SITUATION CONCERNING PUBLIC INFORMATION ABOUT AND INVOLVEMENT IN THE DECISION-MAKING PROCESSES IN THE NUCLEAR SECTOR

Final report

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

Societal concerns about environmental issues and nuclear safety are widespread in the EU, as stressed by the 2005 special Eurobarometer survey "Radioactive Waste"[1]. Topical issues are radioactive waste management, and the regulation for the enlarged union of nuclear activities with potential trans-boundary impact.

In this context, the European Commission Directorate General for Energy and Transport (EC DGTREN) launched a study on "the situation concerning public information about and involvement in decision-making processes in the nuclear sector" in January 2005. The main goal of this project was to inform the EC DGTREN and interested parties of recent developments in the Member States and to provide opportunities for decision-makers and stakeholders at local, national and EU level to exchange views. Following an open call for tender, the EC DGTREN entrusted a multidisciplinary research team composed of French, British and Spanish experts with the study.

This study is based on the analysis of opinion polls, regulation and case studies where public information and involvement are a key dimension in the decision-making process and where innovative approaches have been observed. The research material and proposals were presented and discussed at a workshop with 50 delegates, representing the various stakeholders concerned by nuclear activities in Europe. The Inclusive Governance of Nuclear Activities (IGNA) workshop was held on 9-10 February 2006 in Luxembourg in DG TREN premises. The views expressed in this report are in all cases the sole responsibility of the authors.

As testified by recent opinion polls and feedback from case studies, there is a strong public demand for more participation in decision-making processes relating to the environment, and nuclear issues specifically. There is an increasing expectation that the phase of decision-framing which determines the scope and objectives of a regulation or of a decision on an industrial facility, involves not only experts and politics, but also a wide range of knowledgeable persons – NGOs, independent experts, local actors, etc. This expectation is now supported by significant legislation at EU and national levels, the foundation stone of which is the "Aarhus Convention on the Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters" (1998) [2].

One can find different but convergent rationales behind these developments. On the one hand, there is a consideration that nuclear technologies – like numerous hazardous activities – have a potential impact on the public and accordingly require that their development involves affected parties. On the other hand, the problems raised by nuclear activities have an impact at several levels (local, national, international), and are multi-dimensional, i.e. they entail safety, economic, social, ethical, political, legal and environmental issues. In the face of this complexity, traditional modes of management both by the operators and by the administration appear to be quite fragmented: their reductive approach is to break down complex problems into several simplified one-dimensional issues which are more easily handled. Another source of misunderstandings and conflict lies in the justification of industrial activities: a discussion on risk is impossible for most affected parties if the question of the justification is not debated before addressing the operation of the activities and related risks and impact.

Traditional governance has difficulties in addressing the justification issue, just as it has in addressing complexity and multi-dimensionality. This situation has led to major conflicts on technological development in recent decades, and to a crisis of trust in decision-makers, as well as in experts. As this crisis unfolded, it became obvious that in order to embrace complexity, the different stakeholders should contribute to the knowledge base of decisions. In this new light, participation appears to be much more than a support to information. Participation would provide stakeholders with the means to get involved in decision-making processes and to contribute their views so as to improve the quality of expertise, the reliability of decisions and the safe operation of activities. There is a belief that, far from diminishing effectiveness, by moving away from a purely technical approach and towards an inclusive approach, one can enhance effectiveness and practicability in the decision-making process.

The case studies illustrate different best practices of stakeholder involvement in this regard. They demonstrate that it is actually possible to improve decision-making processes by engaging concerned parties in the preparation of decisions and in the oversight of nuclear activities. The analysis of the case studies clearly pointed out that the effectiveness of stakeholder involvement relies on two major transformations: a stronger role for new categories of actors, including local and regional governments and institutions; and an opening up of the institutions in the perspective of stakeholder involvement in the decision-making process in the nuclear sector. These transformations prove to be practicable and achievable. Although they imply significant changes from the various actors, they are by no means "revolutionary", but rather manifest a progressive evolution that is respectful of existing institutional structures.

Over and above the general emergence of a new role for local actors, these transformations of the current decision-making process are the result of an emerging understanding, by all the actors, of the real benefits of the participatory process.

As a conclusion from the study, including the discussion with stakeholders during the IGNA workshop, it appears that the regulatory system and associated legal tools to support and implement these changes are already in place at the Community level. Some additional regulation may be required in the Member States to specify the integration of inclusiveness in particular fields of application, for instance, waste management, decommissioning, etc. Nevertheless, efforts should essentially relate to the concrete procedures for implementing stakeholder involvement in the different Member States. This entails, for instance, setting up partnerships and new modes of cooperation in local areas and regions. The experience reflected in the case studies, and more generally by inclusive governance projects in Europe, demonstrates that the changes in stakeholders and institutions are made through pragmatic and cooperative experimentation, and do not result from a mere implementation of theoretical principles, either from the top or from the bottom. Moreover feedback experience from case studies shows that this evolution is an essential part of sustainable development strategies. In this perspective, nuclear activities may draw on the vigilance of local communities, so as to reinforce the quality of monitoring and the sustainability of their territorial integration.

1 - INTRODUCTION

Societal concerns about environmental issues and nuclear safety are widespread in the EU, as reflected recently *by the 2005 special Eurobarometer survey "Radioactive Waste"* [1]. Several initiatives have been taken in recent years in Europe in order to improve the understanding of these concerns and societal expectations as regards public access to information and public participation to the decision-making processes, in the context of nuclear activities. More specific initiatives were taken on the question of Radioactive Waste Management (RWM). Because they have been controversial for many years, RWM issues have been the setting for several innovative experiences in Europe to address public concerns. Projects like the European COWAM 1 Concerted action and the RISCOM 2 research project (from 2000 to 2003) or the ongoing European COWAM 2 participatory research project (2004-2006) [3, 4, 5] have identified best practices and characterised the contribution of stakeholder involvement to the quality of decision-making processes in RWM. International organisations such as the NEA and the IAEA have also added their contribution to this effort with the direct support of nuclear operators and regulators [6, 7].

In the broader domain of hazardous activities, numerous actions have been developed to overcome blockage of decision-making processes characterised by social distrust. Several networks and conferences have been set up in the past ten years to enhance exchanges of experience between different fields in the governance of hazardous activities. Although related to different regulatory, cultural and technical contexts, these initiatives often reveal similar perspectives on public information and public involvement. They have all contributed to benchmark and characterise practical ways to implement the principles of public participation on environmental issues set out in the Aarhus Convention.

In this regard, the European Commission Directorate General for Energy and Transport (EC DGTREN) launched a study on "the situation concerning public information about and involvement in decision-making processes in the nuclear sector". The main goal of this project was to inform the EC DGTREN and interested parties on recent developments in the Member States and to give the opportunities for decision-makers and stakeholders at local, national and EU level to exchange views. Among the objectives of this study, the EC DGTREN wanted to receive feedback on the existing regulation and best practices in the different Member States in relation to:

- Public information and involvement processes in the nuclear sector, and
- Strategies to be followed by the EC and the Member States for improving the level of public information and involvement in nuclear decision-making processes.

Following an open call for tender, the EC DGTREN entrusted a multidisciplinary research team composed of French, British and Spanish experts with the study. This study was based on the analysis of contexts where public information and involvement are a key dimension in the decision-making process and where innovative approaches have been observed. These contexts refer to siting and operating nuclear activities, management of radioactive waste, and nuclear emergency planning and management. The study involved complementary investigations in three fields:

- An analysis of **opinion polls**, mainly Eurobarometer results, including the 2005 poll on radioactive waste, outlined societal expectations and concerns as regards public information and public participation in the nuclear context (see Annex 1);
- An overview of the **applicable legislation** at national and EU levels reported on the current status of implementation as regards public information about and public participation in decision-making processes in the nuclear sector (see Annex 2);
- The analysis of **ten case studies** illustrated different good practices of inclusive governance of nuclear activities (see Annex 3).

