RISKGOV EUROPEAN PROJECT

COMPARATIVE ANALYSIS OF RISK GOVERNANCE FOR RADIOLOGICAL AND CHEMICAL DISCHARGES OF INDUSTRIAL INSTALLATIONS

FINAL REPORT

ANNEX 3 – COMMON INTERDISCIPLINARY ANALYSIS

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PREAMBLE

This document builds on the discussions of the 6-7 October 2003 and 12-13 January 2004 meetings and makes a comparison of the case studies along 11 topics. Below is a summary of the steps which led to this report.

Step 1 – October 2003 : partners' meeting, Paris

The purpose of this meeting was to make a review of each case study and to outline for each case the main issues in view of comparison. As a result, several **items** were listed for each **case study**. For instance on the Röhm and Haas case study the following items were proposed : Initiative, origin of the process; Openness and transparency; What if a crisis? (Vulnerability of the process); One-way/Two-way Communication or political process?; Selection process of stakeholders; Why? (Rationales at the origin of the process); Articulation of committee (relay actors) with the wider community; Stale of committee members; problems of motivation; Public decision or private decision? ; What is the mandate of the stakeholders?; Structure of involvement, capacity of autonomy

The total number of items for all case studies is 74.

Step 2 – Distribution of items into topics

WP3 leader numbered all items from 1 to 74 in order of appearance. For instance items 1 to 11 relate to Röhm and Haas which was the first case study to be discussed. Following a review of the 74 items, 11 main topics were identified. They are the following :

- Initiative, origin of the process
- Communication or decision ?
- Inclusiveness of participation
- Inclusiveness of issues
- Nature and quality of the partnership
- Expertise
- Multi-level governance

- Sustainable development
- Assessment criteria
- Continuity
- Trust and Confidence

Items from the different case studies were gathered according to these different topics.

Step 3 – January 2004 : partners' meeting, London

In the London meeting, the partners split into two working groups. Each group reviewed the 11 topics and developed a common assessment based on a comparison of case studies. In the final part of the meeting the two groups presented and discussed their conclusions in a plenary session.

The present document describes the overall result of this process, with a presentation of the 11 topics.

INITIATIVE, ORIGIN OF THE PROCESS

The origin of the processes is specific to each case. The creation of a local committee, for instance, is sometimes a legal requirement. However, in most situations, the origin of an innovative dialogue process lies in a particular local, national or even international context at a precise moment in history. This context has a strong influence on the way the dialogue was set up, and even several years later, on the way it operates and on its objectives. Although any stakeholder may be at the initiative of a change in risk governance process, it appears that in several case studies, the process was initiated by the Public Authorities who need more and more to take into account social concerns and play a key role in the spreading of new approaches for stakeholder involvement.

The origin of a process must often be considered in a long term history. The reasons for a process are multi-causal. They often refer both to local and national issues. For instance the creation of Gravelines CLI stems from an order letter from the Ministry, but the original reason for this decree lies in the contested construction of a nuclear power plant in Fessenheim hundred miles away from Dunkirk in the late 1970s.

The initiative may come from the regulator who sets mandatory requirements (Barseback) or additional requirements beside regulatory ones (Devonport, La Hague). The private operator can also be at the origin of a dialogue (Röhm and Haas). In some circumstances, (Gravelines, etangs de Berre) the elected representatives play a key role to promote or directly set up a local commission.

Who starts the process will have an influence on who will participate, as well on the results. In Devonport the Environment agency decided to go beyond current legal requirements and consult the public at large, and not only the institutional public bodies. The process initiated by Röhm and Haas operator was also set up without legal mandatory requirement. The limited number of participants and the lack of renewal in membership seems however to limit the capacity of the committee to overcome routine.

The origin of the process is also indicative of its nature and ambition. Often processes are set up as a reaction to an event. Brent Spar is a clear example of this situation. In this case, the process is developed beside formal existing procedures, and comes as an alternative to cope with situations which are difficult to address according to normal

channels, or which actually challenges traditional channels of risk governance. Opposite to conflict resolution, other processes could be labelled as conflict prevention. The actor at the origin of the process here takes a proactive stand to prevent a crisis in a situation which is likely to raise controversy.

There is also varying flexibility for risk governance processes to change the scope of their actions. Some local commissions will remain with the same members and the same issues to discuss for years, and although they acknowledge the fact that they need to evolve in order to address more directly the issue they deal with, they miss either the ambition, or the legitimacy. In other contexts, as in Etangs de Berre, the organisation changes step by step and takes on board new members and new issues because the problem involves more questions and more stakeholders than initially expected. Risk governance processes observed in the case studies indeed show very different capacities to shift frontiers, and to explore new ways in dialogue.

In terms of change, the common point between all the case studies is that there always is one organisation or one individual at the initiative of the process: this organisation or this person has identified that the situation is at risk, and that there are opportunities of improvement that are potentially beneficial to all stakeholders.

COMMUNICATION OR DECISION ?

The development of a dialogue on nuclear and chemical sites takes different forms. With respect to legal aspects, as stressed in the previous topic, it can be a regulatory requirement or the result of a voluntary initiative by a private manager. The content of the dialogue is also wide-ranging, from mere one-way communication from the operator to genuine discussions which will support future decisions.

Inclusive decision-making processes as the ones observed in the case studies often raise concerns from the operators or public authorities that the decisions will be delegated. Conversely other stakeholders, such as NGOs, are afraid that as soon as they participate in the process, they are likely to bear accountability for its outcomes. This is not indeed the purpose of these processes to remove responsibility from the decision-takers. It is easy but necessary to levy these fears by making explicit the rationale of the decision-making process and the role of the various actors involved. It clearly appears that the decision rests in the hand of the decision-takers, but the quality of the governance process will remain dependent on its ability to give the stakeholders a power for influencing the decision. In that perspective, the distinction given by TRUSTNET 2 between the "decision framing process" where the stakeholders may contribute to the preparation of the decision, and the "decision taking process" which generally remains the responsibility of the operator or the Public Authority, may clarify the role of each stakeholder in the decision making process. Furthermore, the influence of the stakeholders on the process needs to be made explicit from the beginning. In some cases, the final decision and trade-off may not take into account a given stakeholder preference, but it is acknowledged that there is a value in the process as far as it gives a better informed decision making process.

Once the question of accountability and responsibility is addressed, the main challenge remains the extent to which changes by stakeholders can be introduced in the process. Etangs de Berre provides a clear example of direct influence : the operator asks the local NGOs where environment protection efforts for a given facility should go in priority. When the scope of decisions is a narrow one, like in this example or for the authorisation of discharge limits in Devonport, the possibilities for stakeholders to influence the broader outcome seems limited. In several case studies however, the influence of stakeholders is built on duration : the action of local committees is to have an oversight on the operation of one or more facilities. Stakeholders seating in these

committee are not solicited to give their views on one big issue, one big specific decision. Rather, as in Barseback, Gravelines or Röhm and Haas, they are involved in the discussion of many small issues. The purpose of the committee is to give advice in a continued and never ending decision-making process. Should the discussions in the committee be viewed as only mere communication ? Or do these discussions eventually end up with changes in the decisions ? It may be difficult to make a delineation here. There seems to be a continuum between the two, and there is no formal way to determine where communication stops and where influence starts. The influence of stakeholders is all the less visible than the process is a routine one, with no crisis or "hot" issues. There may be a need in such processes to give more evidence of the contribution of stakeholders so that their influence can be acknowledged. When the issue in a committee is only to make one–way communication to the public, the possibilities to have this body evolve with time and adapt to the questions raised in the decision-making process, are low. To some extent, the relevance and duration of this committee can even be questioned.

In various situations, stakeholders identified issues which they consider important to be addressed, but the committee where they seat don't have any remit or willingness to include these issues in the preparation of the decisions. In this respect the essential contribution of some processes is not to solve issues and to make decisions, but to put new questions on the agenda and to be able to transfer them to other relevant and competent processes. This was clearly outlined in the OSPAR case study where actions rely first and foremost on the capacity and resources of state members. OSPAR itself has no means but exerts a strong incentive by framing new issues and prompting state members to develop concrete actions towards the goals of marine environment protection to which they subscribed. Some processes are important because they give the possibility to discuss and elaborate unaddressed questions which are ignored in more formal decision bodies.

Eventually an important rule is to avoid ambiguities on the stake of the process and on the role of the various actors. It has to be acknowledged that in some processes decisions are not the final goal. For instance in Etang de Berre to some extent the decisions are already taken by the authorities, but the dialogue with stakeholders allow them to share the decision, and to raise new issues. At the international level, OSPAR looks more like a forum where actions for the protection of the marine environment are framed, than a body where clear decisions are taken. Because there is no clear owner of

the process, and no clear decision-taker, OSPAR gives room to discussions on new issues and arguments.

