactive wastes is the responsibility of this generation and it is a relevant problem that should be solved. This is a view shared on a worldwide level and we learned that it is also the expectation of many local Czech stakeholders. It was impressive to see that there were local stakeholders involved with a high commitment to discuss the issue (for instance they took membership in the Working Group). In any event, learning to deliberate is difficult, and democratic systems of decision making can't solve every problem. Local people said that even choosing the community representatives to join the national Working Group for Dialogue on the Site Selection Process for a Deep Geological Repository was not simple. In this context, the national political instabilities make the situation more difficult.
- As shown also at this workshop, local citizens are very much concerned about safety levels. As a general observation the experts and officials should be available to answer questions and to explain safety and process in laypersons' terms. The implementer and regulator should also help the local stakeholders understand RD&D programmes and especially the results of research.
- The concept of local and regional interest is important. Villages should reach out to their neighbours and look for common interests even on a larger regional level. The implementer, the industry and the state level should make clear the type of commitments that they will implement according to law and according to special agreements that may be concluded with the local and regional levels. Opening local offices in municipalities with potential sites and employing local people there should also be considered, in combination with engaging professional communicators.
- "Added value" and an "engagement package" should not be confused with one another. The second is necessarily independent of any future siting decision. It supports competence building, independent review, etc. Competence building for the local people could include broader aspects that enable and maximise their learning opportunities; for instance, English-language training could help them increase their benefit now and later from membership in international groups, visits to partnerships abroad, etc.

The proceedings of the Czech workshop will further enrich the FSC bibliography on stakeholder confidence and representing the lessons that were learnt over 14 years since the FSC inception <http://www.oecd-nea.org/rwm/fsc/>. This large body of work should be of assistance to any organisation entering or continuing its radioactive waste national programme.

ANNEX 1 – FSC WORKSHOP PROGRAMME

“DELIBERATING TOGETHER ON GEOLOGICAL REPOSITORY SITING:

Expectations and Challenges in the Czech Republic”

under the patronage of the Minister of Industry and Trade of the Czech Republic Dr. Martin Kuba

“SPOLEČNÝM ROKOVÁNÍM K HLUBINNÉMU ÚLOŽIŠTI

Očekávání a výzvy pro Českou republiku”

pod záštitou Ministra průmyslu a obchodu dr. Martina Kuby

DAY ONE - 24.10.2012 – KARLOVY VARY

WELCOME ADDRESSES

Jan Prachař, Director of SÚRAO, The Waste Management Agency of the Czech Republic

František Pazdera, Consultant on Nuclear Energy to the Minister of Industry and Trade

Claudio Pescatore, OECD/NEA, Principal administrator on RWM

Holmfridur Bjarnadottir, FSC Chair by interim

Ceremonial Dinner with National, Local and International Stakeholders

DAY TWO - 25.10.2012 – CHYŠE

OPENING OF THE WORKSHOP

Holmfridur Bjarnadottir, FSC Chair by interim

Anna-Lena Söderblom, Östhammar Municipality (Sweden), representing the 2011 FSC Workshop hosts

SESSION 1: LEGISLATIVE AND TECHNICAL BACKGROUND IN THE CZECH REPUBLIC

Session Chair: Mariano Molina, Enresa (Spain)

The National Plan for Radioactive Waste Management and its milestones

Radek Šula, Head of Nuclear Safety Department, Ministry of Industry and Trade

Deep Geological Repository Development in the Czech Republic - Technical and safety aspects

Jiří Slovák, Deputy Director of SÚRAO

Legislative as well as informal procedures for repository siting in the CR – ARGONA and IPPA findings

Kjell Andersson, Karita Konsult; Hana Vojtěchová, Nuclear Research Institute Řež, Secretary of the Working Group for Dialogue on the Site Selection Process of a Deep Geological Repository

SESSION 2: DEVELOPING CONFIDENCE IN A PARTICIPATORY PROCESS OF SITING

Session Chair: Stefan Jordi, Swiss Federal Office of Energy SFOE (Switzerland)

Working Group for Transparency of the Site Selection Process of a Deep Geological Repository: Criteria and expectations for the process (a transversal national perspective)