On the basis of this material, the research team identified best practices regarding information, transparency and involvement of the public in the nuclear sector, and prepared proposals on possible strategies for the different concerned categories of actors (regulators, experts, operators, EC, NGOs, local and regional governments, etc.) to contribute to the development of the inclusive governance of nuclear activities. The research material and proposals were presented and discussed in a workshop with 50 delegates, representing the various stakeholders concerned by nuclear activities in Europe. The Inclusive Governance of Nuclear Activities (IGNA) workshop was held on 9-10 February 2006 in Luxembourg in DG TREN premises.

This report presents the main conclusions of this project in the light of the IGNA Conference discussions.

2 - KEY QUESTIONS

2.1 - General features

The first reason for the development of information processes in the nuclear field stems from widespread concerns about the technology, specifically its impact on health and the environment, arising especially in the 1970s. Insofar as decisions were basically underpinned by science and technology, these concerns were viewed at that time as a result of a lack of information on the side of the public. Huge efforts were made in risk communication to get the experts' message across and raise awareness amongst the public about the "actual" risk according to the experts' views. Participation in this perspective was viewed as a mere support to information: the public was likely to be better informed if engaged in the process. Nevertheless, these attempts to "bridge the gap" regularly resulted in failure. Conversely, communication sometimes fuelled conflicts as soon as information proved inefficient to bring together diverging views. In the face of these tensions, the understanding of public information progressively changed: beyond a possible lack of information, several other challenges were identified which led to the characterization of additional rationales for a revised approach to public information and participation.

In the first place, the consideration that nuclear technologies – like numerous hazardous activities – have a potential impact on the public requires that their development involves affected parties. As a matter of fact, this rationale underpins all legislation related to public information and participation as regards the environment from the "Aarhus Convention on the Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters" (1998) [2] down to the Environmental Impact Assessment Directive *(1985 revised 1997) [8]* and the Strategic Environmental Assessment Directive *(2001*) [9].

A major feature of the governance of nuclear activities is complexity. The problems raised by nuclear activities have an impact at several levels (local, national, international), and they are multi-dimensional, i.e. they entail safety, economic, social, ethical, political, legal and environmental issues, among others. In this respect, the actors concerned, whether by administrative and political responsibilities or by the potential impact, are very diverse. In the face of this complexity, traditional modes of management, both by the operators and by the administration, appear to be quite fragmented: their reductive approach is to break down complex problem into several simplified one-dimensional issues which are more easily handled. Lay citizens, however, remain confronted with the problems in their complexity and multi-dimensionality. Answers provided on one issue or the other are unable to embrace the whole spectrum of their concerns in a comprehensive way.

Another source of misunderstandings and conflicts lies in the justification of industrial activities. As pointed out by the TRUSTNET European research project [10] in the late 1990s, a discussion on risk is impossible for most affected parties if the question of the justification is not debated before addressing the operation of the activities and related risks and impact. Moreover, there is a demand from the public to be informed and consulted about the neighbouring activities not only at limited moments but throughout the lifetime of the plant. Therefore, continuity of societal engagement appears as a key element of quality for a better justification and operation of industrial activities, both for the operator and the local host community.

Traditional governance has difficulties in addressing the justification issue, just as it has in addressing complexity and multi-dimensionality. A traditional fragmented approach to the management of hazardous activities offers limited transparency as regards the rules and the details of the decision-making process. This situation has led to major conflicts on technological development in recent decades, and to a crisis of trust in decision-makers, as well as in experts. As this crisis unfolded, it became obvious that in order to embrace complexity the different stakeholders should contribute to the knowledge base of decisions.

In this new light, participation appears to be much more than a support to information. It becomes the essential motivation of information. Participation would provide stakeholders with the means to get involved in decision-making processes and to contribute with their views so as to improve the reliability of decisions and the safe operation of activities. Underpinning the Aarhus convention, there is a belief that, far from diminishing effectiveness, by moving away from a purely technical approach and towards an inclusive approach, one can enhance the effectiveness and practicability of the decision-making process.

2.2 - Review of the public perception

The **review of Eurobarometer** questions related to information and participation in the nuclear sector from 1988 to 2005 confirms this shift in the public expectations from one-way communication to participation and dialogue between a plurality of stakeholders. Although Eurobarometer does not provide direct data about the quality of practices in terms of information and participation within the nuclear field, interesting indirect indicators of the implementation can be found in the current data such as the level of knowledge of the public and public satisfaction with information.

The polls show that there is a low perception of being well informed about nuclear energy and radioactivity among European citizens although this situation improves through time. The responses reveal a significant degree of misinformation and knowledge gaps. The majority of citizens are dissatisfied with the information received and consider it to be insufficient. Moreover, the majority of citizens declare that they would like to have easier access to information. This demand and the strong public interest in radioactive waste management indicate a need for improved information and participation processes.

A second reason for dissatisfaction questions the quality and trustworthiness of the received information. In this respect, among the analysed information providers, physicians, independent scientists and environmental groups are the most trusted groups, followed by university and school teachers. Authorities and operators are the least trusted actors. At the same time, a wide range of actors become visible in the governance of nuclear activities. As outlined in the 2005 Eurobarometer's results, when proposed statements about the roles to be played by the national governments and the EU in radioactive waste management, citizens confirmed expectations that Member States fulfil their responsibilities, while they expressed a strong hope that the EU can play a role towards harmonization and monitoring. Moreover, for the European Union average citizen, direct consultation and participation is required at the local level when approaching a decision process regarding the construction of an underground site in his or her "neighbourhood". The limited trust in institutions and the emergence of a wider range of actors reflect a call for pluralistic approaches to decision-making, also identified in the case studies. A great majority of the European Union citizens believe that most of the countries have not yet taken a decision for the final disposal of highly radioactive waste because it is difficult and politically unpopular to make such decisions. This result is an additional indicator of the need for more open and inclusive governance processes.

A significant result from a European perspective is a broad agreement on the need for multilevel and trans-national practices. Information should not be considered only at one level, but at local, national and European levels.

2.3 - Review of the legislation

The **review of legislation** considers the evolution of legislation on public information and participation in the nuclear sector within three broad phases.

Evolution of the EU legislation on public information and participation

A first phase is represented by the Directive 89/618 EURATOM on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency. The focus of this directive, specifically related to the nuclear sector, is very much on information: the public should be informed about what measures are being taken to cope with the eventuality of an emergency before any such emergency should happen, but equally detailing what sort of information should be provided in the event of an emergency and in the aftermath. The information considered here aimed at two main groups: first of all, at the general public, and, secondly, at emergency workers. The justification for this information is that an informed public will respond more effectively in the event of an emergency.

The second phase is represented by the Environmental Impact Assessment Directive (85/337/EC) as amended (97/11/EC, 2003/35/EC) [8], the Strategic Environmental

Assessment Directive (2001/42/EC) [9], and the Aarhus Convention (1998) [2]. The EIA and SEA Directives both also relate to the nuclear sector, in the first case for a given project, in the second case, for policies, plans and strategies. The Aarhus Convention pins down the right of public access to environmental information, public participation in those processes, and access to justice. Insofar if there is the feeling that the prior rights have not been adhered to, then the public will have the right of access to the judicial process in order to have those rights enforced. In this document, participation is a key component in addition to information. The two directives - EIA and SEA - require the inclusion of the public in decision-making processes. There is also a requirement to ensure that information derived from the consultation process is actually integrated into that process: one has to demonstrate how the decision has been changed by that consultation process or indicate why ideas coming from that process are not going to be adopted. In terms of justification, why is participation needed in this context? In the Aarhus Convention, participation in the decision-making is a right, and this right is expected to produce certain benefits: on the one hand, it ensures that there is enhanced transparency of decision-making: the public can simply see much more clearly the way in which decisions are being taken. Beyond that, the decision-making process would be improved: the decision-maker will actually have a broader range of information on which to base his or her decision.