Other considerations indicate that the quality of committees or fora doesn't rest merely in their direct influence in the decision. A local committee which reviews continuously a site can be a precursor of a crisis and of the need of a more important consultation. GRNC in Nord Cotentin has made clear that vigilance needs to be organised in duration. GRNC made a first *ad hoc* assessment of the local situation but also created the conditions for a reflection on the relevance and nature of a continuous assessment in the future. An inclusive process may thus start a path and help identify the pre-requisites for better governance. Moreover, the processes may not have an impact neither on the operation of the facility not on its monitoring but they can lead to practical decisions of a better informed public. For instance, in La Hague, some local inhabitants may avoid to go on specific beaches following the various assessments which were made public, if they consider this can be associated with a radiological risk. In this respect in some cases the outcome may not be changed, but there still is significant value in the process for collective and individual decisions are made in a better informed context.

INCLUSIVENESS OF PARTICIPATION

The participation of stakeholders in risk governance is considered as a key criterion to improve the governance of hazardous activities. The effectiveness of this criteria depends on the degree of inclusiveness of the governance process : how are stakeholders selected ? What is their role in the process ? to what extent are they involved ? The quality of a risk governance process also depends on its capacity to address topical issues and to identify emerging questions. The agenda set at the start of the process needs to some extent to adapt to the evolving context of the hazardous activities. This is of particular importance for long term process. This capacity of adaptation was observed in several case studies. The capacity of adaptation has also to do with inclusiveness in participation: a wider participation would imply a broader scope of questions to be addressed.

Participation in local committees or other inclusive processes rests either on representative democracy or on participatory mechanisms. For instance members in Barseback LLC are selected because of their political mandate. In other committees such as Gravelines, members represent different and sometimes opposed interests.

Two important dimensions were pointed out in the operation of local committees : members' renewal and diversity.

In committees with elected representatives, because of local elections there exists a direct mechanism to renew members. This renewal is essential to avoid routine and to bring in new views in oversight. In specific situations, rotation can be a remedy for staleness. The limit of this rotation is that although new members are regularly coming in following local elections, members remain elected representatives; non elected people can't seat in the committee even though they are very much interested to contribute.

In opposite situations, when the turnover is very low, the shared experience of committee members in the long term can facilitate dialogue and innovation. Though, renewal can often be balanced with continuity. A new member in a committee may disturb an existing group at least because he needs to learn what the others already know. However the group may be no longer productive if no new blood is introduced. A constant committee may gain in efficiency once a common experience is accumulated.

On the other hand, there is a risk that this group looses acuity. A process which is to last several decades needs to consider seriously a regular change in membership. The integration of new participants implies that the committee thinks in advance of the mechanisms and processes to build a collective memory which will survive a regular change of individuals.

In committees with colleges (elected representatives, industry, NGOs, experts, as in Etangs de Berre SPPPI), variety seems to enrich oversight. Some local delegates can be very confident in the industry and not concerned by its activities. Variety allows bringing in people who are genuinely concerned and are ready to exert an effective surveillance of the site. The reverse effect is that because they often are not elected, these delegates can seat a long time in the committee, their participation remaining unchallenged.

The legitimacy of non elected participants is sometimes questioned. They are often suspected of protecting interests in the questions discussed in the forum, either interests of “green” NGOs, or the industry’s. Interest is however a positive sign that participation in the committee or the forum is serious matter, and that actual issues will be addressed and possibly discussed. There is a need for each member to state its experience and links even though they don’t actually challenge their independence. Their being made public avoid suspicion of hidden agendas and facilitate dialogue.

In some committees there is a positive association of representative and participatory democracy: the organisation is in the hands of an elected body, often a local government which strengthens the legitimacy of the process; in the meantime, actual criticism comes from NGOs. The process runs well because of both this legitimate forum and the accurate comments and questions provided by concerned stakeholders.

Irrespective of diversity and rotation, the interest of stakeholders to participate in the process remains the main significant indicator of its success. Despite changes in membership, the important question is whether participants share some of interest in this forum and whether there is a core common agenda among participants.

Eventually, participation in the committee doesn’t need to cover all categories of the local community. Some stakeholders want to be informed, and don’t necessarily want to seat in the committee, in all meetings. In this respect, the core group of actors who

indeed participate in these meetings on a regular basis can relay the requests of the wider public and provide information in return (Gravelines, La Hague).

INCLUSIVENESS OF ISSUES

The quality of a risk governance process actually also depends on its capacity to address topical issues and to identify emerging questions. The agenda set at the start of the process needs to some extent to adapt to the evolving context of the hazardous activities. This capacity of adaptation was observed in several case studies. This capacity is directly linked with the mandate of the committee or organisation in charge of the process: a committee with a narrow remit will have difficulties to answer unexpected questions. It has also to do with inclusiveness in participation: a wider participation would imply a broader scope of questions. Moreover the emergence of new issues questions the relation of the committee/organisation with its political environment: all questions can hardly be discussed and "solved" by the same organisation, but this organisation can report to others or solicit others.

The possibility for a committee to raise and possibly address new issues much depends on its mandate. The narrow remit of Barsebäck committee is not an exception, and this may be associated with the limited scope of issues which can be raised in nuclear related fora. In these situations it might not be relevant to expand the issues. In other committees where more than one facility is followed, and oversight can even extend to a whole industrial area, opportunities to raise new issues are indeed greater. The reverse risk is that by gaining in extensiveness the committee in the meantime looses strength and sharpness in its decisions or advice.

Time is another primary factor for inclusiveness. Short processes such as the ones developed for a specific authorisation (e.g. Devonport, La Hague) are not appropriate to widen the discussions. The purpose of the dialogue is clearly to come up with an agreed authorisation. New arguments on e.g. the assessment models, or the long term future of the facility are difficult to develop. Still there are opportunities for stakeholders to raise them, and to make their concerns public, but answers can hardly meet their expectations.

Thus, time and mandate already frame the issues and condition the development and discussion of additional questions. The distribution of power in the forum is a third significant element. Who are the actors who decide about the topics to be discussed : is this the chairman, or the wider assembly ? Are stakeholders ready to accept limitations

in the scope of questions to examine ? Or as in La Hague and Brent Spar case studies, are there possibilities for stakeholders to enter and negotiate even the methodology ?

As was pointed out in a previous item, committees are not expected to cover all issues. The important thing is to find a relevant and accountable host for any new issue, rather than to have an almighty organisation which can address and solve all topics. In this respect, the quality of the process lies in its responsiveness: are the committees involved able to refer and transfer an issue to some other body which is more skilled and accountable or to create a new place for the debate on this issue ? In Etangs de Berre a new working group was set up to investigate questions related to the impact of air pollution on health. In Devonport, the question of models and evidence used to calculate the risk was transferred to CERRIE, a committee that includes academics and representatives from the nuclear industry, public bodies and organisations which have questions about the currently accepted radiation-harm model. Nonetheless, there is a need to keep a comprehensive view on the whole issue in order to avoid a problem being segmented and only followed in separate parts by different bodies. How to keep continuity and comprehensiveness ? In a Hague GRNC noted at the release of its final report that there were still major concerns and pointed them to the ministers relying on their discretion to engage new actions. At the local level there could be a specific role for elected representatives to keep an overview on the wider scope of issues whereas the committee will focus and operate in the limits of their mandate and life time.

Eventually inclusiveness of issues is closely associated with inclusiveness of participation. There are obvious reasons to consider the two questions together. Expanding the scope of issues is of little interest if relative stakeholders are not involved. In Gravelines the operator accepted to introduce new topics in the discussions with elected representatives and NGOs, but the committee lacks stakeholders with appropriate knowledge and experience to bring in arguments, and develop a genuine and fair dialogue. In Etangs de Berre conversely, the committee has significantly widen its agenda and this was associated with the inclusion of new members. In OSPAR although the questions in review have impact on the life of inhabitants in the vicinity of industrial and nuclear sites, the dialogue remains mainly in the hands of international governmental and non-governmental organisations.

NATURE AND QUALITY OF THE PARTNERSHIP

In the case studies that were reviewed by RISKGOV, the involvement of stakeholders somehow implies that they become partners in the risk governance process and that they partly share the conduct of the decision making process. This topic focuses specifically on the quality of stakeholder involvement: what makes this involvement a genuine partnership where stakeholders' concerns are acknowledged and taken into account ? What are the conditions and limits of such a partnership? For example, to adopt explicit statutes and procedures for a local liaison committee as well as to provide the access to resources for supporting the actions of the stakeholders are key actions improving the quality of the partnership and allowing its sustainability. Though, the consent of people to be involved in the risk governance process is often of greater value than the legal framework. There is also a need for a clear understanding of the role of the various stakeholders according to their status. It is necessary to define key functions in the process (for instance, facilitation, or external expertise; in terms of function, it could also be said that elected representatives contributes legitimacy in the process, while committee members contributes adherence to public concerns). Furthermore, as far as all the stakeholders are not to be involved in the governance process, there is a key function of the local stakeholders involved in the process, having in charge of interacting with the wider local populations. The clarification of the roles of each actor is essential for the continuity and the transparency of the process.