Zdenka Vajdová, Chairwoman

Environmental NGOs – Criteria and expectations for the process (a national perspective)

Edvard Sequens, Calla NGO

Rationality and emotionality of approaches of various stakeholders

Jaroslav Zvěřina, local and regional deputy, former Member of the European Parliament, psychologist

ROUND TABLE Discussions on Developing Confidence in a Participatory Process of Siting

ROUND TABLE Reports

SESSION 3: LOCAL AND REGIONAL PARTNERSHIP AND ADDED VALUE

Session Chair: Herman Sannen, Stora (Belgium)

STORA, the local partnership in Dessel, Belgium

Herman Sannen, Stora (Belgium)

National objectives and regional & local added value

Bernard Faucher, Andra (France)

Ideas, wishes and criteria for partnership and negotiating added value

Jana Nožičková, Mayor of Rudíkov and Zdeněk Jirsa, Mayor of Dolní Cerekev

ROUND TABLE discussions on Local and Regional Partnership and Added Value

ROUND TABLE Reports

DEBATE WITH LOCAL PUBLIC OF THE BLATNO AND NEIGHBOURING VILLAGES (CERTOVKA SITE)

Chair: *Claudio Pescatore, NEA*

Introduction : *Lucie Steinerová, SÚRAO*

Panel: *Václav Beneš, Mayor of the siting community Blatno*

Jiří Slovák , SÚRAO Deputy Director

Petr Čechura, Local civic initiative for the environmental issues

Marie Berggren, Bertil Alm; Östhammar Municipality (Sweden)

Attila Kovács, Settlement of Boda (Hungary)

Kathleen Derveaux, Project Coordinator, Stora, Dessel (Belgium)

Interventions from the floor

Conclusions of the debate

Zdenka Vajdová, Sociologist, Czech Academy of Sciences

DAY 3 – 26.10.2012 – KARLOVY VARY

SESSION 4: EXPECTATIONS FOR SAFETY ASSURANCE, BY NATIONAL, LOCAL, AND REGIONAL AUTHORITIES

Session Chair: Karina de Beule, Federal Agency for Nuclear Control FANC (Belgium)

- What is or should be the role of the national nuclear safety authority before choice of site?
- What role in fostering safety is or should be played by local and regional authorities and administrations?

Panel: *Peter Lietava, the Czech National Authority (SÚJB), specialist on RWM*

Jiří Slovák, Deputy Director, SÚRAO ; Director for R&D; Head of Department preparing works for the siting process

Petra Humlíčková, Legal expert of the Working Group for Dialogue on the Site Selection Process for a Deep Geological Repository

Vladimír Černý, Mayor of Rouchovany (in the neighbourhood of the NPP Dukovany and Dukovany repository)

Petr Čechura, local civic initiative for environmental issues

Mariano Vila d'Abadal, Group of European Municipalities with Nuclear Facilities (Europe)

Inger Abrahamsson, member, Long Term Safety Committee, Östhammar Kommun (Sweden)

Wolfgang Hilden, Head of Safety and Radioactive Waste Section, DG Energy, European Commission

Janet Kotra, USNRC (retired), former Chair of the Forum on Stakeholder Confidence (USA)

RAPPORTEUR FEEDBACK TO THE WORKSHOP

Marcus (Joe) Williams, Bechtel National, Inc. (USA)

Plenary discussion

CLOSURE OF THE WORKSHOP

Holmfridur Bjarnadottir, FSC Chair

Claudio Pescatore, OECD/NEA, Principal administrator on RWM

Jan Prachař, Director of SÚRAO

ANNEX 2 – LIST OF PARTICIPANTS

The list below identifies persons who attended the entire workshop and participated in the round table discussions. Not listed are the names of the further persons who attended the “Debate with Local Public of the Blatno and neighbouring villages (Čertovka Site)”.