As a third phase, proposals for directives ("nuclear package") were made in 2003 and 2004 on the safety of nuclear installations and on the safe management of spent nuclear fuel and radioactive waste. In the proposal on nuclear safety one finds again a statement requiring effective information to, and, where appropriate, consultation with the population. The second of those proposals dealing with radioactive waste stresses the need to ensure a high level of transparency through information and consultation where necessary. Elsewhere, in that directive, only reference to information is made, but not to any consultation or participation. The justification regarding information or participation is enhanced effectiveness and enhanced transparency of the decision-making process. Given the way in which the requirements have been phrased, "where appropriate", "where necessary", in some sense the proposals in the nuclear package may be a little less emphatic about participation than the second phase of the evolution represented by the EIA Directive, the SEA Directive and the Aarhus Convention.

Responses to the legislation survey

A survey was performed within this study in order to gain information directly from Member States on the steps they had taken to implement legislative provisions in the field of public information and participation. It was designed to gather information on legislative (and other) activity originating at the national level, as well as on the transposition of European directives. The questionnaire contained three broad questions: one on national legislation, one on the transposition of European directives and international agreements (particularly the Aarhus Convention), and one on practical and procedural issues arising from implementation.

Answers were received from authorities in about 21 Member and Candidate States. There is an indication from the authorities responding of a shift in the way in which they regard interactions with the public. In some cases, there is a very open acknowledgment that what were previously regarded as purely technical questions are in fact questions with many more dimensions to them, that these are more complex issues which cannot simply be treated as technical matters. There are social, political dimensions to them as well, and, as a consequence, some of the authorities contacted refer to a new approach to decision-making:

this sees the decision-making process as a *partnership* with the public, rather than seeing the public as something separate which is to be informed once decisions have been taken. The justification for this change in approach is in terms both of building trust between authorities and the public, and of producing greater effectiveness.

A conclusion from this might be that there is a need to embrace participation more wholeheartedly in parts of the nuclear sector. However there remain strong differences between Member States in this regard.

3 - BEST PRACTICES

Best practices were identified and analysed on the basis of the case studies and the reviews of opinion polls and legislation. The case studies were selected in order to provide a wide range of contexts and practices. They covered situations as varied as the plural expert group set up to survey radioecology in the La Hague region (GRNC, France), the intergovernmental negotiation on the Temelin nuclear power plant, the operation of local liaison committees in the UK, France, Spain and Sweden, or the rehabilitation of living conditions after the Chernobyl accident (ETHOS-CORE, Belarus). As already stated, there are two major trends in the improvement of inclusive governance in the nuclear sector. A first trend relates to the empowerment of new categories of actor, among others local governments. The second trend concerns the opening up of the institutions initiating decision-making processes at the national and international levels.

3.1 - Stronger role for new categories of actors

The following paragraphs discuss the key issues which have emerged from the review of the best practices for strengthening the role of new categories of actors in the decision-making processes in the nuclear sector.

Resources for sustainable commitment by stakeholders

The governance of the nuclear industry is characterised by the intervention of various categories of actors, operators, public authorities and experts, who have at their disposal the resources required for participation into the decision-making processes. Actors from civil society and other stakeholders most frequently participate without specific resources, making a personal commitment in terms of time and money. Accordingly, mechanisms are required which create the conditions for sustainable involvement on the part of stakeholders and enable them to access resources in a secure manner, while respecting their independence. Commitment to a participatory approach should be discussed at the earliest stages by all of the potential participants who will then be able to determine the conditions under which they will be involved.

Balanced articulation of participation and decision-making

The implementation of democratic participation or inclusion implies that a clear distinction be made between the preparation and information stages on the one hand, and decision-making on the other. The commitment of new categories of actors to the decision-making preparation phase, known as “decision framing“ (TRUSTNET 2003), does not necessarily imply their

involvement in the actual decision. The legitimacy and responsibility of public and private decision-makers must be respected to make participation possible. Nevertheless, participation or inclusion is meaningful only if conditions are brought into being such that the participation can effectively influence the outcome of the decision.

Local and regional entities as a vector of participation and independence

Territorial entities (mainly local and regional governments and institutions) in many case studies are a key factor in the increasingly important role played by new categories of actors and stakeholders. A condition of their independence is that there exists a project focused on the sustainable development of the local or regional area, which is supported by the community as a whole and gives actors the ability to put a proper distance between themselves and proposals brought in from outside operators, particularly those in the nuclear industry, and by the public authorities. This creates the conditions for a balanced negotiation regarding the implementation and the development of nuclear activities.

Local Commissions, essential tool of inclusive democracy

The creation of local commissions (for information, monitoring or liaison) for the nuclear industry in the neighbourhood of the relevant sites, is an acknowledged and accepted practice. These commissions are tools enabling the structuring and organisation of democratic participation and its articulation around decision-making processes relating to the nuclear industry. Access by these structures to a legally recognised status and to regular resources guaranteeing their independence is frequently cited by the members of such structures as a condition for their effective inclusion and participation. This is the requirement for improving the quality of their contribution to the decision-making process.

Networks of local actors for participation in national and international decision-making

An increasing role for local actors is taking shape in the European Union and in the Member States, by federating the networks of the relevant local area or regional communities concerned with the nuclear industry. Observe, for example, the structuring of local and regional communities in Spain (AMAC), Great Britain (NuLeAF), Sweden (KSO), and at the European level (GMF). Similarly, local Commissions have engaged in an active federative approach not only in France (ANCLI), but also in Spain and the United Kingdom. They are currently setting up a European network (EUROCLI).

Strategic and technical training of local actors, access to expertise

An important condition for enhancing the role played by local actors is their training. Training takes place progressively as they are involved in concrete problems relating to the decisions touching on the nuclear industry. The training of local actors as regards the basic physical and technical processes at work remains a necessary point of passage for the proper understanding of these issues—and experience shows that such an understanding is by no means an insurmountable barrier for non-experts. But this training also requires an understanding of the difference between technical aspects and what is, in reality, normative in nature, within the context of the expertise and the knowledge produced by operators and experts.

3.2 - Opening up of the institutions in the perspective of stakeholder involvement in the decision-making processes at the national and international levels

Institutional decision-making processes at the local, national and international levels related to nuclear activities were not initially designed to involve other actors than the operators, the experts and public authorities. These latter were generally considered as representatives of the general interest. It is only progressively that specific provisions were introduced into legislative and regulatory systems with a view to giving a voice to the stakeholders affected or concerned by nuclear installations. Various practices conducive to the opening up of such decision-making processes to the involvement of civil society have been developed within this context. The key elements mainly derived from the analysis of the case studies are described hereafter.

Inclusive nature of participatory process

An essential dimension of the participatory processes covered by the study relates to the degree to which they are inclusive of the various categories of relevant stakeholders. On the one hand, some participatory processes are very carefully framed and the actors invited are restrictively defined. On the other hand, one can observe the emergence of more open processes, in which the actors are co-opted for participatory purposes by the decision-makers and the stakeholders themselves, or even by means of unrestricted participation in open processes. The circle of participants may evolve as a function of the nature of the problems encountered, and of evolutions in the processes.

Opening up themes and topics for debate by stakeholders

One issue for local actors is to be able to handle and manage themes which in their view are appropriate within the local context, and also to raise questions about the dimensions which are of concern to them in national and international decision-making processes. This opening of the participatory process to wider themes and topics is a fundamental issue. Stakeholders understand the process as meaningful and are thus encouraged to give voice to their questions and concerns. This opening can, secondly, identify margins of manoeuvre and limitations in the decision-making processes, whilst also explaining the issues associated with other decision-making levels, where stakeholders may seek further involvement.