A fair partnership starts with the acknowledgement that there is a degree of inequality between decision-makers and other involved partners in most situations. Stakeholders need to build their strength and resources. There are indeed significant discrepancies in material and knowledge resources between the stakeholders. Several factors to favour a genuine partnership were identified. The credibility of the partnership notably depends on the ability of regulators and industrial actors to take other stakeholders seriously, and when needed to make a difference in the way they are treated, first and foremost by reducing the gap in resources which are at their benefit. This implies that decision-makers show stakeholders that they are aware of their own strength and that they don't intend to use it. To make these intentions reliable, there needs to have vigilance mechanisms throughout the process.

The lack of statutes for committees (like in Gravelines) may decrease the quality of the partnership. Statutes actually give a guarantee that resources are provided and that there

are clear rules by which every member abides. A discrepancy between the mandate and the statutes can damage the sustainability and trustworthiness of the process. Nevertheless it can be said that the consent of people to be involved in the process is of a greater value than the legal framework. The partnership depends indeed first of all on the will and interests of its participants.

The different functions and their articulation need to be clear. This is key to continuity and transparency. Some key functions were identified such as for instance: facilitation and/or mediation; expertise (comprising expertise from the operator, the public authorities, and external expertise); legitimacy with a support to the committee from a political institution (local government); adherence to local concerns with the participation of local stakeholders. As regards this last function, since not every stakeholder can be involved in the process, it is important that some local delegates are involved to inform the process of the wider local population's concerns and report back to them (for instance by meetings in their own NGOs). Providing information is a strategic function : Who provides the expertise, the information. Who is in charge of providing information, which kind of information is provided ? Answers to these questions will strongly determine the level of robustness and trustworthiness of the process. Eventually mediation plays a key role by facilitating the process and making sure the participation of the different stakeholders is balanced. As was observed in the case studies, the mediator can be alternatively a representative of public authorities, an expert, a professional mediator, or the private company concerned with the purpose of the dialogue. If the decision-taker is the initiator of the dialogue, and sometimes even the mediator or facilitator (PA or private operator), this needs to be clear from the start.

These different functions potentially come from all parties or can be specific to some actors. Technical expertise will often come from a limited number of actors. However this function is a strategic one, as mentioned above, because it is associated to knowledge. Moreover different types of information and expertise come from different actors. By enlarging the scope of informants, the process can move up the specific expertise provided by stakeholders. By and large, involving a broader scope of participants enables to enlarge the scope of issues beyond technical considerations alone.

The questions above consider the partnership as the association of different actors with different roles and contributions. Beyond this gathering of individuals, is there a

collective role for the committee ? Does the committee play the same role for all individuals ? Can it speak with one voice ? To what extent does the committee develop consistent and shared goals ?

As was summarised there are four key issues to characterize the nature and quality of a partnership :

- what is the framework for stakeholder involvement : is it implicit or explicit ? Is it transparent, and traceable for outsiders ?
- emergence of new roles : what are the new roles and functions developed in an inclusive risk governance process ?
- what is the role of the relay actor ? How does this role articulate with the wider community ? (It was noted for instance that in Sweden, mechanism of confidence building through a relay actor is not always requested because trust in authorities are somehow higher than in other countries)
- What is the autonomy relay actor benefit from to actually stretch decision-makers ?

EXPERTISE

Scientific evidence and technical knowledge are essential elements of the DMP. The way these elements are integrated in the process makes the quality of the DMP. Important issues in this respect are : the credibility of expertise, the development of expertise capacity among stakeholders, the integration of technical expertise with stakeholders' concerns, openness and independency in expertise, uncertainty management… Furthermore, the role of the chairmanship of the governance process is of prime importance as far as expertise is concerned. Without a clear acknowledgement of the contribution of the different stakeholders to the pluralistic expertise, the governance process can't be successful. In order to reinforce the quality of the process, specific attention needs to be paid to the appropriation of knowledge by the stakeholders themselves.

In the face of uncertainty, expertise seldom remains unchallenged. The answers observed in the case studies to address these challenges are quite different from one situation to another, but most of them aims at resolving conflict.

In some situations like Brent Spar, the input of an additional assessment from an expert which is considered to be competent and neutral is sufficient to water down disputes and reach agreement between stakeholders. This is more difficult in contexts like Devonport where disagreement bears on methodology, and calls for a deeper review of the fundamentals that support expertise. In this particular case the Environment Agency was solicited with questions by the public, and then looked for the "best experts" to have the answers. But expertise was not trusted by all NGOs.

Quite often bringing in new experts is indeed not enough to resolve disputes. Different groups rely on different experts, who are unable to understand each other: the reasons for suspiciousness then increases even more. Widening the scope of issues or the number of experts does not necessarily make a difference. More important is the format of expertise.

Two different kinds of expertise were outlined from the case studies : pluralistic expertise, and lay expertise (the latter possibly included in the former). Pluralism in expertise aims at reaching consensus: the confrontation of experts is organised not to emphasise diverging views but to identify issues of agreement. OSPAR is a clear

example of place where expertise is gathered, and data provided by the industry and public experts are shared with NGOs and governments. The chairmanship of the body in charge of expertise is key to show that the process serves the common interest of all stakeholders and doesn’t favour one or the other party. From 1996 AIRFOBEP board in Etangs de Berre is chaired by a mayor, and the results of air measures are no longer questioned.

The input of lay expertise provides another contribution: it feeds expertise with information about the local habits, or the local environment, which can influence the results of the process. The development of lay expertise is closely linked with possibilities for local stakeholders to get familiar with the facilities and to point at issues and gaps in their management. In Barseback or Gravelines, capacity building starts with visits of the nuclear power plant. These visits are a way to “open the black box”. The case studies show various valuable examples of knowledge appropriation by stakeholders. To some extent the key question is no longer "who is the independent expert" or “where the independent experts are” but “how can partners appropriate the knowledge”. When questions on measurements and expertise become less contentious, there is then more room to focus on issues of management. In AIRFOBEP the expertise gathered gained in reliability in the eyes of stakeholders, and there are now clear opportunities to discuss the management of air quality and actions to reduce air pollution.

MULTI-LEVEL GOVERNANCE

Risk governance in most case studies implies two or three different levels from local, regional or national to international. The concerns and the responsibilities in governance are different from one level to the other. In most of the case studies, it clearly appears that the decisions made at one level have implications at other levels, and the quality of the decision making process depends on its capacity to integrate local, regional, national and international dimensions. Some key questions to be addressed are the following: How does the risk governance process link these different contexts? For instance, what are the opportunities for local actors to influence national and international forums? How to organise the delegation processes allowing the local stakeholders to interact with the different levels? Finally, it can be noted that beyond the influence on the different levels, the existence of networks at national and/or international levels reinforces the capacity of the different stakeholders.

In most case studies it is difficult to delineate isolated pieces. There are links between different levels of governance. For instance, local committees are concerned with the national strategies that are relevant for their operation. Neighbour countries are interested to be involved in the oversight of a facility sited at the border. Gravelines doesn't seem to be much of an issue for Belgium. On the contrary, there is a long history of opposition from Denmark to Barsebäck. Denmark is against the existence of this power plant, but is pleased with the fact that the Swedish Inspectorate is known to be strict. In other situations, as OSPAR shows, the impact of a site is broader than the local context, and raises issues which need to be discussed at a higher level. Conversely Brent Spar example outlines that a situation which at first glance seems to be settled and agreed at the international level between states and intergovernmental bodies, can be opposed by a widespread public audience. Shell eventually overcame the Brent Spar crisis by recognizing the reality of the situation : Brent Spar was no longer a UK issue to be discussed between governments, but an international question involving the public in a wide range of countries.

From the fact that different levels of governance are acknowledged doesn't result neither that there is or there should be agreement between the local level and the national one, nor that the national or international level should integrate the views and dimensions of the various local levels. National level is not always an aggregation of local levels. What is discussed at the local level, and what is discussed at a upper level

shouldn’t necessarily converge. Disagreement is part of a good element in the risk governance process. Integration in multi-level governance is not a question of consistency but rather of avoiding sharp opposition, and trying to combine the various concerns and contributions.

Moreover some organisations at one level are set up to complement other bodies which seat at a lower or upper level. CLIE of Shell in Etang de Berre was set up to complement the wider SPPPI : while SPPPI embraces the whole industry area, CLIE operates on an individual facility. This answers the need to follow and discuss issues which were not addressed in the SPPPI. ANCLI the national association of all commissions around nuclear sites in France like Gravelines, was created to represent the Commissions before the national authorities and the energy producer, as well as to enhance return of experience and exchanges between commissions. Indeed, local commissions are often interested in checking what is done in other similar places, e.g. in other NPP. Multi-level governance implies networking with similar organisations in different regions or countries.