Belgium

Jan-Willem BARBIER	University of Antwerp
Karina DE BEULE	Federal Agency for Nuclear Control
Katleen DERVEAUX	STORA
Hugo DRAULANS	STORA
Carlo MEYNANTS	STORA
Paul MEYNANTS	STORA
Herman SANNEN	STORA

Canada

Marcia BLANCHETTE	Natural Resources Canada
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Czech Republic

Václav BENEŠ	Mayor of the siting community Blatno
Petr ČECHURA	Local civic initiative for the environmental issues
Vladimír ČERNÝ	Mayor of Rouchovany

Czech Republic

Petra HUMLÍČKOVÁ	Working Group for Transparency of the Site Selection
Zdeněk JIRSA	Mayor of Dolní Cerekev
Ivo KAPLÁN	Radioactive Waste Repository Authority (Rawra)
Zdenek KONOPASEK	Charles University (CUNI)
Jana NOŽIČKOVÁ	Mayor of Rudíkov
František PAZDERA	Consultant to the Minister of Trade and Industry on the Nuclear Energy
Jan PRACHAŘ	Radioactive Waste Repository Authority
Edvard SEQUENS	Calla NGO
Jiří SLOVAK	Radioactive Waste Repository Authority (Rawra)
Lucie STEINEROVÁ	Radioactive Waste Repository Authority (Rawra)
Radek SULA	Nuclear Safety Department, Ministry of Industry and Trade
Karel SVACINA	Charles University (CUNI)
Zdenka VAJDOVÁ	Working Group for Transparency of the Site Selection Process of a Deep Geological Repository
Hana VOJTĚCHOVÁ	Nuclear Research Institute Řež
Jaroslav ZVĚŘINA	Local and regional deputy, former Member of the European Parliament

Finland

Matti KOJO

University of Tampere

Timo SEPPÄLÄ

Posiva Oy

France

Bernard FAUCHER

Andra

Ludivine GILLI

IRSN

Christian TAILLEBOIS

EDF

Germany

Gabriela VON GOERNE

Federal Ministry for the Environment Nature
Conservation and Nuclear Safety

Hungary

Bernadett KAKASY

Public Limited Company for Radioactive Waste
Management

Attila KOVÁCS

Social Instructor

Tibor SÁNDOR

Mayor of Kővágószőlős

Italy

Marco DE GIULI

FLAEI-Cisl Nazionale

Paola MAODDI

SOGIN

Poland

Grazyna ZAKRZEWSKA-TRZNADEL

Institute of Nuclear Chemistry and Technology

Spain

Meritxell MARTELL	MERIENCE STRATEGIC THINKING
Mariano MOLINA MARTÍN	ENRESA
Rebeca SAIZ UTANDA	CSN
Mariano VILA D'ABADAL	GMF - Group of European Municipalities with Nuclear Facilities

Sweden

Inger ABRAHAMSSON	Municipality of Östhammar
Bertil ALM	Municipality of Östhammar
Kjell ANDERSSON	Karita Research
Peter ANDERSSON	Swedish National Council for Nuclear Waste
Marie BERGGREN	Municipality of Östhammar
Anders BERGMAN	Municipality of Östhammar
Holmfridur BJARNADOTTIR	Swedish National Council for Nuclear Waste
Erik SETZMAN	SKB
Anna-Lena SODERBLÖM	Municipality of Östhammar
Vio SZABO	Municipality of Östhammar

Switzerland

Stefan JORDI Federal Dept. of the Environment, Transport,
Energy and Communications

Pascale KÜNZI Sektion Entsorgung radioaktive Abfälle
Office fédéral de l'énergie (OFEN)

Philipp SENN Nagra

United Kingdom

Clare BAYLEY Department of Energy and Climate Change

David BRAZIER Environment Agency

Jay REDGROVE Nuclear Decommissioning Authority

United States

Jose CUADRADO US Nuclear Regulatory Commission

Janet KOTRA HLW Regulatory Communications

Shawn SMITH US Nuclear Regulatory Commission

Marcus Joe WILLIAMS Bechtel National

European Commission

Wolfgang HILDEN DG Transport and Energy

Romania

Daniela DIACONU Institute for Nuclear Research Pitesti

OECD Nuclear Energy Agency

Claire MAYS

Claudio PESCATORE