Segmentation of decision-making levels (local, regional, national and international) and its limitations

There are many disadvantages to the tiered segmentation of decision-making, and they are observable in the case studies. Tiered segmentation of responsibility leads firstly to the isolation of aspects of issues or problems from their actual context. The relevance of these single dimension solutions are called into question by local actors, who remain confronted with the complexity of the situation. On the other hand, it may lead in the end to taking such problems out of the hands of the local actors, because these are managed at a higher tier than the regional or local level. This results in the local actors being excluded from the options and decision-making processes, although they impinge on their daily life.

Multi-level inclusive governance

The reinforcement of the democratic participation of local actors at the various local, national and European levels of decision-making is a decisive factor if there is to be improvement in

the governance of the nuclear activities and in the quality of decision-making itself. Such new approaches should in the first instance make possible a participatory, inclusive and contextual evaluation in a local or regional context, prior to the taking of decisions at the national level if necessary. The decision will for example be initially assessed in respect of its safety dimension, and then be progressively further examined so that all aspects (economic, ethical, political and social) of the problem can be taken into consideration.

Local actors becoming joint actors at the national and international decision-making levels

These provisions also have as their purpose enabling local actors to emerge as co-actors in the higher decision-making spheres. They may participate alongside others in the construction of choices and compromises, all the while including the complexity of the territorial contexts within the decision-making process. It is for example possible, by creating national or international plural bodies, to move from simply open consultation processes to the active inclusion of local actors. These forms of participation or inclusion are not an alternative to representative democracy, which continues to play its role in the decision-making process. The legitimacy of actors and stakeholders does not depend on their status as the representatives or emissaries of a particular interest group. In their diversity and in their closeness to the local and regional context, these actors make a decisive contribution to the robustness and the quality of the decision-making process.

Quality and reliability of expertise in the eyes of stakeholders

In the last few years, innovative processes have developed, enabling the construction of expertise whose relevancy and reliability are reinforced in the eyes of the different stakeholders, and in particular, the local actors. These processes potentially reinforce the reliability of expertise, by involving the various categories of experts and stakeholders who are bearers of different values. Such experts share a scientific background, while having different origins, sensitivities and loyalties, with which the various categories of stakeholders may more readily identify. In addition, other processes are developed where not only experts with different values are involved but also stakeholders with their own expert capacity on their local situation, and related values.

Justification of activities, rising to the challenge of participation

The degree to which any activity associated with the nuclear industry is justifiable is also an issue of great importance for stakeholders, both national and local. Inclusion processes have often centred on the ‘how’, or the way in which nuclear industry issues have been implemented, without involving stakeholders in the ‘why’ of the nuclear industry, i.e. an appraisal of whether it is justified. Practices involving such appraisal have recently been deployed in waste management, particularly the location of storage sites. The articulation of the local and of the national justification is often a matter of major difficulties in the democratic context. Good practice, apparent in a number of areas of nuclear waste management, requires justification at the national level to be based on meeting the conditions set at the regional or local level. Good practice will also require initiating regular reappraisals of the justification for nuclear activity on a given site.

4 - STRATEGIES AND ROLES OF THE VARIOUS ACTORS

Based on the results of the analysis of the research material, and in particular the lessons drawn from case studies and regulatory processes, contributions to the development of inclusive governance in nuclear activities have been identified for each category of actors (European Commission, national governments and authorities, operators from the nuclear industry, public sector expert institutions, local and regional governments and institutions). The purpose is to identify lines of reflection and to propose recommendations in terms of actions likely to contribute to an improvement in inclusive governance in the field of the nuclear industry in Europe. A first draft of these recommendations was presented and discussed with the various concerned categories of actors at the IGNA workshop in February 2006, whose recommendations were enriched by comments and proposals formulated by the participants. The present recommendations are in all cases the responsibility of the authors of the report.

4.1 - European Commission

European regulation on public information and participation in the decision-making process on nuclear matters is by and large complete with the Aarhus convention and related directives. The European Commission should make clear references to these requirements in future regulation on particular aspects of nuclear activities (e.g. emergency planning, decommissioning, waste management) and invite Member States to specify them as well in national regulation. Moreover, the Commission should involve the various categories of actors and more particularly local and regional governments in the preparation phase of future directives and legal instruments.

The European Commission should play a key role in the support to local communities' networking efforts on nuclear related issues. Networking activities will enhance both the analysis of good practices and the exchange of experience in the enlarged union. The EC is also a driving force in European research, and should promote participatory research involving stakeholders, including local and regional governments and institutions, as well as the inclusive governance of research.

4.2 - National governments and national authorities

As regards national governments, their first role relates to the definition of national policies. In this major activity, they should involve stakeholders by providing them with means and resources for participation, as well as for access to expertise. National authorities should introduce an inclusive governance framework, and specify the conditions for stakeholder engagement in a step-by-step decision-making process. In order that dialogue processes be deemed credible by the various categories of actors, it appears necessary that national governments make explicit the impact or influence of the participation of these actors in the definition of national policies. In accordance with the principles set out in the Aarhus convention, national authorities should justify decisions made and give a feedback on the actual consideration of stakeholders' views in the final decisions. Correspondingly, national authorities should facilitate local communities' access to environmental justice.

National regulation should specify the role of local and regional governments and institutions as regards nuclear activities (information, oversight, monitoring, etc.). National legislation should also request local and regional governments to organize pluralism and local debates in their constituencies (district, county, etc.).

National authorities should support the networking efforts of local and regional governments and institutions at national level.

The governance of nuclear activities is an essential device in safety and radiation protection. National authorities should value this dimension, and make institutional and legal arrangements a matter for public debate.

Equally important are the efforts the authorities can make to enhance facilitation skills in the management of public debates. Likewise, they should use facilitation in corporate governance, to improve the internal capacity of their own organisation to establish a continuous dialogue with their political and social environment.

4.3 - Operators

Nuclear activities may draw on the vigilance of local and regional governments and institutions, so as to reinforce the quality of monitoring and the sustainability of their territorial integration.

A primary contribution from operators indeed should be to improve the transparency and openness of nuclear activities. In this respect, partnerships with other stakeholders would help them fulfil legal requirements as regards information and participation. Even more, the engagement of experts from local commissions or other local constituencies would improve the quality of vigilance and oversight, bringing in a sense of plurality of views and values.

Operators should strive to establish a balanced relationship with host communities. The industry should make a genuine contribution to the development of the community in a sustainable way. For instance, the operator should avoid a situation where its activities represent the full share of the local activities. In partnership with local and regional governments in charge of development, the operator should consider possibilities that its activities support diversification rather than a dependence on a single nuclear industry.

4.4 - Public sector expert institutes

Public expert institutes should develop their own strategy and culture of inclusive governance. This implies specific means, human resources and skills in the organisation.

Moreover they should make public expertise as available to the public as possible and more specifically to local stakeholders directly concerned by nuclear activities. In a similar partnership approach they could set up expertise processes that engage a variety of specialists with different background and values. Local actors and other stakeholders with

no specific expert opinion, but with a broad knowledge about the local situation should be equally involved in these processes to widen the scope of considerations.

Insofar as governance is an integrated part of safety and radiation protection, expert bodies should devote appropriate means to research on the governance of nuclear activities at national and international levels. This would enable them to connect their own technical research activities to the wider governance context within which they operate.

4.5 - Local and regional governments and actors (citizens, NGOs, trade organisations, etc.)

A best practice identified in the study is the creation of local liaison committees around nuclear sites, the precise form of this plural organisation depending on the local and national contexts. Local actors – represented here in the first place by local and regional governments with regard to their responsibilities and capacity of action – should support the activities of local commissions or similar local forums of dialogue, and create them where they do not yet exist.