The difficult point is to have contacts at the various levels to carry out an effective dialogue between the different levels. For instance, a limit of Danish participation in Barseback is the fact that there is no corresponding agency to Swedish nuclear safety authorities in Denmark. In the same way, it is important for local committees’ operation that there is a national inspectorate and operator who can answer their questions. This also implies that the questions raised by the committees at local level are regarded as legitimate and relevant by the national organisations. Uncertainties raised locally in Devonport were actually transferred to national bodies but the answer was considered unsufficient, and there was indeed no direct dialogue between local actors and competent bodies at national level to develop the issue. This leads to a reflection on the mechanisms of influence between the various levels. In situations like OSPAR there is few if any communication beween the international arena (OSPAR meetings) and the local areas concerned by marine pollution. The connection between the international and the local levels depends very much on the national governmental organisations. For instance the British government organised a discussion on its strategy to meet OSPAR request on radiological discharges. No dialogue was started in France.

SUSTAINABLE DEVELOPMENT

Issues of justification were raised especially in case studies where the siting of a new facility was questioned. More generally, this topic deals with the long-term development of hazardous activities and the conditions for their integration in a sustainable future. Nevertheless, the question of justification for existing activities such as nuclear power plants is generally a difficult issue. However in some cases, it is possible for the stakeholders to address this issue in exploring different contrasting scenarios well in advance in order to open the debate. For instance in Gravelines, a discussion over decommissioning was engaged. This appears all the more possible since the issue will only be effective in ten or twenty years.

Furthermore, the debate on discharges of industrial installations inevitably addresses the following question : how far to go in terms of reduction strategies ? This question calls for an open debate notably on the various dimensions of the sustainable development of the region (environmental, economic, health, social,…). As the Brent Spar case study shows, formal tools and procedures like BPEO are useful to balance the various considerations which come into play to determine the relevance of a decision in terms of sustainable development, but these procedures often reveal insufficient. Sustainable development can hardly be encapsulated in formal assessment tools. For Greenpeace dumping in itself was unacceptable. This gap between the NGO's position and the BPEO outcome made it necessary to revise the whole rationale for oil platforms decommissioning.

The relation between justification and BAT is also complex. BAT usually emphasises the principle that the justification of a technology is to be considered at the local level, taking into account social and economic factors. However when the justification of a technology becomes widely questioned, it is often the case that internationally agreed BAT eventually advises to ban this technology. The ban on radioactive waste dumping in the sea under OSPAR Convention is a clear example of that. The current discussions on reprocessing once more reflect a tension between open BATs which leave justification at the discretion of local and national authorities and more binding BATs which apply equally to all contracting parties. France and UK promote the former interpretation of BATs while countries opposed to reprocessing strive to influence a stricter implementation.

ASSESSMENT CRITERIA

Along the discussion on the case studies some criteria were proposed to assess the DMP. These criteria relate to the fairness, quality and "acceptance" of the process, to its vulnerability, to the quality of the outcome, and to the possibility for stakeholders to make their own assessment of the process, i.e. to look back and check that the process actually met their expectations. These criteria were the result of discussions within RISKGOV team, but were also drawn from stakeholders' views collected during the interviews.

If stakeholder involvement makes some sense in improving the governance of hazardous activities, there is interest to have the actors involved in or concerned by the process contribute to its assessment. The discussions from RISKGOV interviews by and large indicate that the process was considered to be successful by the interviewees but there is currently no procedure to emphasise this, and make a shared assessment of this process' quality.

There can be interest for stakeholders not only to propose their own assessment but further to discuss and share this assessment with others. Such a dialogue would allow the identification and development of key criteria which are likely to make a "good" decision making process in the eyes of stakeholders. A limit to such an exercise would be that this common assessment becomes a stake of its own. A shared assessment could easily be seen with envy as a way to "label" decision-making process. If this is a case there is a risk that the assessment is biased by expectations of stakeholders with interest in a positive or negative assessment.

Nevertheless there is a major distinction between assessing the outcome and assessing the process. It can be that the quality of the process is improved but this doesn't say in the outcome. Is the process as good as the decision it produces, as one interviewee claimed ? Assessing the outcome implies that elements of the process which were essential in the success of the outcome are put aside. Assessing the process widens the criteria and elements of consideration and seldom leads to a fully positive or fully negative assessment.

An assessment shouldn't be seen as a way to close the debate once and for all. Nonetheless, it is very useful to make a report, to close a part of the process, in order to

make clear an outcome, the converging and diverging views and the perspectives, and to make an effective progress in this process.

Assessment is easier for shorter processes (Devonport, Brent spar, where the discussion bears on single issues) because these are more focussed. Large processes are often manifold and contain a variety of successful and less successful aspects which are not easy to delineate.

CONTINUITY

The case studies illustrate two types of situations. In some cases the process is a limited one which takes place at a specific moment in the life of a facility (public inquiry or dialogue for the licensing permit of a site, or the authorisation of discharges). In other cases a committee is continuously reviewing and/or monitoring the activity of a site. In specific situations the two processes overlap, e.g. a public inquiry takes place a few months while a local committee carries on long term monitoring of the site. Whatever the duration of the process, its capacity to produce continuity and readibility, i.e. to keep memory of past events, to follow important events and decisions, and to check and review their implementation and development is a key issue for the quality of the decision making process. This applies equally to a public inquiry or to the activities of a local committee. Therefore, it is of prime importance to provide the opportunity to the different stakeholders to interact either in a continuous process or from time to time but regularly in order to ensure the continuity of the governance.

Most case studies are clear cases of continuity. The purpose is not to solve a particular problem, but to follow the site on a continuous basis. A local committee is an appropriate tool to have local stakeholders participate in the continuous oversight of a facility. They are thus involved in a continuous vigilance. In a case of crisis we know the committee is known to exist and is able to intervene.

There are different possible times to produce continuity. For instance, according to the new order, for COGEMA facility, an annual assessment of actual releases discharged by the plant will be prepared by GRNC in Nord Cotentin, but there will be also a general review of the discharge authorisation each four year. To some extent, continuity must be linked with the possibility to update decisions, and in this case to adapt the authorisation taking into account, among others, the annual assessment provided by GRNC.

When the participation in oversight is too spaced out, there can be difficulties for local stakeholders and the experts they hire to keep aware of the evolutions in the facility. NGOs hired by local commissions every ten years to review the annual visit of a nuclear power plant in France try hard to keep familiar with the data, but they often need to dive into the files from start again each time they intervened. How will stakeholders will be able to play their role despite an irregular participation ? As this example shows,

continuity remains essential : the relevance and efficiency of stakeholder involvement depend on their capacity to keep up to date and to stretch the review of activities.

It is important that some organisation keeps memory of the process. In Devonport this role was played by the Environment agency, but also the School governor. In Etangs de Berre one NGO was particularly involved in following the site on the long run. This can be an individual or a whole committee. Of course there is interest to have a memory that is shared by several people and is not strictly dependent on one individual. The existence of these people is at any rate essential for local inhabitants to be confident in the oversight.

TRUST AND CONFIDENCE

One can measure the improvement of a risk governance process through its effects on trust and confidence. This question of trust and confidence is clearly linked to the quality of the continuity of the governance process. Furthermore, the existence of structures allowing the sharing of expertise (e.g. the pluralistic expertise provided by the Nord-Cotentin Radiecological Group) or creating conditions where people feel that they can rely on the expertise (e.g. the chairing of an expert group by different stakeholders such as AIRFOBEP in the Etang de Berre area) is a key contribution to reinforce trust and confidence, notably in a shared understanding of the situation and facts. In some situations trust and confidence were viewed from another perspective, as a significant and substantial change in the relations between the decision-makers, and the other stakeholders.

Trust and confidence are clearly linked with continuity. There is a need to share some common history, or common experience to develop relations in trust. However as the case study of Devonport highlighted Environment Agency put a lot of efforts and seems to have succeeded to build trust in a one-off dialogue.

It is often said that once you gain confidence, it is very easily lost. The breach of security in DML at Devonport illustrated this directly. A continuous process with a local committee can help to overcome such difficulties and maintain trust. In La Hague the role of CSPI is significant in this respect.

Expertise can play a great role in building trust. By reaching an agreement on facts as in AIRFOBEP, stakeholders are able to start a dialogue on common ground. In other cases, notably in Swedish case studies, trust stems from the fact that the Public Authorities are harsh on industry (Barseback, Röhm and Haas). The contribution of pluralism in expertise to trust is obvious in La Hague. In other case studies the situation is contrasted. In Etangs de Berre, AIRFOBEP didn’t involve pluralism; trust mainly came from the fact that the body is chaired by a mayor; local stakeholders are involved in the administration board and in meetings but not in assessment activities. In Devonport pluralism was limited, and this may have consequences in the lack of trust in the assessment models which were once questioned.

Eventually, trust is not a goal in itself. It is however a necessary condition to conduct meaningful oversight activities at local level.

ANNEX 1. – SUMMARY OF THE CASE STUDIES

The following paragraphs provide a brief description of the risk governance processes studied in the project. Detailed reports are available on the RISKGOV web site [www.riskgov.com]. These reports include the presentation of the process, the point of view of different stakeholders and the analysis of the risk governance.

The role of the local liaison committee of the Gravelines Nuclear Power Plant in France

At the beginning of the 1970ies, the decision to build an oil power plant in the area of Dunkirk (North France) was taken in order to provide electricity to the many industries established in this area. The site of Gravelines was selected, but with the oil crisis, the plans were reviewed and it was decided to build a Nuclear Power Plant. Within a spread climate of contesting against nuclear energy, it led to an important opposition move. Nevertheless, the building of a NPP in Gravelines started in 1974 and ended in 1980. The reactors started operating between 1980 and 1985.

Considering the persisting conflicting climate, the mayor of Gravelines initiated the creation of a Local Commission for Information (CLI) in order to show that nuclear industry had nothing to hide and was not less safe than other kinds of industry. The CLI was officially created in 1987 by the General Council of the Department in order to meet the needs expressed by the citizens for clear, accurate and complete information on the site. Its members were nominated by a Departmental decree. The CLI, which has no legal statutes, is funded by local communities (mainly Gravelines, Dunkirk and the Department) and the Regional Directorate on Industry, Research and Environment (DRIRE). The commission gathers more than a hundred of official members (local elected people, public authority representatives, local NGOs, Trade Union representatives, operator and medical authority representatives) but only 20 people take part regularly to its activities. In order to improve the quality of its work, the CLI created two sub-commissions in 1996: a “technical” sub-commission in charge of the technical aspects of the plant functioning and a “population safety” sub-commission whose activities deal with the protection of the population and the management of nuclear accident situation. Two or three plenary sessions are organized each year. The technical sub-commission meets 3 or 4 times a year to debate on new projects, incidents or discharges into the environment.

In the frame of RISKGOV project, six people reflecting the composition of the CLI were interviewed, including two local representatives from the Departmental Assembly and the community of Gravelines, the president of the Chamber of Trade and Industry of Dunkirk, the president of an assembly of NGOs, a representative of the operator and the person in charge of the secretary of the CLI who is detached from the DRIRE.

Generally speaking, members of the CLI appear to be in a vigilant position, taking care of the surveillance of the nuclear power plant at the local level. Their role is rather to analyse regularly the data and information available within the commission. They have also the possibility to ask for complementary measurements or explanations concerning key issues of safety management. To improve the quality of their work, members of the CLI can beneficiate of several sources of expertise at local or national level.

At the same time, they are the intermediate with the local population in order to question the operator and to transfer the information to the local population. The CLI publishes regularly (3 times per year) a news bulletin (OPALE) and send it to inhabitants living close the power plant (100,000 copies).

Most of the members of the CLI are also involved in different local and regional organisations or risk governance process dealing with the protection of the environment and/or the industrial development. There is a will of the members of the CLI to be associated with the organisation of the vigilance in the region as far as environment and industry is concerned, but keeping at the same time a specific risk governance process for the NPP in order to avoid a larger forum not able to tackle specific questions for the surveillance of the NPP such as the question of the ageing of the nuclear power plants in France.

The study of the governance process taking place within the CLI of Gravelines showed that this commission of information really offered the opportunity to introduce local questionings into the traditional risk management process. In fact, the CLI appears to be a favourable place for NGOs to have a quite precise view of the exchanges between the authority (DRIRE) and the operator (EDF) in their involvement in the management of the safety of the nuclear power plant. Therefore, thanks to the autonomy given to the participants of the commission to seek for information and to express their own points of view, it is possible for them to have an influence on the way potential events are anticipated and managed. Furthermore, the local commission for information which

gathers people representing the local population (mayors) and environmental interests (NGOs) seems to occupy a strategic place in the communication with the public about the risk management of the NPP. Despite of this privileged positioning of the CLI, the results given by participants interviewees underlined the fundamental problem of the absence of a legal statute for the commission. In consequence, people see limits in the access and diffusion of information and feel the need to clarify the roles of the members within the CLI as well as the official role of the CLI within the risk management process around the nuclear power plant of Gravelines.

The case of the CLI of Gravelines shows that people involved in the risk management around the NPP of Gravelines managed to create the conditions of a dialogue between a plurality of representatives of the civil society. Several aspects of the governance process such has the autonomy given to NGOs to express their questionings, the possible requirement to different sources of expertise, the perception of frank exchanges between the authority and the operator have clearly contributed to build confidence on a long term between the participants.

The role of the local liaison committee of the Barsebäck Nuclear Power Plant in Sweden

The Local Liason Committes in Sweden serve as independent institutions for democratic influence into the risk governance processes of a particular nuclear power plant. The LLCs are not the result from a local initiative but a national phenomenon in Sweden, financed by the Ministry of Environment, administrated by the Swedish Nuclear Power Inspectorate. The LLCs have their justification established in law, which rests upon the results of a referendum. The case of the Barsebäck LLC is therefore a study of a long-term dialogue and a top-down organised model for grass-root insight, local transparency and participation in the governance of risks in the local context.

Barsebäck NPP is one of the oldest nuclear power plants in Sweden and also one of the most controversial due to its location some 20 km from Copenhagen. The local support for Barsebäck both in the immediate surroundings and in the greater region is however strong. After Chernobyl, a new focus on communication was placed on the plant and the two key authorities: the Swedish Radiation Protection Authority and the Swedish Nuclear Power Inspectorate. In 1992 and 1993 there was a lot of negative media and public attention directed at Barsebäck, due to two reported flaws in the security system.

The first one of these grew to large proportions partly due to an informative mistake by the plant in the media. After this, Barsebäck's information department was strengthened, and a new policy was adopted for a more active role.

The LLC near Barsebäck was established in 1981 after the referendum in nuclear power in 1980, and its purpose, tasks and member set-up is clearly defined in national law. The role of the LLC is to provide the local public with information about the safety risks and measures taken in terms of safety of the local power plant, as well as to stay informed on these matter in a more global way. The function of producing information material has decreased with the ambitious information from both industry and governmental agencies, and the role of the LLC has become more of a lay insight into the governance processes and information regarding Barsebäck.

The LCC, being composed of lay people of the political parties (according to the latest local election), rely on the industry and the two pertinent governmental agencies for information. These agencies play the key roles in the risk governance, not in terms of responsibility or technical solutions, but in terms of their manifold function as regulators, experts, inspectors and producers of information material. They are also regarded as a disinterested party independent both from the interests of the industry, and also, according to the agencies themselves, independent from the political interests and agendas, serving the interests of the general public. The multiple functions, expertise and independence of the agencies give credibility to information provided by them, and the LCC checks their information with them and their trust in the industry relies heavily on their trust in the agencies.

The national LLC institutions were preceded by a joint organisation for co-operation between the municipalities housing nuclear power plants, the KSO. The KSO is still an active organisation, serving as a common forum for exchange of information for all municipalities housing nuclear power and the different LLCs, also offering education for new members. This provides the LLC with useful tools both for detecting national changes in attitudes and concerns and joint educational efforts.

The Swedish RISKGOV team focused on the role of the LLC and the legal background of nuclear power regulations and policies, including the legal mandate of the LLC. Extensive interviews with the Head of Communications at Barsebäck, and the Secretary of the LLC were conducted. This material was complemented with a study of the

meeting minutes of the LLC, the official information material from the industry and the authorities, including the inspection reports. All 18 members of the CAC were asked to participate in a study of their experiences of the LLC, and 13 participated. For a wider perspective on the roles of the governmental agencies, representatives from each agency were also interviewed, from the regulatory side (rather than the inspection unit), and pertinent laws, regulations and governmental policies were studied, in order to complete the picture about the risk governance procedures.

The special role of the two governmental agencies, is stressed by all interviewed stakeholders; the industry, the LLC members, and the agencies themselves. To the LLC these two agencies are the preconditions for the independence of the LLC, since the agencies have both expertise and knowledge of the industry, and are therefore trusted as an important and independent scrutinizer of information and the operations of Barsebäck, as well as being a reliable source of information themselves.

The case of the LLC near Barsebäck is an example of an institutionalized and long-term forum for local influence and insight into decisions and operations of the local NPP with the means to scrutinize this information with the support of independent agencies and a national network. The role of the LLC is not 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. A role that is respected and appreciated by the members, the agencies and the industry alike.

The dialogue forum established by the Rohm and Hass chemical installation in Sweden

Community Advisory Committees is an idea entirely new to Swedish risk governance, but was initiated by a small chemical installation in Landskrona: Rohm and Haas Nordiska AB in 1998. Rohm and Haas is a manufactoring company producing bonding chemicals and plastic pigments. It has a history of complaints concerning bad odours, and was previously both anonymous and associated with the problems of odours.