They should develop a plural democratic culture on nuclear activities, establishing a dialogue on such issues as justification, safety, environment, health, etc. Moreover local governments are in a position to promote the participation of citizens in the follow up of the nuclear industry and to ensure a proper interaction between the forms of representative democracy and participative democracy. This entails raising local actors' awareness and capacity.

Local and regional governments should develop their own project of sustainable development and consider the contribution of nuclear activities from this perspective.

Networking with other concerned communities at national and international levels would enable them to exchange and share experience and good practices and therefore to gain influence on decision-making processes at national and European levels.

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ANNEX 1. REVIEW OF OPINION POLLS

This Annex summarizes an interpretative reading of the results of the review of opinion polls carried out jointly by all the members of the project in a preparation meeting for the IGNA Workshop. (For details of the Public Opinion Review see CIEMAT Technical Report 1093[1]).

This Annex focuses on the following topics:
- Scope of the review: EB, ISSP and national official polls.
- Nuclear energy and radioactivity domain (1988 - 1995),
- Radioactive waste domain (1998 - 2005).

Scope of the review: EB, ISSP and national official polls.

This review has addressed three different public opinion tools: Eurobarometer (EB), International Social Survey Programme (ISSP), and national official polls of member countries. As a first comment one should note the boundaries of the three reviewed instruments when assessing citizen opinions' in terms of public information and participation in the nuclear sector.

As is generally the case in long poll series, public opinion tools pay selective attention to the "hot issues" of the moment, in the case of nuclear issues : the consequences of the Chernobyl accident in the early 90s, and the radioactive waste management related issues from 2001. Thus, longitudinal descriptions (trend analysis) of public information or participation practices become difficult. Nevertheless, the review of Eurobarometer questions related to information and participation in the nuclear sector from 1988 to 2005 confirms a shift in the public preferences and expectations from one-way communication to participation and dialogue between a plurality of stakeholders. The reviewed opinion polls do not provide direct data about the public perception of the "implementation" of information and/or participation practices. However, they do offer interesting **"**indirect "indicators, such as the citizen's declared level of knowledge or levels of satisfaction with the received information. In any case, EB provide an invaluable source of information about the topics we are interested on at the EU level.

The results included below reflect the EU citizens' perceptions and expectations obtained from their answers to the specific EB questions, as they were formulated in the corresponding Eurobarometer.

Nuclear Energy and Radioactivity domain (1988 - 1995)

Levels of satisfaction with the received information: differential national practices? (1988-1995)

[1] CIEMAT Technical Report - 1093. Prades, A., Sala, R., & López, M (2006). Situation Concerning Public Information about and Involvement in the Decision-Making Processes in the Nuclear Sector. Public Opinion Review. ISSN 1135-9420. Madrid. 2006.

Although the perception of being well informed about radioactivity was quite low, the degree of satisfaction increased over this period. However, the most noteworthy for our project is that the level of dispersion among countries was much larger in 1995 than in 1988.[2] So, what were some countries doing that others were not? It is worthy to mention that the "most satisfied countries" were the ones showing higher levels of trust. This is, however, a much more complex question in which different dimensions might also be involved, such as democratic tradition, levels of centralization, etc.

Concern about the possibility of a nuclear accident: need for public information and participation processes (1988-1995)

The concern about the possibility of a serious nuclear accident among EU citizens could be considered as an indicator of their high level of concern[3]. Such a context of concern can be argued as a call to enhance public information and participation processes. This need for information is reinforced by the remarkable levels of "do not know" answers to basic knowledge questions among citizens from several countries. Furthermore, this concern was identified also in countries with no NPP, so information and participation processes on the nuclear domain should be taken into account in such situations. It should also be considered that more than 90% of the EU citizens agree with the need of trans-national information. The potential role of the EU in the definition, application and monitoring of such information processes should be taken into account.

Confidence in information sources: a call for pluralistic approaches in decision-making processes (1989-1995)

The fact that public authorities were the social agent receiving lower levels of trust, all along the analysed period, illustrates the need to reinforce new decision-making processes (from the "top down" to the "mutual trust" paradigm). More precisely, authorities were the least trusted source but many other actors received important levels of trust (Doctors, Independent Scientists, Environmental Groups, and University and School teachers[4]). Thus, to build reliable decision-making process all different actors should be involved in a pluralistic approach to such decision-making processes.

Radioactive Waste domain (1998- 2005)

Strong interest in the management of radioactive waste (1998)

The large interest of the UE citizens in the way in which radioactive waste is managed in their own country, and in other EU countries[5], illustrates the need to improve public information and participation processes in the radioactive waste domain. This interest is a "trans-national" one and therefore it is calling for trans-national answers (giving the EU a potentially significant role).

[2] In 1995, more than 55% of the citizens from Sweden, Finland, Denmark, and The Netherlands were *"very or quite satisfied with the information they received about radioactivity"*, while in Spain, Italy and Greece this percentage was below 20%.

[3] On average, and from 1988 to 1995, around 60% of the EU citizens believed that an accident like Chernobyl could happen in their country (or in another country).

[4] In average, Doctors were the most trusted group (76%), followed by Independent scientists and environmental groups (both around 73%), and then University and schoolteachers (62%). Only 37% of the European citizens have confidence in Public authorities.

[5] UE citizens are "*very or fairly interested*" in the management of radioactive waste not only in their own country (79.58%), but also in the other EU countries (72.5%), and in the candidate countries (71.44%).

Strong demand for an easier access to information and preferred actors for providing such access: a call for pluralism (1998)
The majority of the EU citizens declared that they would like to have an easier access to information about the way in which radioactive waste is managed both in their own country and in other EU countries[6]. Accountability for providing such access is placed in different actors (Government, Media, Independent Scientists, National Agencies, and NGOs). This wide scope of agents indicates the need for new governance arrangements involving plural actors.

Trust in sources of information about nuclear waste management: an opportunity for a more inclusive governance (2001-2005)
The difference between the information sources that were addressed in the nuclear and radioactivity EBs (1989-1995), and the ones that are being addressed in the most recent radioactive waste EBs (2001-2005) seems to reflect an assimilation of new actors in the information processes. It looks as if a wider range of actors is visible now although it should be noted that different topics and formulation of questions were under consideration. These incorporations illustrate the opportunity for more inclusive governance, which takes account of wider array of trusted sources of information[7].

Importance of different procedures before building a tip: key role of public participation (1998)
Over 85% of the EU citizens rate both public information and participation as important procedures to be followed before building a tip for radioactive waste. Thus, this exemplifies a strong demand for inclusive governance among the EU citizens.

Relevance of different actors in consultation processes before building a tip: need for pluralism (1998)
When addressing the relevance of potential consultation processes before building a tip for radioactive waste, EU citizens gave a very similar and essential role to all the stakeholders addressed in the EB. Affected populations, medical experts, independent scientists, and environmental associations are perceived as key actors in the decision-making processes regarding radioactive waste management[8]. These results clearly favour pluralism, as all actors are relevant, and claim for new features of government.

Difficulty and political unpopularity of decision-making about waste management: the need to develop new decision-making processes (1998-2005)
A great majority of the EU citizens (over 85%) think that most of the countries have not taken a decision on the final disposal of highly radioactive waste because it is very difficult and politically unpopular to make such decisions. This result obviously indicates the need to develop opener and more inclusive governance processes.

Relevant stakeholders when making decisions for underground disposal "close to home": differential approaches to participative decision-making (2005)

[6] Only 7% of the sample declared that radioactive waste management in their own country has no interest for them. This figure reaches 11% in the case of waste management in other European Union countries.

[7] In 2005 independent scientists are the most trusted source of information (40%), nearly followed by NGO's (39%), and international organisations working on peaceful uses of nuclear energy (33%). Next we have national agencies (29%), and national governments (21%). Less than 20% of the citizens declared to trust the EU, the Media, or the Nuclear industry.

[8] EU citizens think that it is important to develop consultation processes with "Affected populations" (92%), "medical experts" (90%), "independent scientists" (88%), and "environmental associations" (86%).

When thinking about the hypothetic construction of an underground disposal site for radioactive waste "close to home", more than 50% of the EU citizens would like to be directly consulted and to participate in the decision-making process. It is worth mentioning how in some countries NGOs are seen to have a role, and how in some of the new 10 the authorities are still given a certain role[9].

Relevant actors in the management of radioactive waste at the EU level: a multi-level governance and trans-national approaches (2005).
When proposed statements about the roles to be played by the national governments and the EU in radioactive waste management, citizens confirmed expectations that Member States fulfil their responsibilities, while they expressed a strong hope that the EU can play a role towards harmonization and monitoring.[10]. In other words, radioactive waste management is not perceived as a national issue but as a multilevel governance system, where the EU has a role on its own and as the place to find harmonized and consistent practices.

[9] Spanish citizens are the ones claiming for a direct consultation process to a higher extent (74%), followed by the Germans (66%), and the Polish (65%). The Netherlands (29%), Sweden (29%), UK (29%), Finland (28%), and Czech Republic (28%) are the ones supporting an active role of NGOs to a higher extent. Regarding the national governments role, Latvia (32%), Estonia (26%), Czech Republic (25%), Lithuania (25%) and Slovakia (25%) present the highest rankings in this option.

[10]On average, all three answers (leading role of EU, leading role of national governments, or search for harmonized practices among countries) are above 90%.

ANNEX 2. REVIEW OF LEGISLATION

The objective of this review was to build a detailed overview of the situation in the enlarged EU concerning the applicable legislation at national and EU levels and the current status of implementation as regards public information and public participation in decision-making processes in the nuclear sector. The review also attempted to measure potential difficulties associated with policy implementation. There are accordingly three main components of this review.

The first is an account of the legal and political framework of public information and participation applicable to the nuclear sector at the EU level. This sets out the background to the legal requirements regarding public information and participation and outlines the current framework provided by EU law. Particular attention is focused on the information and participation aspects of the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) Directives, and consideration is also given to the additional requirements provided by the current draft of the nuclear package.

The second component of this review is an inventory of applicable legislation. The aim here was both to check the implementation of EU law at national level and to discover what other national measures may exist which deal with public information and participation in the nuclear sector. While the initial phase of this component was desk-based, a follow-up phase, designed to check the up-to-date situation in each Member State, relied on feedback from questionnaires sent to competent authorities in each State. This synthesis does not deal further with this component and readers are referred to the full report for details.

The third component of the review focuses on the implementation of the legislation and the actual practice of public information and participation in each various Member States. In common with the follow-up phase of the inventory component, this relied especially on feedback from questionnaires sent to the competent authorities in each of the Member States. Accordingly, the questionnaire, in addition to checking the scope of the current legislation regarding public information and public involvement in the nuclear sector, also sought information on the processes proposed to implement these principles and the role of the different actors involved. This component of the review is less comprehensive inasmuch as responses were not received from all the of the Member States contacted.

Political and Legal Framework

The main thrust of the EIA Directive is to ensure that before development consent for projects is given, those that are likely to have significant effects on the environment shall first of all be subject to an environmental impact assessment. The Directive divides projects into two groups: those that are presumed to have such effects and which must be subject to an EIA; and those which shall be so subject only where they are likely to have significant effects, as determined on a case-by-case basis or through the application of thresholds or criteria set by the Member State. Practically all nuclear projects are explicitly listed in the first category meaning that they are subject to mandatory EIAs. It is also the case that those not listed in this way would nevertheless be considered to be likely to have significant effects on the basis of the selection criteria that the Directive provides for Member States where they are able to exercise a discretion.

The Directive then goes on to specify the detailed information that a developer must provide. This information must then be made public within a reasonable time so as to allow the public to express an opinion before consent is granted. The way in which this information is made available and the manner in which consultations are conducted are matters for Member States. Article 6(3) allows Member States discretion with regard to a number of factors relating to information and consultation, including: determining the public concerned; specifying the places where the information can be consulted; specifying the way in which the public may be informed; determining the manner in which the public is to be consulted; fixing appropriate time limits for the various stages of the procedure in order to ensure that the decision is taken within a reasonable period.

As regards what must happen to information gathered and the results of consultations, the Directive provides that these must be taken into consideration in the development consent procedure. Furthermore, the public must be informed of the main reasons and considerations on which the decision is based. The Directive also requires that the public be informed of the content of the decision and any attached conditions, and be provided with a description of any measures adopted to avoid, reduce and offset significant effects.

While the EIA Directive is, then, concerned to ensure that the likely effects of projects on the environment are taken into account and that this is done in such a way that the public can participate in the decision-making process, the SEA Directive recognises that it is equally, if not more, important to adopt a similar approach at the higher level of policies and plans. The expectation is that not only will the environment benefit from this approach, but so also will industry inasmuch as the implementation of SEA should lead to a more consistent framework within which it can operate.

In common with the EIA Directive, the SEA Directive provides that in certain cases such assessments will be mandatory (including for plans and policies providing a framework for future development consent for projects covered by the EIA), whilst in others they will be at the discretion of the Member State (although again with that discretion being exercised in accordance with criteria set out on in the Directive).

An SEA is required to be carried out during the preparation of a plan or programme and before its adoption or submission to the legislative procedure. To this end, an environmental report must be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives are identified, described and evaluated. A detailed list of the information to be included in the environmental report is also provided, such as details about effects, about preventive, reduction and offsetting measures, and about the reasons for selecting particular alternatives.

A Member State's environmental authorities and the public must receive the draft plan or programme and the environmental report. These parties must then have an early and effective opportunity to express their opinion on these documents before the plan or programme is adopted or submitted to the legislature. The SEA Directive is more explicit about the identification of the public for the purposes of consultation than the EIA Directive, namely the public affected or likely to be affected by, or having an interest in the relevant decision-making, and including, in particular, relevant NGOs. Member States would thus find it difficult to avoid engaging organisations in environmental assessment with which it may have rather difficult relationships, not least in the nuclear sector. Detailed arrangements for information and consultation are again to be determined by the Member States, but

significantly the SEA Directive does not include, as the EIA Directive does, a more detailed list of factors to be considered such as the places where the information may be consulted.

Equally, in common with the EIA Directive, the SEA Directive ensures that information gathered, in the form of the environmental report and opinions expressed, must be taken into account and that the environmental authorities and the public are fully informed about the outcome. The SEA Directive is, however, more specific in this respect, in particular as regards indicating how the information gathered has been integrated into the decision-making process, and as regards the reasons for choosing one plan or programme in contrast to other alternatives.

The EIA and SEA Directives, therefore, have the potential to make a significant impact on public information and participation in decision-making. Taking things a step further, however, is the Aarhus Convention, which, among other things, introduces a general right to environmental information without an interest having to be stated, and certain requirements in relation to access to justice.

The most recent developments in relation to public information and public participation are contained in instruments that are concerned specifically with the nuclear sector, namely the proposal for a Directive laying down basic obligations and general principles on the safety of nuclear installations, and the proposal for a Directive on the safe management of the spent nuclear fuel and radioactive waste. In this regard, the proposed nuclear safety directive requires Member States to ensure effective information to and consultation with their own public and the competent authorities of the States in the vicinity of nuclear installations under their jurisdiction, insofar as they are likely to be affected in the event of a radiological emergency at that installation, on issues related to safety at such nuclear installations. Furthermore, it requires Member States to take steps to ensure that, insofar as they are likely to be affected by a radiological emergency, its own public and the competent authorities of the States in the vicinity of nuclear installations under its jurisdiction are provided with appropriate information for emergency planning and response.