The CAC initiative came from the company itself inspired by other examples from the international branches of the same company. Individuals from the immediate surrounding area, representing a wide variety of local interests, were invited to

participate in meetings regarding the installation, its environmental effects and the company work on safety and environmental measures. In 1999 they received the Best Environmental Work Award in the category Environmental Communication for their communication efforts taken together. The communication programme includes besides the CAC also a newsletter distributed to all local households, an annual environmental report focusing on environmental performance and policies. There is also an ambitious attitude survey of the local population every third year concerning the local concerns and the perception of the local industry particularly in terms of environmental and safety concerns.

The aim of the CAC is communicational rather than decisional but this role is manifold. It is a forum for the company to get their information across to the CAC members, and medium to get this information across to the local community at large, through the CAC members. It is also a forum for the CAC members to pose questions, raise topics of discussion and come with ideas, complaints or propositions, and a medium for the company to get in touch with the most important issues and priorities of the community. In terms of informing the members and being a forum for addressing the participating members questions and concerns, it has been successful. In terms of spreading this information beyond the circle of families and friends of the CAC members less so.

Trust and confidence for Rohm and Haas have increased after the risk communication efforts taken together. According to the Managing Director there has been quite a remarkable change in attitudes towards Rohm and Haas. In the past Rohm and Haas was relatively unknown and if known this was due to negative reasons, i.e. bad odours. Nowadays the company is better known and for positive reasons.

The Swedish RISKGOV team chose to focus particularly on the CAC in this case study. Studies of all available documents such as meeting minutes and information material, were complemented with extensive interviews with the chairman for the CAC, and the two company representatives present at all meetings, namely the Health, Safety and Environment Manager and the CEO. All members of the CAC where also asked to participate in a survey on their experiences from the CAC. Thirteen of the fifteen members participated in this survey. This material was further complemented by the extensive information material supplied to general public, studies of the chemical governance in the region, as well as the existing regulations and governmental policies for the official environmental goal of a non-toxic environment. This should give a fairly

good picture of how this model worked in both the local context as well as the wider governance of the environmental risk and chemical risk policies on higher levels.

It became clear that the CAC was a complement to the other communication initiatives rather than a sufficient model for establishing a relationship with the whole local community on its own. It was perceived as both important and a successful dialogue by the members giving them access to important information. The company regards the CAC as valuable in terms of being able to address the concerns of the locals directly and also to learn about what the local the concerns are, and check whether their policies are in line with the local opinion. The dialogue within the CAC has also increased the awareness of the company of their own environmental policies and decisions since these will be addressed and discussed by CAC.

The company referred to the CAC as an “extra conscience”, and the chairman of the CAC thought that the company had to perform better since they have to explain their efforts to the CAC later on.

The Rohm and Haas case shows an example of an establishment of a working dialogue between active community members and the industry management, as a part of, but not replacing a wider out-reach programme, to the mutual benefit of both industry and CAC members.

The dialogue process around the discharges of the COGEMA-La Hague facility in France

COGEMA's spent fuel reprocessing plants are located in La Hague 20 km west of Cherbourg at the far north-west of the Cotentin peninsula. The reprocessing plants started operation in 1966. Six thousands people work permanently on this site, which constitutes one of the main economic activities in the Cherbourg region.

In 1981, the Deputy of Cherbourg created a commission devoted to providing information on the installation, composed of local elected people, local NGOs, experts from public organisations and national NGOs and representatives from the workers of the COGEMA reprocessing plant. This commission is called: "Commission Spéciale Permanente d'Information près de l'Etablissement de La Hague" (CSPI).

In 1995 and 1997, Professor Jean-François VIEL's team at the University of Besançon published epidemiological studies performed in the region of the La Hague reprocessing plant questioning the excess of incidence of leukemia among persons less than 25 years old. The main concern was the possible causal relation between this observation and the environmental exposure to ionising radiation. The publication of the results caused strong reactions among the local population, and particularly among mothers of children who took this opportunity to organize themselves into a group called "Les Mères en Colère" (Angry Mothers) and published a manifesto asking for "clear and objective information" about discharges from the La Hague reprocessing plant. A nation-wide debate developed around the work done by Professor VIEL involving scientists, experts, operators and associations, which extended beyond France.

In order to investigate the many questions raised by the conclusions of this work, the Ministries of Health and of Environment set up a Scientific Committee in February 1997 to propose a «new epidemiological study in the Nord-Cotentin». Based on the findings of this committee, two expert groups were created in July 1997 to further investigate the situation: one dealing with epidemiological aspects and the other one with radioecological aspects. The working group on radioecology, called "Groupe Radioecologie Nord Cotentin - GRNC" included experts from authorities, organisations specialising in this field and operators as well as experts from a number of local and national associations and European organisations.

Broadening of the GRNC beyond the traditional framework of discussions between operators and representatives of expert organisations has contributed to improving the quality of work carried out in this area, and undoubtedly increased its credibility. The presence of representatives of non-institutional organisations and foreign experts has enriched the work by adding complementary skills and sensitivities essential for a critical analysis. In addition to this, joint work over the long term and a comparison of sometimes very different points of view has undoubtedly assisted the stakeholders in reaching a better understanding of each other's logic and values, and eventually contributed to a better mutual understanding.

From the point of view of the public, incorporating pluralistic expertise is undoubtedly a guarantee of better quality results, requiring more than ever before a clear statement of the issues and debates to which the different parties can contribute.

Setting up a forum enabled the different groups of experts involved firstly to assess their mutual credibility, which is a prerequisite for debate. Thus, a consensus was gradually established about the quality of measurements made by the various participants. The existence of a structure including experts from different social backgrounds allowed the group to deal with points of disagreement or even controversy, without the use of invective. This provides a setting for a common search for solutions. The evaluation modelling also benefited greatly because the inclusion of local people meant that there was a much better knowledge of local habits and practices.

Finally, the GRNC has demonstrated the feasibility of, and interest in, pluralistic expertise in the assessment and management of radiological releases. According to the point of view of non-institutional experts, there is a need for the continuation of such an approach which gives them the opportunity to be involved in the "surveillance" of the environmental releases from nuclear installations. For the authorities, it provides pluralistic assessment of complex situations which is valuable for setting up the regulation framework for surveillance of releases from nuclear installations. For the operators, this approach introduces a forum with the different stakeholders where open discussions on the environmental and health impacts of releases from the installations can occur. For the local population, it is a guarantee of access to good quality information and answers to some of their questions.

Furthermore, for regulatory reasons, COGEMA asked for a revision of its licensing authorisations. In this context, the Safety authority (DGSNR) started a process for the revision of the discharges authorisations of the installation. This process led to a negotiation, involving different experts. For the first time a pluralistic experts group was asked by the safety authority to give an advise on the documents provided by COGEMA. The experts of this pluralistic group were selected mainly due to their involvement in the GRNC. Their analysis was largely used by the different organisations concerned by the reauthorisation process (from the safety authorities to local NGOs). Although this revision process was an opportunity for public debates, notably under the leadership of the local commission (CSPI), it pointed out needs for improvement as far as the involvement of local stakeholders is concerned. Among the proposals which emerged, we can mentioned the will to improve the diffusion of information during the public enquiry (through internet, or organisation of public debates) as well as the organisation of the "tracability" of the comments provided by the different stakeholders.

The reauthorisation of radioactive discharges from the Devonport Royal Dockyard in the UK

The British Royal Navy has used the dockyard at Devonport, Plymouth, for over 300 years. The dockyard is in the city and close to the city centre. Historically, the dockyard has been very important economically to the city. This dependence is less than in the past but the dockyard remains an important source of livelihood.

Nuclear powered submarines have been refitted at the dockyard since the 1970s. Shortly after a private company, Devonport Management Limited (DML) took over refitting from the Royal Navy in 1987, a decision was taken to move refitting of the larger, nuclear weapon-carrying, nuclear powered 'Vanguard Class' submarines from Rosyth in Scotland to Devonport.

Refitting Vanguard class submarines required a large investment in infrastructure but also a change in the radioactive waste streams from the dockyard. This change required a re – authorisation from the Environment Agency under the Radioactive Substances Act 1993 (as amended), as DML is a private company and not exempt as a Defence organisation.

The discharges of some radionuclides, notably tritium, were set to increase. This factor together with previous controversy, combined with the nuclear weapon carrying role of Vanguard Class submarines (removed before entering the dockyard), meant that the discharge re-authorisation had the potential to be high-profile and controversial.

Realising this, the Environment Agency decided to go beyond the strict regulatory requirements in its consultation – which would only have involved consulting other regulatory bodies – and launched a programme of engagement and consultation with the public.