The proposed radioactive waste directive contains very similar provisions in relation to radiological emergencies at disposal or storage sites, but the wording is significantly different. Specifically, Member States are required to 'ensure a *high level of transparency* on issues related to the management of spent nuclear fuel and radioactive waste under their jurisdiction', an objective that is to be met by information and consultation where necessary with those likely to be affected by an emergency. Furthermore, Member States must 'ensure public information on the measures to be taken and the state of progress of the decision-making process, notably as regards the methodology for the selection of storage sites, or disposal sites, if any'.

Implementation and Practice

Given the range of circumstances in which Member States find themselves, it is difficult to give a brief overview of the diversity of examples of implementation and practice revealed by relevant authorities in the Member States contacted. The following points are, therefore, essentially a selection of key issues, and readers are referred to the full report for more detail.

Most Member States reported that they had transposed all of the relevant EU directives or were in the process of doing so. Beyond that, many identified national legislation dealing with

freedom of information generally that could also have an impact on nuclear activities. In once case, it was reported that national law actually goes beyond even the provisions of the Aarhus Convention.

Where Member States possessed nuclear power plants, it was not unusual for relevant authorities to report that information centres had been established so as to allow local populations, as well as visitors, access to and tours of the installations, as well easy access to information. It was also not uncommon for operators of plants to issue regular bulletins to local communities or to provide information via the Internet.

Another feature of information activities not infrequently mentioned was an effort on the part of relevant authorities to engage in educational activities with schools, aimed at increasing awareness and knowledge of nuclear issues, such as radiation protection.

More substantively, another feature of the relationship between the operators of NPPs and local communities frequently reported was the existence of some sort of committee bringing together different stakeholders. The precise format of these committees differs from place to place, with some having a more formal statutory status, while others appear to be established more on the basis of agreement between the parties concerned. Similarly, some appear to be more open to the involvement of lay members of the public, while the membership of others is drawn from among local elected representatives.

In jurisdictions where there are no NPPs, the main feature of responses was generally emergency preparedness. In this respect the emphasis appears especially to be upon information to the public rather than upon involving them in the planning process.

As regards the precise way in which public involvement as required by the EIA Directive is achieved, this varied from mandatory public hearings, through public meetings where requested by a certain number of local politicians or residents, to a local opinion poll. In once case, there is currently an experiment in financing NGOs to be involved in EIAs.

In some countries, it was also noteworthy that even after an EIA process had been completed, it was possible for the local authority where the nuclear project was to be located to veto the decision. EU law does not have anything to say about this level of local power in decision-making in the nuclear sector.

Perhaps encouraged by the Aarhus convention, some countries are evidently trying to be more proactive in their provision of information. Thus, there are instances of relevant authorities publishing guidelines for staff encouraging them to publish information without being asked, while in other cases regular discussions with NGOs are reported.

As regards difficulties faced by relevant authorities in relation to public information and participation, most reported that they had none. However, one suggested that it was difficult to provide clear and concise information on complex and technical issues to lay people, and that they had to deal with a generally negative reaction to nuclear issues on the part of the public. In this last regard, however, it is interesting to note that regulators in another jurisdiction cited the negative response of the public to radioactive waste management issues as a driver towards their adoption of more participatory techniques and their abandonment of an understanding of the issue as purely technical and scientific. It is also highly significant that the same regulators report that these participatory techniques force them to operate so as

to gain the trust of the other stakeholders, not least through the quality and transparency of the information they provide.

ANNEX 3. ANALYSIS OF CASE STUDIES

The methodology adopted within this work follows a case study approach from already existing information on public information and public involvement in the nuclear sector in practical processes. This source of information provides useful insights on the actual issues and approaches developed in this field, in relation with their specific cultural and regulatory contexts.

Thirty processes were pre-selected by the team so as to cover the three relevant issues - siting and operation, radioactive waste management, preparedness to accident and post-accident situations -, giving also priority, as far as possible, to geographical balance within enlarged European Union. The experience of Member States as regards information and participation in the decision-making processes in the nuclear sector is quite different according to the presence of nuclear activities, the institutional framework for information and participation, the cultural differences and the historical context.

Eleven criteria were elaborated to reflect the major dimensions at stake and check that the selection would provide a good coverage of the following issues: access to information; information process; climate of distrust; participation process; open expertise; EIA, SEA; policy-oriented approach; regulatory obligation / voluntary initiative; multi-level governance; interactions between Member States. This list of criteria was elaborated to encapsulate the initial expectations and objectives of the study. A brief overview of the ten processes selected is provided in the following paragraphs.

Temelin nuclear power plant (Czech Republic)

The construction of two VVER reactors in Temelin in the Czech Republic began in 1986, but was soon suspended following the Chernobyl disaster. In 1992, it was decided to complete the construction and upgrade it with a “western” control system. This decision was opposed by the non-nuclear Austria, which had closed its only plant after a referendum on phasing out nuclear energy in 1978. From 2000, as Czech Republic entered the final run to the accession to the EU, Austria requested the European Commission to take action on the safety of the plant. This case study illustrates a unique situation of distrust at the international level, similar to the Brent Spar controversy for the chemical industry. It has implications in terms of information between neighbouring States, as well as on the elaboration of the nuclear policy at the EU level. The study reflects the tensions in discussions between Member States related to three principles: sovereignty of Member States in determining their energy policy, sovereignty in protecting citizens from potential risks from a neighbouring facility, and a tentative harmonization of nuclear safety standards at the EU level.

The reauthorisation of radioactive discharges from the Devonport Royal Dockyard (UK)

Nuclear powered submarines have been refitted at the dockyard at Devonport since the 1970s. The decision to move refitting of the larger, nuclear weapon-carrying, nuclear powered “Vanguard Class” submarines from Rosyth in Scotland to Devonport required a re-authorisation from the Environment Agency. The likely increase of some radionuclides'

discharges, notably tritium, combined with the nuclear weapon carrying role of Vanguard Class submarines meant that this discharge re-authorisation had the potential to be high-profile and controversial. The Environment Agency thus decided to go beyond the strict regulatory requirements and launched a programme of engagement and consultation with the public. The objective of this case study is to illustrate how such a pro-active process has the potential to avoid drawn-out, resource intensive disputes and controversy.

Local Liaison Committees (France, Spain, Sweden, UK)

This set of case studies reports the development of a specific type of information and participation tool - local liaison committees (LLC). The local liaison committees in France, Spain, Sweden and the UK have been experiencing different contexts and history in the past 25 years. For instance, in Sweden, their creation refers to a legal requirement whereas in UK they are set up on a voluntary basis. Despite national particularities, the experience of these committees shows that the role of information is not self-sufficient. The role of the LLC is not either so much direct influence over particular decisions but one of a democratic and local access to an informed insight, with the possibility to detect changes in both public concerns and in the trustworthiness of industry and agencies. This often implies the emergence of a genuine capacity of oversight, through expertise.

Groupe Radioécologie Nord Cotentin – GRNC (France)

In 1995 and 1997, two studies suggesting an excess of incidence of leukaemia among young people around the La Hague reprocessing plant were published, leading to strong reactions among the local population. In order to cope with the questions raised within this conflicting climate, two groups of experts were created, among which the "Groupe Radioécologie Nord Cotentin", the GRNC, that included experts from the public authorities, the public expert institute, the operators, local and national NGOs, European organisations… The broadening of the GRNC beyond the traditional framework of discussions has contributed to improving the quality of the work achieved by the group and undoubtedly increased its credibility. This case study outlines how, within a local situation of strong distrust, the GRNC participative experience favoured constructive exchanges and common understanding between the various participants.

Nuclear waste management: Belgian partnerships

In 1990 ONDRAF/NIRAS, the public agency responsible for nuclear waste management in Belgium, issued a report concluding in favour of surface disposal for the long term management of low level radioactive waste after examination of three options. In 1994, 98 potentially suitable zones were identified on the basis of technical criteria. All concerned municipalities wrote motions to reject the proposal. In 1995 the Government made a national policy statement and prompted ONDRAF/NIRAS to study alternatives to surface disposal. ONDRAF/NIRAS worked out a new methodology with the Universities of Antwerp and Arlon to meet this request. Three partnerships were eventually established in Dessel (September 1999), Mol (February 2000) and more recently Fleurus-Farciennes (February 2003). The methodology of these partnerships is aiming at a better integration of technical and social aspects to elaborate a safe solution. It relies on a continuous interaction with the public through a partnership. The partnerships have enabled the local community to take a direct part in the design of the technical concept as well as in the definition of the social conditions for the long term operation of the site.

Stakeholder involvement in the decision-making process for Olkiluoto spent fuel disposal (Finland)

On 18 May 2001, the Finnish Parliament ratified the Decision in Principle (DiP) on the final disposal facility for spent nuclear fuel at Olkiluoto, within the municipality of Eurajoki. The Municipal Council and the Government had made positive decisions earlier, at the end of 2000, and in compliance with the Nuclear Energy Act, the Parliament's ratification was then required. Finnish stakeholders involved in this process included representatives of the nuclear electric utility, national, regional, and local authorities, researchers from the universities and the national technology research centre, the Parliament and local opposition movements. This case study aims at analysing this process, mainly addressing the stakeholder involvement in the Environmental Impact Assessment, which appears as an interesting although complex informative and participatory local process initiated by the National Authority.

The setting up of the National Decommissioning Authority (UK)

The Nuclear Decommissioning Authority (NDA) was established by Act of Parliament in 2004 to oversee and manage the decommissioning and clean-up of the UK's civil nuclear legacy. As the actual work of site management and decommissioning will be carried out by contractors, the NDA's role is to define best practice, and to develop a world-class centre of expertise to deliver the best solutions '*for local communities, for the taxpayer and for the environment*'. In seeking to be a world leader in safe, secure and environmentally sound nuclear clean-up, NDA has identified effective and open engagement with its stakeholders as being critical to its success. NDA acknowledges the need for engagement in a "Stakeholder Charter" which summarizes the basic principles of their approach. NDA's strategy for coordinating national efforts in decommissioning is subject to the requirements of the European Directive on Strategic Environmental Assessment. It was designed following a close review of existing local liaison committees in UK and abroad and thus benefited from latest European experience in the field of local participation around nuclear sites, as well as from direct stakeholders' feedback.

The Committee on a site selection procedure – Akend (Germany)

In Germany, the Gorleben salt dome has been explored with regards to its suitability as repository for all types of nuclear waste since 1979. However, due to the growing local opposition moves against the building of a repository and its own doubts concerning the suitability of Gorleben, the Federal Government suspended exploration on 1st October 2000. To support the Federal Government, a Committee on a Site Selection Procedure for Repository Sites - the AkEnd committee - was established to answer the question of how suitable sites for repositories can be identified and at the same time find public support. The Committee is a technical-scientific body working independently and free of directives within the framework of the established objectives. The AkEnd Committee, within its consultations and meetings, has allowed to identify the fears and concerns of the public. Giving priority to safety, the participation of the public in all steps of the siting process, the integration of the repository in a regional development concept and the transparency of the selection procedure as such have therefore been guiding principles in the development of both the siting criteria and the siting procedure.

Post-accident situations: ETHOS-CORE

Some 8 millions people are currently living in the territories contaminated by the Chernobyl accident representing about 140,000 km^2 located in three Republics of the former USSR: Belarus, Ukraine and Russia. These inhabitants experience an overall depreciation of their living conditions. The long lasting contamination is at the origin of multiple effects on the day-to-day life of the population affecting the public health, the economic activities (notably agriculture), as well as the social and cultural activities. These countries experience a durable "post-accident crisis" at the political, social and economic levels. In these situations, information about risks proved to be inefficient to ensure a sustainable control of radioactivity in the day-to-day life of local inhabitants. The ETHOS project developed a new approach to the management of post accident situations by putting the living conditions of the local population at the core of the methodology. Since 2003, the development and support of local initiatives through the CORE programme attempts to further develop the involvement of the local population in these issues.

ANNEX 4. Participants in the IGNA Workshop

February, 9-10, 2006, Luxembourg

Country		Name	Surname	Organization / Institution
Austria	Mr	Gaszo	André	Institute of Risk Research
Belgium	Mrs	Hooft	Evelyne	ONDRAF/NIRAS
Belgium	Mr	Meskens	Gaston	SCK-CEN
Europe/International	Ms	Blohm-Hieber	Ute	DG TREN H2
Europe/International	Mr	Botella	Tomas	DG TREN H2
Europe/International	Ms	Casalta	Sylvie	DG RTD
Europe/International	Mr	Coadou	Jean	DG TREN H2
Europe/International	Mr	de Esteban	Fernando	DG TREN
Europe/International	Ms	Esterbet	Claire	DG TREN
Europe/International	Mr	Ferrus	Miquel	GMF
Europe/International	Mr	Furedi	Laurent	FORATOM
Europe/International	Mr	Janssens	Augustin	DG TREN
Europe/International	Mr	Pescatore	Claudio	NEA/OECD
Europe/International	Mr	Taylor	Derek	DG TREN
Europe/International	Mr	Venchiarutti	Jean-Claude	DG TREN H2
Europe/International	Mr	Vila d'Abadal	Mariano	GMF
Europe/International	Mr	Webster	Simon	DG RTD
Finland	Ms	Blomroos	Marja-Leena	Satakunta Polytechnic
Finland	Mr	Lhetinen	Jarmo	STUK
France	Mr	Autret	Jean-Claude	ACRO
France	Mr	Demet	Michel	ANCLI
France	Mr	Gadbois	Serge	Mutadis
France	Mr	Gobert	Christian	AREVA
France	Mr	Hériard Dubreuil	Gilles	Mutadis

France	Mr	Neyme	Eric	EDF
France	Mr	Rollinger	François	IRSN
France	Mr	Schneider	Thierry	CEPN
France	Mr	Sename	Jean	ANCLI
France	Mr	Vaillant	Ludovic	CEPN
Germany	Mr	Arens	Georg	BfS
Germany	Mr	Mayer	Wolfgang	Mayor of Gundremmingen
Hungary	Mr	Bedi	Gyula	TEIT (Paks)
Hungary	Mr	Dohoczki	Csaba	Paks NPP
Hungary	Mr	Kovacs	Gyozo	Nym TIT (Boda)
Poland	Mr	Latek	Stanislaw	National Atomic Energy Agency
Romania	Ms	Diaconu	Stela	ANDRAD
Romania	Ms	Mircea	Mariana	Cernavoda
Slovenia	Mr	Bogovic	Frank	Mayor of Krsko
Slovenia	Ms	Marega	Milena	Regional Environmental Center
Slovenia	Mr	Zeleznik	Nadja	ARAO
Spain	Mr	Castellnou	Josep	AMAC
Spain	Ms	Martell	Meritxell	Enviros
Spain	Mr	Oltra	Christian	CIEMAT
Spain	Ms	Sala	Roser	CIEMAT
Sweden	Mr	Angeus	Kurt	Osthammar municipality
Sweden	Mr	Moding	Philip	KSO
United Kingdom	Mr	Borg Barthet	Justin	University of Aberdeen
United Kingdom	Mr	Heslop	Tim	NULEAF
United Kingdom	Mr	Hetherington	John	NULEAF
United Kingdom	Mr	Paterson	John	University of Aberdeen