The main aim of the Environment Agency appears to have been to come to a well-informed decision, rather than reaching a consensus, whilst maintaining its reputation and having a workable decision to regulate. The Environment Agency held publicised public meetings and 'one-to-one' surgeries, as well as using general media relations. They seem to have gone to some trouble to answer queries raised, consulting outside experts where they felt it appropriate. In the end, the Environment Agency

recommended granting an authorisation but with discharge limits generally somewhat lower than originally requested by DML.

The RISKGOV UK project team interviewed a range of people involved in the process, including Environment Agency and DML staff, local non-institutional stakeholders and local elected representatives. A range of associated material, including transcripts of the public meeting, was also collected. Based on this work, the UK team believe they have captured the range of opinions surrounding the process.

The Environment Agency's approach appears to have been successful in avoiding widespread, deep-rooted controversy and in that, generally, their local staff seemed to be well-respected. This general success is attributed to the Environment Agency's careful, proactive approach, which was open and allowed communication between them and other stakeholders.

The process also seems to have helped promote longer-term relations between the site and local stakeholders, although some people believed that more could be done in this area. Indeed, a common theme from the interviews was that the consultation process studied is just one point in the continuing presence of the nuclear installation. The radiation dose-harm model used (i.e. the way in which ill-effects are correlated to an exposure to radiation) was frequently questioned and some people felt that the Environment Agency did not properly deal with this issue and particularly that it did not properly consider conflicting expert views. This point highlights the difficulty of handling national and international level issues in an essentially local process. These comments notwithstanding, the Environment Agency played an interesting role in collecting and making available information from a range of sources. The interviews also indicated resource issues related to stakeholder engagement, particularly 'stakeholder fatigue' amongst local stakeholders.

This case demonstrates that a carefully handled, pro-active process that creates an input for concerns of a wide number of people, who would generally not be involved, has the potential to avoid drawn-out, resource intensive disputes and controversy.

The management of air quality around the industrial site of Etang de Berre in France

The Etang de Berre is located in the south of France, close to Marseille. This area has, for historical reasons, a very high density of industries (oil refineries, chemical industries, electricity generation plants), which leads to the emission of many air pollutants. The objective of this case study is to analyse the functioning of the various dialogue structures dedicated to the management of air pollution, and more precisely to the management of sulphur dioxide (SO_2) releases.

The first part of the work was devoted to the collection of available information on the existing dialogue structure, including: history the dialogue structures, identity and role of the various actors, the procedures set up to reduce SO_2 releases etc. Then, several interviews were conducted with experts (AIRFOBEP), members of NGOs, local elected people, public authority representatives (DRIRE) and a representative of an operator (BP). On the basis of the collected material and the common analysis framework (WP1), an analysis of the risk governance process was carried out.

A rather interesting features of the risk governance on air quality around the Etang de Berre appears to be the co-existence of two kinds of structures, which illustrates, among others, the multi-level risk governance feature:

- On one hand, a “regional” structure, the Permanent Board for Industrial Pollution Prevention (SPPPI) aiming principally at the implementation and the respect of French and European regulations,
- On the other hand, Local Liaison Committees (LLC), lead by industrial and / or local environmental NGO, like the Shell Local Commission of Information and Exchanges (CLIE), aiming at developing a dialogue at the very local level.

The Permanent Board for Industrial Pollution prevention (SPPPI) is not a mandatory structure. It was created 30 years ago to temper a crisis created by the Local Authorities and due to their concern about the potential pollution which would result from the development (supported by the State) of the industrial area located around the Etang de Berre. Though the SPPPI, the Public Authorities pursue the implementation of the regulations and keep the pressure on the operators, while keeping a certain degree of dialogue with them and with the other actors (local authorities or environmental NGOs).

The functioning of the SO_2 WG was analysed, and the main role of the DRIRE, the operators, together with AIRFOBEP, which is responsible for the air quality follow-up, was confirmed, as was the minor role of the NGOs. The durability of this structure is probably due to the constant emergence of new issues (EC regulation evolutions implementation for example) leading to the creation of new working groups integrating new members, etc.

It appeared that such a dialogue could not really answer the increasing need of population to get information on what is going on. This is certainly one of the reasons behind the creation of Local Liaison Committees, which are closer to the population. The CLIE of Shell, for example, is issued from the willingness of the operator to answer the demand of a local environmental NGO (the ARDEB) for more information on the operation of the petrochemical site. It is a non-formal forum of dialogue between the operator and the local population. The DRIRE, even if it participated in a few meetings, does not play a major role in the discussions. Over the last 2 years, other commissions of this type have been created. The purpose of this structure is to favour a dialogue between one operator and the population (or relays, such as community leaders) living near its plant that is *a priori* the most exposed to the plant's pollutant emissions. This structure is used by the operator to determine which efficient measure(s) can be adopted in order to comply with the priorities of the local population (information delivery, modification of a building, etc.).

The SPPPI and the CLIE both deal with air quality management and various actors attend the meetings organized by those structures. Nevertheless, issues raised during the debate are rather different. Those structures appear somehow to be complementary.

As far as expertise is concerned, the key source of knowledge is AIRFOBEP. The fact that its administrative board and its general assembly are composed of representatives of state services, operators, local authorities and NGOs contributes to the credibility and the transparency of its measurements. This credibility has been reinforced since the AIRFOBEP chairmanship was given to a mayor instead of an operator.

The implementation of the OSPAR Convention for chemical and radioactive releases

The OSPAR Convention deals with the protection of the marine environment of the North-East Atlantic. It was signed at a ministerial level in Paris on 22 September 1992 and entered into force on 25 March 1998. It covers both chemical and radioactive releases. The Contracting Parties are the 16 states which have signed the OSPAR Convention[1]. According to the OSPAR Convention the measures and steps taken to reduce or eliminate pollution associated with hazardous and radioactive substances shall apply: the precautionary principle, the polluter pays principle, best available techniques and best environmental practice. The operation of the Convention presents interesting features of governance.

Basically OSPAR is an intergovernmental process where decisions and recommendations are taken, or Best Available Techniques are set out, following extensive discussions between contracting states. However stakeholders are involved early in the process : they have a significant influence in the discussions that frame the issues. For instance, they can attend about all meetings, and they can submit any documents they consider to be relevant. They can even make proposals but these need to be taken over by one Contracting Party to be discussed.

At the end of the process, the implementation of decision rests in the hands of national authorities. They are eventually the ones that are accountable for transferring OSPAR decisions in the national context, and they have some discretion to deliver contextualized decisions that allow for national or local specificities. Although there is flexibility in implementation, the process is steadily oriented towards the reduction of the marine pollution. By signing the Convention each contracting party has agreed to strive towards the protection of the marine environment. Although one country may have good reasons not to implement a decision (for instance, employment and economic development considerations), it will not like to appear as the country which resists the progress in marine environment protection. For that reason there is interest for all members to build as far as possible a common position before reaching a decision. This

[1] Belgium, Denmark, the Commission of the European Communities, Finland, France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom of Great Britain and Northern Ireland and by Luxembourg and Switzerland

negotiation process allows contracting parties to look for a centre of gravity between their respective positions.

The work achieved within OSPAR often seems the result of tensions between political discussions and technical arguments. OSPAR decision-making process is indeed characterized by the integration of technical and political views. Depending on the issue, the precautionary principle will be put forward, or the approach will be more focussed on technical considerations and will rely on the development of a BAT.

RISKGOV case study on OSPAR investigated the general framework of the Convention, and the understanding of its operation was actually mainly gained through interviews on two specific issues :

- In the field of radioactive substances, the implementation of the 1998 strategy on radioactive substances was surveyed through interviews with OSPAR secretariat, a representative of the French Ministry of Industry in charge of presenting the French strategy at the OSPAR Commission; a French expert involved in OSPAR working group on radioactive substances, a representative of COGEMA, participating as an observer in OSPAR activities as a member of the WNA (World Nuclear Agency), a representative of Greenpeace France in charge of nuclear related matters.
- In the field of chemical releases, the study focussed on decisions regarding mercury cell chlor alkali production. Interviews were carried out with representatives of Eurochlor and Atofina, a representative of Greenpeace, OSPAR secretariat, a representative of the French Ministry of the Environment.

Chemical releases : case study on mercury cell chlor alkali production

In 1990, a recommendation was made by OSPAR to phase out mercury cell chlor-alkali plants by 2010 (PARCOM decision 90/03) with the aim to reach a zero level for mercury discharges.

Industry agreed in principle with the ban of mercury technology but not with the time-table assigned by OSPAR, and the rationale for the phasing out process. Companies considered that it was already possible to reach negligible impact and to operate the facilities in a sustainable way until their “natural” end of life. They engaged in OSPAR to dispute the 90/3 decision both on legal ground, and on technical criteria.

On the legal ground, the chlor industry argued that the phase-out was not a binding decision. It happens that the phase out is only a recommendation, but it is part of a larger statement which is labelled as an OSPAR decision. All contracting parties have supported the 90/3 decision and they are committed to implement it. However does this commitment also apply to the recommendation ? Taking advantage of this legal ambiguity, the industry has insisted that this recommendation is not mandatory, and requested OSPAR to give a clear statement on this issue.

On the technical side, the industry argued that the overall amount of discharges would be less if the plants would carry on their activity, making an effort to keep on decreasing discharges than if the plants would close in 2010 with no incentive to reduce the level discharges. The industry made efforts to reduce discharges and made numerous studies within OSPAR to assess the level of pollution. First, studies were made to agree on common assessment principles and objectives (since the mercury cell chlor-alkali plants were not all similar). Then, impact assessment was made around the sites on air, water, vegetables, and so on… Feedback experience and epidemiological studies were also carried out. The fact that the facilities dispose of a joint task force through their Union (Eurochlor) was a great help in the process to gather and harmonize the data. Importantly OSPAR meetings made it possible to share this with OSPAR Contracting Parties.

During two years informal intersessional work took place to consider options regarding the implementation of PARCOM Decision 90/3. The first option was to leave the existing Decision unchanged (2010 deadline). The alternative was to replace Decision 90/3 with a new OSPAR decision (review of the 2010 date).

During a workshop in 1999, OSPAR Contracting Parties made a review of the 90/3 decision with the industry. The positions of the Contracting Parties were diverging because they were engaged at different degrees in the implementation of the recommendation. Eventually, OSPAR considered that it was now up to each contracting party to state whether the recommendation included in the 90/3 decision was binding or not. This issue was a matter for national implementation, and no longer for intergovernmental discussion within OSPAR.

The case study outlines the duality of the principles guiding OSPAR actions based both on the substitution principle and the development of BAT. It underlines the important

progress enhanced by OSPAR strategies on hazardous substances, especially on mercury, and points at the assets and limits of the loose nature of OSPAR decisions : the efficiency of these decisions may rely on the autonomy Contracting Parties dispose of to implement them. On the other hand OSPAR activities in the field of hazardous activities are being increasingly challenged by the new EU regulation which is more binding.

Radioactive substances

The Strategy adopted at the Ministerial Meeting of the OSPAR Commission in Sintra in 1998 stipulates that "the objective of the Commission with regard to radioactive substances, including waste, is to prevent pollution of the maritime area from ionising radiation through progressive and substantial reductions of discharges, emissions and losses of radioactive substances, with the ultimate aim of concentration in the environment near background values for naturally occurring radioactive substances and close to zero for artificial radioactive substances". In order to implement this strategy, the following agenda has been adopted:

- By the year 2000: "achieving further substantial reductions or elimination of discharges, emissions and losses of radioactive substances";
- By the year 2020: "the Commission shall ensure that discharges, emissions and losses of radioactive substances are reduced to levels where the additional concentrations in the marine environment above historic levels, resulting from such discharges, emissions and losses, are close to zero".

From the analysis and the interviews performed within RISKGOV, the following comments were obtained.

The OSPAR Executive Secretary considers OSPAR as essentially a political forum. This point of view is shared by Greenpeace which underlines the possibility of setting some problems (for example, reprocessing) on the agenda. It is a way for the green NGO to put pressure on some states or to try to isolate some others like France or UK concerning reprocessing. OSPAR is also a public arena where the Contracting Parties do not want to be seen as “the country being the problem”.

In France, the national authorities (DGEMP and DGSNR) emphasize the ambiguity of the Declaration of Sintra, particularly the time frame 2020, and the difficulty to implement it. No consensus on the interpretation of “close to zero” has been reached

until now and the positions of the interviewees are different : COGEMA refers to the dose, DGSNR to the concentrations and Greenpeace to the discharges.

The French national plan has been written by the national authorities and the operators. Greenpeace underlines the absence of consultation with NGO's. For Greenpeace, the national plan reflects the interests of the operators and does not set objectives for 2020. The representative of the DGEMP readily concedes that the national plan mainly draws a picture of the French current legislation. Moreover, the representative of ACRO (local NGO) notices that the OSPAR Convention is not well known at the local level and hardly discussed at the Local Information Commission of La Hague (CSPI).

On the particular case of the reprocessing, COGEMA and DGEMP insist on the ambiguous positions of some states that have voted the decisions 2000/1 and 2001/1 but keep on sending their radioactive wastes to Sellafield or COGEMA-La Hague. As far as COGEMA is concerned, the review of the authorisation of radioactive discharges for COGEMA-La Hague in 2003 consists of the first national translation of the OSPAR Convention. DGSNR underlines that the reference to OSPAR in the Arrêté was included after a request of the Ministry of Environment.

The abandonment of the Brent Spar offshore installation

The UK Continental Shelf (UKCS) has been the scene of hydrocarbon exploration and production since the mid 1960s. One of the first installations to be decommissioned on the UKCS was the Brent Spar, constructed in 1975. In many respects, this was a unique structure in that it was neither a rig nor a platform, but rather a floating oil storage buoy. It was intended as a temporary storage and tanker loading facility for the Brent field in the northern North Sea—operated jointly by Shell and Esso—until such time as a pipeline could be built.

In the mid 1990s Shell decided to abandon its Brent Spar storage installation in the UK sector of the North Sea. Discussions between Shell and the Department of Trade and Industry (DTI) began in 1992, with some thirteen disposal options initially being considered. Of these, two were finally considered in detail: deep water disposal and horizontal dismantling. After an examination of these two options, Shell received approval from the UK government in May 1995 for its planned deep-water disposal in the North Atlantic. A key aspect of receiving approval was the conduct of a detailed

engineering analysis to arrive at the Best Practicable Environmental Option (BPEO). Consultation was also an important element of the process – the company had to consult with interested parties while the government had to inform its counterparts under the OSPAR convention.

Notwithstanding the apparent rigour of the regulatory arrangements, and the fact that no adverse comments arose from any source during the consultation period, when the decision to dispose of the Brent Spar in deep water in the North Atlantic was announced it was greeted with unprecedented criticism from environmental NGOs, the public at large and other governments. There was particular concern about the precise quantities of and risks associated with any toxic substances remaining in the installation's storage tanks. Despite the fact that regulatory requirements had been fully complied with, it was evident that these did not enjoy public confidence.

Following reports of the Greenpeace occupation of the installation, and especially the dramatic footage shot as activists boarded it, the disposal of the Brent Spar, from being a peripheral issue of technical interest only to regulators and industry, had become a major international issue touching the whole question of the attitudes of government and industry to ocean dumping specifically and environmental protection in general. The government's response was extremely robust, defending the regulators decision. Shell, on the other hand, wavered in the face of the dramatic effects on its business across Europe and finally announced that it was abandoning the deep water disposal plan.

It was at this point that the innovative approach that is the focus of this case study began to emerge. Faced with such a serious problem, the company first move was to commission Det Norske Veritas (DNV), an independent, not for profit, foundation with an established reputation, to carry out an audit of the contents of the Brent Spar with the hope of resolving the conflict between its figures and those put forward by Greenpeace. In the event, Greenpeace admitted errors in its sampling process even before the publication of DNV's report, which supported Shell's assessment. Shell also announced a new 'Way Forward', placing a notice in the Official Journal seeking expressions of interest from contractors regarding the disposal of the Brent Spar. At this point, Shell also announced that there would be a Stakeholder Dialogue Process with a view to assisting the identification of the ultimate solution. This process grew out of Shell's earlier approach to the Environment Council, an independent organisation where it had

begun to discuss options for the way forward as regards reaching a new disposal decision. The Environment Council first proposed a process by which a Europe-wide panel of 50 to 60 stakeholders would be established with a view to it being consulted throughout the technical process of developing a new disposal plan as a means of testing ideas and keeping in touch with the various interested constituencies. While Shell was agreeable to this proposal, the response from the UK government was negative. Shell and the Environment Council returned to the drawing board and developed a modified plan which the government accepted—albeit stressing that whatever disposal option was eventually chosen had to be at least as good as deep water disposal on the basis that this was the BPEO (best practicable environmental option).

The Stakeholder Dialogue process served two important functions. First of all, it served to build trust between regulator and the operator on one hand and the other stakeholders on the other, inasmuch as by the end of the process all agreed that the deep water disposal was indeed the BPEO. And secondly, it allowed the operator and the regulator to see that even a technically sound decision on disposal may not be socially acceptable and that stakeholders may be prepared to accept compromises on one dimension of environmental protection in order to gain advantages on another.

This work has allowed us notably to identify problems confronting this overall shift in the way that risk issues are dealt with by society. In this regard, a problem noted by the operator, by the regulator and by the Stakeholder Dialogue facilitator is what might be termed ‘stakeholder fatigue’. In other words, the sheer range of issues which corporate actors and public authorities are now willing to deal with on the basis of inclusive processes is placing a considerable strain on the parties they would normally expect to be interested. This may have implications for the very sustainability of inclusive processes, or it may be that resource-based solutions may be envisaged.